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Abundant Nature and Poverty Trap: The Irony of Fishermen in Percut, North Sumatra

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Abstract
This article revolves around the experiences of impoverished small-scale fishermen in Percut Village, Indonesia, based on the two-year immersion and observations. The primary focus is on the socio-economic aspects of the village's abundant natural resources and their potential to improve overall well-being. By examining the relationship between these resources, valuable insights for developing policies, programs, and social safety nets to help break the poverty cycle will be determined. Despite the presence of plentiful natural resources and the implementation of various social safety nets, their impact on socioeconomic stability has been limited. The result showed that factors such as work ethic, mental attitudes, and the ability to optimize financial, natural, social, and human resources play crucial roles in determining well-being and sustainable livelihoods.

Keywords: Assistance, Fishermen, Poverty, Subsistence, Trap

1. Introduction

In this research, the irony faced by fishermen in Percut Village (*Desa Percut*), Deli Serdang Regency, 18 km from Medan City, the Capital of North Sumatra Province, Indonesia, during a two-year service from 2022 to 2023 was examined. Essentially and substantially, the research primarily focused on economic anthropology, intending to understand how the abundant natural resources in the area could be utilized to enhance the well-being of the local community. The initial assumption was that combining plentiful resources and a strong work ethic would enable fishermen to overcome poverty. During this period, assistance was provided to six small groups of fishermen, consisting of five to eight individuals each, by implementing fish farming in ponds. This approach was perceived as a promising alternative to uplift their well-being. The project was designed to be carried out in rotation over two years, with the profits generated in the first year serving as the capital for expanding the initiative to a larger group in the second year. It held high expectations of becoming a successful model for managing natural resources

and alleviating poverty among small-scale fishermen. However, the reality faced by the fishermen in these two years proved to be a dilemma, challenging the initial assumptions and goals of the project.

Despite implementing various socio-economic stimuli, including the revitalization of ponds, provision of fish seeds and feed, knowledge transfer through scholars and peer experiences, and social assistance, the fishermen in Percut continued to face persistent poverty. In addition, government initiatives aimed at community development, such as the Healthy Indonesia Card (*Kartu Indonesia Sehat* [KIS]), Smart Indonesia Card (*Kartu Indonesia Pintar* [KIP]), Family Hope Program (Program Keluarga Harapan [PKH]), School Operational Assistance (*Bantuan Operasional Sekolah* [BOS]), fuel subsidies (*Bahan Bakar Minyak* [BBM] Subsidy), and social assistance (*Bantuan Sosial* [Bansos]), had limited impact on improving their well-being. Based on previous experience, this research implemented empowerment programs in Lhokseumawe by providing aid packages to fishermen affected by the tsunami in 2004. These packages included fiberglass boats, fishing equipment, tools, and salt management provided through a non-governmental organization based in Germany.

However, two months later, inspections revealed that more than half of the aid recipients had sold off the assistance, suggesting a lack of long-term impact. Similar programs were also initiated in Payau Pasir, where a fish farming project in ponds was launched in 2010 as part of a fishermen empowerment program. Unfortunately, this assistance did not effectively improve the well-being of the fishermen. In Percut, other initiatives were undertaken, involving the cultivation of *Plotosus canius* and mangrove crabs (*Scylla*) in ponds from 2011 to 2012. These projects also failed to bring about the desired improvement in the economic situation of the fishermen. Rather than experiencing prosperity, the small-scale fishermen remained trapped in poverty, despite abundant natural resources. This paradox revealed that the challenges faced by these individuals extended beyond mere economic circumstances, encompassing structural and cultural factors contributing to their classification as poor.

Percut Village is a uniform region characterized by its lowland terrain, abundant aquatic biota, and population primarily consisting of Malay (and Javanese) fishermen. The natural features of the area make it suitable for fishing and the creation of ponds. The topography is characterized by low-lying land influenced by multiple rivers, both small and large, which profoundly impact the environment, biota, population, and society. The village experiences monthly flooding during high tides (spring tides) and becomes dry during low tides (neap tides) due to its proximity to the Malacca Strait. It spans an area of 126.3 km^2 and is bordered by Cinta Damai Village, Cinta Rakyat Village, Tanjung Rejo Village, and the Malacca Strait. With 19 hamlets and a population of 18,935, the village showcases mangroves, stilt houses, semi-permanent structures, limited sanitation facilities, waste disposal and brackish water. The scenery also includes muddy brown rivers for bathing, washing, and toileting.

Fishing constitutes the primary source of income for 85 % of the population, while the remaining 15% engage in occupations such as civil service, small-scale trading, driving, and owning workshops. Alongside sea fishing, a portion of the population engages in brackish water pond farming to cultivate various fish species such as gourami (*Osphronemus goramy*), carp (*Cyprinus carpio*), freshwater pomfret (*Colossoma macropomum*) and catfish (*Pangasius sp*). The two most favoured species among the locals are the Nile (*Oreochromis niloticus*) and Mozambique tilapia (*Oreochromis mossambicus*). A small number of villagers depend on mud or mangrove crabs (*Scylla*) in mangrove-covered rivers. These ponds serve as farming grounds and provide daily or bulk fishing opportunities, with owners selling their catches as food and beverages.

In addition to the detailed research conducted in Percut Village, socio-economic comparisons involving five other locations, namely Pangkalan Brandan in Langkat, Payau Pasir, Marelan in Medan, Teluk Mengkudu in Serdang Bedagai, as well as Tanjung Tiram and Teluk Boga in Batubara, were also made. These locations were selected due to their similar characteristics to Percut Village. The research subjects were classified as traditional fishermen, including labourers and owners, who engaged in non-formal, subsistence, or native fishing practices (Morgan, 2013). These small-scale fishermen operated within the guidelines set by Government Regulation Number 50 of 2015, Hart and Reynolds (2004), and United Nations Conference on Trade and Development [UNCTAD] (2016), with their daily catch amounting to less than five gross tons (GPT). In terms of socio-economic status, they generally fell below the poverty line, as determined by the basic needs approach using indicators such as the

headcount index (HCI), poverty gap, and distributionally sensitive indices. Figure 1 shows a scene from Percut Village, depicting small-scale fishermen setting up nets in *Paluh*, a small river.

Figure 1: Traditional fishermen and simple fishing gear in a small river
Source: Research documentation, 2022

This research focuses on livelihoods comprising various capabilities and assets such as savings, resources, skills, and access. These elements are essential for sustaining a livelihood (Chambers & Conway, 1992). The region has abundant natural resources, including fish, animals, and plants found in ponds, rivers, and the sea. The poverty trap refers to a socio-economic condition that hinders development and leaves individuals and communities marginalized and trapped. In this context, poverty is defined as having income below the poverty line. This research specifically examines small-scale fishermen who engage in subsistence, native fishing practices in a non-formal setting. They can be either labourers or owners, operating individually or in groups, and their catch typically amounts to less than five GPT (Government Regulation Number 50 of 2015). Work ethic is an important aspect, encompassing the mindset and attitude of utilizing both external and internal potentials to improve and enhance the quality of life. Social well-being indicates economic stability and daily or monthly income and goes beyond fulfilling basic needs. Efforts have been made in Indonesia to empower small-scale fishermen and enhance their capabilities under local regulations. Additionally, international regulations such as the Code of Conduct for Responsible Fisheries, Blue Economy, and Ecosystem-based Fisheries Management (EBFM) highlight the responsibility towards supporting traditional fishermen.

This research adopted a well-being approach to shed light on the challenges faced by small-scale fishermen and explore the reasons behind their struggle to thrive. The significance lies in developing a poverty alleviation model specific to this group and reconsidering the format of social assistance provided. This research offers theoretical contributions to understanding well-being and practical implications for policy-making, program development, and socio-economic mechanisms that directly impact small-scale fishermen. A key finding is that not all socio-economic stimuli significantly impact achieving economic stability for small-scale fishermen. Instead, factors such as the mental-cognitive aspects, work ethic, and mentality of these individuals play crucial roles. Understanding these factors is vital for designing interventions and support systems that effectively address the specific needs of small-scale fishermen.

2. Method

This article is from a dedicated two-year project conducted from 2022 to 2023 in Percut Village. The project aimed to empower six groups of small-scale fishermen, each comprising five to eight members. The program went beyond providing economic support and focused on fostering positive cognitive and mental attitudes through the

Community Empowerment Agency of North Sumatra Province (*Badan Pemberdayaan Masyarakat Provinsi Sumatera Utara* [Bapemas Provsu]) and peer experiences. Despite the efforts of Non-Governmental Organizations (NGOs), Community Research and Service Institutions (*Lembaga Penelitian dan Pengabdian Masyarakat* [LPPM]) from universities and the government to introduce socio-economic stimuli, small-scale fishermen in the area still face challenges in achieving sustainable development. With the launch of socio-economic stimuli through NGOs, LPPM, and the government, small-scale fishermen in the area still face challenges in achieving sustainable development. Acquire comprehensive data and information, this research also included five other locations as comparative references within the same region.

However, to ensure the validity and objectivity of the information gathered, this research employed a comprehensive and ethical investigative approach (Greene & Hall, 2010). This qualitative research adopted a mixed-methods approach, drawing inspiration from the social research techniques proposed by Bryman (2012). The comprehensive methodology used a pragmatic framework (Creswell, 2014) and ethnographic techniques (Spradley, 2006) to capture the essence and substance of socio-economic factors and well-being based on the perspectives of the informants in their natural settings. Data collection techniques included participant observation, in-depth interviews, questionnaires, and focus group discussions (FGDs) (Denzin & Lincoln, 2005). The research utilized the Sustainable Livelihoods Index, which categorized scores into five groups, poor, less good, moderate, good and very good with scores of 1, 2, 3, 4, and 5, respectively. Each category was multiplied by specific weights assigned to different capital assets, such as financial (0.4), natural (0.1), social (0.3), and human resources (0.2) (Triyanti & Firdaus, 2016). The poverty level of the fishermen was assessed based on the framework provided by the Central Statistics Agency (Widodo, 2017). The collected data and information focused on various aspects, including daily activities, work ethics, motivation, income, and life attitudes, aligned with well-being indicators (Schutt, 2016).

This research involved 292 participants, including 42 members from the supported groups and 250 individuals from five different regions who were part of the non-supported groups. Participant observation and in-depth interviews were conducted with the members of the six supported groups based on ethnographic principles. Two focus group discussion (FGD) events were held, in 2022 and 2023, in Percut Village. These discussions involved 35 participants, including small-scale fishermen, representatives from LPPM, NGOs, and Bapemas. Besides the three techniques above, a questionnaire containing 22 questions with four answer options was distributed to 50 small-scale fishermen in five locations. The questionnaire covered various aspects, such as family data, daily activities, owned assets, income, education, received assistance, and debts. It aimed to capture general phenomena and trends using a Likert scale. All the collected data and information were treated as narrative text, presenting a series of events and chronology based on personal experiences. To analyze the data, verbatim transcription was performed for all the acquired information, followed by manual categorization and tabulation based on specific characteristics, narratives, and meanings. Subjectivity was minimized through qualitative and interpretive analysis, which involved comparing information between subjects.

3. Results

The six villages along the Malacca Strait have distinct characteristics despite sharing a common occupation as fishermen. These differences can be observed in their fishing practices and available resources. Percut and Payau Pasir can fish in the sea and rivers, enabling them to maintain brackish ponds and fishing areas. The villagers also engage in other activities, such as setting up nets in rivers or constructing Nipah roofs. Paya Pasir, in particular, has a small group of fishermen who also catch small clams (*Leuncang*) to feed ducks. However, both areas cannot generally produce salted fish or salt. Pangkalan Brandan and Teluk Mengkudu rely solely on fishing in the sea and lack the opportunity to manage ponds. Their ability to produce salted fish and salt is limited. In Teluk Mengkudu, fishermen catch fish and gather small clams as food for ducks, which are sold to the Chinese community. Tanjung Tiram and Teluk Boga are also limited to fishing in the sea. These two areas possess the capability to produce salted fish and salt. Clams are a popular commodity in these regions. Figure 2 shows the fisher livelihood index based on the SLA for the 292 participants.

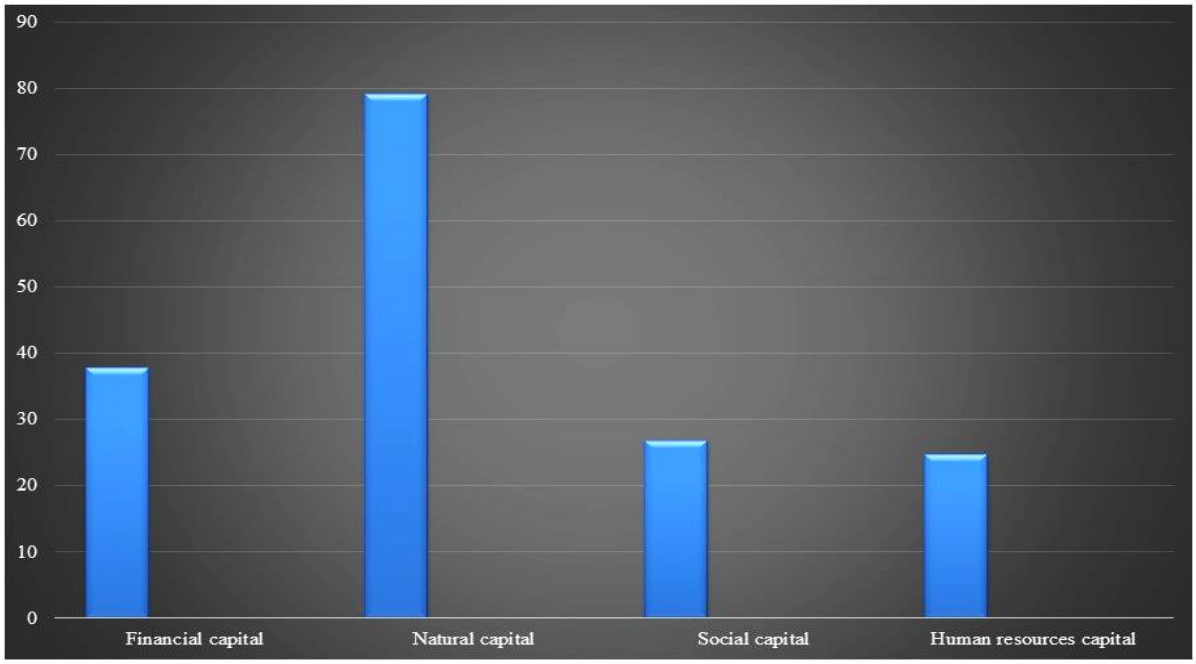

Figure 2: Fisher livelihood index based on the SLA.

Based on the sustainable livelihood approach, the 292 small-scale fishermen in this research were found to have a livelihood index of 42.15% and were categorized as less prosperous. This index was determined by analyzing various indicators. The financial capital indicator scored 37.72%, indicating a less prosperous category. The natural capital indicator scored 79.15%, reflecting a good category. In contrast, the social and human capital indicators scored 26.7%, and 24.72%, respectively, thereby falling into the poor category. These data confirm the irrelevance between abundant natural resources and overall well-being. Despite the presence of ample natural resources, the lack of human resources to effectively utilize and manage these resources, as well as insufficient financial support, contribute to inadequate prosperity levels. It is worth noting that abundant natural resources can still improve prosperity through various alternatives. These include leveraging human resources and social capital capabilities or combining human resources with support systems or financial resources. Comparing Percut Village with the other five locations, Pangkalan Brandan, Payau Pasir, Teluk Mengkudu, Tanjung Tiram, and Teluk Boga, led to the acquisition of the following data.

Table 1: Condition of Small-Scale Fishermen in Five Different Locations

Area	Fisher category			Means used		Average pond area (hectares)	Skill		Income per day (IDR)
	Full-time (%)	main part-time (%)	additional part-time (%)	Cultivators (%)	Owners (%)		Non-formal (%)	Training (%)	
Desa Percut	74	9	2	62	48	<0,5	88	12	<25.000-40.000
Pangkalan Brandan	47	2	1	41	9	-	78	22	<25.000-40.000
Payau Pasir	37	11	2	24	26	<0,5	72	28	<25.000-40.000
Teluk Mengkudu	45	3	2	38	12	-	81	19	<25.000-40.000
Tanjung Tiram	44	2	4	39	11	-	83	17	< 5.000-40.000
Teluk Boga	43	4	3	37	13	-	82	18	<25.000-40.000

Based on the information shown in Table 1, it is evident that most small-scale fishermen, accounting for more than two-thirds, have received non-formal knowledge related to their occupation. In terms of daily income, it ranges

between IDR 25,000 to IDR 40,000. This calculation is based on the accumulation of their total monthly earnings divided by 30 days. It is important to note that four locations, namely Pangkalan Brandan, Teluk Mengkudu, Tanjung Tiram, and Teluk Boga, do not have any ponds. The small-scale fishermen in these areas solely rely on fishing in the sea without any alternative sources of income.

A brief overview of the six foster groups in Percut Village during the two-year dedication can be characterized as follows, the majority, constituting 74 % of the groups, are full-time fishermen. Furthermore, 9% engage in fishing as their primary part-time occupation, while an additional 2% engage in this occupation as a secondary part-time activity. In terms of facilities used, 62% are labourers, and the remaining 48% are individual or group owners without legal entities. These owners render fishing services daily, both individually and collectively, and also sell food and snacks. The average size of the ponds used by the foster groups is less than half a hectare. These ponds are typically square or rectangular, with an average size of 50 m by 50 m. The primary focus of cultivation in these ponds is 3,000 to 5,000 fingerlings, particularly tilapia.

Interestingly, in Percut Village, a notable aspect of the foster groups is their skill acquisition. It is observed that 88% of the groups are non-formal fishermen who acquired their knowledge through traditional inheritance. The remaining 12% have received formal training. In terms of technology usage, the majority of the foster groups (79%) rely on simple equipment that offers limited navigation capabilities within their fishing territories. When considering the daily income levels, it was found that 61% of the groups earn less than IDR 25,000. The remaining 39% fluctuates between earning IDR 25,000 to IDR 50,000. During the harvest season, which occurs approximately three to four times a year based on fish development, fishing activities tend to generate higher income. The foster groups earn IDR 150,000 to IDR 250,000 per day for two consecutive weeks. The sales revenue, which depends on market prices, can reach IDR 2,500,000 to IDR 5,000,000 per harvest. It is important to note that the current pond systems, whether for fishing or cultivation, are not sustainable. This gap was addressed by creating diversified ponds for fishing and cultivation purposes. A more sustainable model can be implemented by transferring fish from one fishing pond to another as they start to diminish in numbers. This approach would positively impact the continuity of small-scale food and beverage sales.

The foster groups typically have families with an average of four to six children who have completed elementary to junior high school, excluding their parents. These children attend schools in the central district, and they travel a distance of approximately 1 to 3 km, either on foot or by cycling, public transportation, motorcycles, and even boats in some cases. These children have a relatively high dropout rate, with the majority completing only elementary and junior high school. This often leads to early marriages or employment as fishermen or factory workers. Surprisingly, none of the children from these foster groups have been able to obtain a bachelor's degree education. Regarding housing, there is a prevailing trend of raised or semi-permanent stage houses with cement or wooden floors and electricity connections. These raised houses are designed to anticipate rising tides and prevent flooding. Although, not all houses have access to toilets or clean water, and only a few have drilled wells (jet pumps) with a depth of 150 meters. It is common for households without toilets to dispose of waste in the rivers behind their houses for washing and bathing purposes.

The housing clusters are located on both sides of the Medan-Bagan Percut highway, while others are scattered among the ponds, with varying distances of 150 m to 300 m. The footpaths connecting the houses and ponds are made of soil and partially rocky sand. The village is equipped with various public facilities to cater to the needs of the residents. These include mosques, village halls, community health centres, electricity networks, and internet towers. The innumerable facilities provide essential services and connectivity to the community. In Bagan, located 4.5 km from Percut Village, there is a bustling Fish Auction Place that operates in the mornings and evenings. Several agents gather there to purchase the catch of the fishermen and sell it in Medan. Additionally, the area is home to several seafood restaurants that entertain customers with karaoke or live music. The Percut River, which runs through the village, serves as a means of transportation to the Malacca Strait. Simple boats with a capacity of 20 people are used for this purpose, covering a distance of 7.5 km. The riverbanks are lined with mangroves, providing habitats for various bird species and monkeys. Aside from monitoring lizards and other aquatic animals, garbage is a common issue, indicating poor sanitation in the area.

All informants, including the foster groups and others, receive government social assistance through programs such as PKH, KIS, and KIP. However, not all are enrolled in the National Social Security Agency (*Badan Penyelenggara Jaminan Sosial* [BPJS]) due to the monthly fees involved. Regrettably, there have been instances of corruption, nepotism, and collusion by village officials in distributing PKH assistance, which is received every three months. One of the foster group members, M. Rakibun, 68 years old, personally shared the following insights:

> "Initially, I was not included as a PKH recipient, but I went to the village office and managed to get registered. It was clear that the village officials were prioritizing their families, despite this being against the regulations. The entire process, including opening bank accounts, was controlled by the village. Unfortunately, once the assistance was transferred to our accounts, they would deduct IDR 500,000 every three months. They would then take the money for themselves. In circumstances where we resisted, they would remove us from the recipient list."

Fishermen in the area used simple boats, either rowed or equipped with basic engines, to carry out their fishing activities in the sea. These boats are outfitted with nets and other necessary fishing gear. Typically, these fishermen operate within their designated fishing territory, which spans approximately 5 km from the coast. Each boat is manned by one or two fishermen, with a maximum capacity of four. They embark on fishing expeditions in the morning, casting their nets and retrieving them in the evening, and this routine is continued on subsequent days. On average, these fishermen catch less than 10 kg of fish per day, which are sold at the Fish Auction Place (*Tempat Pelelangan Ikan* [TPI]) in Bagan Percut. Some opt to sell their catch directly to agents or middlemen. Interestingly, almost all fishermen, whether engaged in pond or sea fishing, are burdened with debts. Despite owning smartphones, coloured televisions, refrigerators, and bicycles, alongside a few of them possessing motorcycles, the majority of these assets are tied up in debts owed to middlemen or agents, typically involving instalment payments or usury. Specifically, not a single fisherman has managed to accumulate any savings.

Over the course of two years, a comprehensive initiative was undertaken to support the foster groups in their fish farming endeavours. This involved providing assistance packages consisting of seeds, feed, equipment, supplies, and pond repairs. Additionally, knowledge transfer in Tilapia cultivation was facilitated through collaboration with the Empowerment Agency of North Sumatra Province, the Department of Marine and Fisheries (*Dinas Kelautan dan Perikanan*), and experienced fishermen who acted as mentors. To ensure the success of the project, regular monitoring was conducted, with support teams visiting the location at least once a month. Despite the implementation of various cultivation programs, including pond cleaning, repairs, water monitoring, and feeding, six foster groups experienced crop failure in September 2022, just six months after the project commenced in April. Out of the 18,000 Tilapia fingerlings developed in the six ponds, only 1,500 kg were harvested, significantly less than the initially estimated yield of 4,000 to 6,000 kg. Informants pointed out several factors contributing to this outcome, including fish theft, particularly at night, excessively high salt levels during high tide, mismatched fingerlings for brackish water conditions, and embankment leakage. Unauthorized sales which occurred without informing the project organizers were also reported. Irrespective of this disappointment, the project persevered and was further enhanced in 2023. Stricter assistance measures were implemented for 10 groups, with the sole objective of developing a poverty alleviation model for the families of small-scale fishermen.

The development index and fisher livelihood index among small-scale fishermen in six locations exhibited few noticeable differences. For example, in Percut and Payau Pasir Villages, fishermen had alternative sources of income from rivers and the sea, in addition to the main ponds. The catch of fish, aquatic animals, and plants only provided for their basic needs. Despite owning motorcycles, refrigerators, rice cookers, colour televisions, smartphones, and other possessions, these fishermen showed no signs of improved well-being. The semi-permanent houses, while designed to withstand rust, presented extremely poor sanitation and environmental conditions. These houses were scattered and spaced apart among the ponds or mangroves connected by footpaths. The majority of the children of the fishermen had completed only primary and junior high school education, with rare progression to higher levels such as diplomas or bachelor's degrees. Upon dropping out of school, they often assisted their parents as store crews, construction workers, or factory labourers, sometimes leading to early marriages and even drug addiction.

A similar situation was observed in the other four locations, where small-scale fishermen had no alternative employment options apart from fishing, and they lacked ponds. Their sole income relied on catches from the sea.

Due to their limited equipment and technology, they were unable to venture into open waters and could only operate within their fishing territories. Many of them worked as labourers or crew members on larger fishing vessels, typically owned by Chinese entrepreneurs. Their income depended on the catches they made within 2-4 days or a week after deducting expenses for food and drinks. In these four locations, many small-scale fishermen, including children, worked on wooden structures called tidal traps (*Jermals*) or lift nets (*Anco* or *Tangkuls*) which were located 17 meters deep in the sea for fishing purposes. Each tidal trap or lift net typically employed 2-5 adult workers, 4-9 child labourers, and a foreman overseeing the operations. Alongside the issue of high school dropout rates, drug addiction was also prevalent in this community. Based on the described conditions and employing the basic needs approach, specifically considering the headcount index (HCI), poverty gap index, and distributionally sensitive index, it can be estimated that 292 fishermen are living below the poverty line.

4. Discussion

Small-scale fishermen face an ironic situation as they reside in an environment teeming with abundance, yet they remain trapped in poverty. Based on the aforementioned description, three fundamental factors influence their circumstances, namely, structural, cultural, and technical. These factors collectively contribute to the economic instability that undermines the well-being of the fishermen. Structurally, the issue arises from sporadic and ineffective government policies that lack continuity and fail to foster progress and welfare. Although social assistance in the form of goods or cash is provided, it often misses the intended recipients. In terms of the mental-cognitive aspect, poverty is a consequence of insufficient financial resources and is also influenced by the work ethic and mindset driven by progressive thinking. This progressive content encompasses thoughts and advancements in nature management, work mechanisms, income stability, and the benefits necessary for sustaining a livelihood.

Culturally, the work ethic and mentality of the fishermen do not align with notions of progress and well-being. Their primary focus revolves around meeting basic needs rather than striving for overall improvement. While thoughts of progress, such as job stability, income, health, and education, may occasionally arise, they often resign themselves to their circumstances. Fishermen tend to perceive themselves as helpless and weak, accepting their fate as ordinary individuals heavily reliant on assistance and concessions in various aspects such as taxes, electricity, healthcare fees, and education. This cultural perspective contributes to a cycle of borrowing from neighbours, agents, or middlemen. Consequently, many fishermen find themselves trapped in debt, unable to repay instalments and resort to pawning their productive assets such as boats, houses, land, and ponds. Aligning their work ethic and spirit with progress and well-being would enable them to effectively manage the abundant economic potential of their natural surroundings. Technically, the income and earnings of small-scale fishermen are highly dependent on several factors. These include the market value of their catches, operational costs, the availability of fish stocks in the sea and rivers, technological efficiency, and market prices. Operational costs encompass expenses related to fuel, supplies, logistics, seed and feed purchases, equipment, and other necessities. While these costs can be viewed as investments, their availability remains intermittent.

The irony faced by fishermen, caught between abundant natural resources and the poverty trap, exposes underlying root problems. This research highlights seven primary issues; (1) fishermen lack a work ethic and mindset that are in harmony with progress and well-being, (2) limited availability and the sustainability of fish, animals, and aquatic plants in water resources and ponds present significant challenges (3) problems such as water pollution, ecosystem damage, and the adverse effects of climate change further compound the situation, (4) fishermen face constraints in accessing sustainable livelihood options, including financial, natural, social, and human resources, (5) suboptimal management of water resources and ponds hampers efficiency and effectiveness, (6) the uneven distribution of profits between labourers and owners or workers and investors ads to the problem, and (7) fishermen experience challenges in accessing and benefiting from markets and products.

These seven core problems not only affect the progress and well-being of fishermen but also contribute to socio-economic instability. Consequently, aspects such as job security, sanitation, health and education, family dynamics, and social relations are impacted. The overall well-being of fishermen, encompassing social welfare, basic needs fulfilment, nutrition, health, education, housing, income, and protection from risks, remains unmet.

This socio-economic inadequacy has tangible implications for their physical and educational well-being, as well as spiritual dimensions. Despite seeking solace in their faith, fishermen primarily strive to alleviate their suffering. In other words, they have limited capacity to address problems, meet basic needs, or envision progress.

An anthropologist, Geertz (1983) proposed the concept of involution to describe the situation of Javanese farmers, and it applies to the plight of fishermen in North Sumatra. These fishermen, trapped in persistent poverty, slowly drag more individuals, including their families, labourers, and owners, into the same cycle of destitution, sinking deeper with time. A book presented by Lamry outlined three key assumptions about the marginalization of Malays in East Sumatra, namely, socio-historical, ecological, and mental-cultural factors (Lamry, 1996). Historically, the current predicament of Malay fishermen is a result of systematic effects from the past, where the policies of sultans, rulers, and entrepreneurs during the plantation era brought little benefit to the Malays, except for the loss of their land as a means of production. Ecologically, the coastal topography and geography offer limited resources, primarily fish, animals, and aquatic plants, leaving little room for alternative livelihood options. The constraints in natural resources and ecological vulnerability contribute to the poverty faced by Malay fishermen as well as their counterparts in different regions. Lastly, in terms of mental-cognitive attitudes, the unfounded stigma of laziness rather than recognizing their hard work and enjoyment of festivities is misleading and further perpetuates the cycle of poverty among fishermen.

Poverty and underdevelopment are not only influenced by external factors but also by internal ones, specifically the mental-cognitive attitudes that shape work ethics and values (Weber, 1958; Abdullah, 1982). While these attitudes can be passed down through generations, they are primarily developed through ongoing training and socialization. The process of instilling a culture of progress and well-being becomes a cultural mission that guides individuals and communities toward advancement and prosperity, irrespective of their occupations, as seen in the Mandailing and Minangkabau communities (Pelly, 2012). This cultural immersion fosters achievement motivation, a key factor in personal growth. Consequently, this process cultivates a Need for Achievement (N-Ach), representing a preference for optimal outcomes and reflecting the yearning of an individual for significant change, accomplishment, and competence (McClelland, 1961). Without achievement motivation or the Need for Achievement (N-Ach), all socioeconomic stimuli lose their significance.

The findings of this research challenge the notion that social well-being is solely influenced by organized activities, service systems, and policies aimed at meeting needs and improving living standards. While these external factors are important, they are insufficient without the presence of work ethics and mental-cognitive attitudes. In other words, the mere existence of organized activities, service systems, or policies without a foundation of work ethics does not contribute to well-being. Well-being and progress cannot be directly attributed to socioeconomic stimuli. Instead, the fundamental aspect that demands attention is self-transformation and the improvement of thinking patterns and mechanisms. When these internal factors are nurtured, any socio-economic stimuli implemented will undoubtedly contribute to well-being. Conversely, the lack of improvement in mental-cognitive attitudes perpetuates the cycle of poverty. This implies that aid packages, including equipment and cash assistance, do not foster progress and well-being.

Based on this understanding, it is necessary to reconsider empowerment programs or assistance for small-scale fishermen that prioritize socio-economic stimuli through aid packages and cash. The government, non-governmental organizations, social institutions, and other service programs should shift their focus from providing social safety nets and redirect their efforts towards enhancing mental-cognitive attitudes. To address this fundamental aspect, all stakeholders should implement sustainable programs that incorporate education, training, and socialization. These programs should encompass fisheries and maritime initiatives as well as the expertise of humanities and social science scholars. In the pursuit of sustainable livelihoods and well-being, existing programs should not solely emphasize the size or amount of assistance but rather emphasize how the provided assistance can be effectively utilized to enhance the welfare and foster progress. Consequently, the root problems faced by fishermen are not solely caused by external factors but, more importantly, by internal factors, specifically mental-cognitive attitudes. The capacity building of fishermen, both in terms of quantity and quality, heavily relies on the implementation of a systematic and sustainable empowerment program that can transform and improve these mental-cognitive attitudes.

Post-industrial society is facing a new situation, where new potential is important to strengthen prosperity and justice. At this point, the focus of attention is the development approach towards small fishermen, which in all respects reflect limitations, even amid natural abundance. Efforts to empower small fishermen, experience and this study prove that it is still long and full of challenges. The centralized and capitalist institutionalized model of economic development, a political approach and ignoring the culture of society complicates the mechanism. Only with harmony and strong commitment, the empowerment of small fishermen can be realized. A subsistence orientation and not agribusiness require strong attention and commitment from the government, economic actors, non-governmental organizations, research and service institutions. This aims to optimize all the potential of small fishermen, provide opportunities or develop local wisdom directed at agribusiness. The entry of small fishermen as actors of economic development encourages them as much as possible through assistance programs towards their independence. In addition to organizational development, network economics, and supporting factors. All of that, there is no other way but to improve cognitive mental attitude.

Finally, there is no single official method to lift small fishermen out of the poverty trap. All methods are highly dependent on the motivation to be more prosperous than the person concerned. Even if social assistance or other forms of safety nets are launched, their success is highly dependent on the fishermen's cognitive and mental attitude. All of that, the first way is to change the way of thinking in a more advanced direction. It requires longer service, not sporadic let alone short-term. It needs to be underlined, short-term and sporadic programs only keep small fishermen trapped in poverty, expecting help from anyone without being able to change themselves. That is the irony of small fishermen in North Sumatra, even though various social assistance has been rolled out, they are still poor. Ironically, they are poor amid an abundance of nature. Even though it has not been successful, our two years of experience assisting fishermen is an important lesson for anyone, that finding a way out of fishermen's poverty is not an easy thing. All of this requires synergy and collaboration between institutions, government, NGOs, professionals and universities to guide and educate the assisted fishermen towards a better standard of living.

5. Conclusion

In conclusion, social well-being is not solely determined by organized activities, service systems, and social institutions aimed at meeting needs or ensuring the sustainable fulfilment of social needs. It is essential to address the fundamental aspect of self-transformation, improving thinking patterns and work mechanisms. The plight of fishermen caught in the poverty trap is influenced by structural, cultural, and technical factors that contribute to socio-economic instability. Poverty and underdevelopment are not only caused by external factors but also internal factors, specifically the mental-cognitive attitudes ingrained in work ethics. These attitudes are developed through continuous education, training, and socialization. In conclusion, well-being and sustainable livelihoods are fostered by work ethics and mental-cognitive attitudes, enabling the optimal utilization of natural, financial, social, and human resources. Without a shift in mental-cognitive attitudes, social safety net programs hold little meaning. This research underscores the importance of exploring structural and technical aspects to achieve the maximum possible impact.

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Overview of Sustainable Development and Promotion in Tourism

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Abstract
The concept of sustainable tourism has evolved over the years, emphasizing the need to balance the requirements of tourism with the responsible use of resources. This paper provides an overview of sustainable development in tourism, focusing on its importance and the impacts it has on the environment, society, and the economy. The article explores the environmental, social, and economic needs that drive sustainable development in tourism. It discusses various dimensions of sustainable development, including global governance, infrastructure management, biodiversity management, supply chain management, waste management, natural resource management, and socio-cultural management. The article also highlights the promotion of sustainable development in different sectors of tourism, such as destination management, tour operators, accommodation, transport, and visitor attractions. Finally, it presents frameworks for promoting sustainable development, including encouraging sustainable consumer behavior and implementing sustainable tourism certifications. Overall, the paper emphasizes the significance of sustainable development in tourism and provides insights into its various aspects and implementation strategies.

Keywords: Sustainable Development in Tourism, Sustainable Tourism Promotion

1. Introduction and Overview

The concept of sustainable tourism has evolved over the past 50 years and continues to develop. The incorporation of sustainability and sustainable development principles in tourism has allowed destinations to better meet developmental demands. This integration involves balancing the necessary requirements of tourism, such as improved accommodations and infrastructure, with the sustainable utilization of available resources (Weaver, 2006). However, tourist needs are diverse, and it is essential for each destination to understand the different groups or segments of tourists and their specific requirements in order to promote tourism effectively (Vijayanand, 2013). The need for sustainable development in tourism can be understood by examining its impacts on the environment, society, and the economy, as outlined below.

2. The Importance of Sustainable Development in Tourism

Tourism infrastructure plays a crucial role in the success of a region's tourism industry. It encompasses the development and utilization of existing resources at tourist destinations. Sustainable development of tourism involves the responsible use of these resources to meet the current and future needs of tourists (Jovanovic & Ilic, 2016). Bin, Suocheng, & Mei (2008) emphasize that sustainable development in the tourism industry is a driving force that can contribute to the socio-economic development of a region. It transforms traditional growth patterns to achieve a harmonious relationship between tourism expansion and an environmentally friendly society.
The need for sustainable development in tourism can be understood by examining its impacts on the environment, society, and the economy, as outlined below:

2.1 Environmental Needs

Sustainable development in tourism is based on a strategy of supply-led growth. The United Nations Conference on Trade and Development (UNCTAD, 2013) reported that this approach facilitates the sustainable growth of tourist destinations while prioritizing the integrity of the ecosystem. Sustainable development ensures that the ecosystem's capacity is not compromised by the demands of tourism. Instead of pursuing commercial exploitation, destinations focus on their carrying capacity to control environmental damage and ensure long-term sustainability. Chiutsi, Mukoroverwa, Karigambe, and Mudzengi (2011) suggest that sustainable tourism development is crucial for adhering to national environmental conservation standards, which encompass factors such as air quality, drinking water, noise control, and proper wastewater treatment. Furthermore, sustainable development safeguards the environment and protects unique species that are native to tourist regions. It enables local communities to derive economic benefits from these natural resources while also preventing the invasion of alien species resulting from unsustainable tourism growth.

2.2 Social Needs

Unsustainable tourism growth creates challenges in terms of providing opportunities for local community members. Sustainable development in tourism is necessary to foster healthy families with access to employment, improved health, recreational activities, and educational opportunities (Carr, Ruhanen, & Whitford, 2016). It also helps address potential conflicts between the influence of foreign cultures brought by tourists and local traditions (Bin et al., 2008). Positive impacts of sustainable tourism practices include the promotion of cultural ecotourism, where tourists can experience traditional hospitality alongside modern regional growth (Mowforth & Munt, 2015). Sustainable development ensures that tourism planning aligns with the existing culture and political conditions of the region. This enables policymakers to develop cautious approaches when organizing cultural tours within different communities, thus promoting social stability and harmony (Reggers, Grabowski, Wearing, Chatterton, & Schweinsberg, 2016).

2.3 Economic Needs

Unsustainable tourism development can lead to environmental degradation and depletion of natural resources. These negative consequences hinder the region's ability to provide widespread economic benefits in the long run (Alarcón et al., 2013). When tourism grows beyond the region's capacity, it can have a significant impact on the economy, particularly on tourism-related activities such as trekking, mountaineering, and expeditions (Maikhuri, Rana, Rao, Nautiyal, & Saxena, 2000). Sustainable development in tourism is essential to manage excessive tourist activities that may negatively impact the region's resources (Eagles, 2002). By effectively managing sustainability, regions can conserve the environment and promote natural regeneration, thereby attracting more tourists. Furthermore, increased sustainable tourism development creates direct employment opportunities and enables local community members to benefit from rental accommodations, improved infrastructure, increased sales of handicrafts and local products, and overall economic growth. These economic benefits enhance living conditions and contribute to the rural sector's development (Law, De Lacy, Lipman, & Jiang, 2016; Tavallaee, Asadi, Abya, & Ebrahimi, 2014).

3. Sustainable Development in Tourism

Sustainable development in tourism aims to ensure the long-term viability of tourism in a particular region. It involves the balanced consideration of economic operations, fair distribution of socio-economic benefits to all stakeholders, and the integration of four pillars: economic, social, environmental, and transversal sustainability (Laitamaki et al., 2016). Bruyn (2014) suggests that achieving sustainable development in tourism requires finding a balance among these pillars. The economic pillar focuses on the cost-effectiveness of economic activities, the socio-cultural pillar ensures equal growth opportunities for local communities, the environmental pillar seeks conservation and long-term resource management, and the transversal pillar provides support through infrastructure and governance. Sustainable development is pursued by addressing various dimensions, including the following:

3.1 Global Governance

Global governance refers to the establishment of rules and regulations that guide individuals and organizations involved in the tourism industry to adopt sustainable practices through knowledge, reason, and expertise. This aspect is observed through both formal institutions and informal arrangements that enforce compliance based on agreed-upon interests (Duffy, 2006; Neth, Rith, & Kner, 2008). The United Nations World Tourism Organization emphasizes global governance mechanisms, such as the Global Code of Ethics for Tourism (GCET), to promote sustainability in tourism. The GCET recognizes the positive impacts of tourism on social, cultural, economic, and educational sectors, while also addressing the need for sustainable development (Dangi & Jamal, 2016; Jamal, Camargo, & Wilson, 2013; Willson, 2015). Although not regulatory in nature, global governance measures like the GCET operate through self-regulation and voluntary efforts of tourist destinations, aiming to foster responsible practices and enhance international cooperation (UNWTO, 2019b).

3.2 Infrastructure Management

Tourism infrastructure refers to physical elements such as roads and hotels that are developed to cater to tourists. The management of infrastructure plays a crucial role in the sustainable development of tourism. The World Tourism Council highlights infrastructure management as a key factor for the growth and performance of the tourism industry (UNESCO, 2019). Significant investments in tourism-related services, such as accommodation, transportation, and retail, contribute to sustainable development. Sustainable infrastructure management involves planning tourism activities based on factors like carrying capacity and transportation capabilities (Boers and Cottrell, 2007; Jovanovic and Ilic, 2016; Kuşçu Şimşek, Türk, Ödül, and Çelik, 2018). Moreover, the utilization of Geographical Information Systems (GIS) in the planning of sustainable tourism infrastructure takes into account both the economic development requirements of the regions and the need for sustainability. The aspect of infrastructure management in sustainable tourism focuses on how resources are allocated in a temporal-spatial manner during the tourism process. This approach ensures that tourist activities are segmented and regulated based on sustainable land-use patterns, allowing for the identification of appropriate tourism development initiatives in the area. The overarching objective of infrastructure management is to reduce pollution impacts while simultaneously enhancing the efficiency of resource usage and the overall economy of the region (Adebayo & Iweka, 2014; Moore et al., 2018).

3.3 Biodiversity Management

The dimensions of the relationship between biodiversity and tourism are essential in defining sustainable development in the sector. These include increased pressure on habitats, which leads to biodiversity loss. Without biodiversity management, sustainability of tourist destination is challenged by poorly maintained sites and scattered development in terms of designing and management of tourist activities, developments, and operations. The dimension of biodiversity in sustainable development of tourism is also required to manage direct threats tourism poses to native species. For example, competition from invasive alien species brought to the region through tourism activity, excessive use of natural resources in a recreational activity, and their excessive use as souvenirs or food items (Figueroa & Rotarou, 2016; Postma, Cavagnaro, & Spruyt, 2017; UNEP, 2014).

Additionally, the dimension of biodiversity in sustainable development of tourism ensures increase developed accommodation projects for tourist through planned expansion to control sizeable footprint of tourism, especially on coasts and on islands of a tourist destination. Biodiversity management for sustainable development of tourism also focuses on increasing visitor awareness to enhance their interest in ethical and conservation issues of the region. This also helps the regions' preparedness in engaging the tourist, develop tourism around the year, and not based on season (Krüger, 2005; Teh & Cabanban, 2007).

3.4 Supply Chain Management

The concept of Supply Chain Management (SCM) in the context of tourism focuses on implementing sustainable practices and policies to promote sustainable development at tourism destinations. This aspect takes into account the environmental, social, and economic impacts of various business activities related to tourism. To achieve sustainable tourism development, it is crucial for major industry players in sectors such as forestry, automotive, and tourist-related services to incorporate key environmental considerations into their operational strategies. The SCM dimension of sustainable development in tourism ensures that both tourist producers and suppliers are committed to effectively implementing environmental, socio-economic, and cultural aspects (Adriana, 2009; Budeanu, 2009).

In SCM, environmental aspects are addressed by promoting the sustainable use of resources, preventing or minimizing pollution, and effectively managing waste. Additionally, the cultural and socio-economic components of SCM encompass various elements of sustainable tourism development. This includes contributing to the well-being of local communities and facilitating economic growth in the region. Furthermore, this dimension emphasizes the importance of respecting the rights of indigenous peoples and upholding human rights in the development of SCM practices (Font, Tapper, Schwartz, & Kornilaki, 2008; Schwartz, Tapper, & Font, 2008).

3.5 Waste Management

Efficient waste management plays a vital role in the sustainable development of tourism. Understanding the waste management process is crucial as it helps strike a critical balance between tourism and sustainability (Mateu-Sbert et al., 2013). Tourism activities generate a significant amount of waste, with tourists producing nearly double the solid waste per capita compared to local residents, as revealed in a study conducted on Langkawi Island in Malaysia by Shamshiry et al. (2011). The study also highlights that smaller or remote tourist destinations face challenges in managing waste sustainably.

Moreover, incorporating sustainable waste management practices in tourism brings about equity between tourists and residents and promotes health benefits by minimizing waste production in tourist destinations. Additionally, effective waste removal is essential for the sustainable development of tourism, emphasizing the importance of waste management. Prioritizing the waste management dimension contributes to safeguarding both environmental sustainability and quality. By ensuring cost efficiency, efficient waste management further enhances sustainability, resulting in increased benefits (Matete & Trois, 2008; Yusof & Jamaludin, 2013).

3.6 Natural Resource Management

The aspect of maintaining sustainability in tourism through natural resource management revolves around eco-development. This entails ensuring that the depletion of natural resources and the impact on the ecological surroundings are minimized to an acceptable level. By focusing on eco-development, a balance is achieved between the growing needs of tourism in a region and the preservation of nature (Bianco and Marcianò, 2019). To regulate the growth of tourism in an area, environmental protection programs are implemented, which establish limits and suggest measures to address situations where the sustainable threshold of resources is exceeded (Kisi, 2019).

Furthermore, the community-based dimension of natural resource management in sustainable tourism contributes to the diversification of livelihood options, as highlighted by Lepper and Goebel (2010). Involving the local community in sustainable tourism through natural resource management also leads to poverty reduction. Additionally, natural resource management plays a role in ensuring tourist satisfaction by focusing on various

factors. These factors include managerial insight, environmental interpretation, water quality, and the health of the ecosystem. The outcomes of natural resource management programs are evaluated based on water quality and the prevailing conditions of biodiversity in the region. When tourists' experiences align with their expectations and they perceive the value of their tours to be higher than the money spent, it enhances their satisfaction and promotes further tourism in the region (Coghlan, 2012).

3.7 Socio-Cultural Management

The Socio-Cultural Management aspect plays a crucial role in ensuring the efficiency of sustainability in the hospitality and tourism industry, benefiting both society and the national economy. By focusing on sustainability in socio-cultural management, tourism can contribute to job creation and the preservation of natural and cultural resources. This dimension also aims to promote sustainable development by increasing positive economic impacts through improved access to external resources that benefit the local community. One way to achieve this is through experiential learning, where tourist trips are organized in culturally significant locations, and tourists are educated about sustainability issues at each site (Archer, Cooper, & Ruhanen, 2009; Baum et al., 2016).

The strategies involved in the socio-cultural management dimension of sustainable tourism development include supporting activities that preserve local culture and the design of high-quality trail systems. These approaches facilitate tourism development with the consent of the community and help manage conflicts related to resource sharing between tourists and the local population. Additionally, socio-cultural management seeks to integrate local cultures and images into tourism, contributing to the promotion and preservation of cultural heritage through tourism initiatives (Almeida García, Balbuena Vázquez, & Cortés Macías, 2015; Ho, 2011).

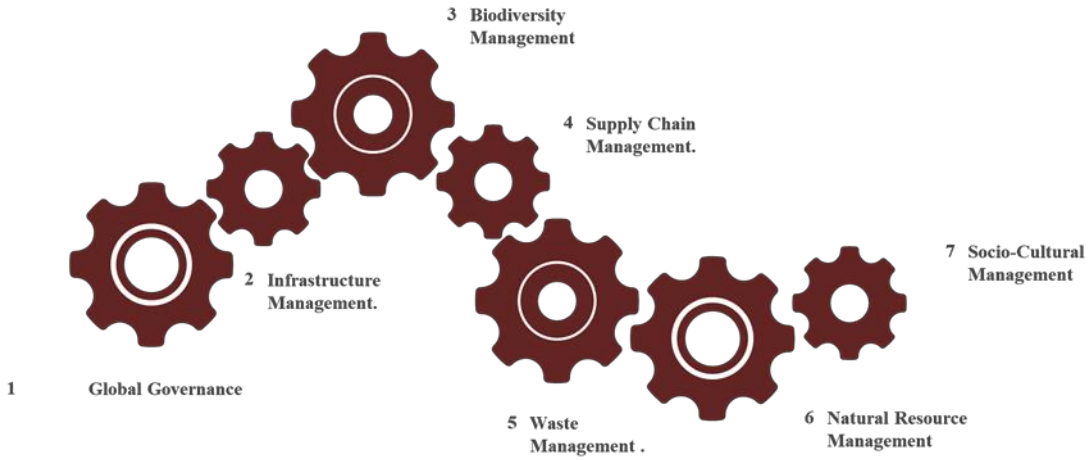

Figure 1: Dimensions of sustainable development of tourism

Source: Compiled by Author

4. Tourism Sectors promoting Sustainable Development

Various sectors within the realm of sustainable development in tourism employ different strategies to promote sustainability. The following sections outline these sectors and their respective promotion methods:

4.1 Destination Management Sector

The effective management of tourism destinations is crucial for mitigating the environmental impacts associated with tourism and fostering the long-term sustainability of the region. This involves the implementation of land use planning and economic development strategies by the public sector, with the aim of boosting tourism while minimizing harm to the local ecology. To promote sustainable development, various measures such as zoning controls and business permits are employed to shape the growth of tourism-related activities (Hari Srinivas, 2006). According to UNWTO (2019a), sustainable tourism promotion can be achieved by addressing the entire tourism

value chain within the destination. This entails careful planning and execution of economic activities related to tourism to maximize their positive impact on the local economy. Government intervention, such as offering subsidies to the tourism industry, can further facilitate income generation and create opportunities for the local communities.

4.2 Tour Operators

The tour operator sector plays a significant role in promoting sustainable development by incorporating sustainability criteria into their tourism activities. These businesses prioritize sustainability by avoiding destinations that have suffered from significant environmental damage due to tourism. Additionally, they utilize advertising to promote sustainable destinations, aiming to attract new customers who value sustainability. Tour operators also play a role in raising awareness about the values and etiquette of a region, as well as emphasizing the significance of historical and cultural sites to encourage culture-based tourism in the area (Xin & Chan, 2014). One notable initiative in promoting sustainability is the Global Sustainable Tourism Council's Tour Operators Initiative. This initiative recognizes the tour operator's position within the value chain and aims to implement credible standards and best practices in travel and tourism that are economically viable while fostering harmony between communities and the environment (GSTC, 2019).

4.3 Accommodation Sector

Considerations for promoting sustainable development in the accommodation sector of tourism involve addressing the long-term environmental impacts of both new buildings and operational practices. According to Erdogan & Tosun (2009), sustainable development promotion should extend beyond mere eco-labeling of hotels for marketing purposes. Instead, it should encompass accommodations that prioritize the environmental, socio-cultural, health, and safety needs of guests and employees. Additionally, properties should be designed in a manner that aligns with local styles, skills, and materials, thereby ensuring local appropriateness. To foster sustainable tourism development through the accommodation sector, emphasis is placed on employing members of local communities, particularly in managerial roles, and providing training opportunities as needed to support their professional growth (Ministry of Tourism, 2011).

4.4 Transport Section

The growth of the transportation sector has played a significant role in the success of tourism. However, this has led to a challenge in the form of greenhouse gas (GHG) emissions, particularly from transportation within the tourism industry, which contradicts the principles of sustainable tourism (Sorupia, 2005). To promote sustainable development in tourism, it is crucial to prioritize the efficient utilization of fuels and minimize emissions. Additionally, service providers in the tourism sector should consider the land use requirements for transportation infrastructure such as airports, highways, and roads (Carlo, 2014). Pojani & Stead (2015) propose various approaches to encourage sustainable tourism practices, involving collaboration among tourism providers, stakeholders, and governments to expand on-demand transportation options for tourists. The authors emphasize that this would create employment opportunities for the low-skilled workforce while simultaneously addressing issues of unsustainable traffic congestion, air pollution, and noise pollution in the area.

4.5 Visitor Attractions

Managing visitor demand and controlling attractions are crucial elements of sustainable tourism. According to Liu (2003), promoting sustainable development can be achieved by employing visitor management techniques and alternative tourism. The author proposes that, considering the carrying capacity of a tourist destination, these techniques can be utilized to regulate tourist flow and encourage sustainable behavior through education and promotion. Carrying capacity refers to the maximum limit a destination can sustain without depleting its resources in an unsustainable manner. Implementing effective marketing strategies can redirect tourist demand towards more resilient attractions, such as urban areas and theme parks (Hu & Wall, 2005).

5. Promotion of Sustainable Development

The promotion of sustainable development involves utilizing various communication tools with the shared goal of persuasion. Its objective is to not only inform, but also persuade and remind stakeholders about specific ways of conducting tasks in a desired manner (Kotler & Keller, 2012). Promotion serves as an external motivator that takes into account environmental and social factors, aiming to attract individuals towards adopting particular behaviors (Kim & Trail, 2016). According to Schultz (2011), human activities contribute to numerous unsustainable phenomena such as climate change, habitat loss, and ocean acidification. These issues are consequences of human lifestyle choices, necessitating a shift in behavior through the "promotion" of sustainable development.

Promoting sustainable development involves encouraging practices of environmental ethics within society, leading to the spread of environmental literacy among people. It also involves fostering persistent and inclusive economic growth in the sector, ensuring the full and productive utilization of available resources. This includes the development of resilient infrastructure and the promotion of viable and inclusive industrialization in all sectors, while also fostering innovation (Crespo, Míguez-álvarez, Arce, Cuevas, & Míguez, 2017).

6. Encouraging Sustainable Consumer Behavior

The process of consumption involves several stages, starting with the recognition of a need or desire by the consumer. The consumer then evaluates different alternatives that can satisfy their specific need. This is followed by product selection, the decision to make a purchase, and post-purchase behavior. Throughout these steps, consumer choices are influenced by both social and environmental sustainability goals. Factors such as investments, infrastructure, trade and production practices, cultural institutions, and the balance between the economy and sustainability all impact consumer decisions (Chakori, 2018). Consequently, consumer behavior can be seen as a decision-making approach that leads to the purchase of a product. This behavior is observed when a consumer engages in the evaluation, acquisition, usage, or disposal of goods and services. The consumer's decision-making process depends on two crucial factors: the level of satisfaction expected from the consumption process and the available resources that can be spent on it (Hoyer & MacInnis, 2010).

Furthermore, understanding specific consumer behavior requires a multilevel perspective that considers various factors, including socio-psychological variables like environmental attitudes. It also takes into account variables such as household income, community regulations, government policies, and the consumer's beliefs related to consumption. Krantz (2010) suggests that sustainable consumption arises from the combination of contextual and individual drivers of consumer behavior. Previous studies (Sachdeva, Jordan, & Mazar, 2015; Waring et al., 2015) also indicate that the impact of sustainability on consumer behavior extends beyond individual factors. Positive ecological effects resulting from consumption choices can also be influenced by contextual constraints related to supply and demand. The authors argue that concepts of sustainable development have the potential to shape consumer behavior within a community.

Moreover, Milfont & Markowitz (2016) suggest that sustainable consumer behavior is a complex process that occurs within a multifaceted framework and requires the inclusion of diverse perspectives. This includes considering situational and social factors, in addition to consumer needs, such as cultural norms, environmental concerns, and product availability. These multilevel predictors of sustainable consumption behavior can be classified into distinct levels, as illustrated in Figure 2.

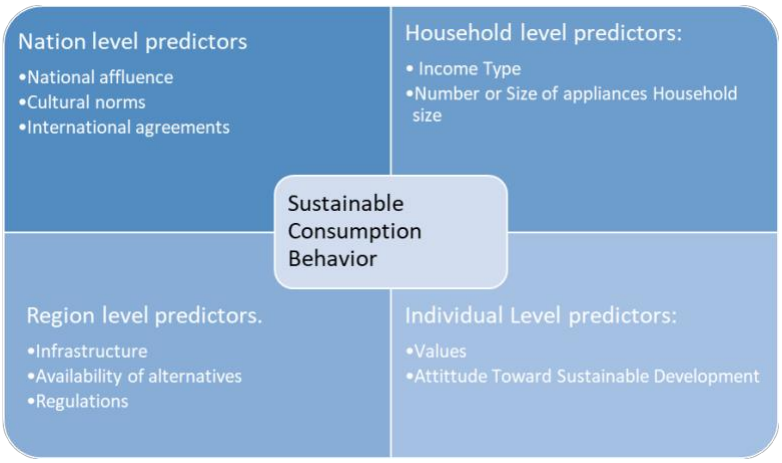

Figure 2: Framework for Sustainable Consumer Behavior

Source: Compiled by Author

At an individual level, Franzen and Vogl (2013) and Gelissen (2007) conducted research on the relationship between eco-friendly behavior, pro-environmental attitudes, and the formation of sustainable consumption behavior. They found that factors such as the income level, education level, and trust in government decisions that benefit the people positively influence these behaviors.

At a country level, organizations can promote sustainable consumer behavior by endorsing post-materialist values, which involve being willing to prioritize environmental protection over profits.

Additionally, Tso and Guan (2014) emphasized the significance of household characteristics in determining sustainable consumption behavior. They stated that factors such as location, number of residents, and number of appliances play a significant role in shaping an individual's consumption patterns. For instance, households in colder regions may prioritize energy efficiency even when faced with lower costs. Furthermore, Hong and Park (2018) highlighted that regional factors, such as effective administrative enforcement, have a positive impact on driving sustainable consumption behavior, while environmental pollution in the region has a negative effect.

The framework for sustainable consumption behavior recognizes that the sustainability of consumer choices depends on multiple levels, including the individual, household, regional, and national levels. This approach allows for the identification and examination of socio-psychological, structural, institutional, and cultural factors that contribute to sustainable consumption. Moreover, the framework enables an analysis of the interactions between each level and their influence on shaping sustainable consumption patterns within a country.

7. Sustainable Marketing Framework

In a study by Meler and Magaš (2014), sustainable marketing is defined as an all-encompassing approach that aims to fulfill customers' wants and needs while equally prioritizing environmental and social issues, ultimately generating profit in a responsible manner. This concept promotes alternative marketing practices that incorporate environmental considerations, urging businesses to consider the social and ecological limitations of conventional corporate marketing philosophies (Baker, 2013; Belz & Peattie, 2012).

Gordon, Carrigan, and Hastings (2011) further propose three models for analyzing the sustainability marketing framework, based on the integration of sustainability and marketing: green marketing, social marketing, and critical marketing.

7.1 Green Marketing

Green marketing revolves around adopting a sustainable mindset throughout the entire business process, from production to post-purchase services. It involves product modifications, changes in the production process, adjustments to advertising, and alterations in packaging, among other strategies. The benefits of green marketing include long-term profitability through reduced production and operating costs, particularly by minimizing energy consumption (Cronin et al., 2011; Dangelico & Vocalelli, 2017; Grant, 2008). Additionally, consumer behavior can be influenced by a firm's eco-performance, as highlighted by Peattie (1999), who suggests that consumers may consider a company's environmental practices when choosing among similar products. However, Rejikumar (2016) cautions that some companies engage in "greenwash," limiting their green marketing efforts to mere advertising and public relations.

7.2 Social Marketing

The principles of social marketing revolve around promoting the well-being of individuals and society as a whole by aiming to positively influence consumer behavior through sustainable marketing approaches. Social marketing focuses on guiding consumers towards adopting activities that benefit both themselves and the communities they belong to (Emery, 2012). The advantages of social marketing encompass not only immediate changes in consumer behavior towards sustainability but also shifts in their values, resulting in attitude adjustments. On the other hand, consumer marketing aimed at increasing demand for environmentally sustainable products primarily targets individual-level interventions (Gordon et al., 2011). Nevertheless, the absence of structural and sustainable initiatives, such as long-term branding strategies based on sustainability, poses a limitation to the effectiveness of social marketing endeavors (Evans & Hastings, 2008).

7.3 Critical Marketing

Critical marketing endeavors to reconcile the social and economic aspects of business while critiquing existing sustainability practices. It emphasizes the need for systemic changes to balance economic gain with concepts like self-sufficiency, sustainable development, and quality of life. Critical marketing takes a holistic approach, viewing consumers not merely as a means for profit but as individuals whose well-being should be prioritized (Hastings & Saren, 2003; Lee & Sirgy, 2004). The benefits of critical marketing include delivering consumer benefits while addressing sustainability concerns, thereby fostering lasting consumer satisfaction and steering society away from excessive materialism and disposability that could lead to unsustainability in the future (Bauman, 2007; Cooper, 2005). However, implementing critical reflexivity within the marketing discipline requires significant changes within organizations (Gordon et al., 2011).

7.4 Relevance to 'green marketing'

The concept of "green marketing" can be defined as the development and promotion of products and services that meet customers' desires for quality, performance, affordability, and convenience while minimizing negative impacts on the environment (Saini, 2014). Green marketing encompasses various activities, such as product modifications, changes in production processes, and sustainable advertising, with the aim of promoting environmental preferences. In the tourism sector, green marketing encourages individuals to engage in leisure activities that benefit the ecological well-being of the area. Its relevance lies in fostering a proactive approach among customers, tourism stakeholders, and the government to rethink the foundations of their businesses and gain strategic advantages (Van Amerom, 2006). By incorporating environmentally conscious practices into their mission, vision, goals, and business strategies, tourism providers can attract and cater to a niche of environmentally conscious tourists (Munyai et al., 2012).

Green marketing is also crucial for sustainable tourism development as it requires commitment from top management to focus on the holistic sustainability of tourism supply. Government-promoted green marketing policies enable tourist providers to address the changing economic needs of communities while promoting ecological conservation (Meler & Ham, 2012). By being environmentally responsible, tourist providers ensure the

preservation of natural habitats and associated species for future generations. Moreover, effective green marketing strategies can empower less competitive tourism-related companies to differentiate their products, stay competitive, and even outperform their rivals. Implementing green marketing practices also sets the stage for responsible social behaviors within the supply-side tourist firms. Over time, the active adoption of green marketing strategies can lead to market expansion and increased profitability for these firms.

8. Discussion

In order to foster the sustainable development of tourism, it is essential to integrate various aspects of sustainability and establish a shared goal of preserving the environment. The current article also presented frameworks for promoting sustainable development based on sustainable consumption patterns, which are influenced by factors at the national, household, regional, and individual levels. Additionally, there exists a theory of sustainable marketing that proposes three approaches to promoting sustainability in marketing: green marketing, critical marketing, and social marketing. The dimensions of global governance, infrastructure, biodiversity, supply-chain management, waste management, natural resource preservation, and socio-cultural management play a crucial role in driving behavioral changes necessary for achieving sustainability. These dimensions aim to educate, persuade, and remind stakeholders about sustainable practices in the tourism industry.

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The Sustainable Factors of the East *Priangan* Micro and Small Entrepreneurs during the COVID-19 Pandemic

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Abstract
In Indonesia, the number of micro and small businesses is dominant; therefore, their economic defense against uncertainty becomes vital, especially during the Covid-19 pandemic. By utilizing the explorative approach, this study wants to know the effect of this pandemic on the ability of micro and small businesses in East *Priangan* to sustain and detect their internal and external sustainability factors during this pandemic. Furthermore, to accomplish these purposes, this study uses interviews to get the data based on the viewpoint of the eight businesspersons in one city: Tasikmalaya, and two regencies: Pangandaran and Ciamis. Based on the result, this study concludes that a heavily damaging effect exists in the business related to tourist attractions (a restaurant in Pangandaran), supplier of materials to restaurants (a tempeh producer in Ciamis), and crowding creation (the seller of various snacks and a wedding organizer in Ciamis). Meanwhile, the middle-damaging impact happens in the coffee shop in Tasikmalaya, the hawker of round-shaped snacks with a chewy texture, and the food staller of hollow tofu with a sauce made of salt, onion, and brown sugar in Ciamis but a street vegetable hawker in Ciamis experiences low-damaging influence. After being asked about internal and external sustainable factors fronting this pandemic, they declare that having money left and using Instagram and WhatsApp to receive consumer orders become their internal sustainable factors. Meanwhile, receiving government aid is an external factor for business survival during the pandemic.

Keywords: East *Priangan*, Micro and Small Business, Qualitative Study, Sustainable Factors, Covid-19 Pandemic

1. Introduction

The COVID-19 pandemic in Wuhan, China, at the end of 2019 harmfully caused human health (Miyah et al., 2022). This coronavirus quickly infected people through droplets and transmitted from one to more spacious areas, even across the borders of countries. These infected ones always experienced coughing and sneezing as their symptoms; as the worst effect, this virus could murder them. To prevent this virus transmission, World Health Organization requires everyone to wash their hands and keep their distance (Morawska & Cao, 2020).

Indonesia became one of the coronavirus-transmitted countries since its first official case was announced on March 2, 2019 (Sabiila, 2022). This pandemic destroyed the yearly economic growth in Indonesia, from 5.02% in 2019 to -2.07% in 2020, as displayed in the first figure based on the Indonesian Central Agency on Statistics data. Before the pandemic: 2014-2018, this growth rate was steady, around 5%. The decline in this growth directly demonstrates its harmful effect on business in Indonesia. According to Kustiyono et al. (2022), the affected companies are from the automotive, steel electrical equipment, textile, handicrafts, heavy equipment, and tourism industries.

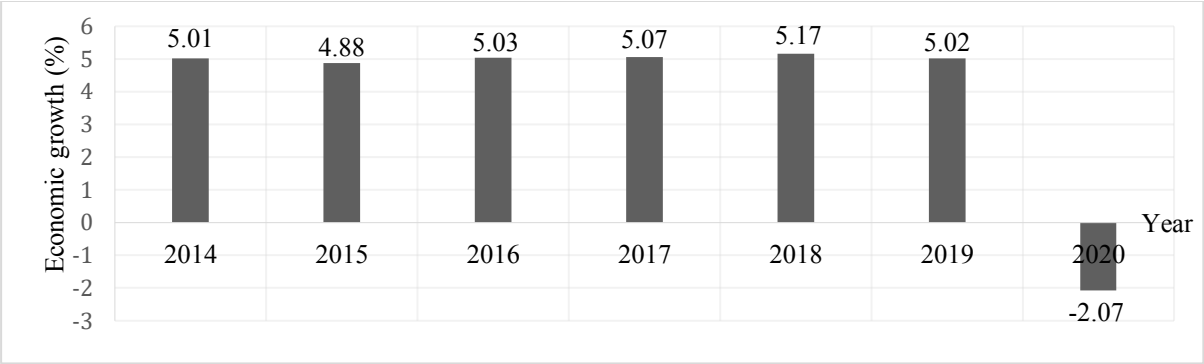

Figure 1: The economic growth rate from 2014 to 2020

Besides attacking big industries in Indonesia (Amri, 2020), the COVID-19 pandemic harmfully affects micro firms (Amri, 2020), small and medium companies (Amri, 2020; Lutfi et al., 2020; Setyoko & Kurniasih, 2022). Equally, Prof. Dr. Rully Indrawan, the secretary of the Ministry for Cooperatives and SMEs, explained that during the Covid-19 pandemic, the elevating number of businesspersons at MSM company with decreasing market demand occurred by 70% (Rachmawati, 2020). Also, this statement is supported by Panels A and B in Table 1 about the diminishing workforce absorption between 2019 and 2020. At the micro level, the workforce decreased from 96.89% in 2019 to 88.89% in 2020. At the minor level, it cut from 5.23% in 2019 to 4.77% in 2020. The diminishing status of this absorption also happened for the middle one, from 3.34% to 3.16%, and for the large one, from 3.36% to 3.18%.

Table 1: The comparison of business scale features before and during the first yearly Covid-19 pandemic in Indonesia

Panel A. Situation before the COVID-19 pandemic in 2019				
Business scale	Available firms		Workforce absorption	
	Total (unit)	%	Total (people)	%
Micro	64,601,352	98.67	109,842,384	96.89
Small	798,679	1.22	5,930,317	5.23
Middle	65,465	0.10	3,790,142	3.34
Large	5,637	0.01	3,805,829	3.36
Panel B. Situation during the first year of COVID-19 in 2020				
Business scale	Available firms		Workforce absorption	
	Total (unit)	%	Total (people)	%
Micro	65,761,446	98.68	111,841,233	88.89
Small	808,679	1.21	600,6322	4.77
Middle	66,345	0.10	397,0434	3.16
Large	5,724	0.00	399,6654	3.18

West Java province has the largest Indonesian micro, small, and medium companies (Putri, 2023). Furthermore, to get more focused on the efforts for the companies to sustain during the Covid-19 pandemic, this study utilizes the micro and small firms in East *Priangan* in West Java. Therefore, this study aims to explore how much effect the Covid-19 pandemic has on micro and small businesses based on the perception of the businesspersons. Additionally, this research wants to recognize the internal and external factors for their business to survive during this pandemic.

2. Research Method

2.1. Basic research framework

This study utilizes the qualitative approach. According to Schindler (2022), this approach uses the interpretive and exploration technique to describe the phenomena. The description refers to the actors, what they do, and when and where their event happens. Therefore, based on Sugiyono (2019), the researchers must have a close and virtuous relationship with the actors to collect the information. In this research context, the actors are the micro and small businesspersons in East *Priangan.* Administratively, East *Priangan* is located in the southeast part of West Java, covering three regencies: Ciamis, Pangandaran, Tasikmalaya, and two cities: Banjar and Tasikmalaya.

2.2. Population and sampling technique

The population is the businesspeople in micro and small enterprises in the East *Priangan* areas. This study employs theoretical sampling as one of the non-probability sampling techniques because of the qualitative approach, as Neuman (2019) mentions. According to Neuman (2019), this sampling technique enables the researcher to choose some people based on the relevant situation as the sample.

2.3. Data collection method

The researchers interview businesspeople at their locations to build a social perspective, especially when social distance is applied. According to Bougie and Sekaran (2020), the interview is a focused conversation between two persons or more structurally and non-structurally. This study selects the structural one and delivers two structured questions: (1) What were the unique experiences during the restriction on community activities based on emergency and four-level status? After knowing the experiences, this study classifies the damaging effect of Covid-19 on their business into heavy, middle, and low. (2) What were your internal and external capabilities to sustain during these situations?

2.4. Method to analyze the data

This study uses the interview results to classify the damaging-effect Covid-19 pandemic on business. Based on these results, the heavy and middle status is given to the areas with complete closure and a time limitation for consumers to visit to buy goods, respectively. The low level is given to the areas with several buyers existing to purchase the products; therefore, the businesspersons still have steady revenue from sales. Additionally, their answer becomes the basis for this research to detect their internal capability to sustain and received government support during the pandemic.

3. Results and Discussion

3.1. The research duration

The research was conducted during the second wave of the Covid-19 attack around June 21, 2021, in East *Priangan* and continued until August 2021. In this circumstance, the government used different terms to define the status of the Covid-19 pandemic based on the area. According to Detik News, from July 3 to 25, 2021, restrictions on emergency community activities (RECA) for Java and Bali became this status. Although that duration is not yet ended, the government changed its terminology to become the fourth and third-level imposition of restrictions on community activities (IRCA) on July 20 and applied it from July 21 to 25, 2021 (Sabiila, 2022).

3.2. The identity of the informants

The data collection was executed during the second wave of the Covid-19 attack around June 21, 2021, and continued until August 2021. It only obtained eight participants from three locations: Ciamis and Pangandaran regencies and Tasikmalaya city. However, the people from the Tasikmalaya Regency and Banjar City could not

be reached. Furthermore, the information from 8 participants can be seen in the second table. Based on this table, they sold round-shaped snacks with a chewy texture, vegetables, other snacks, and hollow tofu with a sauce made of salt, onion, and brown sugar. Besides, they opened the business of a coffee shop, eatery, salon, and wedding organizer.

Table 2: The identity of the informants

No.	Name	The business	Domicile
1.	Mrs. Aan Nafisatulmiskiyah	The seller of various snacks	Regency of Ciamis
2.	Mrs. Entin	The owner of the salon and wedding organizer	Regency of Ciamis
3.	Mr. Dede Zulmi	The owner of the eatery	Regency of Pangandaran
4.	Mr. Asep Lutfi Suparman	The owner of the coffee shop	Tasikmalaya city
5.	Mr. Agus	The hawker of round-shaped snacks with a chewy texture	Regency of Ciamis
6.	Mrs. Sri	The food staller of hollow tofu with a sauce made of salt, onion, and brown sugar	Regency of Ciamis
7.	Mr. Haris	The producer of tempeh	Regency of Ciamis
8.	Mrs. Tiara Eka Putri	The street vegetable hawker	Regency of Ciamis

3.3. The interview result on the effect of the covid-19 pandemic on micro and small business

During the Covid-19 pandemic, micro and small businesspersons in Ciamis and Pangandaran regencies and Tasikmalaya city had a unique experience, as reflected by the following interview results. As the seller of various snacks in the canteen in the public elementary school of Rajadesa1 in Ciamis, Mrs. Aan Nafisatulmiskiyah, based on the interview on July 8 and August 23, 2021, informed that the long-distance learning of the students caused her cannot optimally sell snacks anymore. Although the teachers on duty bought her goods, the revenues could not cover the operating expenses. Hence, she decided to sell the goods in front of her house. By doing it, the income from sales existed because many children around her house purchased it. Based on this description, this study classifies the effect of Covid-19 on her business as heavy.

As the salon owner and wedding organizer in Ciamis, Mrs. Entin stated in her interview on July 8, 2021, that the schedule of wedding parties had been dismissed since the restrictions on emergency community activities. The bride and groom can no longer hold their party because local officials prohibit them. Therefore, Mrs. Entin only came to make up for them for the wedding ceremony. In another case, she has ever been warned because of fulfilling the customers and insisted on holding the wedding reception. Based on this depiction, this study classifies the heavily damaging effect of Covid-19 on her business.

Furthermore, Mr. Dede Zulmi, one of the eatery owners around the tourist attraction in Citumang, Pangandaran, admitted in his interview on July 10, 2021: During the restrictions on emergency community activities, his business must be closed. Therefore, the visitation of tourists was forbidden. Similarly, based on the August 18, 2021 interview, he showed no change in his effort. Based on this circumstance, this study classifies the highly damaging effect of Covid-19 on his business.

Moreover, Mr. Asep Lutfi Suparman, the owner of the coffee shop in the city of Tasikmalaya, declared that he broke the regulation because of opening his coffee shop above eight p.m. Consequently, he had two alternatives given by the judge on July 13, 2021: paying the fine of IDR5,000,000 or getting jailed for three days. Finally, he chose to get imprisoned, and after completing a three-day punishment, he was released, as Detik News informed (Ramadhan, 2021). Thus, this study categorizes it as the middle damaging effect of Covid-19 on his business.

Based on the interview with Mr. Agus, the hawker of round-shaped snacks with a chewy texture in the economic area in Ciamis, on July 15, 2021, he could not sell them optimally because of the time limitation and few buying

customers because of the restrictions on emergency community activities. Equally, Mrs.Sri, the food staller in the economic center in Ciamis, in her interview on July 15, 2021, declared that she must close their business earlier. Hence, this study classifies the middle damaging effect of Covid-19 on their business.

When interviewing Mr. Haris, the tempeh producer, on July 19, 2021, he declared that during the restrictions on emergency community activities, the restaurants becoming his customer were closed, and their tempeh orders were canceled; thus, he counted on the demand from individual consumer around his location. He was also stressed because of the increase in the price of soybean. Therefore, this study categorizes it as the highly damaging effect of Covid-19 on his business. Unlike him, Mrs. Tiara Eka Putri, through the first interview on July 19, 2021, declared that she could increase her sales by 100% and 200% from her marketed vegetables during the RECA in Ciamis. On August 4, 2021, she said she only could attain an increase of 20% because of the third-level imposition of restrictions on community activities. On August 30, 2021, she noticed that her sales were average. Considering this evidence, this study categorizes it as the little damaging effect of Covid-19 on her business.

3.4. The interview result of sustainable factors supporting the micro and small entrepreneurs

Besides asking about their experience, this study interviews micro and small entrepreneurs about the factors to sustain during the Covid-19 pandemic, especially in restrictions on community activities. Based on the interview result, they mentioned internal and external factors. Internally, they were helped by the little money left to survive, which happened in all informants in this study. Besides, the entrepreneurs, such as Mr. Agus (the hawker of round-shaped snacks with a chewy texture), Mrs. Sri (the food staller of hollow tofu with a sauce made of salt, onion, and brown sugar), Mr. Haris (the producer of tempeh) and Mrs. Tiara Eka Putri (the street vegetable hawker) felt the benefits of online messaging platform such as WhatsApp to receive orders from their local customers. Besides WhatsApp, Mrs. Entin utilized Instagram to promote her salon and wedding organizer and received consumer orders.

Based on the interview result, they gave mutually exclusive government aid during the Covid-19 pandemic, such as productive assistance for micro businesses (PAMB), the allowance for tourism businesspersons (ATB), and direct rural cash assistance (DRCA). In this study context, the receiver of PAMB was Mrs. Aan Nafisatulmiskiya, Mrs. Sri, Mr. Haris, and Mrs. Tiara Eka Putri. For ATB, its receiver was Mr. Dede Zulmi. Lastly, Mr. Agus was the recipient of the DRCA. Unfortunately, for Mrs. Entin and Mr. Asep Lutfi Suparman, the information does not exist.

3.5. Discussion

Nationally, Indonesian micro, small, and medium businesses can survive during the pandemic, as shown by their increasing units, as Table 3 demonstrated. In this table, the micro-scaled businesses elevated from 64,601,352 units in 2019 to 65,761,466 units in 2020; therefore, the change was 1.80%. Similarly, their number upsurged from 798,679 to 808,679 units between 2019 and 2020 for small firms and from 65,465 units to 66,345 units between 2019 and 2020 for middle-scale enterprises. Hence, their change was 1.25% and 1.34%, respectively. Based on this circumstance, the impact of this pandemic in Indonesia is different from the prediction of the Organization for Economic Co-operation and Development about active business bankruptcy in some countries after this pandemic: 12% in Germany, 21% in France, 24% in Japan, 37% in the United Kingdom, 43% in the United States, 44% in Brazil and 50% in Turkey (OECD, 2020).

Table 3: The comparison of the number of micro, small, and middle enterprises before and during the first yearly Covid-19 pandemic in Indonesia

Business scale	Before the pandemic (2019)	During the first yearly pandemic (2020)	Change
Micro	64,601,352	65,761,446	1.80%
Small	798,679	808,679	1.25%
Middle	65,465	66,345	1.34%

Indeed, the fund becomes a problematic source for micro and small ventures to sustain. Therefore, government aid is needed to overcome this issue and to create their performance. This circumstance is confirmed by Zhang and Ayele (2022), declaring the more funding assistance from the government, the better the firm performance based on the perspective of 384 respondents covering leaders and employees in the micro and small companies in the Amhara Region, Ethiopia. Similarly, Alkatani et al. (2020), through their research on 267 businesspeople, confirm a positive association between government aid and the sustainable competitive performance of small and medium manufacturing enterprises in Islamabad and Rawalpindi, Pakistan. Using secondary data from small and medium enterprises in Korea between 2006 and 2011, Park et al. (2020) exhibit that loans from the government can support related firms to endure. Likewise, Feranita et al. (2019) confirm the positive relationship between government aid and business performance after investigating the 165 small and medium firms in Probolinggo City and the six regencies in East Java: Probolinggo, Lumajang, Jember, Bondowoso, Situbondo, and Banyuwangi.

Also, Instagram is a social media platform with a significant role in the wedding salon business, as Mrs. Entin has and utilizes. The application of Instagram to elevate business performance is helpful, especially during the Covid pandemic. It is also supported by a qualitative study by Parahiyanti and Prasasti (2021), locating that Instagram utilized by micro, small, and medium companies can engage customers during this pandemic. By applying the quantitative investigation on the Indonesian micro, small, and medium businesspersons utilizing social media, i.e., Facebook and Instagram, Syaifullah et al. (2021) demonstrate that these media can positively support their business performance during this pandemic. Equally, Akbar (2021) exhibits the positive impact of Instagram on the financial and non-financial performance of small and medium enterprises in Malaysia after investigating 352 employees. Besides, after studying 100 small and medium businesspersons in Celuk Village in Bali, Yasa et al. (2020) demonstrate a positive association between their business performance and usage of social media: Instagram, YouTube, and Line. By adopting social commerce belonging to 144 small and medium enterprises such as Instagram, Facebook, and Twitter, according to the study by Lina and Suwarni (2022), the related owners can improve both financial and brand business performance.

4. Conclusion

Nationally, the COVID-19 pandemic in Indonesia requires people to keep their distance socially as one of prevention. Consequently, their activities are limited. In this study context, this situation influences micro and small businesses in East *Priangan*. Hence, this investigation aims to detect the damaging effect of this pandemic and know the internal and external factors for their business to continue. Based on the interview results from the related businesspersons between June and August 2021, this study reveals that the damaging impact of the Covid-19 pandemic can be heavy, medium, and low. The severe effect happens in the restaurant and its supplier, a snack seller in an elementary school, and a wedding organizer. The middle exists in the food stall business. Hawkers can have a medium and little damaging influence depending on the situation. The fund left, and online applications, such as WhatsApp and Instagram, became internal factors for their business to survive. Government aid is the external solution for their business during the pandemic. Based on these facts, this study recommends that the related actors should efficiently and effectively operate their business; therefore, the fund still exists. This action is needed to anticipate the possibility of social restriction required by the government in the future.

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Influence of Green Marketing Mix on Purchase Intention of Vietnamese Consumers for Green Food

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Abstract
Businesses are making efforts to implement green marketing to meet the needs of consumers and build a sustainable living environment. Many studies around the world have investigated the influence of marketing mix on green purchase behavior. In order to understand the impact of 7Ps tools of retail service marketing on Vietnamese consumers' green food purchase intention, this study surveyed 368 consumers and analyzed quantitative data. Research shows that 7Ps of green retail stores affect customers attitude and their attitude have impact on their purchase intention. This result is the basis for green food retailers in Vietnam to understand consumers and make more effective green marketing decisions.

Keywords: Marketing Mix, Purchase Intention, Green Food, Consumers

1. Introduction

Green marketing is an inevitable trend of businesses today to have a sustainable development environment. In Vietnam, many businesses have been turning to green marketing, including retail businesses. However, buying green products is still an unpopular activity among Vietnamese consumers. In order to promote green consumption intentions, Vietnamese businesses are promoting green marketing mix activities. This study was conducted to understand the relationship between the implementation of green marketing tools and green purchase intention of Vietnamese consumers. The research is conducted based on the combination of Ajzen and Fisbein's model of purchase intention (1991) with the model of marketing mix tools in the service industry (7Ps) of businesses.

2. Literature review

2.1. Theoretical foundation of the research

The theory of planned behavior was proposed by Icek Ajzen in 1991. Theories of reasoned action have been based on different theories of attitudes such as learning, value, and unification theory (e.g Heider's theory of equilibrium, Osgood and Tannenbaum's theory of conformity, and Festinger's theory of dissonance) along with distributive

theory. According to the theory of reasoned action, if people rate the suggested behavior as positive (attitude), and if they think their significant other wants them to perform the behavior (subjective norm), this leads to a higher purpose (intention) and they are more likely to do so. The high correlation of attitudes and subjective norms with behavioral intention, and subsequent behavior, has been confirmed in many studies.

There are many objections to the close relationship between behavioral intention and the actual behavior that has been proposed. Several studies show that, because of indirect limitations, behavioral intentions do not always lead to actual behavior. In particular, since behavioral intention cannot be a determinant of behavior when an individual's control over the behavior is inadequate, Ajzen introduces the theory of planned behavior by adding a new section, "behavior control". In this way, he extended the theory of rational action to the theory of planned behavior.

These two theories have been widely used by scholars in predicting the intention of performance behavior and human behavior. In marketing, these theories are used to study consumer behavior. It allows researchers to delve into the factors that directly influence buying behavior. Studies on green buying behavior are also often predicted by these two models (Sharma 2021). In this study, Sharma also confirmed that TRA and TPB models need to be considered in different cultures to confirm its applicability. Particularly for studies on green consumption behavior, TPB has proven to be a good model for research (Sharma 2021). In the study of green consumption behavior, psychological theories such as TPB are particularly relevant. However, the explanation level of TPB with green consumption behavior is not stable so we want to use this model in the context of studying the influence of green marketing mix on purchase intention of Vietnamese consumers.

Due to the nature of the topic, many behavioral theories can also be applied in research to understand the complexities of green consumer behavior. However, these behaviors are unstable. To understand more about unstable behavior, the *Attitude* variable is included in the model as an intermediate variable. Psychological theories such as TRA, TPB with the intermediate variable *Attitude* have been widely used to understand the change in consumer behavior, but they still do not completely elucidate the theory of behavior of unstable consumption. Therefore, scholars suggest that new theories or frameworks need to be developed to understand the volatile behavior of consumers compared to the gap between attitudes and actual purchase intentions.

2.2. Concepts

Kotler and Keller (2009) define a marketing mix of tools that businesses use to satisfy market demand for a number of goods or services over a given period of time and in a particular market. According to Agic et al., (2016), marketing strategy involves creating a mix of marketing tools that enable the business to achieve its goals in the target market. As consumer behavior changed, the marketing mix was not only concerned with the 4Ps, but also evolved into the 7Ps (Harrington et al., 2017) for service industries. In the context of research on retail services of Vietnamese supermarkets, the author uses the 7P model. These tools include:

A product is an item that is built or manufactured to satisfy the needs of a certain group of people. The product in 7Ps marketing can be intangible or tangible as it can be in the form of a service or a good. This is factor is ranked first because it directly determines the choice of customers. No one will choose a product that they do not need or do not meet a need.

However, units need to find out what customers want about the product. Then perfect and improve product quality to best meet these requirements and increase revenue. Make sure that the product you design and manufacture meet the needs and trends of the market you are targeting. (Kukanja et al., 2016).

Price – The price of a product is essentially the amount a customer has to pay to own it (Kotler and Keller, 2009).
To be able to compete effectively with competitors and increase revenue for the unit, appropriate pricing is extremely important. It is the only factor that generates revenue for the business, sometimes you don't need to set low prices to attract customers but need to balance to make a profit for the business and be able to compete with other competitors. It can be based on market price segments, production costs to set prices for products and services. Pricing in the 7Ps marketing model is also an important component of the marketing strategy because it determines

the profitability and survival of the business. Adjusting product selling prices will have a great impact on the entire marketing strategy. At the same time, it also greatly affects the sales and demand of the product (Tjiptono and Chandra, 2005).

Place: An equally important element in the 7Ps Model is the place to display, introduce and exchange products. Products need to be available at the right distribution to bring in the best revenue. Businesses must display and distribute products in a place that is easily accessible to potential targets. This often requires a deep understanding of the market (Kushwaha and Agrawal, 2015) explaining that the actual distribution decision considers how the order is handled, where it is stored, how much stock is available, and freight way.

Promotion is a very important component of marketing as it can increase brand awareness and sales. So that customers can know the products and services provided by the business. Enterprises need to carry out promotion through communication channels, branding, promotion strategies, etc. All messages must be consistent, creating attraction for customers to choose products of the business (Marques et al., 2014).

People - includes people directly involved in serving customers of the business. A business should ensure the best "Customer Care". The attitude of everyone in the business will directly determine customer satisfaction. This is the factor that directly affects the brand of the business in terms of products and services provided. Therefore, all employees need to be professionally trained to bring the best experience to customers. For the human factor (people), the company's employees are very important in marketing. They are service providers. (Kukanja et al., 2016). Service quality will largely depend on the staff directly serving customers.

Process – Process in marketing 7P is one of the important elements of marketing. Organizational systems and processes that affect service implementation.

Quick working process, quick time and right to the agreement are always appreciated. The service experience, the waiting process to buy the product, the help of the staff and the consulting attitude. All of these will affect customer satisfaction about the business (Kushwaha and Agrawal, 2015). Process elements include purchasing facilities, and seller's quick response to consumer needs, responsiveness to consumer complaints about products and services. service (Yarimoglu, 2014).

Physical evidence – The infrastructure in the 7P model is the interaction of customers with businesses about the products and services they experience. Enterprises need to always ensure that this process is most synchronized and under strict management. Because the specificity of this service industry group is abstraction, businesses need "tangible" evidence so that customers can easily imagine the service provided (Khan, 2014). Physical evidence includes the environment (furniture, color, layout, noise level), supporting goods, space, sanitation and equipment, supporting facilities such as toilets, storage areas, yards. parking (Kukanja et al., 2016).

Successful marketers are those who maintain not only corporate profits but also consumer interests and loyalty through the firm's mix marketing decisions (Lamberti and Noci, 2010).

Attitude is an individual's positive or negative feelings about performing a certain behavior. Attitude describes the degree to which an individual views the outcome of an action as positive or negative (Ajzen and Fishbein, 1991).

Intention is the plan or possibility that someone will perform a particular action in a given context. Intention is a cognitive representation of a willingness to perform an action. The intention to act is the main driver of the behavior (Ajzen and Fishbein, 1991).

Purchase intention is described as a potential customer's willingness to purchase a product (Elbeck, 2008). The sales of the business can be surveyed based on the purchase intention of the customer. Predicting purchase intention is the first step to predicting actual customer buying behavior (Howard and Sheth, 1967). In addition, based on a number of theories, purchase intention is considered the basis for predicting future demand (Fishbein

and Ajzen, 1991).

2.3. Research hypothesis

2.3.1. Attitude affects purchase intention

Attitude in the TRA and TPB models is confirmed to affect intention. Studies of behavior and behavioral intention have both documented this effect. In green marketing studies, attitude also plays an important role in influencing green purchase intention (Shama 2021). The author re-tests this relationship in the context of green marketing of the Vietnamese retail industry with the hypothesis:
H1. Consumers' attitudes towards green food positively influence their purchase intention

2.3.2. Green promotion affects consumer attitudes

Consistent communication and interaction with customers helps understand their changing consumption trends (Sarkar et al., 2019; Testa et al., 2011). Green promotion involves using different marketing tools to promote green products (Leonidou et al., 2011). It positively affects consumers' green attitudes including skepticism (Albayrak et al., 2013; Kordshouli et al., 2015). Word of mouth (Gleim et al., 2013) can be more effective in green promotions. Ecolabels have been identified as a leading advertising technique (Brecard, 2014) to promote green products. This will help meet the needs of consumers seeking information before making a purchase (Aday & Yener, 2014). Attitudes are shaped by beliefs in values. The media will provide information that creates trust in the product's value and so green promotion will influence attitudes. Therefore, the author hypothesizes:
H2: Green promotion positively affects consumers' attitude towards green food.

2.3.3. Green products

The key to success in marketing is the attributes and quality of the product (Glanz et Al., 2012). Product design and styling induce product perceptions and feelings in customers, which in turn contribute to customer attitudes toward product purchase. (Lee et Al., 2021). In order to attract consumers' attention and build positive attitudes, products must also be highly applicable, practical, and trendy (Zheng et Al., 2020). Therefore, the following hypothesis is proposed:
H3: Green products positively affect consumers' attitudes towards green food.

2.3.4. Green place

Green retail stores contribute to creating trust in good products and services, thereby building a positive attitude of consumers towards buying green products (Ahi & Searcy, 2013). From that, the author hypothesized:
H4: Distribution channel positively affects consumers' attitude towards green food.

2.3.5. Green pricing

Green products are often considered expensive (Zhao & Zhong, 2015) and the higher price often becomes a barrier for consumers to buy green products, affecting actual buying behavior and attitudes. (Steg et al., 2014). Newton and Meyer (2013) also observed that higher prices create barriers to the development of green products and affect consumers' willingness to pay for green products. This barrier can be overcome by raising awareness about the benefits of green products (Muller & Ruffieux, 2011). Processed green products are considered to be more expensive, so domestic production should be promoted to be cost-effective. In Vietnam, with low per capita income, high prices of green products can negatively affect consumer attitudes. So the following hypothesis is put forward:
H5: Product price positively affects consumers' attitude towards green food.

2.3.6. People

The people involved in the customer service process play an important role in shaping consumers' attitudes about purchasing a product. Their appearance, conversational style, and attitude can influence buyers' perceptions of products and services (Hu et Al., 2020). Knowledge of products and service quality from employees will affect customers' purchasing attitudes (Xu et Al., 2020). Therefore, the following hypothesis is proposed:
H6: People have a positive influence on consumers' attitudes towards green food.

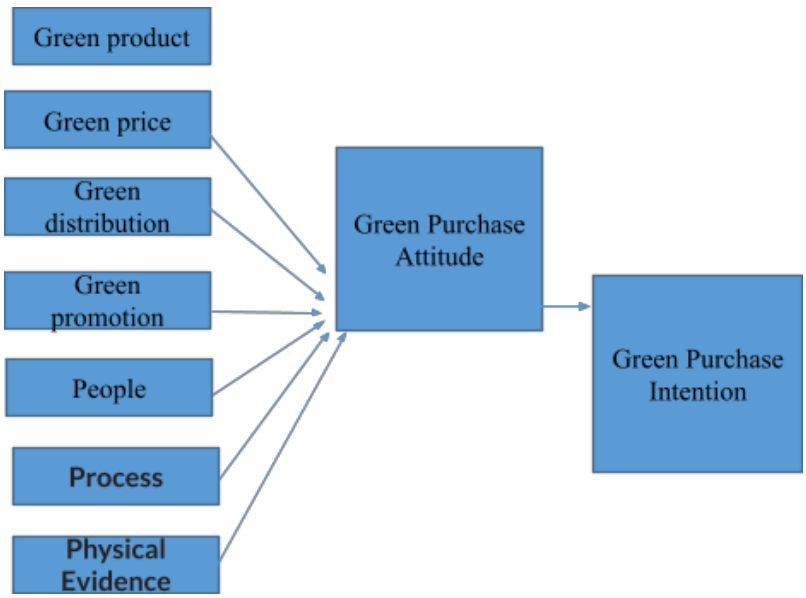
2.3.7. Process

The service process is concerned with the production and delivery of a service. It is found that service process design indirectly affects customer perception (Kushwaha et al., 2015). Zheng (2020) argues that shopping and transaction processes are important factors affecting consumers' attitudes. If consumers feel convenience and ease, they will have a more positive attitude towards purchasing. Therefore, the following hypothesis is proposed:
H7: Customer service process positively affects consumers' attitude towards green food.

2.3.8. Physical evidence

Direct shoppers often experience the atmosphere of the shopping environment where the decoration, furniture and architecture make the viewer more connected to the context (Zhang et al., 2020) and this atmosphere is easily stimulated. Product information becomes more accessible to customers (Xu et al., 2020). Furthermore, the customer experience is enhanced through various consumption scenarios, such as live product demonstrations as well as attractive, diverse product displays to foster enthusiasm and arouse interest and elicit consumer buying behavior (Hu et al., 2020). Physical evidence will help buyers with product information as well as purchase inspiration. Therefore, the following hypothesis is proposed:
H8: Physical evidence is positively associated with customers' attitude toward green purchase.

2.4. Research models



3. Research method

On the basis of an overview of studies related to green marketing tools, attitudes towards green buying behavior and green purchase intention, the research team has inherited the scales for research. A qualitative research was done with the collection of information through in-depth interviews with 2 groups of employees (5 people each)

of modern chain stores selling green food and 3 customer groups (each group of 5 to 7 people) who often shop at modern retail chains in Hanoi that sell green food. The content of the in-depth interviews focused on discussing green marketing tools, attitudes towards green buying behavior and green buying intentions. The results of this research phase help to calibrate the scale and complete the set of questions for quantitative research. Here are the official scales stopped for quantitative research:

Factors	Variable code	Variable name
Green Products	prod1	Product diversity
	prod2	Adequate packaging
	prod3	Well-done packaging
Green Price	pric1	Cheaper Price
	pric2	Follow price development
	pric3	Negotiable Price
	pric4	Offering Discount
Green Distribution	dist1	Strategic location
	dist2	Delivery service
	dist3	Place identity
	dist4	Product availability
Green Media	prom1	Simple Bonus of Purchasing
	prom2	Mouth-of-Word Promotion
	prom3	Media Information (HP/Leaflet)
Human Factor	peop1	Manage business by itself
	peop2	Hospitable attitude
	peop3	Alacrity/Agile/ Quick Response
	peop4	Honesty
Service Procedure	proc1	Bargaining in kindship
	proc2	Payment flexibility
Physical environment	evid1	Market cleanliness
	evid2	Neatly arranged
	evid3	Shopping Flexibility/Convenience
Green food purchasing intention	inte1	I will actively buy green food
	inte2	I will definitely buy green food
	inte3	I will buy green food next time
	inte4	Likely I will buy green food if it is available in my area
	inte5	In the future, I will try green food if I need a product like that
Attitude toward green food	atti1	Purchasing green food is enjoyable
	atti2	I like purchasing green food
	atti3	Purchasing green food is interesting
	atti4	Purchasing green food is not frustrating disciple
	atti5	I get a lot of satisfaction purchasing green food
	atti6	I'm not afraid of purchasing green food

The quantitative research phase is conducted by collecting information by sending questionnaire links directly to customers through the Zalo network. From the customer database of modern stores, a list of 1000 customers

(including 350 people in Hanoi, 300 people in Da Nang and 350 people in Ho Chi Minh City) are randomly selected for the link. As a result, more than 400 customers responded. The data collected after removing biased and incomplete responses left 368 valid observations. According to Hair et al (1998), the minimum sample size suitable for factor analysis is determined by the formula n=5*m (where m is the number of observed variables). To conduct regression analysis in the best way (Tabachnick et al., 2012), the sample size must ensure the formula: $n \geq 8m + 50$ (n is sample size, m is the number of independent variables in the model.); while according to (Harris, 2001): $n \geq 104 + m$ (where m is the number of independent and dependent variables, or $n \geq 50 + m$, if $m < 5$. The study has a total of 35 variables with 24 variables. independent, therefore, the sample size with 368 observations is large enough to perform statistical analysis. Data was coded and processed by SPSS software and Amos version 26.

4. Result

4.1. The results of testing the reliability of the scale

No	Factors	Number of observed variables	Cronbach's Alpha coefficient	Total variable correlation coefficient (within range)
1	Green product element	4	0,923	0,821-0,888
2	Green price factor	4	0,932	0,749-0,893
3	Green distribution element	4	0,91	0,727-0,826
4	Green media element	3	0,893	0,763-0,814
5	Human factors	4	0,821	0,616-0,647
6	Service process element	2	0879	0,785-0,785
7	Physical environmental factors	3	0,919	0,837-0,845
8	Attitude factor	6	0,904	0,613-0,824
9	Green purchase intention factor	5	0,90	0,70-0,817

Cronbach's Alpha coefficient and total variable correlation coefficient are used to analyze the reliability of the scale. According to Peterson (1994), the value levels of Cronbach's Alpha have the following significance: a value greater than 0.8 indicates a good scale; between 0.7 and 0.8 the scale can be used; from 0.6 or more, the scale can be used in case the research concept or research context is new. According to Nunnally and Bernstein (1994), observed variables with a total correlation coefficient less than 0.3 will need to be removed. According to the results of data processing, the factors in the model all have Cronbach's Alpha coefficients greater than 0.8, the correlation coefficients of all variables are greater than 0.61. Thus, all the scales of the factors in the model meet the testing standards and can confirm enough reliability to perform the next analysis.

4.2. Exploratory factor analysis results

According to Hair & ctg (1998), the conditions for exploratory factor analysis must meet the following requirements (1) The KMO number shelf ranges from 0.5 to 1; (2) Factor loading > 0.5; (3) Bartlett's test has statistical significance (Sig. < 0.05); (4) Percentage of variance > 50%. Data processing results for coefficient KMO=0.888; Bartlett's test has Sig ~ 0, the total variance extracted is 70.522% and the factor loading coefficients of the variables are as follows:

	Factor								
	1	2	3	4	5	6	7	8	9
atti6	.913								
atti2	.886								
atti3	.824								
atti1	.756								
atti4	.705								
atti5	.548								
inte4		.892							
inte5		.866							
inte2		.834							
inte1		.685							
inte3		.683							
pric4			.947						
pric2			.912						
pric1			.910						
pric3			.717						
dist2				.916					
dist4				.877					
dist3				.869					
dist1				.681					
evid3					.907				
evid1					.889				
evid2					.873				
peop1						.743			
peop2						.742			
peop3						.737			
peop4						.664			
prod2							.937		
prod1							.870		
prod3							.848		
prom2								.897	
prom3								.893	
prom1								.779	
proc2									.887
proc1									.883

Thus, the exploratory factor analysis results ensure the testing standards. All observed variables have factor loading coefficients greater than 0.5 and converge on the correct factors as the theoretical model. Analysis results factors confirmed.

4.3. Analysis results of SEM linear structural model

According to Hu & Bentler (1999), the linear structural analysis model is considered suitable if the following test criteria are met:

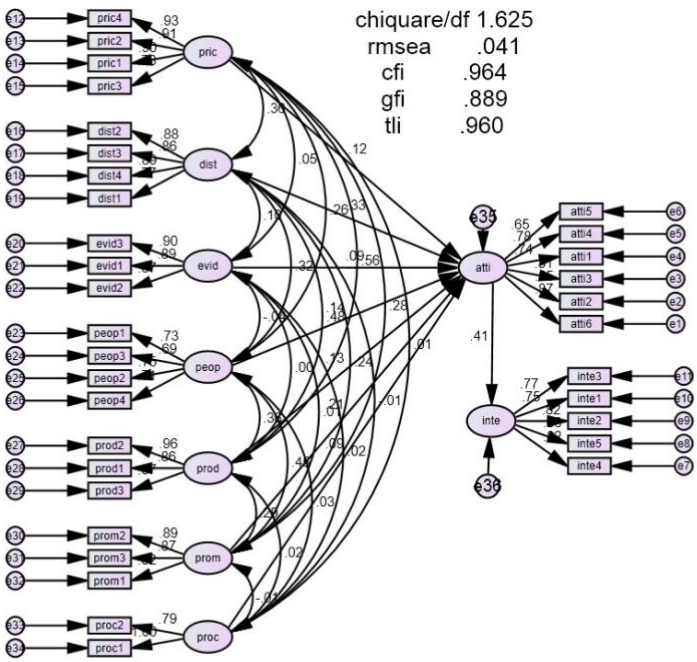
- Chi-Square/df (CMIN/df): If CMIN/df 3 is good, if <5 is acceptable;

- Comparative fix index (CFI): if CFI 0.95 is very good, ≥ 0.9 is good, ≥ 0.8 is acceptable;
- Tucker–Lewis index (TLI): if TLI 0.95 is very good, ≥ 0.9 is good, ≥ 0.8 is acceptable;
- Goodness of fix index (GFI): if GFI 0.95 is very good, ≥ 0.9 is good,
- Root mean square errors of approximation (RMSEA): if RMSEA 0.06 is good, 0.08 is acceptable.

The P-values in the results of the analysis of the linear structural model represent the statistical significance level to accept or reject the research hypothesis (usually studies use the significance level Alpha=0.05).

Results of linear structural model analysis on the impact of green marketing tools on attitude towards green food purchase behavior and green food purchase intention.

The research model includes the impact relationship between value assets, brand equity, and relationship assets on the intention to repeat consumption. The results after analyzing and making some adjustments show that the research model is compatible with the experimental data with Chi-square indexes = 1.625 (less than 2), CFI = 0.964, TLI = 0.960 , GFI = 0.889 are all greater than 0.85; RMSEA = 0.041 is less than 0.08. Thus, the linear structural model ensures the testing standards and is consistent with the market data. The normalized linear structure model is as follows:



All P_value < 0.05 of the regression coefficients are less than 0.05 and the regression coefficients all have positive values, showing a positive impact on the outcome variable:

The effect	Regression weight	Conclusion
atti <--- pric	.123	Hypothesis H5 (price has a positive effect on green food buying attitude) is confirmed

atti	<---	dist	.325	The hypothesis H4 (distribution channel has a positive influence on green food purchase attitude) is confirmed
atti	<---	evid	.088	The hypothesis H8 (physical environment positively affects the attitude to buy green food) is confirmed
atti	<---	peop	.144	The hypothesis H6 (human factors positively affect the attitude to buy green food) is confirmed
atti	<---	prod	.133	Hypothesis H3 (product positively affects green food purchase attitude) is confirmed
atti	<---	pro m	.215	The hypothesis H2 (communication positively affects the attitude to buy green food) is confirmed
atti	<---	proc	.088	Hypothesis H7 (service process positively affects green food purchase attitude) is confirmed
int e	<---	atti	.406	Hypothesis H1 (attitude positively affects intention to buy green food) is confirmed

5. Discussion and implication

The research results confirm that attitude towards green food positively affects customers' intention to buy it. Out of a normalized regression of 0.406, it shows that if the attitude towards green food increases by 1 unit, the intention to buy increases by 0.406 units. To promote green food purchase intention of customers, it is necessary to promote positive customer attitude towards it. Green marketing tools affect its purchase intention through mediating attitude towards green food.

Research results also show that green marketing tools have a positive effect on attitudes towards green food. This shows that marketing activities will change attitudes towards green food and thus affect consumers' intention to buy it.

The marketing tool that has the strongest influence on attitude towards green food and its purchase intention is the driving factor. This shows that giving customers convenient access to green food will have a strong impact on customer's attitude or in other words, the direct contact of customers with it will affect the customer's attitude towards green food and strongly influence the positive attitude of customers and thereby affect the intention to buy it. Therefore, modern retail stores should pay attention to ensuring the availability of green food, choosing the location and delivery method to create the most favorable conditions for customers to access it.

Communication is the second strongest factor influencing attitudes towards green food. This once again affirms the very important role of communication in changing customers' attitudes and intentions to buy green food. Therefore, businesses need to invest in communication activities at the point of sale to promote positive attitudes towards green food and thereby influence green purchase intentions.

Product, *price* and *people* equally influence attitudes towards green food. This shows that marketers need to factor in *product*, *price* and *people* at the point of sale to contribute to creating a positive attitude towards green food and thereby influence customers' green food buying behavior.

Physical evidence and service *process* have the least influence on attitude towards green food and its purchase intention. Therefore, modern retail stores do not need to focus on the service process and physical environment at the point of sale in order to promote consumers' green buying attitudes and behavior.

6. Conclusion

The study has shown the positive impact of marketing tools on customers' intention to buy green food at modern retail stores through the mediating variable of attitude towards it. The research results also show the direction for investing in marketing activities to promote green buying behavior of customers. This study only focuses on marketing activities at the point of sale without taking into account the impact of green food manufacturers' marketing activities on customers' intention to buy it. Further studies should examine the simultaneous influence of marketing activities at retail food stores and marketing and branding activities of green food manufacturers on customers' purchase intention of green food.

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Impact of Governance and Financial Development on Foreign Direct Investment in BRICS Nations

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Abstract
The study tries to understand the impact of Governance and Financial Development on the FDI inflow in the BRICS nations. The study uses the panel regression method to analyze the degree of impact of these indicators on the FDI inflow. The study found that the unit change in Government Effectiveness, Political Stability, and Regulatory Quality will have a positive impact on the FDI inflow in BRICS nations by 1.353, 0.945, and 0.148536 times respectively, while any unit change in the Control of Corruption will have a negative impact on the FDI inflow by 2.820 times. Likewise, for Financial Development, any unit change in the Financial Market Depth and Financial Market Efficiency will positively impact the FDI inflow by 1.634 and 1.624 times, respectively. The study implies that the BRICS nations should focus on strengthening their Government Effectiveness, maintaining Political Stability, improve Regulatory Quality while combating corruption to attract FDI. Similarly, enhancing the Depth and Efficiency of their Financial Markets will significantly strengthen their FDI inflow. The researchers and scholars may pursue the policy implications provided within the study for gauging measures to improve the FDI Inflows in the BRICS nations through Governance and Financial Developments.

Keywords: BRICS, FDI Inflow, Governance, Financial Development

1. Introduction

Open economies are more productive than closed economies and grow faster since closed economies only produce to meet domestic demand (Ngepah & Udeagha, 2018). Opening up the economy benefits economic growth in developed and developing countries. As part of economic openness, capital openness led to more capital interchange and increased capital productivity, which encourages economic growth (Guru & Yadav, 2019; Krueger, 1985). Globalization promotes more significant levels of innovation and technology, encouraging entrepreneurship in competitive markets and increasing access to markets, resulting in longer-term growth at constant returns (Krueger & Berg, 2003; Ngepah & Udeagha, 2019; Ngepah, 2014). Foreign direct investment (FDI) has increased due to globalization, and open economics has become more appealing to FDI as their governments have adopted liberal investment policies (Saidi et al., 2013). Foreign direct investment is critical for economic growth and poverty alleviation. Foreign investments help in employment generation, technological transfer, and, as a result, the host country's development and economic progress (Berden et al., 2014; Saidi et al., 2013).

BRICS (Brazil, Russia, India, China, and South Africa) is an organization comprising the world's top five emerging economies that seeks to enhance, widen, and accelerate collaboration within and among member countries to achieve more sustainable, egalitarian, and mutually beneficial growth. They account for 41% of the world's total population, 24% of its GDP, and 16% of international commerce (Evolution of BRICS, 2021). Developing countries are currently leading the charge in attracting and making international investments (UNCTAD, 2009). The BRICS countries are the most favored destinations for the FDI inflow, given their technological advancement, skilled workforce, and favorable environment for setting up any industry. The BRICS are five of the world's greatest emerging nations, accounting for 25% of foreign investment, 18% of goods trade, and 23% of global GDP. As a result, the BRICS have emerged as a critical power in the global economy that cannot be ignored (Xinhua, 2022). The governments of the BRICS countries are spending significant amounts on infrastructure, industry, education, healthcare, housing, and tourism to increase FDI inflows and boost the country's GDP, hence promoting growth in import and export commerce and generating local employment and wealth.

The BRICS countries have adopted a variety of economic growth approaches. Domestic service supply underpins the Brazilian economy. The availability of energy and raw materials is critical to Russia's economic development. The services sector mainly dominates the Indian economy. Furthermore, investment and industry exports drive China's economic growth. In Brazil, Russia, and India, the tertiary sector presently receives the most average inbound FDI, followed by the primary sector, which receives the least. In China, the primary and tertiary industries get far less inward FDI than the secondary sector, which has a distinct industrial structure of foreign FDI. FDI inflows into South Africa have been relatively diverse regarding industry distribution. Despite South Africa's considerable mineral reserves, natural resources are less necessary than expected. More than two-thirds of FDI inflows have gone to non-mining sectors, indicating that dominating the domestic and regional markets has been the primary focus of foreign investments in South Africa (Gelb, S., & Black, A., 2004).

Researchers have focused on the relationship between excellent governance infrastructure and foreign direct investment inflows (FDIs) for several policy implications. Foreign direct investment (FDI) is impacted by the unique political risk of each country. Therefore, governments with prudential rules and regulations and institutional efficacy to safeguard an investor's property rights are more likely to attract FDI (Mody & Srinivasan, 1998). The fundamental governance components that encourage foreign investors to invest in a host nation include operational transparency and accountability, the ability to enforce laws when rules and contracts are breached, and a business-friendly environment. Other examination aspects include government selection processes, monitoring, and replacement. Governance indicators are six components of the governance processes that may be used to measure the level of governance in a country (Kaufmann et al., 2009).

These governance indicators are outlined as follows:

Voice and Accountability: It assesses a country's citizens' participation in political decision-making, freedom of association and expression, and access to unrestricted media.

Political Stability and Absence of Violence/Terrorism: *It evaluates the risk of the present government being removed from office or overthrown using potentially unlawful tactics like terrorism and violent activities driven by political motives. Political stability is required for markets to properly direct resource allocation and inspire faith in economic players to make long-term investments. Foreign investors are unwilling to invest in markets with high levels of uncertainty; therefore, political stability in the host country is critical.*

Government Effectiveness: *The parameter gathers feedback on the caliber of civil and public services, their immunity to political influence, the effectiveness of policy creation and implementation, and the legitimacy of the political support for these policies. Rammal and Zurbruegg (2006) conducted a study to examine how changes in the standard of governmental regulatory efficacy and governance practices affect the direction of outbound foreign direct investment (FDI) flows among the five ASEAN member countries. The study found that excessive restrictions on foreign trade and business development and a decline in the efficacy and enforcement of investment laws such as price controls have adverse effects on intra-ASEAN FDI flows. These factors are significant in explaining the recent decrease in ASEAN FDI flows.*

Regulatory Quality: *It includes how the general public views the government's capacity to enact wise policies that promote and enable the expansion of the private sector. Governments have a crucial role in creating laws that regulate the economy, set boundaries for the level of competition and factor endowment, and provide the legal framework for doing business (Rugman & Verbeke, 1998).*

Rule of Law*: The parameter denotes the efficacy of contract enforcement and the possibility of crime and violence. "The rule of law" broadly refers to a legal system that protects personal fundamental and constitutional rights, public institutions' credibility, and the government's commitment to free and open markets. These standards prohibit arbitrary direct or indirect expropriation of privately owned assets, encouraging FDI and, most likely, private domestic investment.*

Control of Corruption: *It examines perceptions of the government's misuse of authority for personal gain, including minor and severe corruption. According to Vittal (2001), if China effectively decreases bureaucracy and corruption, strengthens the rule of law, and protects property, FDI might double over the coming decade.*
Numerous studies have shown that expanding the financial sector is essential for economic growth. A robust financial sector encourages increased savings rates and credit availability, mobilizes and pools resources, generates investment data, permits and encourages foreign capital inflows, and optimizes capital allocation. Long-term growth rates are generally more significant in countries with advanced financial systems. Much research indicates that this link is causal—financial success comes after and supports economic advancement. Assessing the financial sector's condition and comprehending the relationship between FDI influx and economic growth is essential.

A country's ability to attract foreign direct investment (FDI) is greatly influenced by the quality of its financial infrastructure and the level of governance. Financial development, which encompasses the depth, access, and efficiency of financial markets and institutions, plays a crucial role. Financial markets, including stock and bond markets, determine the size and liquidity of the market. In contrast, financial institutions such as banks, insurance companies, mutual funds, and pension funds offer financial services to people and businesses. The level of activity on capital markets and the ease with which individuals and businesses can obtain financial services are also important considerations.

A comprehensive, multi-dimensional concept of financial development is advocated by Čihák et al. (2012), who developed a matrix of financial system characteristics. A country with a solid financial infrastructure and a high level of governance is more likely to attract FDI due to the greater stability and security offered by the financial system. This, in turn, leads to a more conducive investment environment and increased investor confidence. Thus, countries prioritizing financial development and good governance are more likely to attract FDI and benefit from the economic growth it brings.

1.1 Analysis of FDI of BRICS Countries

Table 1 illustrates the total foreign direct investment (FDI) inflows and their trend percentages for the BRICS nations from 2014 to 2020. In 2014, Brazil received the highest FDI inflows of 87,713.98 USD million, but this figure gradually decreased to 37,786.29 USD million in 2020. Similarly, Russia experienced a significant drop in FDI inflows from 22,031.34 USD million in 2014 to 6,852.97 USD million in 2015, followed by a gradual increase to 32,538.90 USD million in 2016, a subsequent decrease in trend. By 2020, FDI inflows had fallen drastically to -237%.

South Africa also experienced a significant decline in FDI inflows, dropping from 5,791.66 USD million in 2014 to 1,521.14 USD million in 2015, representing a decrease of 281%. However, FDI inflows have been on the rise since 2016. The pandemic outbreak in 2020 had a negative impact on the FDI inflows in Brazil, South Africa, and Russia.

On the other hand, India's FDI inflows have been on the rise, increasing from 34,576.64 USD million in 2014 to 64,362.36 USD million in 2020, indicating a growth rate of 46%. Surprisingly, despite the pandemic, FDI inflows in India have remained robust.

As for China, it received the highest FDI inflows of all BRICS nations, with 268,097 USD million in 2014, gradually decreasing to 166,084 USD million in 2017. Nevertheless, China's FDI inflows remained the highest among all the BRICS nations throughout the study.

The trends in FDI inflows for the BRICS nations were mixed over the period studied, with some countries experiencing growth while others experienced a decline. The pandemic had a negative impact on FDI inflows in some countries, while others remained resilient.

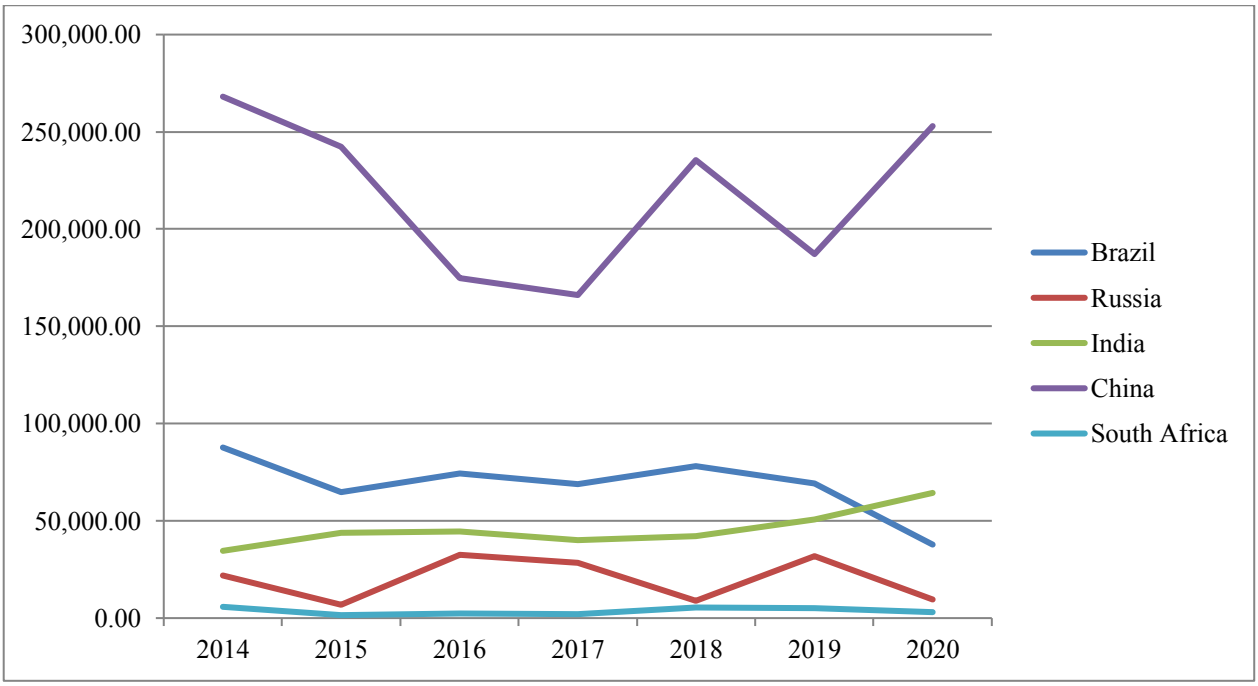

Figure 1: FDI Inflow in BRICS (2014-2020)

Source: World Bank, 2021

Table 1: Trend Percentages of FDI in BRICS Countries

Year	Brazil		Russia		India		China		South Africa	
	Amount in USD millions	% Change	Amount in USD millions	% change	Amount in USD millions	% change	Amount in USD millions	% change	Amount in USD millions	% change
2014	87,713.98	100%	22,031.34	100%	34,576.64	100%	268,097	100%	5,791.66	100%
2015	64,738.15	-26%	6,852.97	-221%	44,009.49	21%	242,489	-11%	1,521.14	-281%
2016	74,294.63	15%	32,538.90	79%	44,458.57	1%	174,750	-39%	2,215.31	31%
2017	68,885.49	-7%	28,557.44	-14%	39,966.09	-11%	166,084	-5%	2,058.58	-8%
2018	78,162.72	13%	8,784.85	-225%	42,117.45	5%	235,365	29%	5,569.46	63%
2019	69,174.41	-11%	31,974.77	73%	50,610.65	17%	187,170	-26%	5,116.10	-9%
2020	37,786.29	-45%	9,478.81	-237%	64,362.36	21%	253,096	26%	3,153.55	-62%

Source: World Bank, 2021

2. Literature Review

Several pieces of research have been conducted on the factors influencing FDI in developing nations. Singh & Jun's 1995 empirical study on the influence of political risk and macroeconomic factors on FDI inflows in developing countries supports the importance of these aspects in understanding the drivers of FDI.

Wang & Swain (1997) demonstrated that political instability has a detrimental impact on the FDI inflows of multinational corporations and their subsidiaries. Political turmoil, debt repayment or modification, corruption, and opaque institutional procedures all have an adverse impact on the business climate, leading to a decline in FDI inflows. In his study, Morisset (2000) revealed how corruption and weak leadership boost administrative costs, which limit FDI inflows. Other studies claim that institutional and political factors are important drivers of FDI in developing countries.

Globerman & Shapiro (2002) also investigated the connection between the American government and foreign direct investment. In general, governance infrastructure refers to characteristics of laws, rules, and legal frameworks that impact property rights' safety, government openness, and legal procedures. Their findings suggest that the governance infrastructure, which includes the legal system's structure, is a critical factor in determining the amount of FDI received. Globerman & Shapiro (2002) made the case that effective institutions create an environment favorable to multinational corporations overseas. The authors used a probit model to investigate how governance affects FDI outflows from the United States to developing nations.

Samimi & Ariani (2010) assessed how improved governance affected the inflow of foreign direct investment. The researchers used annual average data for 16 MENA (Middle East and North Africa) nations from 2002 to 2007. Political stability, the fight against corruption, and the rule of law were the three governance criteria they adopted from the World Resources Institute for the assessment. They concluded that improving the governance level positively impacts the FDI inflows into MENA countries. As a result, initiatives to develop and enhance the region's governance indices were suggested.

Hassen & Anis (2012) examined how foreign direct investment (FDI) affected Tunisia's economic growth from 1975 to 2009. The real GDP of the Tunisian economy and the coefficients of financial development, FDI, human capital, and trade openness were found to be long-term co-integrated.

In a study conducted by Adhikary (2011) on 15 Asian countries between 1996 and 2008, it was found that good governance and foreign direct investment (FDI) are significant factors that contribute to economic progress. The study utilized the random effect of generalized least squares and Prais-Winsten estimating techniques to investigate the relationship between these variables. Another study by Mengistu & Adhikary (2011) evaluated the impact of good governance on FDI inflows in the same 15 Asian countries using a fixed effect panel data model. The study found that foreign direct investment and governance characteristics such as effective leadership, stable politics, and a lack of violence are important markers of economic success. In particular, the study found that good governance, as measured by the World Bank's governance indicators, positively impacted FDI inflows in these countries. This highlights the importance of a robust institutional framework for attracting FDI.

Financial institutions and markets are crucial in attracting foreign direct investment (FDI) to a country. The depth, access, and efficiency of financial institutions and markets have been shown to impact FDI inflows (Sahay et al., 2015). The size and liquidity of the financial markets, as well as the ease of access to financial services, are key indicators of financial development (Čihák et al., 2012). A country's ability to offer financial services at reasonable prices and generate stable revenues and the level of activity on the capital markets are also essential factors in financial development.

Several studies have examined the relationship between financial development and FDI. Kaur and Singh (2021) analyzed the impact of financial sector development on FDI in India using panel data from 2001 to 2018. The study found that financial sector development, measured by indicators such as credit to GDP ratio, market capitalization ratio, and deposit mobilization ratio, positively affects FDI inflows in India. This suggests that a well-developed financial sector can attract more FDI to a country.

In a cross-country study, Hermes and Lensink (2003) investigated the link between finance, FDI, and economic development. According to the study, the level of financial development in the host country has a considerable impact on the effect of FDI on economic growth. Higher levels of financial development in the host nation mainly, are advantageous for attracting FDI because they enhance credit availability, allowing enterprises to acquire new

equipment, utilize modern technology, and recruit talented managers and laborers. A well-functioning financial framework also provides for FDI backward connections, which boosts industrial efficiency by assisting local suppliers. As a result, the host country's capacity to gain from FDI spillovers is highly determined by its level of financial development. This relationship between finance and FDI emphasizes the importance of finance in the growth equation. Loungani and Assaf (2001) concur, indicating that nations with more modern financial systems are more likely to attract FDI.

According to the above literature analysis, while there have been various studies on the link between governance, financial development, and FDI, there is still a need for a more thorough study on the influence of these characteristics on FDI inflows in the BRICS countries. Given the BRICS countries' distinct economic and political circumstances, a more in-depth analysis is necessary to identify how governance and financial development affect FDI influx in these countries. The current study intends to fill a research vacuum by investigating how governance and financial growth affect FDI in BRICS countries. The research will examine several governance and financial development characteristics that investors assess before investing in these nations. This research will improve understanding of the link between governance, financial development, and FDI by offering insights into the significant determinants that drive FDI inflows in the BRICS states.

2.1 Research Gap

Foreign Direct Investment (FDI) is seen as a critical engine of economic growth in rising economies, particularly the BRICS countries. FDI inflows to these countries have been erratic throughout the years, despite their potential to stimulate economic progress. Two essential variables that impact FDI inflows are governance and financial development. However, there has been little study on the influence of these determinants on FDI inflows to BRICS countries. This article seeks to overcome that gap by investigating the link between governance, financial development, and FDI inflows in the BRICS countries.

The limited research on the relationship between Governance, Financial Development, and FDI inflows to BRICS nations highlights a research gap in this field. Although some studies have examined this relationship, most have focused on a single country or use aggregate data that does not capture country-specific variations. Additionally, the existing literature needs to clearly understand the mechanisms through which Governance and Financial Development impact FDI inflows to BRICS nations. Therefore, there is a need for further research to examine this relationship in detail, using more comprehensive data that captures country-specific variations and identifying the underlying mechanisms through which Governance and Financial Development influence FDI inflows.

2.2 Problem Statement

1. The research aims to see whether the country's governance and financial development affect its Foreign Direct Investment.
   This study aims to examine the relationship between a country's governance, financial development, and foreign direct investment (FDI). FDI has a substantial impact on economic growth and development, which is, in turn, driven by financial development and good governance. This study will examine how and to what extent these factors influence FDI.

2. To analyze various governance and financial development parameters, an investor stresses before investing in the BRICS nation.

This study intends to identify the governance and financial development variables that potential investors consider before investing in BRICS nations. Investors are drawn to the BRICS countries because of their growth potential. However, before making investment decisions, investors consider governance and financial development. This study will identify the distinct governance and financial development criteria investors consider when investing in different countries.

2.3 Research Objectives

1. Empirically investigate the impact of Governance and Financial Development on FDI inflow in BRICS nations. The study would collect and analyze governance and financial development indicators data to determine their impact on FDI inflows. The research would also use statistical methods to test the significance of the relationship between these variables.

2. To investigate the change in FDI inflow based on the country's political stance. The research would also compare the FDI inflows of democratic and autocratic nations within the BRICS group and identify any significant differences.

2.4 Research Hypotheses

2.4.1 Governance and FDI

Null Hypothesis (H0): There is no relationship between Governance on the FDI in BRICS nations

Alternate Hypothesis (H1): There is a relationship between Governance on the FDI in BRICS nations

When our null hypothesis (H0) comes to be true, it signifies that the Governance Indicators, i.e., Voice and accountability (VA), Political stability (PS), Government effectiveness (GE), Regulatory quality (RQ), Rule of law (RL) and Control of corruption (CC) have no relationship with the FDI in the BRICS countries.

While if our alternate hypothesis (H1) stands to be true, it signifies that the Governance Indicators, i.e., Voice and accountability (VA), Political stability (PS), Government effectiveness (GE), Regulatory quality (RQ), Rule of law (RL) and Control of corruption (CC) have a relationship with the FDI in the BRICS countries.

2.4.2 Financial Development and FDI

Null Hypothesis (H0): There is no relationship between Financial Development on the FDI in BRICS nations

Alternate Hypothesis (H1): There is a relationship between Financial Development on the FDI in BRICS nations

When our null hypothesis (H0) comes to be true, it signifies that the Financial Development Indicators, i.e., Financial Institution Access (FIA), Financial Institution Depth (FID), Financial Institution Efficiency (FIE), Financial Market Access (FMA), Financial Market Depth (FMD) and Financial Market Efficiency (FME) have no relationship with the FDI in the BRICS countries.

When our alternate hypothesis (H1) comes to be true, it signifies that the Financial Development Indicators, i.e., Financial Institution Access (FIA), Financial Institution Depth (FID), Financial Institution Efficiency (FIE), Financial Market Access (FMA), Financial Market Depth (FMD) and Financial Market Efficiency (FME) a relationship with the FDI in the BRICS countries.

3. Research Methodology

3.1 Data

The data is the time series data which ranges from 2002-2020. The method used is the quantitative method. Panel regression involves analyzing the relationship between a dependent variable and one or more independent variables over time for a group of countries or regions. The time-series data ranges from 2002-2020, allowing for a longitudinal analysis of changes and trends. The use of quantitative methods involves the use of mathematical and

statistical models to analyze the data, allowing for precise measurement and analysis of the relationship between variables.

3.2 Research Design

Table 2: Research Design

Sr. No	Dependent/Independent Variable	Name of the variable	Measured
1	Dependent	FDI Inflow	Total FDI Inflow in the country annually
2	Independent	Governance	*Governance Indicators by World Bank:* Voice and accountability (VA) Political stability (PS) Government effectiveness (GE) Regulatory quality (RQ) Rule of law (RL) Control of corruption (CC)
3	Independent	Financial Development	*Financial Development Indicators by IMF:* Financial Institution Access (FIA) Financial Institution Depth (FID) Financial Institution Efficiency (FIE) Financial Market Access (FMA) Financial Market Depth (FMD) Financial Market Efficiency (FME)

Source: Kaufmann & Kraay, 2021; Svirydzenka, 2016

3.4 Model of the Theory

We use a statistical model that includes a set of governance and financial indicators as independent variables and FDI inflows as the dependent variable. The model can be specified as follows:
FDI = f (Governance Indicators, Financial Indicators) (3.1)
The aim is to estimate the coefficients of the independent variables and their impact on FDI inflows.
The model includes several governance indicators, such as control of corruption (CC), government effectiveness (GE), political stability (PS), the rule of law (RL), and voice and accountability (VA), as well as financial development indicators such as foreign investment assets (FIA), foreign investment liabilities (FID), foreign investment earnings (FIE), foreign portfolio assets (FMA), and domestic credit provided by the banking sector (FMD).
By estimating the coefficients of these indicators, we can determine the extent to which each variable affects FDI inflows. The model also includes an intercept ($\beta 0$) and an error term (εt) that captures any unexplained variation in FDI inflows.

3.4.1 Mathematical Model

FDI = f (Governance Indicators, Financial Indicators) (3.1)

3.4.2 Statistical Model

$$FDI_1 = \beta 0_1 + \beta 1_1 (CC) + \beta 2_1 (GE) + \beta 3_1 (PS) + \beta 4_1 (RQ) + \beta 5_1 (RL) + \beta 6_1 (VA) + \varepsilon t_1 \quad (3.2)$$
$$FDI_2 = \beta 0_2 + \beta 1_2 (FIA) + \beta 2_2 (FID) + \beta 3_2 (FIE) + \beta 4_2 (FMA) + \beta 5_2 (FMD) + \beta 6_2 (FME) + \varepsilon t_2 \quad (3.3)$$

Where,

β0 is the intercept, and β1 to β6 are the coefficients of the governance and financial development indicators, whereas Ɛt represents the error in the model.

4. Data Analysis

Panel regression, fixed effects regression, or longitudinal data analysis is a widely used econometric approach for analyzing data that includes cross-sectional and time-series components. This approach is commonly used in the social sciences, such as economics, political science, and sociology, to estimate the connection between independent factors and a dependent variable across time while allowing for individual differences or unobserved heterogeneity.

Unlike standard regression models, the panel regression model allows adding time-invariant variables unique to each individual or item being researched. As a result, panel regression is a valuable technique for analyzing data in which individuals or entities are monitored across time.

Several studies have used panel regression in recent years to analyze governance, financial, and foreign direct investment (FDI) variables in the BRICS nations. Governance indices like political stability, the rule of law, and government performance have significantly impacted economic growth and development (Kaufmann, Kraay, & Mastruzzi, 2011). Panel regression was used to investigate the association between governance parameters and economic development in the BRICS nations. Panel regression was used by Ogunmuyiwa, Akanbi, and Ogunmuyiwa (2019) to study the influence of governance variables on economic development in the BRICS nations. According to the report, government efficacy and the rule of law benefit economic growth in the BRICS countries.

Financial indicators such as interest rates, inflation, and currency rates are substantial economic growth and development factors. Panel regression investigated the association between BRICS financial indicators and economic development. Guo and Xu (2019) employed panel regression to examine the influence of financial products on BRICS economic growth. The study discovered that financial development has a favorable and considerable impact on economic growth in the BRICS nations.

Foreign direct investment (FDI) is a critical engine of economic growth and development in developing nations. The association between FDI and economic development in the BRICS nations has been investigated using panel regression. For example, Liu, Wang, and Lu (2020) used panel regression to examine the influence of FDI on economic development in the BRICS nations. According to the report, FDI has a favorable and considerable impact on economic growth in the BRICS nations

4.1 Regression Analysis Output

4.1.1 Governance Indicators

Table 3: Regression Analysis Output for Governance Indicators

Dependent Variable: Foreign Direct Investment (FDI)	
Independent Variables	**Coefficient (Probability)**
GE	1.353658 (0.0648)***
CC	-2.820424 (0.0000)*
PS	0.945563 (0.0117)**
RQ	0.148536 (0.0000)*
*,**,*** show significance at 1%, 5% and 10%	

Source: Author's calculation from EViews

Based on the regression analysis, the output shows the relationship between the four independent variables and the dependent variable. In this case, the dependent variable is FDI inflow, while the independent variables are GE, CC, PS, and RQ.

The first part of the output shows that the positive and significant value of if there is any change in GE (Government Effectiveness) by 1 unit for the BRICS countries, there will be a positive change in FDI inflow by 1.353658 times. This means that as the government effectiveness of the BRICS countries improves, there is an increase in FDI inflow.

The second part of the output shows that any change in CC (Control of Corruption) by 1 unit will negatively affect the FDI inflow by -2.820424 times. This indicates that as the level of corruption increases in the BRICS countries, FDI inflow decreases. This is because corruption can discourage foreign investors who may be worried about the potential for bribery or other illegal activities.

The third part of the output indicates that any change in PS (Political Stability) in the BRICS countries by 1 unit will positively affect the FDI inflow by 0.945563 times. This means that as the political stability of the BRICS countries increases, FDI inflow also increases. This is because political instability can create an uncertain investment climate, making it more difficult for foreign investors to commit to long-term investment projects.

Finally, the last part of the output shows that any change in RQ (Regulatory Quality) by 1 unit will positively affect the FDI inflow by 0.148536 times. This indicates that as the quality of regulations in the BRICS countries improves, there is an increase in FDI inflow. This is because effective regulations can create a more stable and predictable business environment for foreign investors.

Significance of the indicators

In a regression analysis, the significance values, also known as p-values, indicate the probability of observing a coefficient as extreme as the one we obtained in our analysis, assuming that the true coefficient is zero. The smaller the p-value, the more statistically significant the relationship between the independent and dependent variables.
In this particular case, our regression model indicates that GE is significant at a 10% significance level, CC is significant at a 1% significance level, PS is significant at a 5% significance level, and RQ is significant at a 1% significance level. This means the coefficient estimates for CC and RQ are highly statistically significant, while the estimates for GE and PS are less statistically significant but still meaningful.

For instance, the highly significant coefficient estimate for CC suggests that control of corruption is a crucial factor in attracting FDI inflows in the BRICS countries. On the other hand, the coefficient estimate for GE suggests that government effectiveness is also a statistically significant factor in attracting FDI inflows in the BRICS countries, albeit at a lower significance level.

4.1.2 Financial Indicators

Table 4: Regression Analysis Output for Financial Indicators

Dependent Variable: Foreign Direct Investment (FDI)	
Independent Variables	**Coefficient (Probability)**
FMD (-1)	1.632829 (0.0092)**
FMA(-1)	0.042668 (0.9640)***
FME(-1)	1.624809 (0.0001)*
*,**,*** show significance at 1%, 5% and 10%	

Source: Author's calculation from EViews

The regression coefficients provide essential information on the strength and direction of the relationships between financial market variables and FDI inflows in BRICS countries. Specifically, the regression analysis coefficients

show that financial market depth (FMD) and financial market efficiency (FME) have a strong positive effect on FDI inflows. In contrast, financial market access (FMA) has a weaker positive effect.

The coefficient for FMD indicates that a one-unit increase in financial market depth will lead to a 1.632829-times increase in FDI inflows. This suggests that a deeper and more liquid financial market can attract more foreign investment, providing investors with more investment options and reducing transaction costs. Policymakers can promote financial market depth by fostering the development of diverse financial instruments, improving the efficiency of the payment system, and reducing regulatory barriers to investment.

The coefficient for FMA indicates that a one-unit increase in financial market access will lead to a 0.042668-times increase in FDI inflows. Although this coefficient is smaller than that for FMD, it still indicates a positive relationship between market access and FDI. Improving market access involves reducing restrictions on foreign investment, simplifying procedures for investment, and enhancing transparency in financial regulation.

The coefficient for FME indicates that a one-unit increase in financial market efficiency will lead to a 1.624809-times increase in FDI inflows. This suggests that more efficient financial markets can attract more foreign investment, enabling investors to transact quickly and cost-effectively and obtain high-quality financial information. Policymakers can promote financial market efficiency by promoting the use of electronic payment systems, improving the quality and availability of financial information, and enforcing regulations effectively and transparently.

Significance of the indicators

The p-values associated with the regression coefficients provide statistical evidence of the relationships between the financial market variables and FDI inflows in BRICS countries. A p-value represents the probability of observing a coefficient as large as the estimated one or more extreme, assuming that the null hypothesis of no relationship between the variable and the outcome holds. A p-value below a certain significance level (e.g., 5% or 1%) indicates that the coefficient is statistically significant and that we can reject the null hypothesis.

In our regression analysis, the p-values associated with FMD and FME are less than 0.05 and 0.01, respectively, indicating a statistically significant relationship between these variables and FDI inflows in BRICS countries at the 5% and 1% levels of significance, respectively. This suggests that FMD and FME positively affect FDI inflows in BRICS countries.

Conversely, the p-value associated with FMA is greater than 0.05, which suggests a lack of statistical significance in the relationship between FMA and FDI inflows in BRICS countries. Therefore, we accept the null hypothesis of no relationship between FMA and FDI inflows in BRICS countries.

Taken together, these regression analysis probability results suggest that FMD and FME are essential determinants of FDI inflows in BRICS countries, while FMA is not a statistically significant predictor. Hence, policymakers in BRICS countries should prioritize the promotion of financial market depth and efficiency to attract more foreign investment to their economies.

4.2 Diagnostic Tests Of The Model

4.2.1 Governance Indicators

Table 5: Diagnostic Test Estimates for Model with Governance Indicators

R- squared	0.791293
Adjusted R-squared	0.770680
Prob (F-statistic)	0.000000
(Source: Author's calculation from EViews)	

Based on the model diagnostics, the model appears to be consistent and well-suited for the data. The R-squared value of 0.791293 indicates that the model's independent variables can account for approximately 79.13% of the variance in the dependent variable. This suggests that the model is able to explain a substantial proportion of the variation in the dependent variable.

Furthermore, the adjusted R-squared value of 0.770680 suggests that the model is not overfitting the data by including unnecessary independent variables. This is important, as overfitting can lead to inaccurate predictions when the model is applied to new data.

The probability of the F-statistic, which measures the overall significance of the model, is 0.000000. This implies that the model is statistically significant and that the independent variables included in the model are jointly significant predictors of the dependent variable.

Overall, the model diagnostics suggest that the model is consistent and well-fitted to the data.

4.2.2 Financial Indicators

Table 6: Diagnostic Tests Estimates for Model with Financial Indicators

R- squared	0.174159
Adjusted R-squared	0.145350
Prob (F-statistic)	0.000874

Source: Author's calculation from EViews

Based on the model diagnostics, the model appears to be statistically significant, but the goodness-of-fit of the model is somewhat limited. The R-squared value of 0.174159 indicates that the independent variables in the model account for approximately 17.42% of the variation in the dependent variable. This suggests that the model may not fully capture the complexity of the relationship between the independent and dependent variables.

The adjusted R-squared value of 0.145350 indicates that the model is likely not overfitting the data by including extraneous independent variables. However, the lower adjusted R-squared value relative to the R-squared value suggests that incorporating additional independent variables may improve the model's predictive power.

The probability of the F-statistic is 0.000874, indicating that the overall model is statistically significant. This suggests that at least one of the independent variables is significantly related to the dependent variable. However, it does not necessarily mean that all independent variables are significant predictors.

While the model appears statistically significant, the low R-squared and adjusted R-squared values, combined with the positive autocorrelation in the residuals, suggest that the model may not fully capture the complexity of the relationship between the independent variables and the dependent variable. Further analysis may be necessary to identify additional variables or refine the model to improve its predictive power.

4.3 Interpretation and Discussion

4.3.1 FDI and Governance Development

Our comprehensive regression analysis results provide compelling empirical evidence on the nuanced relationship between crucial independent variables and foreign direct investment (FDI) inflows in the dynamic context of the BRICS countries. A thorough examination of our findings reveals various insights, shedding light on the complex interplay among multiple factors that shape the investment landscape in these emerging economies.

One of the salient findings of our analysis pertains to the pivotal role of government effectiveness (GE) in attracting FDI inflows. Our results reveal a statistically significant positive relationship, indicating that a one-unit improvement in GE score is associated with a remarkable increase in FDI inflow by 1.353658 times. This underscores the vital importance of a proficient, transparent, and accountable government machinery that fosters investor confidence and promotes a conducive business environment. A well-functioning government characterized by streamlined regulatory processes, efficient governance practices, and robust institutional frameworks can act as a beacon, guiding foreign investors toward the shores of the BRICS countries.

Intriguingly, our analysis also uncovers the negative impact of corruption on FDI inflows in the BRICS countries. We found a statistically significant negative relationship, indicating that a one-unit increase in corruption is associated with a stark decrease in FDI inflow by -2.820424 times. This sobering finding underscores the corrosive nature of corruption, which engenders a toxic investment environment riddled with bribery, embezzlement, and unethical practices. The deleterious effects of corruption on FDI inflows are comparable to a malignant tumor that undermines the fabric of the investment landscape, deterring foreign investors and stifling economic growth prospects.

Furthermore, our analysis highlights the pivotal role of political stability (PS) in attracting FDI inflows. Our results reveal a statistically significant positive relationship, indicating that a one-unit improvement in political stability is associated with a notable increase in FDI inflow by a factor of 0.945563. This finding underscores the crucial importance of a stable political environment that engenders predictability, continuity, and certainty for foreign investors. A politically stable climate, marked by fewer changes in government, civil unrest, and policy uncertainties, serves as a solid foundation upon which foreign investors can build their long-term investment plans.

Lastly, our analysis illuminates the significance of regulatory quality (RQ) in attracting FDI inflows in the BRICS countries. We found a statistically significant positive relationship, indicating that a one-unit improvement in regulatory quality is associated with a discernible increase in FDI inflow by a factor of 0.148536. This finding underscores the pivotal role of effective regulations that provide a stable, transparent, and level playing field for businesses. Sound regulatory frameworks, characterized by clear rules, transparent processes, and robust enforcement mechanisms, can serve as a beacon, instilling confidence in foreign investors and encouraging them to explore investment opportunities in the BRICS countries.

In conclusion, our findings highlight the multifaceted nature of the relationship between key independent variables and FDI inflows in the BRICS countries. The statistically significant coefficients for GE, corruption, political stability, and regulatory quality reveal the intricate interplay among government effectiveness, control of corruption, political stability, and regulatory quality in shaping the investment landscape. These findings have significant implications for policymakers and stakeholders in the BRICS countries, emphasizing the imperative to prioritize efforts to improve these factors in order to attract more FDI inflows, foster robust economic growth, and enhance international competitiveness.

4.3.2 FDI and Financial Development

The relationship between financial market variables and foreign direct investment (FDI) inflows in BRICS countries has been a subject of growing interest among researchers and policymakers. This study aims to contribute to understanding this relationship by conducting a rigorous regression analysis using data from various financial market indicators.

The findings reveal that financial market depth (FMD) and financial market efficiency (FME) are critical in attracting FDI inflows. Specifically, a deeper and more liquid financial market, coupled with efficient payment systems and reduced regulatory barriers, positively impacts FDI inflows. Notably, the coefficient for FMD demonstrates a significant effect, indicating that a mere one-unit increase in FMD results in a staggering 1.632829-fold increase in FDI inflows. These results highlight the potential of fostering financial market depth as a strategic policy tool to invigorate FDI inflows in BRICS countries.

Additionally, the study illuminates the positive impact of financial market access (FMA) on FDI inflows, although the relationship was weaker compared to FMD and FME. While the relationship between FMA and FDI inflows did not exhibit statistical significance with a p-value greater than 0.05, reducing restrictions on foreign investment, streamlining investment procedures, and enhancing transparency in financial regulation can still contribute to attracting more foreign investment.

In contrast, the regression analysis identifies financial market efficiency (FME) as a statistically significant predictor of FDI inflows, with a p-value less than 0.01, underscoring its robust influence on foreign investment dynamics. The results suggest that more efficient financial markets, characterized by cutting-edge electronic payment systems, the availability of high-quality financial information, and effective and transparent regulations, can serve as a potent magnet for foreign investment. Remarkably, a one-unit increase in FME is associated with a substantial 1.624809-fold increase in FDI inflows, accentuating the pivotal role of financial market efficiency as a catalyst for attracting foreign investment in BRICS countries.

Based on these empirical findings, policymakers in BRICS countries are encouraged to prioritize policies and reforms that foster financial market depth and efficiency to unleash the full potential of FDI inflows. Measures such as fostering the development of diverse financial instruments, improving payment systems, enhancing transparency in financial regulation, and ensuring robust enforcement of regulations can all contribute to creating a conducive investment environment that attracts foreign capital. These findings hold significant implications for policymakers and stakeholders interested in promoting foreign investment in BRICS countries, with the potential to fuel economic growth and propel development to new heights.

The statistical analysis conducted in this study provides a solid foundation for policymakers and stakeholders seeking to foster foreign investment in BRICS countries by creating a conducive financial market environment.

5. Conclusion

The empirical analysis conducted in this study reveals that government effectiveness, control of corruption, political stability, and regulatory quality are critical factors shaping foreign direct investment (FDI) inflows in BRICS countries. The findings demonstrate that a proficient, transparent, and accountable government, low levels of corruption, a stable political environment, and well-defined and enforced regulations are significant determinants that contribute to investor confidence and foster a conducive business environment. These findings carry significant implications for policymakers and stakeholders in BRICS countries, highlighting the need to prioritize efforts to improve governance and regulatory frameworks in order to attract more FDI and drive economic growth.

Furthermore, the regression analysis results highlight the crucial roles of financial market depth (FMD) and financial market efficiency (FME) in attracting FDI inflows. The findings emphasize the positive impact of a deeper and more liquid financial market, efficient payment systems, and reduced regulatory barriers on FDI inflows. Notably, the coefficient for FMD demonstrates that even a minor increase in financial market depth can result in a substantial increase in FDI inflows. Additionally, financial market efficiency is a statistically significant predictor of FDI inflows, underscoring the strong influence of cutting-edge electronic payment systems, high-quality financial information, and transparent regulations on foreign investment dynamics.

These findings highlight the importance of prioritizing policies and reforms that promote financial market depth and efficiency as strategic tools to attract foreign capital and stimulate economic growth in BRICS countries. This research contributes valuable insights to the existing literature and offers implications for policymakers and stakeholders interested in promoting foreign investment in BRICS countries.

5.1 Policy Implications

The results of our empirical study have substantial policy implications for policymakers and stakeholders interested in boosting FDI inflows into the BRICS nations. Our findings, in particular, emphasize the critical

importance of government effectiveness, corruption control, political stability, and regulatory quality in defining the investment landscape and attracting foreign capital. BRICS policymakers should prioritize enhancing these elements to establish a favorable investment climate that nurtures investor confidence and supports economic growth.

Enhance Government Effectiveness: Policymakers should prioritize government effectiveness by simplifying regulatory procedures, enhancing governance practices, and strengthening institutional frameworks. This may be accomplished by eliminating bureaucracy, boosting openness and accountability, and improving the efficiency of government institutions' efficiency in investment procedures. A competent, transparent, and responsible government apparatus may increase investor trust and promote a favorable business climate, which is critical for attracting FDI inflows.

Combat Corruption: Policymakers should prioritize measures to combat corruption, which negatively influences FDI inflows. Implementing strong anti-corruption measures, boosting openness in government and business transactions, and strengthening institutional anti-corruption processes will help level the playing field for companies and attract international investors to the BRICS countries**.**

Maintain Political Stability: Policymakers should prioritize political stability by lowering policy uncertainty, minimizing government transitions, and controlling public unrest. A stable political climate characterized by continuity, predictability, and assurance is crucial for attracting foreign investment. Policymakers should endeavor to create a favorable political atmosphere that allows companies to prosper and foreign investors to make long-term investment plans.

Strengthen Regulatory Quality: Policymakers should prioritize efforts to enhance regulatory quality by developing clear and transparent rules, methods, and enforcement mechanisms. Sound regulatory frameworks that create a stable, transparent, and equal playing field for businesses may build trust in international investors and encourage them to investigate investment possibilities in the BRICS countries. To encourage FDI inflows, policymakers should also work on lowering regulatory costs, streamlining regulatory procedures, and guaranteeing regulatory uniformity.

Foster International Competitiveness: Policymakers should prioritize improving the BRICS nations' international competitiveness to attract FDI inflows. This may be accomplished through investing in infrastructure development, encouraging innovation and technology adoption, strengthening the business climate, and training a competent workforce. A competitive economic environment with favorable business circumstances can entice international investors and contribute to vigorous economic growth**.**

Coordinate Regional Efforts: BRICS policymakers should also focus on coordinating regional efforts to attract FDI. Collaborative activities such as regional trade agreements, investment promotion programs, and collaborative infrastructure projects can increase the region's appeal to international investors as a whole. Policymakers should endeavor to improve regional collaboration and coordination in order to maximize the BRICS nations' aggregate potential for attracting FDI inflows.

Likewise, the regression analysis findings suggest that fostering financial market depth and efficiency, streamlining investment procedures, ensuring robust regulatory enforcement, and promoting policy coordination are critical policy implications for policymakers in BRICS countries interested in attracting foreign direct investment. These policy actions can boost economic growth, accelerate development, and boost the BRICS nations' competitiveness in the global investment scene.

Promote Financial Market Depth: Policymakers should prioritize policies and reforms that enhance financial market depth, such as the development of different financial products, the improvement of payment networks, and the removal of regulatory restrictions. A deeper and more liquid financial market may attract foreign direct investment (FDI) inflows, as indicated by the regression analysis's strong positive link between financial market

depth and FDI inflows. Policymakers should seek to provide an enabling climate for financial market growth to realize the potential of FDI inflows fully.

Improve Financial Market Efficiency: Policymakers should prioritize financial market efficiency, which includes cutting-edge electronic payment systems, the availability of high-quality financial information, and efficient and transparent regulations. A more efficient financial market may be a powerful magnet for foreign investment, as evidenced by the regression study's statistically significant association between financial market efficiency and FDI inflows. To attract more foreign investment, policymakers should prioritize improving financial market efficiency.

Streamline Investment Procedures: Policymakers should endeavor to streamline investment procedures to minimize limits on foreign investment and improve financial regulation transparency. Although the relationship between financial market access (FMA) and FDI inflows was relatively weaker in the regression analysis, the findings still suggest that simplifying investment procedures and improving transparency in financial regulation can contribute to attracting more foreign investment, albeit to a lesser extent. Policymakers should focus on creating a transparent and streamlined investment environment to facilitate foreign investment.

Robust Enforcement of Regulations: Policymakers should ensure robust enforcement of regulations to create a conducive investment environment. The regression analysis findings highlight that effective and transparent regulations are crucial in attracting foreign investment. Policymakers should prioritize measures to ensure regulations are enforced effectively and transparently to build investor confidence and attract foreign capital.

Policy Coordination: Policymakers in BRICS countries should prioritize policy coordination among government agencies and stakeholders involved in foreign investment. Coordinated policies across different areas, such as financial market development, investment procedures, and regulations, can create a synergistic effect and enhance the attractiveness of BRICS countries as investment destinations. Policymakers should work towards a cohesive policy framework that promotes foreign investment in a coordinated and strategic manner.

5.2 Limitations

While analyzing the effect of Governance Development on the FDI in BRICS nations, we had to drop two governance indicators, i.e., Voice and Accountability (VA) and Rule of Law (RL), due to the presence of multicollinearity between the variables. This means that the variables are highly correlated, which would have led to biased regression coefficients and predictions.

Likewise, we had to drop the Financial Development indicators like Financial Institution Access (FIA), Financial Institution Depth (FID), and Financial Institution Efficiency (FIE) because the preliminary analysis showed that these indicators had minimal impact on the FDI inflow in the BRICS nations.

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ANNEXURE

ANNEX 1

Table 7: Regression Output of the Model with Governance Indicators

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test cross-section random effects				
Test Summary		Chi-Sq. Statisti	Chi-Sq. d.f.	Prob.
Cross-section random		126.634987	4	0.0000
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
GE	1.353658	0.527237	0.200331	0.0648
CC	-2.820424	-0.334068	0.359746	0.0000
PS	0.945563	1.878943	0.137041	0.0117
RQ	0.148536	-4.160582	0.186894	0.0000
Cross-section random effects test equation:				
Dependent Variable: LNFDI(-1)				
Method: Panel Least Squares				
Date: 04/11/23 Time: 13:14				
Sample (adjusted): 2003 2020				
Periods included: 18				
Cross-sections included: 5				
Total panel (balanced) observations: 90				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	23.53302	0.341459	68.91911	0.0000
GE	1.353658	0.563640	2.401634	0.0186
CC	-2.820424	0.721429	-3.909497	0.0002
PS	0.945563	0.451341	2.095009	0.0393
RQ	0.148536	0.599147	0.247912	0.8048
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.791293	Mean dependent var		23.99424
Adjusted R-squared	0.770680	S.D. dependent var		1.488443
S.E. of regression	0.712777	Akaike info criterion		2.255343
Sum squared resid	41.15211	Schwarz criterion		2.505324
Log-likelihood	-92.49042	Hannan-Quinn criter.		2.356150
F-statistic	38.38794	Durbin-Watson stat		1.094867
Prob(F-statistic)	0.000000			

ANNEX 2

Table 8: Regression Output of the Model with Financial Indicators

Dependent Variable: LNFDI(-1)				
Method: Panel EGLS (Cross-section random effects)				
Date: 04/11/23 Time: 13:10				
Sample (adjusted): 2003 2020				
Periods included: 18				
Cross-sections included: 5				
Total panel (balanced) observations: 90				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FMA(-1)	0.042668	0.942724	0.045261	0.9640
FMD(-1)	1.632829	0.613133	2.663092	0.0092
FME(-1)	1.624809	0.394949	4.113976	0.0001
C	22.06986	0.493942	44.68104	0.0000
	Effects Specification			
			S.D.	Rho
Cross-section random			0.355170	0.2048
Idiosyncratic random			0.699925	0.7952
	Weighted Statistics			
R-squared	0.174159	Mean dependent var		10.10796
Adjusted R-squared	0.145350	S.D. dependent var		0.940514
S.E. of regression	0.869480	Sum squared resid		65.01558
F-statistic	6.045404	Durbin-Watson stat		0.622694
Prob(F-statistic)	0.000874			
	Unweighted Statistics			
R-squared	0.251628	Mean dependent var		23.99424
Sum squared resid	147.5613	Durbin-Watson stat		0.274359

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Exchange Rate Fluctuations and Firm's Survival: Evidence Manufacturing Contribution to the Nigerian Economic Growth

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Abstract
Exchange rate fluctuation has remained a challenging issue for developing countries and sub-Saharan African region in particular. Despite all the efforts towards a stable exchange rate by the sub-Saharan African countries in the last decades, economic growth has been sluggish in almost all the countries in the region. Objective of this study is to assess the economic impact of exchange rate fluctuations on manufacturing companies' survival in Nigeria, taking manufacturing contribution to gross domestic product as a proxy for survival. The study adopted Ex Post Facto Research Design and time-series data was used. Relevant secondary data for this study were generated from Central Bank of Nigeria statistical bulletin and the Annual Abstract of the National Bureau of Statistics between 1990 and 2020. The study employed ordinary least square estimation and used regression analysis to test the relationship between exchange rate fluctuations on manufacturing companies' survival in Nigeria. The study showed that exchange rate and production growth are positively and significantly related. From the result, exchange rate, interest rate and trade openness are statistically significant at 5 percent level while inflation is not. It therefore shows that exchange rate, interest rate and trade openness have effect on the manufacturing contribution to gross domestic product in Nigeria within the period studied. The indication from the result is that exchange rate fluctuation is not good for a growing economy like Nigeria. Exchange rate as the variable of interest in the study appears with correct sign showing that there is a positive and significant relationship between exchange rate and production growth. Based on the research finding, the study therefore recommends that efforts should be made in order to have an effective monetary policy that will guarantee a realistic exchange rate to boost sectorial output performance in Nigeria.

Keywords: Exchange Rate, Manufacturing Contribution, Interest Rate, Trade Openness

1. Background to the Study

Globalization is now a complete reality that virtually all companies must face; and no longer a fiction. The globalization of economic activities also encouraged the growth of companies beyond their home country and the operation of diverse companies as a single organization which cuts across countries.

Countries produce certain products in abundance so as to exchange with other products from other countries. This idea had encouraged economic liberalization which allows countries to seek exchange of resources in the form of

goods and services with one another. These countries that seek exchange of resources in the form of goods and services would definitely have different currencies and this exchange of resources would most likely be determined by the rate of exchange. Exchange rate is the rate at which one country's currency is exchanged for another country's currency. It is an important economic variable as its appreciation or depreciation affects majorly the performance of the manufacturing sector. Ojeyinka (2019) noted that the manufacturing sector plays a catalytic role in a modern economy and has many dynamic benefits that are crucial for economic transformation. Manufacturing sector is one of the sectors whose success or failure depends on the stability of exchange rate. Oladipupo and Onotaniyohowo (2011) observed that fluctuations in the rate of exchange had a significant effect on some macroeconomic variables in the economy like the level of inflation, unemployment, interest rates, and money supply. It also affects the production of goods in the economy, investment opportunities and level of employment.

The concept of exchange rate as a factor for this exchange of resources came in because these resources are being exchanged between countries with different currencies. The exchange rate in Nigeria today has become an everyday topic for discussion; this is as a result of the constant increase in the cost of goods and services as caused by the fluctuating exchange rate. Oyovwi, (2012), noted in his study that, the use of exchange rate as an incentive to shift resources into export sector became a policy of interest as a way of boosting national income. Akpan & Atan, (2012), equally observed that the exchange rate policy in Nigeria has undergone substantial transformation from the immediate post-independence period when the country maintained a fixed parity with the British pound, through the oil boom of the 1970s, to the floating of the currency in 1986, following the near collapse of the economy between 1982 and 1985 period. The instability and continued depreciation of the naira in the foreign exchange market has resulted in declines in the standard of living of the populace, increased cost of production which also leads to cost push inflation (Nwobia, Ogbonnaya-Udo & Okoye 2020). Most big organizations (corporations) are aware that exchange rate fluctuations affect the naira value of their companies in both assets and liabilities that are denominated in foreign currencies like the dollar. Uduakobong and Enobong (2015) noted that exchange rate stability is of crucial importance to the achievement of macroeconomic stability and the economic performance of any country.

According to Kandil (2004), there has been an ongoing debate on the appropriate exchange rate policy in developing countries. The debate focuses on the degree of fluctuations in the exchange rate in the face of internal and external shocks. Bobai, Ubangida & Umar (2013), argued that exchange rate is one of the major macroeconomic policy instruments and as such, changes in exchange rates would have powerful effects on tradable and non-tradable of countries concerned through effects of relative prices of goods and services.

Business survival/performance is most times determined by the rate of exchange rate fluctuations; this is because most transactions of big corporations/conglomerates are based on the system of exchange rate. Fluctuating exchange rate can have a serious impact on operating profit. Marston (1990), in his words explored the possibility that, for maintaining or expanding market shares, a firm's pricing decision may depend on the direction of exchange rate changes. He argued that the implication of this asymmetric pricing decision on the probability of firm survival is that the negative effect of a currency appreciation on firm survival may be smaller because of firms' decision to lower mark-ups.

Aliyu, (2011) and Benson and Victor, (2012) noted that despite various efforts by the government to maintain a stable exchange rate, the naira has depreciated throughout the 80's to date. Ikpefan, Isibor & Okafor (2016) stated that exchange rate was fairly stable from 1973 to 1979 during the oil boom period.

Ewa (2011) also noted that exchange rate of the naira was relatively stable between 1973 and 1979, during the oil boom and remained so prior to 1970 when the Nigerian economy was agro-based, accounting for more than 70% of the nation's gross domestic products (GDP) (Ewa 2011). However, from the late 1970s, oil became prominent and government shifted from Agricultural sector to oil sub-sector. Then the economy was open to the international communities and so much importation killed domestic manufacturing thereby creating rising exchange rate. Exchange rate has since then been completely left to be determined by market forces after the adoption of Structural Adjustment Programme (SAP) in 1986, instead of being managed by the monetary authorities that

intervene from time to time in foreign exchange market. As a result, many of the domestic companies that could not stand the stiff competition from foreign firms were forced to close down.

According to Fakiyesi (2005); in advanced economies, the manufacturing sector is a leading sector in many respects. It is a quest for increasing productivity in relation to import substitution and export expansion, creating foreign exchange earnings capacity, raising employment, promoting the growth of investments at a faster rate than any other sector of the economy, as well as wider and more efficient linkage among different sectors. Buabeng, Ayesu & Adabor ((2019), specifically noted that in Ghana, the manufacturing sector continues to play a vital role in the economy and contributed averagely 7 percent to Gross Domestic product between the year 2006 to 2016 and at the same time promotes the growth of investment and employment creation. But in Nigeria, the case is different because the manufacturing sector is faced with the problem of fluctuating exchange rate which adversely affects manufacturing output. Manufacturing organizations in Nigeria are highly dependent on importation of intermediate inputs and capital goods.

Nigeria has adopted both fixed and fluctuating exchange rate regimes for a possibility of achieving a stable exchange rate. It is not clear whether some of the measures and policies taken so far by the government to improve the stability of the exchange rate have really produced good results in terms of domestic investment growth rate. This is because, with all these measures and policies taken so far, Nigerian economy has not shown any appreciable progress going by the review of the contributions of the manufacturing sector to gross domestic product (GDP) growth rate from 1990 - 2020. Years after the economic reforms, investment in industries is reducing, unemployment is increasing and domestic output has continued to stagnate. The question now is; is exchange rate fluctuation good for a developing country like Nigeria after several reforms on exchange rate policy? Given this gap, the study seeks to examine the effect of exchange rate fluctuations on business survival in Nigerian with particular interest on manufacturing output growth rate.

2. Objective

Globalization of economic activities has encouraged economic liberalization where countries now seek to exchange their resources with that of another country and companies growing beyond their home country. Exchange rate as a macroeconomic variable is an important economic indicator for any developing country and as such, should be managed properly to avoid its adverse effect on other macroeconomic variables and the economy at large. Many companies are finding it very difficult to compete favourably and survive in the industry because of the fluctuating exchange rate. As a result, some companies not really doing very well while some are closing down and not very many are coming up. Several school of thought have aligned differently as to the effect of exchange rate fluctuations on business survival; Akinmulegun & Falana (2018); Orji, Ogbuabor, Okeke & Anthony-Orji (2018) are of the view that exchange rate fluctuations has a positive and significant effect on manufacturing and industrial output while; Emmanuel, Enock & Opoku (2019); Kalu & Anyanwaokoro (2020), Nwobia, Ogbonnaya-Udo & John (2020 in their submissions noted that exchange rate fluctuations has negative and significant effect on manufacturing companies performance in Nigeria. Opaluwa *et al.* (2010), Musa and Sanusi (2013). Jongbo (2014) Akinmulegun & Falana (2018), also argued that exchange rate fluctuation has the potentials of causing significant changes in industrial output in Nigeria.

Objective of this study is to assess the economic impact of exchange rate fluctuations on manufacturing companies' survival in Nigeria, taking manufacturing contribution to gross domestic product as a proxy for survival. Here the multiple regression was used to analyze the impact of exchange rate fluctuations on manufacturing companies' survival in Nigeria. This study used yearly data generated from Central Bank of Nigeria statistical bulletin, the Annual Abstract of the National Bureau of Statistics between 1990 and 2020.

3. Review of empirical literature

From theoretical point of view, the optimal currency area as developed by Mundell (1961) and McKinnon (1963), holds that a fixed exchange rate regime can increase trade and output growth by reducing exchange rate uncertainty and thus the cost of hedging, and also encourage investment by lowering currency premium from interest rates. The optimal currency area theorists belong to the school of macroeconomic thought that believes that a fixed exchange rate regime can increase trade and output growth thereby guarantying business survival. The supporters of this theory felt that floating exchange rate regimes adopted by most developed countries might not suit developing countries whose insurance markets are not so well developed and whose economy is not stable enough to absorb the risks from exchange rate fluctuations. There is generally no agreement on choosing the most suitable exchange rate to maintain macroeconomic stability. The choice of an appropriate exchange rate system depends on the particular features of each country involved in the trade. Therefore, in theory, if the right regime is adopted, it could facilitate better business climate and potentially enhance economic growth in the long-run. Economic theory does not clearly articulate how exchange rate regimes can affect business performance; a number of studies have investigated this relationship.

Scholars have tested the validity of many of the underlying theories of exchange rate fluctuations and business performance proposition in different countries and results have been mixed. Jae-gun & Won-sik (2016), analyzes the impacts from the exchange rate fluctuation to the elements of the financial statement, with the manufacturing (non-financial) companies that were traded in KOSPI and KOSDAQ. The analysis of the panel data on the paper shows how FX fluctuation can make effects to companies as the interaction effects between foreign currency asset and foreign exchange profit. The study found that exchange rate fluctuation has significant impact to the company value on the short and long-term. And it shows the effects of Korean economics during the financial crisis.

Orji, Ogbuabor, Okeke & Anthony-Orji (2018); estimated the impact of exchange rate movements on the manufacturing sector in Nigeria over the period 1981–2016. The study used time series data and ordinary least square estimation technique was employed to address the specified objective. Findings from the study show that, it is apparent that exchange rate movements play a significant role in the manufacturing sector's performance in Nigeria. The findings specifically showed that exchange rate, government capital expenditure, imports and foreign direct investment were positively related to manufacturing gross domestic product, while credit to private sector was negatively related. The study recommended that the apex bank keeps a closer watch on exchange rate movement in order to keep formulating up-to-date policies that will ultimately enhance exchange rate stability.

Akinmulegun & Falana (2018); examined the effects of exchange rate fluctuation on the Industrial Output Growth in Nigeria using time series data sparring from the period 1986 to 2015. Johansen's Co-Integration model was employed to explore the long-run relationship among the variables used, while the Vector Error Correction model (VECM) was used to evaluate the short and long-run dynamic among the variables and the Granger Causality used to measure contemporaneous relationship among the endogenous variables. The study found a unidirectional causality from Exchange rate to Industrial output. The response of industrial output to the shock from exchange rate was positive and significant; which shows that exchange rate has potentials of causing significant changes in industrial output in Nigeria. The study recommended the need for more macroeconomic policy attention to the proper management of the exchange rate.

Williams (2018); investigated the impact of exchange rate fluctuations on firm's performance in Nigeria from 2012 to 2016. The study formulated seven research questions and tested several hypotheses. The major objective of the study was to empirically investigate the impact of exchange rate fluctuations on return of investment. The study makes use of descriptive and ordinary least square methodology. The regression result shows that there is a positive relationship between Return on Investment and exchange rate of 145.4265. This implies that a unit increases in exchange rate of 145.4265 will bring about a rise of 145.4265 in Return on Investment. The result of the study equally revealed other variables used in the study have a positive relationship with return on investment. Emmanuel, Enock & Opoku (2019); examines the effect of exchange rate fluctuations on the performance of manufacturing firms in Ghana for the period 1990 to 2018. The study uses the bounds test approach to cointegration within the framework of autoregressive distributed lags model as the estimation strategy. The results reveal that exchange rate and monetary policy rate has a negative and significant relationship with manufacturing firm performance. It was also found that inflation, trade openness, and investment have significant positive relation

with manufacturing firm performance in Ghana. Based on the findings, the study recommended that government and private partnership should ensure effective management of the exchange rate fluctuation and also encourage manufacturing firms to patronize locally made capital goods for their production in the face of a depreciating exchange rate.

Osho & Efuntade (2019); examined the effect of exchange rate fluctuation on performance evaluations of multinational companies in Nigeria. The objective of the study was to examine how foreign exchange affects financial performance of multinational companies in Nigeria. Secondary data was used and were obtained from relevant literatures, Central Bank of Nigeria Statistical Bulletin and annual report of selected multinational companies in Nigeria. Ordinary Least Square was used to test the Linear Regression model. Findings show that exchange rate fluctuation has significant effect on performance of multinational companies in Nigeria. The study concluded that exchange rate fluctuations affect the operations of companies in Nigeria. It was recommended that, Multinational Companies should develop a robust foreign exchange risk management framework which will clearly show its currency risk assessment procedures and implementation of foreign exchange risk management strategy.

Ojeyinka (2019); examined the effect of exchange rate volatility on the performance of manufacturing sector in Nigeria for the period of 1981 to 2016. Annual data for the study were sourced from World Development Indicators of World Bank and Statistical Bulletin of the Central Bank of Nigeria. The study employed an ARDL technique of estimation. Findings from the study revealed that the impact of exchange rate volatility on manufacturing sector's performance is positive and significant both in the long-run and short-run. In addition, the study found that the impact of exchange rate on manufacturing sector's output is positive but not significant in the long-run while its impact is negative and significant in the short-run. Furthermore, the effect of import on manufacturing sector's performance is negative and significant in the long-run and short-run.

Nwobia, Ogbonnaya-Udo & John (2020), examined the effect of exchange rate fluctuation on Nigeria external trade from 2000 to 2019. The study made use of secondary data sourced from central bank of Nigeria statistical bulletin of various issues from 2000 being the year of monetary authority regime of flexible exchange rate to 2019. The correlation and regression analysis of the Ordinary Least Square (OLS) were used to analyze the data. The result shows that the three variables; exchange rate, balance of payment, and inflation rate have significant effect on the Gross Domestic Product (GDP) and external trade of Nigeria; Exchange rate has a negative effect on the GDP because as it increases, the external trade is negatively affected. Their study recommended that government should encourage export promotion strategies so as to maintain a surplus balance of payment on trade.

Egolum, Iliemena, & Goodluck (2020); examined the effect of exchange rate fluctuation on the financial performance of quoted conglomerates in Nigeria from 2007-2018. The study formulated three hypotheses which were tested using secondary data obtained from annual reports of the 8 quoted conglomerates in Nigeria and CBN annual statistical bulletin and analyzed using multiple regression analytical technique.

The study revealed that exchange rate fluctuations have significant negative effect on ROCE and ROE while a positive but insignificant effect on ROA. The conclusion drawn from this study is that foreign exchange fluctuations have significant negative effect on financial performance of quoted conglomerates.

The study recommended that Government should uphold the restriction policy on the importation of similar products manufactured in Nigeria so as to create and open more markets for the locally manufactured goods to thrive.

Kalu & Anyanwaokoro (2020); investigated the effect of Exchange Rates Fluctuations on International Trade in a Mono-product Economy: Nigeria's Experience, 1986-2018. Ex post facto method was adopted. In order to test the hypothesis, the study adopted Augmented Dickey Fuller, Vector Error Correction Model and co-integration tests. The study found that the Nigerian Economy shared a long run co-integration relationship with the studied international trade related variables. It was also revealed that the Nigerian economy adjusts at 81% to the shocks and dynamics of the exchange rate and its correlation. Also, a causal relationship exists between export and

exchange rate. It was recommended that: CBN should continue with the reduced Exchange Rate on Agriculture and other Manufacturing activities as this is capable of increasing Investment which will result in increased Foreign Exchange earnings through export of Agricultural products and even other made in Nigeria products.

Isibor, Olokoyo, Arogundade, Osuma & Ndigwe (2020) examined Exchange Rate Management and Sectoral Output Performance, a vision 2020 paper on innovation management and education excelelence.

The study was aimed at examining the effect of exchange rate management on output performance of both the agricultural and the manufacturing sector. Secondary data from 1981 – 2015 were analyzed using the Ordinary Least Square technique. The findings revealed that exchange rate have a positive and significant effect on only the agriculture sector. The study recommends amongst others that efforts should be made to increase the exportation of agricultural products in order to boost exchange rate.

Mamuda, Muhammad, Babangida & Jimoh (2021); examined the effect of exchange rate on economic growth from 1986 to 2019 using secondary data sourced from Central Bank of Nigeria Statistical Bulletin, using ordinary least square to analyze the data. The result revealed that exchange rate has significant positive effect on economic growth while interest rate and inflation rate have significant negative effect on economic growth. The study recommended that government should encourage export promotion strategies and also provide a conducive environment, adequate security, effective fiscal and monetary policy, as well as infrastructural facilities in order to attract foreign investors to invest in Nigeria.

Clearly, the findings in this literatures, suggest that exchange rate policies may also be important. However, not many studies have documented the long-term effects of these exchange rate policies on business survival, even though some found a significant effect, but uncertainty about its size remains. This paper has become part of the series of studies analyzing the effect of exchange rate fluctuations on business survival in Nigeria so as to provide clue on contending issues and fill some research gap.

3. Methodology

In most of the developing countries in Africa, manufacturing output growth is influenced to a reasonable extent by external factors which may include exchange rate of the domestic currency against other currencies, inflation, interest rate, trade openness, foreign direct investment and so many others. We measured manufacturing output growth as the ratio of its contribution to gross domestic product. This ratio is expected to be high and positively associated with global indicators. In Nigeria which is the study environment, the gross domestic product is not reflecting the expectations of the global world. Yearly data were generated from Central Bank of Nigeria statistical bulletin and the Federal Inland Revenue Service between 1990 which was the period the oil prices collapsed in the international market to 2020.We chose time series method because ordinary least square is appropriate in this study because it tends to avoid being biased. The econometric method was the most appropriate since we will be interested in model specification, measuring of the parameters of economic relationship.

The model equation is stated in Error Correction Form to establish whether there will be long run relationship between exchange rate fluctuation and manufacturing companies' survival assuming linear relationship.

4. The Model

MGDP = f(EXCH + INTR + INFL + TOPN) …….. (1)
Where: MGDP = Manufacturing contribution to Gross Domestic Product as a proxy for business survival,
MGDP = Manufacturing Gross Domestic Product used as a proxy for Manufacturing output Growth/business survival; EXCH = Exchange Rate; INFL = Inflation; INTR = Interest Rate; TOPN = Trade Openness
However, to hold firm the influence of the random variable, equations 1, will explicitly be transformed into the following Econometric models:
$MGDP = \beta_0 + \beta_1 EXCH_t + \beta_2 INTR_t + \beta_3 INFL_t + \beta_4 TOPN_t + et.$ …….. (2)
Where; β_0, = Constants, and β_i (i = 1, 2, ….. 5) = the parameters to be estimated.

If we assume a linear relationship, then the model equation becomes:
$\text{Ln MGDP} = \beta_0 + \beta_1 \text{ Ln EXCH}_t + \beta_2 \text{ Ln INTR}_t + \beta_3 \text{ Ln INFL}_t + \beta_4 \text{ Ln TOPN}_t + \text{et.} \ldots\ldots\ldots\ldots (3)$

Where; Ln = Elasticity, β_0, = Constants, and
β_i (i = 1, 2, ….. 5) = the parameters to be estimated.
MGDP, EXCH, INTR, INFL and TOPN are as defined above.

To transform our model for long-run analysis, an Error Correction Model (ECM) is specified thus:
$\Delta MGDP_t = \beta_0 + \beta_i \sum \Delta x_i + \lambda ECM_{t-1} \quad \ldots\ldots\ldots\ldots \quad (4)$

Where, ΔGDP_t = differenced or stationarity level of gross domestic product
Δx_i = differenced exogenous variables in the model
β_0 = intercept, β_i = $\beta_1, \beta_2, \beta_3, \beta_4$ (slopes of the model)
λ = ECM parameter measuring the adjustment to previous equilibra achieved in the current period.
Other variables remain as defined before.

5. Results

Table 1: Regression Result; Dependent Variable: M. Gross Domestic Product (LMGDP)

Variables	Co-efficient	Std. error	't'$_c$	P-value
CONST	5.828835	1.578217	3.69	0.001
LEXCH$_{-1}$	1.094663	.1049927	10.43	0.000
LINTR$_{-1}$	-1.459241	.3904255	-3.74	0.001
LINFL$_{-1}$	.0454908	.1166122	0.39	0.700
LTOPN$_{-1}$	-.6357434	.2835199	-2.24	0.034

F(4, 25) = 103.10
Prob. > F = 0.0000
R-squared = 0.9428
Adj. R-squared = 0.9337
Durbin-Watson d-statistic (5, 30) = 1.107912

6. Result of Stationarity Test

The first pre-estimation test in any time series analysis is the test of stationarity. It is necessary to carry out stationarity test because almost all the time series data are always unstationary. When a regression is run with unstationary data, it leads to misleading result and using such misleading result to make policy will not produce the desired outcome and as such, all the variables are stationary at the 1st difference.

7. Economic Theory Expectation

The economic theory argument relates to signs of the coefficient of the variables. Economic theory argument is the first step in evaluating the effectiveness of a policy in bringing expected change in the variable of interest. The major policy variable in the study is exchange rate. Exchange rate is an important factor in the production of goods and services; and an appreciation in exchange rate means an increase in the production of goods and services which translates into an increase in the manufacturing contribution to gross domestic product. Therefore, economic theory posits positive relationship between exchange rate and production which therefore means that from the above result, that exchange rate satisfied the a priori expectation. When a variable satisfies the a priori expectation, it can now be judged as being effective in causing a change in the dependent variable. The result shows that as exchange rate appreciates by one percent, manufacturing contribution to GDP will increase by 1.0946 percent.
Interest rate presents a very good result as can be seen from the result. This is because economic theory posits a negative relationship between interest rate and production growth. That is the higher the interest rate, ceteris

paribus, the lower the growth of production. Interest rate satisfied the economic theory expectation. The result shows that a percentage increase in interest rate will decrease production growth 1.459241 percent.

Another variable in the study is inflation and the result shows that inflation has a positive coefficient which means that the higher the level of domestic inflation, the higher the level of domestic investment. This is contrary to the economic theory argument because high rate of inflation discourages investment in production of goods and services. The result shows that one percent increase in domestic inflation will increase investment by 0.0454908 percent.

Lastly, the degree of openness is the last of the independent variables. The more open an economy is, the more it competes with other economies. Openness increases the prospect of production growth, ceteris paribus. That shows that economic theory predicts positive relationship between openness and production growth. From the result, openness did not satisfy the a priori expectation because the result showed a negative relationship which implies that as the exchange rate is increasing, that is by the naira losing its value, it becomes difficult for economy to favourably compete with other economies. The result shows that one percent increase in trade openness will decrease production by 0.6357434 percent.

The statistical 1st-order test is concerned about the significance of the independent variables in affecting the dependent variable. The student 't' test is the popular measure of test of significance in ordinary least square regression.

From the result, exchange rate, interest rate and trade openness are statistically significant at 5 percent level while inflation is not. Therefore, exchange rate, interest rate and trade openness have effect on production growth in Nigeria within the period studied. Since the variable of interest which is the exchange rate is statistically significant and at the same time satisfied the economic theory expectation. The study shows that exchange rate has actually achieved the desired result and therefore suggests that fluctuating exchange rate is not very good for a developing economy like Nigeria.

F-Test regression result of F_c (4, 25) = 103.10 against $F_{0.05}$ (4, 25) = 2.76 and $F_{0.01}$ (4, 25) = 4.18 calculated at 5% and 1% level of significance, shows that the overall regression is statistically significant.

The value of the coefficient of determination (R^2) is 0.9428 which shows that the changes in the values of the independent variables account for 94 percent of the changes in production growth within the period of study. This is high and represents a very good explanation.

Table 2: Co-integration/Unit Root Test:

Variable	ADF	1%	5%
Residual	-1.88	-3.72	-2.99

Source: Analysis of Data

The result shows that both variables; the dependent and independent variables are not cointegrated, thus, there is no need for error correction (ECM).

8. Discussion

The study examined the effect of exchange rate on business survival (production growth), From theoretical point of view, exchange rate has the correct sign, this is because when the exchange rate appreciates to an appropriate level it will increase the inflow of goods and services, thereby causing increased production output. This increased production output will increase the manufacturing contribution to GDP which will translate to faster economic growth and development in the economy. The study showed that exchange rate and production growth are positively and significantly related. Exchange rate is an important factor in the manufacturing of goods and services; and appreciating exchange rate means that production output will increase. Therefore, economic theory posits positive relationship between exchange rate and production growth. Exchange rate as the variable of interest

in the study appears with correct sign showing that there is a positive and significant relationship between exchange rate and production growth.

This finding is consistent with the submission of Orji, Ogbuabor, Okeke & Anthony-Orji (2018); Akinmulegun & Falana (2018); Osho & Efuntade (2019); who also affirmed in their studies that the naira losing its value is associated with slower production growth. They hold the view that exchange rate movements play a significant role in the manufacturing sector's performance in Nigeria. Their findings specifically showed that exchange rate, is positively and significantly related to manufacturing and industrial output in Nigeria. The outcome of this work also aligns with the findings of Ojeyinka (2019); who contends that the impact of exchange rate fluctuation is positively and significantly related to manufacturing sector's performance both in the long-run and short-run and Mamuda, et al (2021); who also found that exchange rate has significant positive effect on economic growth while interest rate has significant negative effect on economic growth.

The result of this study has some course of concern for policy makers in Nigeria. There is a lesson and policy implication to be derived the results. One side of the monetary policy reform is that if the government allows the naira to continue to lose its value, then the naira will no longer be able to compete with the currencies of other economies. But if a stable exchange rate achieved, then domestic companies can stabilize with time and compete with the foreign counterpart. Looking at the result, one can see that the policy is not doing very well looking at the result, at the same time; reform in other sectors of the economy is needed for the full benefits of the exchange rate.

9. Conclusion

Objective of this study is to examine the effect of exchange rate fluctuation on business survival in Nigeria and if exchange rate fluctuation is good for a developing country like Nigeria. The dependent variable is business survival (which was proxied by manufacturing contribution to GDP) and the independent variables include: exchange rate, interest rate, inflation and trade openness. Based on the research finding, even though there is a positive and significant relationship between exchange rate fluctuations and manufacturing contribution to gross domestic product, there is hope that monetary policy in Nigeria is prudently applied in conjunction with other economic policies, may well contribute to sustainable output growth. The study therefore recommends that efforts should be made in order to have an effective monetary policy that will guarantee a realistic exchange rate to boost sectorial output performance in Nigeria. Manufacturing firms should also be encouraged to patronize domestic raw materials for their production in the period of depreciating exchange rate.

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Does Banking Sector Advancement Provide a Growth-Supporting Role to Tanzania Economy?

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Abstract
This paper aimed at examining the role of banking sector development on economic growth in Tanzania. To explore the long-run relationship between financial growth and economic development a log-linear equation with auto-regressive term, accounting for serial correlation, is estimated after conducting a regression diagnostic test. The results show that financial depth positively influence economic growth, and this technically shows that the financial depth accelerates economic growth through expanding access to those who do not have adequate access to finance. The paper recommends the Government to have a policy of subsidizing access to finance to enable informal businesses, which do not have easy access to finance, to boost the growth of their businesses. Furthermore, the policymakers are encouraged to embrace an efficient banking system, and more specifically, Central Bank of Tanzania must spearhead the policy of lowering banking lending rates so as to promote investment which will ultimately foster economic growth.

Keywords: Financial Sector Development, Economic Growth, Banking Sector

1. Introduction

Banking sector plays a critical role in the modern world economies by mobilizing savings of the individuals and lending them out to business, people and manufacturers (Anginer *et al.* 2014). A functioning Banking system has been documented to play a key role for economic growth through liquidity and safe transferring of resources (King & Levine, 1993). The banking sector is essential to the smooth operation of the financial system (Dia *et al*; 2020). To make the economy more prosperous, banks collect depositors' money and distribute it to investors. Economic activity cannot run efficiently without a strong financial system (Dietrich and Wanzenried, 2011). Economic growth is made possible by banks (Levine and Zervos, 1998), and banks are a precondition for economic advancement. Despite the banking sector being acknowledged as playing an essential role in nations, leading to considerable reforms, the causation link between economic growth and the development of the banking sector remains a contentious topic. This stems from the ongoing argument over whether financial development drives economic growth or the other way around.

Several researchers have investigated the link between the development of the banking sector and economic growth, and the results reveal that bank sector expansion is helpful to economic growth, as reported by Bojanic

(2012) in their study on financial development and trade on the economic growth of Bolivia; Chaiechi (2012) in their paper on the impact of financial development shocks on key macroeconomic indicators in South Korea; Kar *et al*;(2011) in their paper on impact of financial development and on economic growth in the MENA countries; Jalil *et al*; (2010) in their paper on the financial sector development-growth nexus; Wu *et al*; (2010) in their paper on the dynamic impacts of financial institutions on economic growth in China

In contrast, a considerable number academic work has investigated the link between the development of the banking sector and economic growth, and found that economic expansion leads to the development of the banking sector. This has been reported by Odhiambo (2010) in his study on finance-investment-growth nexus in South Africa; Panopoulou (2009) in his study on impact of financial variables on Euro area economic growth , and Ang and McKibbin (2007) in their paper on Financial liberalization, financial sector development and growth in Malaysia According to this theory, as the economy grows, so does demand for financial services, resulting in the development of these services, but this growth does not result into economic advancement. Wolde-Rufael (2009), Lee and Chang (2009), and Dritsakis and Adamopoulos (2004), for example, claim to have identified "feedback," in which causality is bidirectional.

On the verge of recognizing key role of banking sector, government of countries embarked into different strategies and reforms to sustain its growth and well serving the economies (Berger *et al.*; 2009).Financial sector liberalization in Tanzania marks the root of banking sector development with the aim of stimulating economic growth through the mobilization of financial resources, increasing competition in the financial market, and enhancing the quality and efficiency of credit allocation in the economies. As a result of liberalization, the banking sector started to boom with currently, the sector comprises both local and foreign banks. According to BOT (2021) there are currently 55 financial institutions in Tanzania, 36 commercial banks and 19 licensed institutions.

On top of that banking sector in Tanzania has been increasing in size in terms of market capitalization, increasing asset size and profitability. According to URT (2020) as at the end of 2019 total assets for the banking subsector were at TZS 33,083.5 billion mainly financed by billion TZS 3,839 capital, deposits being TZS 22,227 billion and Loans, advances and overdrafts being TZS 16,196 billion. For the past five years the banking sector has roughly remained sound and stable with capital and liquidity levels being above minimum regulatory requirements. Despite such a tremendous trend and improvements of Tanzania economy to the extent of being promoted from lower up to the middle-income countries in the year 2020, still the role of banking sector development on economic growth has not been well established.

A growing number of literatures provides empirical support for banking sector development as a predictor of economic growth (Hassan *et al.*,2011; Esrada *et al.;* 2010; Guiso *et al.;* 2009; Beck and Levine, 2004; Beck *et al.*, 2000; Levine *et al*; 2000; Levine, 1997; Levine, *et al.*; 1997; King and Levine, 1993a; King and Levine, 1993b) agree that banking sector development can boost economic productivity and increase efficiency among firms. Contrarily, other studies came up with contradictory evidence that banking sector development does not support economic growth (Arcand *et al.*, 2012; Al-Malkawi *et al.,* 2012; Rousseau and Wachtel, 2011; Wachtel, 2003; Favara, 2003; Deidda and Fattouh, 2002'; Kaminsky and Reinhart, 1999).

Following two decades of sustained growth and notable growth of banking sector, Tanzania reached an important milestone in July 2020, when it formally graduated from low-income country to lower-middle-income country status, a position which didn't last long before it got reinstated to its original position in 2021. Currently the country is improving its GDP from 4.7% in 2021 to 5.5%. Tanzania's achievement reflects sustained macroeconomic stability that has supported growth, in addition to the country's rich natural endowments and strategic geographic position.

A more efficient financial sector has a great possibility of allocating scarce resources to their most productive use. As this happens, economic growth could attain its full potential. Besides, since the chief task of financial intermediaries is to channel funds to the most profitable investments they identify, then efficient financial markets improve the quality of investments which eventually improves economic growth. Finally, a well-developed financial system could improve the efficiency of financing decisions and favoring a better allocation of resources

and consequently, accelerates economic growth. As evidenced in the literature, a good number of studies have been conducted to consider general financial sector development to economic growth with majority of studies being conducted outside Tanzania focusing on banking industry development and economic development with contradictory results. In light of empirical strand and current economic performance, this study was conducted to examine the role of banking sector development in economic growth in Tanzania. The contribution of this paper is to fill the empirical gap in the literature of finance and growth, specifically focusing on the banking sector of Tanzania.

2. Related Literature

2.1 Theoretical Framework

Theoretical groundwork of financial development and economic growth mainly branch from works by McKinnon (1973). Most literature argue on points of financial repression and financial liberalization, bordering on the extent that they encourage economic growth. The key argument by Schumpeter was the vital role played by financial institutions in inspiring technological innovation and economic activities. The financial activities of savings mobilization, project evaluation, risk monitoring and management facilitate the two functions. The school of thought advocated by McKinnon postulates that financial development is exploited by restrictive government regulations, interest rate ceilings, loan subsidies and high reserve requirements for the banking sector

This study is guided by both demand and supply-leading hypotheses. According to the Supply-Leading Hypothesis, there is a causal relationship between financial sector development and economic growth. It is suggested that the building of financial institutions and markets increases the supply of financial services, resulting in to economic growth. The presence of well-functioning financial intermediation in channelling limited resources from surplus to deficit units promotes efficient resource allocation and accelerates development in other economic sectors.

The principal indicators of financial development used in the study include variables representing both the development of banking sector as well as stock market of an economy. Banking sector development indicators include: financial depth (FDP), a measure of the size of the financial intermediaries of an economy which is measured as the percentage of bank's liquid liabilities to gross domestic product (GDP) [Levine (1997), Adusei (2013) and Guru and Yadav (2018)]; bank size (BS), a measure of the depth of a bank which is measured as a ratio of commercial bank assets to deposit money bank assets plus central bank assets [Demirgüç-Kunt and Harry (2011), Levine (1997) and Guru and Yadav (2018)] ; credit to deposit ratio (CDR), a measure of financial stability within the country and the extent of banking penetration which is measured as percentage of bank credit to bank deposits; and domestic credit to private sector, which is measured as domestic CPS as percentage of GDP [Levine (1997), Levine and Zervos (1998), Saci *et al.* (2009), Adusei 2013) and Guru and Yadav (2018), Kapaya (2020) Marshal *et al.* (2019)]

2.2 Empirical Literature

There is only a handful of the countless research that support the supply-leading phenomenon including McKinnon (1973), King and Levine (1993a, b), Neusser and Kugler (1998), and Levine *et al*. (2000). The Demand-Leading Hypothesis, on the other hand, assumes a causal relationship between economic growth and financial development. The increased demand for financial services propels the financial sector's growth. This theory holds that fast-economic development creates a demand for financial instruments and arrangements, to which financial markets react. This idea is supported by Gurley and Shaw (1967), Jung (1986), and Harrison *et al*. (1999), among others.

Many empirical studies to establish link between financial market development and economic growth have been widely hypothesized and practically investigated. It was the goal of the empirical studies in this field to establish the existence of any link between financial development and economic growth. Levine et al. (2000) and Beck et al. (2000) found that stronger banking sector development enhanced economic growth and total factor productivity.

Guru and Yadav (2018) investigated the link between financial development and economic growth in five key developing economies and the results showed that indices of banking sector development and stock market development work together to boost economic growth.

Marshal *et al.* (2019) reports an insufficient long-term relationship between bank domestic credit measures and gross domestic products in Nigeria. Kmar and Bird (2020) investigated the link between bank profitability and economic growth in Asia-Pacific and the results suggest that a profitable banking sector is an essential prerequisite for economic growth in the Asia-Pacific region, and that the influence of bank profitability on economic growth is greater in small banking sectors. Additionally, their data suggest that profitability has a far larger effect on economic growth in established countries than in small and large emerging economies.

Padha et al., (20219) studied the impact of external shocks like US Fed rate and world oil price fluctuation on economic growth in India, and the results show that that GDP responded negatively to such external shocks while inflation gives mixed responses. On the other hand, the study reports that interest rate channel is to some extent crucial in monetary policy transmission.

Along the same line, the finding by Padha et al. (2020) in their study on identifying the linkage between monetary policy and financial stability in India, shows that the corporate sector along with real output growth and banking sector variables induces a significant change in policy rate when a shock is introduced implying that the monetary policy safeguards financial stability in India.

Ijaz *et al*. (2020) confirmed that bank stability is critical to Europe's economic prosperity. Likewise, economic growth slows significantly during times of crisis (both the global financial crisis and the local banking crisis), highlighting the crucial necessity of a healthy banking system during these times.

Kapaya (2020) performed an empirical examination of the evidence supporting the influence of financial depth, liquidity and efficiency on economic growth in Tanzania and results revealed that although financial system depth is favourably correlated with economic growth in the short run, financial system liquidity and efficiency are significantly adversely correlated with economic growth in both the short and long run.

Sarwar *et al*. (2020) evaluated the fundamentals of financial development, human capital and their interactions with economic growth and results indicated that financial development has a significant positive effect on economic growth. Additionally, human capital was reported to have a beneficial influence on economic development in developing economies.

3. Research Methodology

3.1 Data and Variables

The study employed time series secondary data set covering 31 years from 1990 to 2020. The data was extracted from the Bank of Tanzania (BOT) annual financial stability report and World Bank financial and economic development indicators. The variables used in this study are described in table 1 below;

Table 1: Variables description

Variable	Measurement	Reference
Financial Depth (FDP)	Percentage of bank's liquid liabilities to gross domesticproduct (GDP).	Levine (1997), Adusei (2013)and Guru and Yadav (2018)
Banking sector size (BSZ),	log of total banking sector assets	Demirgüç-Kunt and Harry (2011), Levine (1997) and Guru and Yadav (2018).
Banking Sector Stability(BSS)	Banking Sector Z-Score	Bayar et al. (2020)

Banking sector domestic credit to private sector (CPS)	Banking sector domestic credit to private sector as percentage of GDP	Levine (1997), Levine and Zervos (1998), Saci *et al* (2009), Adusei 2013) and Guru and Yadav (2018), Kapaya (2020) Marshal *et al* (2019)
Economic Growth	Gross fixed Capital Formation as a percentage of GDP	Megbowon *et al* (2017)

3.2 Model Specification

To explore the long-run relationship between financial growth and economic development a log-linear equation with autoregressive term accounting for serial correlation is estimated after conducting a regression diagnostic test shown in the preceding section. The estimated model is presented as follows;

$$\text{Log (EG)} = ß_0 + ß_1\text{log (FDP)} + ß_2\text{log (BSZ)} + ß_3\text{log (BSS)} + ß_4\text{log DCPS)} + ß_5\text{log (INFL)} + \mu t$$

Where;

EG = Economic Growth
FDP = Financial Sector Depth;
BSZ = Banking Size;
BSS = Banking Sector Stability;
DCPS = Domestic Credit to Private Sector; and
INFL = Inflation (Control Variable).
μt = Error Term

4. Empirical Results

4.1 Diagnostic Tests

We focus on a long - run relationship between financial development and economic growth. The ARDL technique is applied for cointegration test, and the following steps are observed: checking stationarity to avoid the spurious relationship; using F-statistics to establish the long - run relationship among variables; find the long - run and short - run coefficients. To ensure that variables are not I (2) stationary avoiding spurious results the order of integration was investigated. Specifically, the study conducted Augmented Dickey-Fullers (ADF) to check the validity of stationarity level in the data sets as presented in table 2 below. An augmented Dickey–Fuller test (ADF) tests the null hypothesis that a unit root is present in a time series sample. The findings show that all variables were contracting at order 1(1) meaning that they are stationary at level by considering both intercepts and trends since their probability values are less than 0.05.

Table 2: Augmented Dickey-Fullers (ADF) Test

Variables	At level		At First Difference		Order
	t-Stat	*P-Values*	*t-stat*	*P Values*	
EG	6.4634	0.0000	5.3522	0.0031	*I(I)*
DCPS	3.9595	0.0066	4.6142	0.0010	*I(I)*
FSD	3.2224	0.0014	3.4578	0.0152	*I(I)*
BSZ	3.4042	0.0000	4.1254	0.0025	*I(I)*
BSS	4.4696	0.0021	-4.0467	0.0044	*I(I)*

After establishing that none of the selected series is I (2) or beyond, a co-integration test was employed to check whether the linear combinations of the variables could result in a long-run relationship among the variables. Cointegration tests identify scenarios where two or more non-stationary time series are integrated together in a

way that they cannot deviate from equilibrium in the long term. The tests are used to identify the degree of sensitivity of two variables to the same average price over a specified period of time. The co-integration result presented in Table 3 indicates that the null hypothesis of co-integrating vector is accepted at "atmost 3" co-integrating vector at 5% significance level denoting four co-integrating vector equations for both the Trace and Maximum Eigen tests.

Table 3: Co-integration Test Results

Hp: rank = p (no deterministic trend in the data)Hr: rank r < p (co-integration relations)					
Series: EG DCPS FSD BSZ BSS Lag interval: 1 to 3					
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistics		Max-Eigen Statistics	
		Likelihood Ratio	5% Sig. lev.	Likelihood Ratio	0.05 Crit. Val.
At most 0	0.9999	441.575*	85.7537	269.850*	20.0776
At most 1	0.9952	144.725*	59.8189	145.661*	13.8469
At most 2	0.6938	69.1736*	57.8561	26.6906*	17.5843
At most 3	0.6369	52.5730*	39.7972	21.4018*	11.1316
At most 4	0.1960	9.0613	15.4947	5.76338	10.2646
At most 5	0.1297	3.3079*	2.8415	3.3078*	2.7415

Furthermore, the study conducted linearity test to uncover if there exists a linear relationship between the dependent variable and the predictors. To do so, ANOVA test was conducted, and the results (p-value less than 0.05) indicate a linear relationship among variables as shown in table 4 below.

Table 4: ANOVA Test

Method	Df	Value	Probability
ANOVA F-test	(5, 179)	104.3252	0.0000
Welch F-test*	(5, 81.0338)	345.5566	0.0000

Another diagnostic test conducted is multicollinearity test where Variance Inflation Factor (VIF) was applied to find out if there is or there is no exact linear relationship among independent variables. VIF is a measure of the amount of multi-collinearity in a set of multiple regression variables. The results in table 5 indicate no problem of multi-colineality among independent variables since there is no any variable with centered VIF greater than 10 as previously indicated in Lotto (2020).

Table 5: VIF Test

Variable	Coefficient Variance	Centered VIF
DCPS	0.002791	1.923681
EG	0.026699	2.750851
CPS	0.012209	1.014589
FSD	0.008125	3.185564
BSZ	0.000560	1.276053
BSS	0.032367	NA

Finally, we conducted heteroscedasticity test to find out if error term is constant. Breusch-Pagan-Godfrey test was run and results presented in table 6. The results showed no evidence of heteroscedasticity, since the likelihood of the observed Chi-Squared was higher than 0.05 (0.57).

Table 6: Breusch-Pagan-Godfrey Test

F-s statistic	0.741217	Prob. F (4,25)	0.5729
Obs*R-squared	3.180633	Prob. Chi-Square (4)	0.5281

4.2 Regression Results

The long-run estimates using the modified ordinary least square method for the model are presented in Table 7. The findings show that about 85% of the variability observed in the target variables is explained by the regression model. This may confirm that the independent variables-banking sector development variables used in this study are collectively good explanatory variables of economic growth. The F-statistic with its p-value of 0.000 reveals that all explanatory variables are jointly significant in explaining economic growth. The results also confirm a good sample representativeness of the population as depicted by the low standard error of the regression model (SE) (0.10).

The findings further show that financial depth is positively related to economic growth and the relationship is statistically significant at 1% significant level. The results are in line with both the supply-leading theory and demand-following theory. Consistent to the findings of this study, Abubakar and Gani (2013) Türsoy and Faisal (2018), Durak and Eroglu (2019) and Kapaya (2020) consider liquid liabilities as the measure of financial depth with significant positive influence on economic growth. However, the results of the study are in contrary to Saci *et al.* (2009) who hold those liquid liabilities, influence growth negatively.

Furthermore, results indicate that banking sector stability supports economic growth, as indicated by the positive statistically significant relationship between banking stability and economic growth at 1% significance level. The findings are contrary to Kapaya (2020) but in line with Ijaz *et al.* (2020), Bayar *et al.* (2020) and Ozil (2018). Meanwhile, the results are consistent with the supply-leading Hypothesis which support a causal relationship between a financial sector development and economic growth. This means that the establishment of financial institutions and markets increases the supply of financial services and this leads to economic growth. Also, the findings are conflicting Demand-Following Hypothesis which concurs with a causal relationship that runs from economic growth to financial development.

Furthermore, the findings presented in table 7 indicate that domestic credit to private sector play positive role on economic growth with a relationship which is statistically significant at 1% significant level. These findings are in line with Sarwar et al. (2020), Marshal *et al.* (2019), Guru and Yadav (2018), and who agree that domestic credit to private sectors fosters economic growth. The results are contrary to Koivu (2002), Saci *et al* (2009) Abubakar and Gani (2013), Kjosevski (2013) and Paun et *al* (2019). The results further point out that domestic credit which include both credit to private and state-owned enterprises is a very vital financial development indicator, which echoes the efficiency of banking institutions in providing the credit sources.

Likewise, the findings of the study are consistent with the Supply-Leading Theory, implying that the construction of financial institutions and markets improves the supply of financial services, which results in to economic growth. Additionally, the results contradict the Demand-Following Theory, which implies that there is a causal link between economic growth and financial development.

Regarding the impact of the size of banking sector on economic growth the findings indicate that size of the banking sector doesn't affect economic growth as indicated by a negative statistically insignificant relationship as presented in table 7. Unexpectedly, the inflation exhibits no impact to economic growth as presented in table 7.

Table 7: Regression Results

Variable	Coefficient	Std. Error	t-Stat	Prob.
CREDIT_TO_PS	0.670	0.053	12.687	0.000***
FINANCIAL_D	0.641	0.163	3.920	0.001***
INFLATION	0.175	0.110	1.583	0.127
SIZE	-0.170	0.090	-1.585	0.172
STABILITY	0.065	0.024	2.730	0.012**
C	-0.858	0.180	-4.768	0.000***
R-s quared	0.874			
Adjusted R-s quared	0.848			
F-s statistic	33.407			
Prob (F-statistic)	0.000			

5. A Concluding Remark and Policy Implication

This study aimed at examining the role of banking sector development on economic growth in Tanzania employing a time series data from 1990 to 2020. The data was sourced from Bank of Tanzania annual financial stability report and World Bank economic and financial development indicators. The results show that financial depth positively influence economic growth, and this technically shows that the financial depth accelerates economic growth through expanding access to those who do not have adequate sources of finance. Although, in underdeveloped financial systems like Tanzania, only formal businesses can easily access financial services to facilitate growth of their businesses via internally accumulated resources. It is, therefore, recommended to Government that access to finance should be subsidized to enable informal businesses, which do not usually have easy access to finance, to boost the growth of their businesses.

Elsewhere, research indicates that largely available formal finance can produce informal intermediation, an unintended form of entrepreneurship. Accordingly, it is also recommended that the relevant should broaden the depth of financial institutions by giving more credit to the private sector. Besides, the financial institutions should be expanded to increase their accessibility to the mass and take some measures to promote their efficiency.

On one hand, results indicate that banking sector stability supports economic growth, meaning that the establishment of financial institutions and markets increases the supply of financial services which leads to economic growth. On the other hand, the findings indicate that domestic credit to private sector play positive role on economic growth pointing out that domestic credit, which include both credit to private and state-owned enterprises, is a very vital financial development indicator, and this echoes the efficiency of banking institutions in providing the credit sources to entrepreneurs.

Overall, the evidence from this study supports the notion that improved financial sector has a crucial role to play in sustaining economic growth of the country. Although, in underdeveloped financial systems like Tanzania, it is the formal entrepreneurs who can easily access financial services to improve their businesses, this paper recommends to Government to have a policy of subsidizing access to finance to enable informal businesses, which do not have easy access to finance, to boost the growth of their businesses. Furthermore, to improve the ability of banking system to genuinely support Tanzania economic growth, the policymakers are required to be oriented towards the factors that influence interest margin, which means that to have an efficient banking system the spread between margin should be relatively lower. In this case, to have an impact of credit to the private sector to economic growth the Bank of Tanzania must spearhead the policy of lowering banking lending rates so as to promote investment which will ultimately foster economic growth.

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How Does Stock Market React to Dividend Announcement? An Empirical Evidence from Tanzania Listed Firms

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Abstract
This paper aimed at examining the reaction of corporate stock return on dividend announcement for listed firms in Dar Es Salaam Stock Exchange (DSE) between 2010 and 2019. The study employed the event study methodology to assess the impact of the information on the stock return. The results clearly show that the effect of dividend announcement on the stock return is positive around the announcement date, and that the stock price moves up as long as the announcement date approaches and then starts decreasing from this date onwards. This immediately confirms the consequence of dividend announcement, that the effect of dividend announcements is consistent with the informational content of the dividend hypothesis as well as with dividend signaling models. Clearly, the results of this study support the dividend relevance theory in which the dividend policy affects the firm value. Particularly, the findings would enhance current understandings of the dividend policy impact on the firm value, and this may allow financial managers to be able to determine an optimal dividend policy which improves the performance of the firms. Furthermore, the study encourages investors to benefit from dividend announcement as a guide towards buying and selling stocks to avoid unnecessary trading losses.

Keywords: Dividend Announcement, Abnormal Returns, Cumulative Abnormal Returns, Stock Prices

1. Introduction

One of the most interesting theoretical and empirical finances issues continues to be dividends policy (Dasilas & Leventis, 2011). Dividend decisions affect a company in a multitude of long-standing strategic implications by adding or diminishing the shareholder's value. As the company's dividend has been announced, it increases the firm share prices. On the basis of dividend announcements, investors, shareholders, and potential investors predict the position of company in context of profitability.

Some empirical facts supporting the view that dividends announcements with positive returns indicate good news to investors include Kale et al, (2012); Koch and Sun, (2004); Lyroudi et al, (2008) and Sylvester, 2015). Although, there is plenty of theoretical and empirical research on the relevance of and relationship between stock prices and dividends, there are still questions remaining unanswered.

Most studies in this area are conducted in developed economies with limited of them focusing in emerging markets, probably because most of the stock markets in developing economies are still in their infant stage in such a way

that information change may not be captured properly in the share prices. Literature such as Kowerski and Wypych (2016) insist that dividend payments are an attractive source of income to foreign investors. In the same context, Le and Le (2017) indicate that foreign investors prefer to pay more dividends in firms with poor corporate governance because the disclosed information about the performance of these firms and market changes is insufficient.

The DSE is currently a fast-growing stock market, which presents both foreign and local investors with massive bargaining opportunities. This is because since 2014, the Government of Tanzania allowed unrestricted foreign participation in capital markets by repelling the Capital Markets Foreign Investors Regulations (2003), which capped foreign investors' participation in listed securities to 60%. This allowed the market to offer foreign investors exposure to the Tanzanian economy, and because many listed firms have expanded beyond Tanzania's borders, it also serves as an entry point to the regional economy.

Therefore, announcement of dividend and subsequently payment of dividend may indicate future improvement of firm's value in Tanzania where corporate governance environment is relatively weak, like any other countries in emerging economies. On the other hand, examining the role of dividend announcements on an abnormal corporate return is of paramount importance to increase the attractiveness of the market in the eyes of potential investors who are apparently focusing on investing in DSE.

Apparently, the researcher is not aware of any study focusing on effect of dividend announcement on stock return of firms listed in Dar Es Salaam Stock Exchange. As such, there is a research gap in this area. Hence, to the best of my knowledge this is the first study to be conducted in Tanzania, and therefore the results of the paper will shed more light to other researchers who would wish to do more research in this area. The objective of the study is, therefore, to uncover whether there is any reaction of stock return on dividend announcement in Tanzania stock market.

The results of the study reveal a positive market reaction around the announcement, and that the stock return increases as long as the announcement date approaches but starts decreasing from the third day after the announcement. This immediately confirms the consequence of dividend announcement, that the effect of dividend announcements is consistent with the informational content of the dividend hypothesis as well as with dividend signaling models which indicates that market captures the opportunities to take advantage of the moment.

2. Related Literature

2.1 Theoretical Underpinning

Theories have been propounded to offer explanations as the binding factors that firms consider in making dividends decisions and related investor sentiments in receiving the dividends visa a vie expected future prospect in the company. These theories have different approaches and propose different models in the spirit of providing better explanation of events surrounding dividends policy decisions of companies. This study will discuss three major theories which informs the phenomenon of dividend announcement in relation to corporate stock return. The theories include; Efficient Market Hypothesis, Dividend Signaling Theory

2.1.1. Efficient Market Hypothesis

The announcement of dividends and the related insight it brings in investors' minds are regularly discussed in the corporate finance literature. The discussions offer views that dividends have information content. Fama (1970) came up with the concept of efficient market system and analyzed the stock market in terms of how efficient market process information. This concept came up with three categories of market efficiency forms- weak, semi-strong, or strong where, according to Fama (1970) the forms imply how information is reflected in prices of stocks. According to Fama, (1970), in a weak form, the price of a security is fully reflected by past information which cannot be used to predict current prices while in the second form- a semi-strong form- all published information fully reflects a security price. In the third form, which he referred to as a strong market efficiency a security's price

is fully reflected in all available information, including private information from which no investor will never generate an abnormal return. This paper is built on the foundation of *efficient market hypothesis* which postulates that the effects of an event will be reflected immediately in the security's price as pioneered by Fama, (1970). The concern in efficient market measurement is the relationship between the price of a security and the available information.

2.1.2. Dividend Signaling Theory

According to Dividend Signaling Theory, a dividend becomes one of the ways to give a signal to the shareholders regarding the company's financial performance since there is asymmetric information between the management and the shareholders. Asymmetric information refers to the condition where the shareholders do not have access to the company's information that can influence its performance, Ozo and Arun (2019). In this situation, if the company announces a dividend, the shareholder will further analyze the dividend pattern whether it is dividend initiation, dividend omission, dividend increase or dividend decrease. Consequently, the shareholders might as well study the company's condition more thoroughly to make investment decisions. Frensidy et al. (2019) have found a significant abnormal return around the dividend announcement date as guided by the power of information attached into dividend announcement. This phenomenon lies on the foundation of two schools of thought namely dividend relevance and dividend irrelevance. One stream of thinking upholds that dividends represent an important increase in firm value, which is demonstrated by increasing in share prices (Gordon, 1959; Lintner, 1956) while the other view is that dividends do not have any relevance for firm value, and that they might destroy value, Black, (1976). In a world without taxes and transaction costs the postulation by Miller and Modigliani (1961) suggest that dividends are irrelevant for investors. They argue that the dividend distribution does not affect the value and share price of the Company. The value of the Company is based solely on the income force and its assets but not on the way in which income is distributed between retention and payout ratio.

2.1.3. Dividend Clientele Effect

The principle of dividends is based on the preference of buyers for such securities because of the existence of differential tax treatment between dividend and capital gains. Brennan (1970) shows how a creditor would be paid for tax disadvantages if the higher tax rate is used for dividend income than for capital gains. They claim that the rates of dividend yield rise with risks-adjusted rates. Moreover, risk-adjusted returns should focus on the ex-dividend period. In other words, higher dividend income could give an increase in the risk-adjusted return on the ex-dividend date for the dividend clients' impact hypothesis. Since the phenomena is triggered by stock demand swings in buyers with various low tax rates, no resulting market revolution can occur. This is what is referred to as *dividend clientele effect* which explains the movement in a company's stock price according to the demands and goals of its investors.

2.1.4. Agency theory

On the other hand, we have agency theory which is the basis of the corporate governance. Agency theory is based on the idea that managers pursue their interests by wasting free cash flows, to the detriment of their firms (Jensen, 1986). Howe et al., (1992), Gombola and Liu, (1999,) and Lie (2000) argue that shareholders view share repurchases and special dividends positively because they mitigate agency costs by reducing the funds available for projects with negative net present value. According to Jensen, (1986), firms have a positive regard for special dividend announcements because they reveal the mitigation of agency costs. However, the announcement sends a negative signal about the rival firm, suggesting that they face a potential free cash-flow problem

2.2 Empirical Review

Since the middle of the last century, the study of dividend policy has drawn significant interest amongst financial academics. They tried to understand dividend actions in corporations because the dividend seems a riddle in corporate finance. Indeed, Black (1976) described it as a puzzle and Allen *et al,* (2000) concluded: "One of the thorniest puzzles in corporate finance, while many hypotheses are placed in literature to explanate its general

existence, is still dividends. Although, there is plenty of theoretical and empirical research on the relevance of and relationship between stock prices and dividends, there are still questions remaining unanswered. Graham and Dodd (1951) insist that dividend is relevant in firm valuation and that investors prefer dividends to be paid. Unlike in Graham and Dodd, (1961), Modigliani and Miller (1961) advocate the notion that in a world of no taxes and transaction costs, dividends are irrelevant to investors. However, empirical research provides findings that support the relevance of the dividends proposition. According to Porterfield (1959 & 1965), payment of cash dividend is considered as a compensation for their investment which may be offset through fall of share price.

Afterward, this concept of relevance of dividend was further spearheaded by Walter (1956) & Gordon (1962) and been formalized into a theory of dividend relevance which postulates that current stock price would reflect the present value of all expected dividend payments in the future.

The empirical analysis of the impact of dividends on information quality is primarily performed to check the occurrence of irregular returns at the date of dividend return. In Kalay and Loewenstein (1986) the dividend declaration shows, for example, an abnormally high return and a systemic risk. An abnormal return from the forecast dividend period shall be focused on the date of dividend declaration to bear the information material hypothesizing. Furthermore, the reversing of the price does not occur since the declaration includes material that concerns the inherent meaning

There are different studies across the globe and across economies which advocate the impact of dividend announcement on stock return volatility.

2.2.1. Studies from Developed Economies

The existing literature available has shown that dividend announcements are value altering events and can alter the expected returns of firms (Brown et al., 1988 &1993; Brennan and Copeland, 1988; Otchere, 2004). Dasilas and Leventis (2011), focusing on stock market and trading volume reaction to cash dividend announcements from the Athens Stock Exchange (Greece), revealed that significant market reaction is observed on the dividend announcement day and the market incorporates dividend news in an efficient manner.

Borges (2009) examined the ex-dividend day behavior of stock prices in the Lisbon Stock Market (Portugal), and found that on the ex- dividend day stock prices fall by the amount less than the dividend, which could be treated as an anomaly thus reflecting a less than efficient market with low liquidity levels, price stickiness, and insipid arbitrage trading

Hu and Ahmed (2010) investigated the impact of dividend announcements on the Shanghai stock exchange. The results revealed that, on the day the dividend reduction was announced, no negative abnormally high profits occurred on the market, which means that Shanghai Stock Market investors had not interpreted a decrease in dividends as misinformation. Furthermore, big raises in dividends appeared to have a stronger effect on the irregular returns.

Michayluka (2019) examined the dividend history of Australian firms to investigate whether the signaling power of a dividend increase varies with the frequency of repetition. The study find that the first three consecutive dividend increases are associated with significantly positive abnormal returns, and subsequent increases are generally not significant, even after controlling for the interaction effect with the simultaneously announced earnings information.

2.2.2. Studies on Emerging and Frontier Markets

Uddin (2005) studied the effect of dividend announcements on stockholders' values and the results show that the dividend does not contain any detail on equity values and returns of the Dhaka market affirming the dividend irrelevance theory.

Irum et al. (2012) studied the market response to dividend announcements in Pakistan Stock Market, and the analytical results suggest that no meaningful and important effect on equity prices can be achieved with the dividend declaration.

While Dharmarathne (2013) reports a positive effect of dividend announcement on the stock price in Sri Lankan stock market, a contradicting result from Borsa Istanbul Market is reported by Kadioglu et al. (2015). According to Kadioglu et al. (2015) the links between anomalous returns and cash dividends were negative and meaningful, and the findings confirm the theory of the tax-customer effect.

Ngoc *et al.* (2016), investigated reaction of the stock price on both the dividend announcement date and the ex-dividend date, and found a positive effect of dividend announcement on the stock return around the announcement date, and that the stock price moved up as long as the ex-dividend date approaches and then starts decreasing from this date onwards.

Khan *et al* (2016), investigated the information content of dividend announcements by firms listed on the Karachi Stock Exchange (KSE), and report that no significant unexpected returns can be earned on the announcement date by trading on dividend news in Pakistan.

Budagaga (2020) examined the impact of cash dividends on the market value of banks listed in Middle East and North African (MENA) emerging countries, and the results revealed that current dividend payouts and dividend yield do not provide information relevant to the establishment of market values in MENA emerging markets; thus, they have no material impact on MENA banks' market values.

Pratama et al. (2020) in their attempt to examine the stock market reaction in Indonesia towards presidential election in 2019, and Putra and Badjra (2021) with their research on the market reaction toward 2019's stock split announcement, found that no abnormal returns are have been resulted from such crucial events.

The study by Robiyanto and Yunitaria, (2022) on dividend announcement effect before and during the COVID-19 pandemic in Indonesia discovered that in 2019, the Indonesia capital market presented a weak response toward the event, indicated by the inexistence of abnormal return. Moreover, in 2020, the dividend announcement effect caused negative insignificant abnormal returns and the number of companies with low volatility increased, implying that the stock market was more pessimistic during the pandemic period. Even when the dividend amount increased from the previous period, the market still shows a negative reaction to it in 2020.

Samsul (2006) reveals that abnormal returns occur every day on each stock type, which is the difference between the actual return and expected return calculated daily. Thus, observations of these abnormal returns can be seen at the highest and lowest abnormal returns values that occur during the observation period (window period) to determine the stock price reaction trend due to an event. On the other hand, cumulative average abnormal return is the cumulative calculation result of AAR within a period.

In general, a handful studies support the information content of dividend hypothesis which indicates that market captures the opportunities to take advantage of the moment. Based on the efficient market postulation the competition between investors seeking abnormal profits drive prices to their "correct" value. According to Kurniasih *et al* (2011), if the dividend announcement provides positive information, it is possible that shareholders will get a positive abnormal return, and vice versa.

Formally, the market is said to be efficient with respect to some information set, if security prices would be unaffected by revealing that information to all participants. Moreover, efficiency with respect to a particular information set, implies that it is impossible to make economic profits by trading on the basis of this set of information. Therefore, from the preceding arguments one may put forward the following hypothesis;
$H0$: There is no significant effect of dividend announcement on stock return.
$H1$: There is a significant effect of dividend announcement on stock return

More specifically, the hypotheses are designed as follows;

i. Abnormal return testing H0: AAR/CAAR = 0

H1: AAR/CAAR ≠ 0

If H_1 is accepted and H_0 is rejected, it can be interpreted that a market positively reacts to dividends announcement (market registers abnormal returns after dividend announcement)

ii. Different abnormal return testing H0: $AAR_1 /CAAR_1 = CAAR_2/AAR_2$

H2: $CAAR_1/AAR_1 \neq CAAR_2 /AAR_2$

If H_2 is accepted and H_0 is rejected, it can be interpreted that stock market positively reacts to dividends announcement (there is a difference in abnormal return/cumulative average abnormal return before and after the dividend announcement)

3. Methodology

3.1 Data and Approach

The aim of the study was to analyze the impact of dividend announcement on the stock return of listed non-financial companies in Dar es Salaam Stock Exchange. In order to achieve this goal, the market reaction to the announcements of dividend was carefully studied. The study employed secondary data from the Dar es Salaam Stock Exchange (DSE) covering 10-year (2010-2019) daily business and related dividends history, and in which case only 170 observations were gathered from 11 companies. Among all 29 companies listed in DSE only 11 companies had records of actual dividend announcements, which were all related to dividend increase and therefore were considered in the study. Principally, companies in Tanzania announce and pay dividend semi-annually. The sample is such that only 6 companies were able to announce dividend semiannually throughout the study period, while 5 companies were able to announce the dividends only once every year for the entire period of the study. Based on the financial reports of the listed companies in Tanzania stock market, the daily stock price of target firms was obtained to calculate the stock return. In this study the event study methodology, as developed by Bowman (1983), Brown and Warner (1980, 1985), Fama (1991) and MacKinlay (1997), was employed to measure share abnormal returns at the time when information regarding g dividends events are released in public. The abnormal returns are estimated over the event windows for each transaction.

3.2. Variable Description

Event Day

In this study, the event is referred to as a dividend announcement. The dividend event day is the day the stock exchange-DSE advised the dividends board and informed the public about the issues surrounding the company's dividend declaration.

Estimation Period

According to Creswell, (2014), the estimation period specified as the period before and after the event windows is occasionally 120 days, although there can be cycles before and after an event window. Usually, the event window is omitted from the calculation of duration, in order to prevent event parameters from being distorted. The predicted returns are determined by a period other than the incident window (also called standard returns). This study used estimation window of 180 business days before the event window from 10 to 190 days in advance of the incident window

Event Window

An incident window is the time of the event; the safety prices of the companies concerned are investigated during that time. To calculate the irregular rates during dividend announcements, it is necessary to decide the event window. According to efficient market theory, due to buyers' sensible behaviors, there is more risk of equity prices moving in the short term. The study has set the event window at ten (10) days before and ten (10) days after the

dividend announcement day. The announcement day is represented by day zero (0). Due to the nature of the information environment in developing stock markets such as DSE, it is unlikely that the market reaction begins long before the actual announcements. The selection of a wide event window (-10, +10) is made in order to detain this potential pre and post-event reaction. Estimation window is 180 days before the event window

3.3 Model Specification

The study employed the market model for return estimation: the market model refers to the return of protection to a large market portfolio. The 'natural' protection return is described as:

$$R_{it} = \alpha + \beta R_{mt} + \varepsilon_{it}$$

Where $\boldsymbol{R_{it}}$ **and** $\mathbf{R_{mt}}$ are the company return and market return (DSE all share index) respectively while α and β are the parameters of the market model, and ε_{it} is the zero mean error term. Under this model abnormal return is defined as:

$$AR_{it} = R_{it} - (\alpha + \beta R_{mt})$$

In this approach the market model parameters, are estimated using the observations from the 'estimation period'. After returns being estimated, the study aggregated excess (abnormal) returns across the sample firms and over-time by following Brown and Warner (1985) approach.

The analysis was improved by calculating the average abnormal returns (AAR_t) for each day in the event window. This aggregates the abnormal returns for all firms (N is number of firms) to find the average abnormal return at each time. This mitigates the noisy component of returns, which might affect the individual firm level. The average abnormal return for each day (by using daily data) in the sample (estimation window as well as event window) was estimated as follows;

$$\overline{AR_t} = \frac{1}{N}\sum_{i=1}^{N} AR_{it}$$

$$\overline{CAR}(t_1, t_2) = \sum_{t=t_1}^{t_2} \overline{AR_t}$$

Where N is the number sample companies.

Cumulative Average Abnormal Return is calculated by adding Average Abnormal Return for each day from -10 to +10 or simply described in the following formula;

The Cumulative Average Abnormal Return is a useful statistical analysis in addition to the AAR because it represents the average total effect of the event across all firms over multiple time windows. If the influence of the event during the event window is not limited to the event date itself, the Cumulative Average Abnormal Return can be particularly useful.

4. Analytical Results

The analytical part of this paper started by calculating Average Abnormal Return (AAR) which was followed by conducting t-tests to check the significance of AAR each day during the event window, and the results are presented in table 1 below. Table 1 shows Average Abnormal Return (AAR) and Cumulative Average Abnormal Return (CAAR) together with the t-values obtained from conducting a one-sample t-test.

In Table1 a positive incidence of abnormal return was noticed around announcement date. Table 1 shows that around the announcement date there was a t-value of average abnormal return, which is positive and statistically significant at 5% significant level on D-2 before announcement and on D+1 and D+2 after the announcement. It is also apparent from Table 1 that the cumulative average abnormal return turned out to be statistically significant at 1% significant level between D+3 and D+10 after dividend announcement day.

Table 1: One-Sample T-Test Results for AAR and CAAR

Day-	AAR	Sig. 2-Tailed	CAAR	Sig. 2-Tailed
– 10	0.530	0.508	0.663	0.508
– 9	0.437	0.984	0.546	0.585
– 8	0.226	0.836	0.282	0.778
– 7	0.966	0.073	1.208	0.228
– 6	1.377	0.318	1.721	0.086
– 5	1.178	0.979	1.472	0.142
– 4	1.546	0.181	1.732	0.154
– 3	1.620	0.648	1.251	0.143
– 2	2.834**	0.035	1.703	0.088
– 1	1.451	0.062	1.806	0.094
0	1.273	0.146	1.818	0.095
+ 1	2.924**	0.027	1.807	0.084
+ 2	2.753**	0.042	1.864	0.0680
+ 3	1.750	0.227	4.383**	0.000
+ 4	1.836	0.680	4.203***	0.000
+ 5	1.782	0.892	4.352***	0.000
+ 6	1.550	0.204	4.432***	0.000
+ 7	1.465	0.991	4.331***	0.000
+ 8	1.290	0.268	4.115***	0.000
+9	1.122	0.563	3.904***	0.000
+ 10	1.725	0.194	3.406***	0.002

*Notes: *, **, *** significant at 10%, 5%, 1% respectively*

The pattern of average abnormal returns is also depicted in graph 1. Graph 1 displays the average abnormal returns movement that occurred 10 days before to 10 days after the dividend announcement. Reaction to stock prices that moved significantly immediately after the announcement occurred on the D-2, D+1, and D+2 as presented in graph 1. In graph 1, it is clearly observable that the abnormal return is reported to have a random fluctuation up to a day after announcement- day zero- where an abrupt jump is recorded and a sharp rise in AAR is subsequently observed. Similarly, graph 2 shows the tendency of CAAR movement. The graph shows that 3 days after the announcement day, there seems to be a significant increasing pattern in CAAR until day 7 after announcement where the trend slightly started falling at a lower rate. In essence from the 3rd day to the 10th day after announcement the increase in CAAR became positive and statistically significant at 1% significant level.

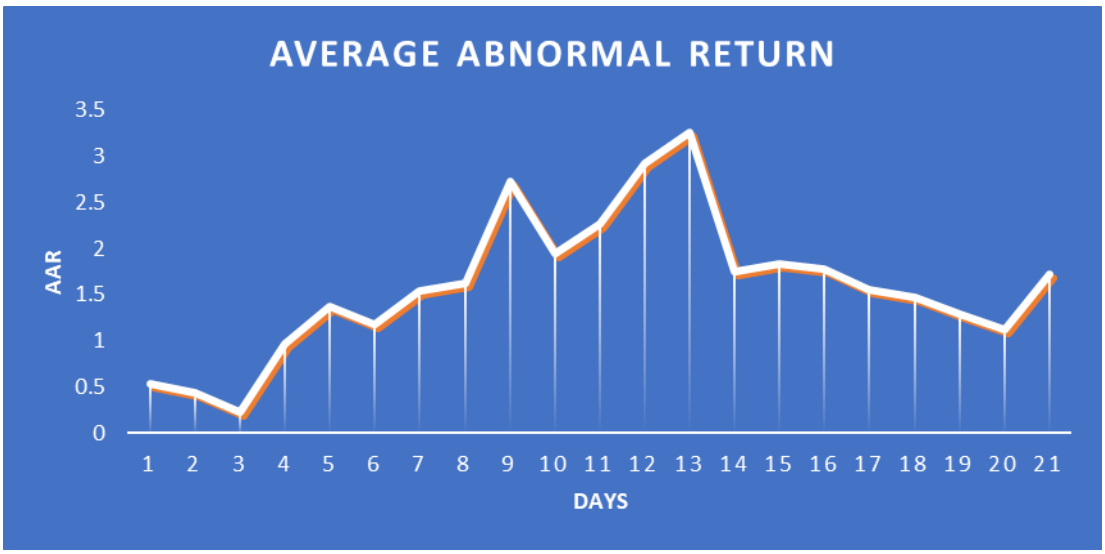

Figure 1: Average Abnormal Return Around Dividend Announcement

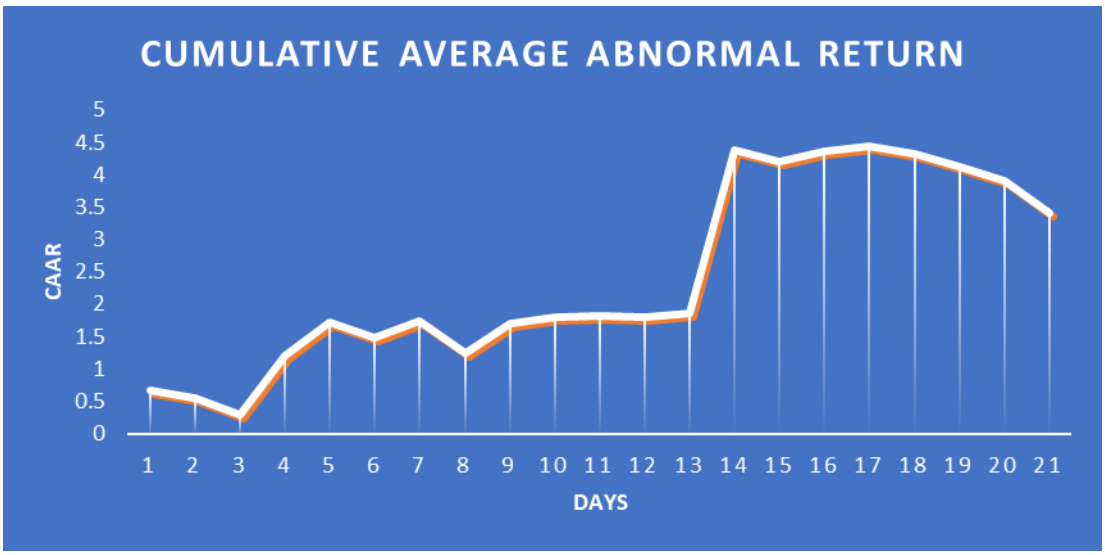

Figure 2: Average Abnormal Return Around Dividend Announcement

Generally, the results reveal a positive AAR 2 days before dividend announcement and on day 1 and day 2 after the announcement consistent with the dividend signaling theory as advocated by Miller and Rock (1985). The results, further, shows that the average cumulative abnormal returns around the dividend announcement date from day 3 all the way to day 10 after announcement are positive and statistically significant at 1% level as previously reported.

In other words, the impact of dividend announcement on the performance of companies is strongly positive around the announcement date. It is useful to recall that according to the dividend signalling theory, a company decides to announce its dividend pay-out policy to signal its future prospects to the market, leading to a change of its stock prices. The results of this study show that the market reacts favourably to the announcements of dividend of the companies listed on the Dar es Salaam stock market as explained in the efficient market hypothesis. These results, which are also consistent with the previous studies, e.g., Scott and Keith (1996), Aharony and Swary (1980) and Dharmarathne (2013), support the information content of dividend hypothesis which indicates that market captures the opportunities to take advantage of the moment.

The results are also aligned with Doddy and Jogiyanto (2003), Sularso (2003), and Siaputra and Atmadja (2006) who found significant abnormal return around the announcement date implying that dividend announcement

carries useful information for investors. Furthermore, the result implies buying pressure on the part of short-term traders in the pre-ex-date period and selling pressure in the post-ex-date period.

Other several studies are in line with the results of this study, including Amin et al. (2015) and Weng et al. (2011) who exposed that dividend announcements could signal company's prospects in Malaysia market.

However, the results of this study are not consistent with some previous studies. Indeed, both Romon (2000) and Ngoc and Cuong (2016) doubted about the dividend clientele hypothesis when examining the Malaysian stock price reactions at the ex-dividend date. These authors claim that the dividend clientele effect seems to be extremely limited because the market knows the firm dividend policy level before the ex-dividend dates.

5. Robustness Check

To check whether the results of the paper are robust or not, a different model for abnormal return estimation was employed. The assumption was that no significant results are expected from changing an estimation method. The alternative estimation method employed is market adjusted model. In the market adjusted model, the observed return of the market on day *t,* R_{mt} is subtracted from the return R_{it} of the observation *i* on day *t*. The model takes the following form;

$AR_{it} = R_{it} - R_{mt}$

Where; AR_{it} = Abnormal Return; R_{it} = Stock return observed on day t and R_{mt} = Market or Index return observed on day t

Like in the market model estimation technique, a use of market adjusted model produced more or less similar results with the major results discussed in section 4 above except with some slight variation in significance levels. Table 2 presents the results of the market adjusted model. The results show that there is a positive incidence of abnormal return around announcement date, and that around the announcement date there was a t-value of average abnormal return, which is positive but not statistically significant on D-2 before announcement but there was a positive and statistically significant t-value of average abnormal return, which is positive and statistically significant at 5% significant level on D+1 and D+2 after the announcement. It is also clear from Table 2 that the cumulative average abnormal return is also observed to be statistically significant at 5% significant level between D+3 and D+10 after dividend announcement day. Generally, the results are, therefore, fairly robust regardless of the estimation method used to estimate stock abnormal return.

Table 2: One-Sample T-Test Results for AAR and CAAR

Day-	AAR	Sig. 2-Tailed	CAAR	Sig. 2-Tailed
– 10	0.4240	0.4572	0.5171	0.408
– 9	0.3496	0.8856	0.4263	0.3856
– 8	0.1808	0.7524	0.2202	0.3657
– 7	0.7728	0.0657	0.9424	0.2352
– 6	1.1016	0.2862	1.3425	0.1576
– 5	0.9424	0.8811	1.1484	0.1542
– 4	1.2368	0.1629	1.3513	0.1854
– 3	1.2960	0.5832	0.9762	0.1445
– 2	1.2672	0.0315	1.3283	0.1345
– 1	1.1608	0.0558	1.4094	0.194
0	1.0184	0.1314	1.4185	0.195
+ 1	2.3392**	0.0243	1.4096	0.084
+ 2	2.2024**	0.0378	1.4547	0.068
+ 3	1.4000	0.2043	2.9192***	0.000

+ 4	1.4688	0.612	2.9782***	0.000
+ 5	1.4256	0.8028	3.1231***	0.000
+ 6	1.2400	0.1836	3.1422***	0.000
+ 7	1.1720	0.8919	3.111***	0.000
+ 8	1.0320	0.2412	3.5124***	0.000
+9	0.8976	0.5067	3.1714***	0.000
+ 10	1.3800	0.9889	2.9067***	0.004

*Notes: *, **, *** significant at 10%, 5%, 1% respectively*

6. A Concluding Remark

This study examined the influence of the dividend announcement on the corporate stock returns for firms listed in DSE. The stock returns were examined following the dividend announcements, and it is verified that the dividend announcement influences the firm stock return in the context of Tanzania. It is revealed, in the study, that the market reaction is observed to be positive and statistically significant around the announcement day (two days before announcement and a days after the announcement date). Additionally, it is revealed that the stock return increases as long as the announcement date approaches but starts decreasing from the third day after the announcement. This immediately confirms the consequence of dividend announcement, that the effect of dividend announcements is consistent with the informational content of the dividend hypothesis as well as with dividend signaling models which indicates that market captures the opportunities to take advantage of the moment.

The existence of significant abnormal return on the second day before the announcement proves the existence of the information content, and that the market still accepts this as good news. This immediately proves the efficient market hypothesis which proposes that the market is efficient in information, and that all investors have received the information declared, and there is no chance for any investor to get privileged information which would grant them excess return.

The findings would enhance current understandings of the dividend policy impact on the firm value, and this may allow financial managers to be able to determine an optimal dividend policy which improves the performance of the firms. Furthermore, the study encourages investors to take advantage of dividend announcement date as a guide towards buying and selling stocks to avoid unnecessary trading losses.

However, the study is limited to only available dividend announcement information from the Dar es Salaam Stock Exchange. Future study may obtain more information on dividend announcement to increase the number of observations which can improve the obtained results in this paper.

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Government Support for Startups: A Comprehensive Analysis of Funding Initiatives and the Role of the Indian Government in Nurturing the Startup Ecosystem

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Abstract
This research paper explores the role of government funds and initiatives in nurturing and enhancing startup ecosystems. Focusing on the Indian context, the study examines the comprehensive support provided by the Indian government to promote the growth and development of startups. Through a robust methodology involving secondary research and systematic review of government sources, the research identifies and catalogs nearly 50 distinct startup schemes, including grants, subsidies, incubators and financial assistance programs. The Indian government has dedicated divisions and ministries, such as Atal Innovation Mission and the Department for Promotion of Industry and Internal Trade (DPIIT), to provide comprehensive assistance to new enterprises. Moreover, the government has prioritized the establishment of high-quality incubators and accelerators across the country to foster collaboration, innovation, and knowledge exchange among entrepreneurs. The research underscores the vital role played by government funds and initiatives in overcoming financial barriers and empowering startups to pursue innovative ideas. The remarkable progress made by India in the Global Innovation Index rankings further demonstrates the positive impact of government investment in nurturing a thriving startup ecosystem. The success stories of other vibrant startup ecosystems, such as Singapore, Israel, and Barcelona, further underscore the importance of government funding and initiatives in driving startup growth and success. The research concludes that government support serves as a catalyst for the development of vibrant startup ecosystems, driving economic growth, job creation, and societal advancement. The research contributes to the existing knowledge on entrepreneurship and startup ecosystem development, enabling stakeholders to capitalize on the government's support system.

Keywords: Innovation, Entrepreneurship, Government grants, Startups, Global Innovation Index

1. Introduction

India's startup ecosystem holds a remarkable distinction as the world's third largest, with projections indicating a year-on-year growth of 12-15% (Startup India, 2019). The success of establishing a new enterprise is intricately linked to the environment in which the startup's founders and co-founders operate (Singh et al., 2019). A startup company, characterized by its rapid growth and focus on meeting market demands through innovative products,

services, or processes, plays a crucial role in driving economic growth and addressing consumer challenges (Narayan et al., 2019; Senyard, 2015).

Collaborative efforts from various stakeholders, with government funding as a pivotal catalyst for innovation, are necessary to create and nurture a thriving startup ecosystem (Moore, 2006). Recognizing this, the government assumes a crucial role in fostering business and startup ecosystems, providing equitable support to all businesses while facilitating the attainment of competitive advantages (Bennett & Robson, 2003).

In India, the government has acknowledged the imperative of establishing a long-term ecosystem that attracts talent, investors, and entrepreneurs, acting as a foundation for aspiring innovators (Khanduja & Kaushik, 2008). Efforts to develop the startup ecosystem have led to improved business efficiency, as evidenced by India's rise in rankings from 130 to 63 in the most recent World Bank Report. By implementing measures to simplify regulations, reduce bureaucratic obstacles, and extend financial assistance, mentorship programs, and networking opportunities, the government has nurtured a culture of entrepreneurship, attracted investments, and positioned India as a prominent hub for innovation and technology-driven enterprises (Jain, 2019).

Recent investments by the Indian government have further solidified India's position as a thriving startup hub, fostering an innovative and entrepreneurial mindset among its citizens. Initiatives and schemes like Startup India, Atal Innovation Mission, and Meity Startup Hubs have been launched to provide aspiring entrepreneurs with the necessary support and access to capital. Streamlined regulations, tax exemptions, and intellectual property rights protection have also been enacted to create a conducive ecosystem for startup development. Additionally, various ministries and state governments run funding, incubation, and mentorship programs to support small startups (DBT, DST, DRDO).

The Make in India campaign, launched in 2014, has played a crucial role in fostering startup establishment by garnering support from international business leaders and prospective investors. The campaign aims to position India as a dominant force in global manufacturing and design, resulting in significant investments, particularly in foreign direct investment (FDI), across sectors such as railways, defense, and space. This emphasizes the importance of streamlined regulatory policies that facilitate investment and enhance the business environment in India (Make in India, 2022).

In conclusion, India's startup ecosystem is experiencing remarkable growth, with the government playing a pivotal role in fostering its development. Through supportive measures, financial assistance, and streamlined regulations, the government has attracted investments, nurtured entrepreneurship, and positioned India as a global hub for innovation and technology-driven enterprises. These efforts, coupled with initiatives like Make in India, have contributed to India's rise as a thriving startup destination.

2. Literature Review

Any startup goes through a series of stages, namely Discovery, Validation, Efficiency, and Scale, as proposed by Kumbhat and Sushil (2018). These stages represent the evolutionary journey of a startup from its initial idea to its growth and expansion. The availability of funding becomes crucial for startups in the early stages of business, as they often face cash flow challenges. The decisions regarding capital structure, including the use of debt and equity, have significant implications for various aspects of a startup's operations, risk profile, performance, and future development possibilities (Cassar, 2002).

Vesper (1980) developed a model aimed at understanding the dynamics of new business formation by identifying critical determinants that influence the formation of new ventures. According to Vesper, knowledge, thought, connections, resources, and implementation play essential roles in new business creation.

Isenberg (2011) highlights that entrepreneurial ecosystems consist of six key domains: accessible markets, availability of finance, conducive culture, quality human capital, progressive policy framework, and institutional support. Governments worldwide are investing in strengthening their startup ecosystems, recognizing the

socioeconomic benefits of startups. Startups generate new jobs and contribute to economic dynamism by fostering market rivalry and stimulating innovation (Kuzmianok, 2016). Government initiatives aimed at promoting vibrant ecosystems for startups and entrepreneurs encompass various measures, including financial aid, guidance, legislative incentives, and the establishment of supportive infrastructures and networks. Moreover, investments in educational programs have been made to cultivate entrepreneurial skills and expertise (Acs & Kallas, 2007).

Fayolle et al. (2006) suggest that governments should provide financial and operational support while creating an environment that encourages an entrepreneurial culture. This involves promoting a favorable attitude towards risk-taking and innovation and nurturing a "culture of entrepreneurship" characterized by social networks, knowledge sharing, and collaboration. Similarly, Fritsch and Wyrwich (2013) examine the efforts of governments to minimize legal and administrative barriers, attracting and supporting entrepreneurs.

A comprehensive study by Font-Cot et al. (2023) on the Barcelona startup ecosystem highlights key government initiatives that fostered growth. Barcelona Activa, a prominent business incubator established in 1986, played a pivotal role. The ODAME program successfully encouraged women entrepreneurs, attracted foreign talent and investments, and boosted local economic activity. The introduction of the Barcelona Green Deal in 2023 and the Barcelona Tech City initiative further solidified Barcelona's position as a vibrant startup ecosystem. Investment activities surged in 2017, with 140 transactions amounting to over 620 million euros, marking a remarkable increase of over 50% from the previous year. In 2018, the investment volume approached a staggering 1 billion euros (Condom-Vilà, 2020), showcasing the ecosystem's immense growth and potential. Barcelona excels in venture capital returns, ranking at the top among European cities in generating high returns for investors (Putz, 2016).

Voxuyen (2022) analyzes the potential benefits of a healthy innovation/startup ecosystem in an Italian context, including the disruption of inefficient monopolies and the optimal utilization of human resources, among other factors (Finotto, 2018). Israel, despite its limited natural resources and population of 8.5 million, has achieved remarkable economic growth, increasing it fifty times in sixty years and ranking 16th in the Global Innovation Index 2022 (Finotto, 2018). Similarly, research conducted in Sweden (Westlund & Olsson, 2011) and Finland (Dhakal, 2020) examines the impact of startups, revealing their contributions to job creation, innovation infusion, and leveraging low rents in rural areas to serve urban clients through advancements in information technology.

Ho (2019) analyzes how the Singaporean Government accelerated its startup and innovation ecosystem. In 2006, the Singapore government established the Research, Innovation, and Business Council (RIEC) to transform Singapore into an enterprising society. Singapore implemented significant reforms, reducing the average duration of bankruptcy proceedings from 29 months to 10 days. Since 2005, Singapore companies have been granted tax exemptions of up to S$200k, while angel investors have been eligible for tax discounts of up to S$250k for their startup investments since 2010. The government-supported Early Stage Venture Fund (ESVF) was established to promote venture capital, angel investing, and in-house government assistance for entrepreneurs. Singapore has emerged as a leader in the ASEAN region, accounting for 66% of the total deal count annually. The number of technology-focused startups in Singapore rose substantially from 2,800 in 2004 to 5,400 in 2014. Through dedicated efforts, Singapore's position in the global startup landscape has advanced significantly, ascending seven spots since 2012 and securing a place in the top ten startup ecosystems. Moreover, the total early-stage entrepreneurial activity (TEA) rate surged from 5.7% in 2004 to over 11% in 2014.

Subrahmanya (2017) provides an example of Bangalore, India, and analyzes how the development of various public sector educational institutions and the growing influx of industries and corporations transformed Bangalore into the "Silicon Valley of India." Bangalore's startup ecosystem has flourished due to favorable conditions created by government initiatives and investments in supporting entrepreneurship.

Holaday et al. (2019) examined the startup ecosystem in Kerala, India, and the impact of government efforts in improving it. The Government of Kerala launched the Kerala Startup Mission (KSUM), a state government organization dedicated to creating a fertile environment for companies to launch, grow, and scale. KSUM provides support in technology development, entrepreneurship, and other areas. Investments in the sector have proven

successful, with the ecosystem witnessing a significant increase in the number of incubated startups, rising from 300 in 2015 to 1,500 in 2018.

These studies collectively demonstrate the importance of government policies, initiatives, and supportive ecosystems in fostering startup growth and development. By understanding the dynamics of new venture formation, creating conducive cultures, minimizing barriers, and providing financial and operational support, governments can nurture thriving entrepreneurial ecosystems that contribute to economic growth, job creation, and innovation.

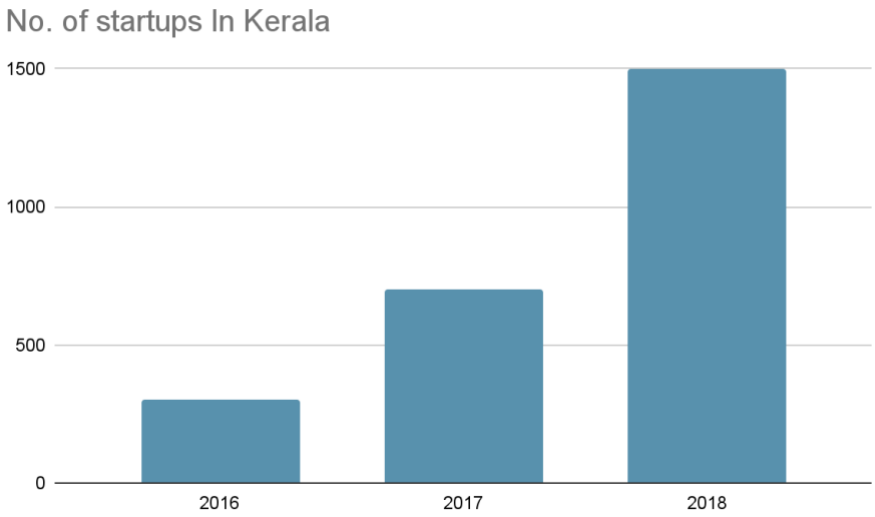

Figure 1: Graphical representation of growth of startups(Kerala Startup Mission, 2018)

3. Methodology

This research paper presents a comprehensive analysis of the investment and funding initiatives undertaken by the Indian government to nurture and catalyze the growth of the startup ecosystem in India. To ensure the credibility and reliability of the findings, we have implemented a robust methodology that involves a secondary research approach. The primary focus of our research is to identify and catalog state funding opportunities specifically tailored for startups, including grants, subsidies, incubators, accelerators, seed funding, unsecured credit, and financial assistance programs. To gather relevant and accurate data, we systematically reviewed government websites and reports, specifically targeting funding opportunities provided by the government. By relying solely on verified government sources, we ensure the integrity and dependability of the collected data.

Table 1.1: Various schemes, grants and initiatives for startups

	DBT (Department of Biotechnology)	DPIIT (Department for Promotion of Industry and Internal Trade)	DOS (Department of Space)	KSUM (Kerala Startup Mission)	Startup Telangana	Startup Odisha
Incubation	Bio Nest Incubation $47.25 mn disbursed			Incubators Seed Fund Scheme assistance up to $18750	T-Hub incubator raised around $232mn+ funding	
Ideation Phase	1)BIG Grant Scheme Up to $70000 2)SITARE-GYTI grant	Credit Guarantee Scheme (CGSS) up to $12.5 mn	In-SPACE grant up to $125000 to	Innovation grant up to $3750	Performance Grant Up to 10 Lakhs	Startup Recognition grant Monthly

	up to $18750		select start-ups		of grant 5% of annual turnover	allowance of $250
Later Stage	1)SBIRI Scheme 100% cost up to $62500 and 50% cost after 2)Pace Grant up to $62500	Credit Guarantee Scheme (CGSS) up to $12.5 mn	In-SPACE grant up to $125000 to select start-ups	Innovation grant up to $8750	Performance Grant Up to 10 Lakhs of grant 5% of annual turnover	Product Development and Marketing assistance up to $18750
Equity Funding	Seed Fund $50mn raised	Startup India seed fund scheme outlay of $120mn		Seed Fund of $18750 at a subsidised interest rate of 6% per annum.		

Table 1.2: Various schemes, grants and initiatives for startups

	AIM (Atal Innovation Mission)	Meity (Ministry of Electronics and Information Technology)	MOPNG (Ministry of Petrol & Gas)	DST (Department of Science & Technology)	DRDO (Defence Research and Development Organisation)
School Students	Atal Tinkering lab grant $25000 per ATL				
Incubation	Atal Incubation Centre grant of $1.25 mn for 5 years	1)Meity Tide 2.0 handholding 2000+ startups & funding support upto $3.4mn 2)XR Startup programme $25000 grant for 40 startups		1)Nidhi centre of excellence support $6.25 mn in 5 years. 2)PRISM Incubation Grant up to $62500	DDTII incubator financial support upto $12500
Ideation Phase	ARISE upto $62500	Samridh investment of up to $50000 to the startup	The Start Up fund committed by Oil PSUs for next 3 years is $37.5mn.		Technology Development Fund cost of up to $1.25 mn , 90% funded
Later Stage	ANIC funding up to $125000	Samridh investment of up to $50000 to the startup	The Start Up fund committed by Oil PSUs for next 3 years is $37.5mn.		Technology Development Fund cost of up to $1.25 mn ,90% funded
Equity Funding					

Tables 1.1 and 1.2 delineate a comprehensive array of government schemes. The columns encompass diverse ministries and their respective initiatives, while the rows are organized based on the startup's stage, incubation, and the nature of funding (equity). This meticulous categorization aids stakeholders in discerning an array of programs relevant to their respective fields of interest. Additionally, the systematic arrangement enhances accessibility, allowing for easy identification and selection of suitable initiatives.

To facilitate easy understanding and navigation of the government initiatives and startup schemes, we have organized the government schemes into two categories: the age/scale of the startup and the government ministry that has initiated the particular program. This categorization aids entrepreneurs in identifying the schemes most suitable for their ventures and distinguishes between various government initiatives effectively.

By aggregating and analyzing these resources, our research aims to serve as a valuable reference for entrepreneurs, policymakers, and stakeholders seeking to leverage government support for startup development. The

comprehensive analysis of the Indian government's investment and funding initiatives provides a clear overview of the available opportunities and programs. This research contributes to the existing knowledge on entrepreneurship and startup ecosystem development, enabling stakeholders to make informed decisions and capitalize on the government's support system.

We highlight several key initiatives launched by the Indian government, such as the Atal Innovation Mission, Startup India, MeiTY startup hubs, and programs initiated by different ministries and state governments. For example, Startup India offers measures such as a seed fund of $118.125 million, a credit guarantee scheme of up to $1.25 million, and a three-year income tax exemption for new ventures.

The Atal Innovation Mission (AIM) promotes innovation and entrepreneurship through Atal tinkering labs for school-going children and Atal Incubation Centres offering grants of up to $1.25 million. Additionally, departments like the Department of Biotechnology (DBT) have introduced schemes like the Biotechnology Ignition Grant (BIG) and the Biotechnology Industry Partnership Program (BIPP) that provide financial support to startups in the biotechnology sector.

Furthermore, the Defense Research and Development Organization (DRDO) has launched the Technology Development Fund, which funds up to 90% of project costs up to $1.25 million. Various state governments, including Kerala, Telangana, and Odisha, have also established their own startup ecosystem initiatives with incubators and accelerators such as T-Hub and O-hub, fostering mentorship and industry expertise.

The Indian government's comprehensive support system for startups encompasses a wide range of initiatives and programs at both national and state levels. These efforts promote innovation, entrepreneurship, and collaboration among aspiring founders, backed by substantial financial assistance. The findings of this research highlight the significance of the Indian government's initiatives in facilitating startup growth and development.

4. Findings

Fundraising plays a pivotal role in the success of startups operating in the growth stage or beyond, enabling them to scale from a smaller user base to a significantly broader consumer base. The Government of India has launched an impressive array of financial programs in recent years to promote and empower startup businesses, creating an environment conducive to entrepreneurial growth within the country. Demonstrating unwavering commitment to supporting the startup mission and nurturing a thriving culture of entrepreneurship in India, the government has developed a diverse portfolio of nearly 50 distinct startup schemes.

To underscore the significance of startups, the Indian government has dedicated an entire division, Startup India, within ministries like the Department for Promotion of Industry and Internal Trade (DPIIT), to provide comprehensive assistance to new enterprises. Moreover, the government has implemented strategic measures to actively promote the growth and development of nascent firms nationwide (Garg, M., & Gupta, S., 2021). This compilation of various schemes indicates the government's active investment of capital and resources to improve the current startup ecosystem in the country. In addition to funding opportunities and grants, the government has prioritized enhancing the quality and quantity of incubators and accelerators across the country.

Startup incubators play a crucial role beyond providing infrastructure; they foster collaboration, innovation, and knowledge exchange among entrepreneurs. These incubators serve as catalysts for local economic growth, job creation, and technological advancements (Peters et al., 2004). Alongside central government initiatives such as Atal Incubation Centres (AIC), states like Telangana and Odisha have established their own incubators, namely T-Hub and O-Hub, respectively, to promote innovation and entrepreneurship within their regions.

The Indian government's comprehensive support system for startups, comprising a wide range of funding opportunities, grants, and incubators, demonstrates a holistic approach to fostering entrepreneurship and fueling economic growth. The findings of this study highlight the government's commitment to actively invest in capital

and resources to strengthen the startup ecosystem in India, providing entrepreneurs with the necessary support to thrive and contribute to the country's development.

5. Conclusion

Government funds and initiatives are pivotal in nurturing and enhancing startup ecosystems, providing essential financial support to empower early-stage startups in overcoming financial barriers and pursuing innovative ideas. Beyond monetary aid, government initiatives encompass a wide range of resources, including mentorship programs, networking opportunities, and specialized infrastructure access, which are invaluable for startup success. The Indian government serves as an intriguing case study, as it has made significant investments in various key areas to foster its startup ecosystem.

Through initiatives such as Startup India, Atal Innovation Mission, and Meity Startup Hubs, the Indian government has strategically simplified regulations, reduced bureaucratic obstacles, and offered financial assistance, mentorship programs, and networking opportunities. These concerted efforts have positioned India as a prominent hub for innovation and technology-driven enterprises. Notably, India's remarkable progress is reflected in its ranking of 40th on the Global Innovation Index (GII Report 2023), a significant leap from its previous position of 81st in just eight years. This achievement underscores the profound impact of government investment in nurturing a thriving startup ecosystem.

Furthermore, the success stories of other thriving startup ecosystems in Singapore, Israel, and Barcelona further emphasize the crucial role of government funding and initiatives in fueling growth and success. The collaborative approach between governments and startups creates an environment conducive to entrepreneurship, attracting talent, and fostering disruptive innovation. This symbiotic relationship contributes to economic growth and facilitates the resolution of complex societal challenges. Government funds and initiatives serve as catalysts for the development of vibrant startup ecosystems, driving progress and enriching societies at large.

6.1. Limitations of the study

While conducting this research on the impact of government funding on startups and various schemes by the Indian government, it is important to acknowledge certain limitations that may affect the scope and generalizability of the findings. These limitations should be considered in interpreting the results and drawing conclusions.

1. Timeframe Constraints: The research paper is conducted within a specific time frame, and therefore, the analysis might not capture the most recent developments or changes in government funding and schemes. The dynamic nature of the startup ecosystem suggests that new initiatives or modifications to existing schemes may have been implemented after the research cutoff date. Thus, some recent developments may not be fully accounted for in this study.
2. External Influences: The government schemes listed above are subject to changes influenced by economic conditions, market trends, and global events. As such, the effectiveness and availability of funding opportunities may fluctuate over time. These factors, which are beyond the scope of this research paper, may introduce additional complexities in interpreting the results.
3. Reliance on Secondary Data: This research relies on secondary data sources, such as government websites and reports, for data collection. While efforts were made to ensure accuracy and reliability, secondary sources may lack specific insights that could be obtained through primary research methods, such as surveys or interviews. The absence of primary data collection may limit the depth of analysis and the ability to explore specific nuances or perspectives related to the impact of government funding on startups.
4. Coverage Limitations: The paper may not be able to cover the entire spectrum of startups available in India. Although extensive efforts were made to identify and catalog various government schemes, there might be additional programs or initiatives that were not included in this study. The coverage of startups and funding opportunities might be limited, and some niche sectors or specific geographic regions may not have been extensively explored.

Despite these limitations, this research paper provides valuable insights into the impact of government funding on startups in India. The findings should be considered in the context of these limitations, and future research could overcome these constraints by incorporating primary data collection methods and conducting longitudinal studies to capture the evolving nature of government support for startups.

6.2 Future prospects

This research paper provides a foundation for future investigations into government funding and its impact on startups in India. The findings and insights presented in this study open up several avenues for further research and exploration. The future prospects of this study include:

1. Longitudinal Analysis: Conducting longitudinal studies to track the effectiveness and evolution of government funding initiatives over time would enhance our understanding of the long-term impact on startup growth and development. By analyzing trends and patterns, researchers can identify the sustainability and scalability of various schemes, enabling policymakers to refine and optimize their strategies.
2. Comparative Studies: Comparing the government funding ecosystems in different countries or regions can provide valuable insights into the best practices and success factors in promoting startup growth. Comparative studies can help identify lessons learned and transferable models, facilitating knowledge exchange among policymakers and fostering international collaborations.
3. Evaluation of Program Outcomes: Conducting in-depth evaluations of specific government funding programs and their outcomes would enable a comprehensive assessment of their effectiveness. By analyzing the impact of these programs on startup success rates, job creation, innovation, and economic growth, researchers can provide evidence-based recommendations for program improvement and expansion.
4. Qualitative Research: Supplementing the existing quantitative analysis with qualitative research methods, such as interviews and case studies, would offer a deeper understanding of the experiences and challenges faced by entrepreneurs in accessing government funding. Qualitative research can capture unique perspectives, shed light on success stories, and provide insights into the barriers and facilitators encountered by startups in utilizing government support.
5. Policy Recommendations: Building upon the findings of this study, future research can focus on developing practical policy recommendations for policymakers and government agencies. These recommendations can encompass strategies for streamlining administrative processes, enhancing transparency and accessibility, and fostering collaboration between the government, startups, and other ecosystem stakeholders.

By pursuing these future prospects, researchers can contribute to the body of knowledge on government funding for startups and further advance the understanding of how public support can catalyze entrepreneurial growth. These endeavors will enable policymakers, entrepreneurs, and stakeholders to make informed decisions, optimize resource allocation, and create an enabling environment for the sustainable development of vibrant startup ecosystems.

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Income Inequality in India: An Empirical Analysis of Changing Paradigms

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Abstract
In this paper we have analysed economic inequality in India more specifically expressed in terms of income inequality in an empirical and historical frame. The period to which the analysis belongs is predominantly consists of the two phases, first the colonial period and second the post-independent era. The analysis for post independent India is presented in two phases, the planned economy period from 1950 to 1990 and the post reform economic policy regime from 1991 to 2020. We have presented in most precise and in brief the estimates of some of the most notable quantitative enquiries through empirical trends and patterns. We have also presented broad interpretations concerning the predominance of institutional and technical factors that govern and prolong the status of economic affluence in a society in congruence to specifically distinct historical phases signifying the primacy of these factors in determining the scope of production and exchange in the economy. The inferences drawn on the basis of the estimates of income distribution available at our disposal reflect high income inequality during much of the colonial period. Amidst the limitations, concerning the availability and the robustness of data, we find that self-determination in form of political freedom has the potential to generate and maintain conditions for greater economic equality which we observe during planned economic development in India. However this potential is limited by state of technology and optimized by institutional development concerning public goods within the broad purview of modern welfare state.

Keywords: Colonial India, Five Year Plan, Income Inequality, National Income, Planned Economy, Post-reform Period

1. Introduction

The dynamics of economic inequality are specific to the compositional structure of different sectors of economic activities during a period in developmental history. In addition to compositional structure the nature in which various sectors are interconnected with each other also bear great impact on inequality dynamics. The nature and the degree in which the sectors are connected with each other are chiefly determined by the state of technology,

however political influence on such interconnectedness is not insignificant rather sometimes overpowers technological factors. This has been experienced in history repeatedly that political force has often determined, to a significant level, the scope of technological adoption according to the interests of the ruling classes; this tendency has resulted in concentration of income and wealth to a small fraction of population. As the factors relating to increase in income inequality are exogenous whether technological or institutional; the curative efforts must also be exogenous; however these would mostly be institutional. In the subsequent sections we shall present some of the most prominent institutional efforts in form of policy orientations regarding problem of income inequality on part of the government and other entities.

According to Oxfam India Report (2023), top 10 % Indians own about 72-73 % of total national wealth whereas bottom 50 % population only shares 3 % of total national wealth; the rest is owned by the middle 40 %. There is further concentration of wealth within the top 10 % as the wealth owned by top 5 % is about 62 % and that of the top 1 % is about 41 % of the total national wealth. Various other sources also point to similar patterns in wealth and income distribution in India in contemporary times. World Inequality Report (2022), released by World Inequality Lab, shows that global top 10 % population captures 52 % of global income in 2021; similarly, share of global middle 40% population in total global income is 39.5 % and that of the bottom 50 % population, the income share is 8.5 % of total global income. For global wealth distribution top 10 % hold 76 % global wealth, the middle 40% holds 22 % and the bottom 50 % population only 2% of total global wealth. In case of India the report finds share of top 10 % Indians in national income to be 57.1 %, of middle 40 % to be 29.7 % and of the bottom 50 % at 13.2 % whereas in case of wealth distribution in India top 10 % hold 64.4 %, middle 40 % hold 29.5 % and the bottom 50 % shares about 5.9 % of the total national wealth. The report claims that India is among the world's most unequal countries.

Reducing Inequality is one of the goals (the goal number 10) of the Sustainable Development Goals (SDGs) declared by the United Nations to be achieved by 2030. In this regard the United Nations University has come up with a global inequality database known as the World Income Inequality Database (WIID) in order to maintain and share data on various empirical and theoretical aspects relating to income inequality. As per the WIID data, share of top 10 % population in India was reported at 40.1 % of total national income while that of the middle 50 % population the income share stood at 48.4 % and of bottom 40 %, income share was reported at 11.6 % in the year 2020. WIID classification of income classes differs from WID and Oxfam reports WIID present data on middle 50 % and bottom 40 % however WID and Oxfam present estimates on middle 40 % and bottom 50 % of population. The State of Inequality in India Report (2021) commissioned by Prime Minister's Economic Advisory Council (PMEAC)[1] and prepared by the Institute for Competiveness[2], provides insights into various aspects of economic inequality in addition to income inequality. The report estimates inequality based on PLFS (Periodic Labour Force Survey) wage and income data. For other indicators of inequality, the report relies on NFHS-5 (National Family Health Survey-5) for estimation of health deprivation and malnutrition. The report concludes that significant inequalities exist on many socio-economic aspects and appropriate strategies are essential for overcoming these.

As there are numerous phases in history with high economic inequality and distress across the nations, there are also numerous efforts noted in the history from the rulers and the leaders of academia and society to effectively fight against poverty and inequality and carve out strategies for reducing economic disparities. Such efforts were made in every phase of human history whether ancient, medieval or modern. We shall however focus here on some of the most noted and recent accounts of such efforts particularly related to Indian economy and society.

Even before India got independent, India's freedom movement kept on putting efforts to strengthen the discourse on poverty eradication and eventually moving towards a more equitable society. In this regard, Naoroji[3] (1899) found that India suffered a great deal of economic distress during the 19th century British India in form of acute poverty among the masses. He termed the colonial rule as 'Un-British' and went on to title his research on Indian economy as '*Poverty and Un-British Rule in India'* which was intended to remind the British Crown and the British Parliament that their rule in India is in contravention to the liberal legacies of the British people and society and is detrimental to the most human aspects of the people in India. He lamented on the process of

'Economic Drain' from India to England during much of the 19th century which resulted in widespread poverty and inequality in India.

During the decisive phases of India's freedom struggle under Gandhi's[4] leadership, creating an environment of economic emancipation of the deprived was an integral part of the movement for the nation's independence. In case of both the political and economic emancipation of Indian people, Gandhi remained at the forefront and his ideas found expression in the principles of *Antyodaya*[5] and later *Sarvodaya*[6] which were coined by Gandhi and popularized by his followers during the late British rule in India, and even in independent India. These concepts inspired the leaders of social and political life and turned into movements such as the '*Bhoodan Andolan*[7]' which originated within the conceptual realm of the *Sarvodaya*.

The 'National Planning Committee' in 1938 in its report mentioned that the objectives of planning shall be to improve the wellbeing of the community by intensifying the process of economic development so as to increase the economic output and its equitable distribution among the members of the community (National Planning Committee Report, 1938, p.15). Similarly, *A Plan of Economic Development for India* (1944) popularly known as the '*Bombay Plan*[8]' dealt in detail with the issue of distribution of income. The part one of the plan emphasised on the production strategies however the part two of the Plan specifically dedicated a whole chapter on distribution of income by expressing the rational that the emphasis on distribution before production sound impractical as the primary issue to be addressed for economic development. The Plan mentioned that extreme inequalities impede a vast majority of population to take part in economic activities at any influential level which leads to increase in social cleavage and disharmony. To overcome such imbalances, the Plan must include an implied strategy for distribution as part of a production plan and this can be achieved by fulfilling two objectives; i) to secure every person a minimum level of income for a reasonable standard of living and ii) to prevent gross income inequalities between various classes of individuals. The Plan also noted that income inequalities primarily emanate from unequal wealth and property endowments among individuals and opined that existing inequalities of wealth and property should be reduced and means of production be decentralized (Bombay Plan, 1944, pp. 65-68).

The constitution of India through the Directive Principles of State Policy lays down an institutional foundation for a formal endorsement of the view concerning maintenance of socio-economic equality among the citizen of India through appropriate policy efforts. Articles 38 (1) of Indian Constitution reads: "The state shall strive to promote the welfare of people by securing and protecting as effectively as it may a social order in which justice, social, economic and political, shall inform all the institutions of national life." And similarly, Article 39 (b) & (c) reads as: "That the ownership and control of the material resources of the community are so distributed as best to sub-serve the common good" and "The State shall, in particular, direct its policy towards ensuring that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment" (Constitution of India, 2022, p. 21).

In continuance to the discourse, already established by various formal efforts, for a fair distribution the First Five Year Plan (1950-51 to 1955-56) categorically mentioned among its objectives, to bring rapid improvements in the living standards and reducing income and wealth inequalities by providing employment opportunities with adequate wages (The Cambridge Economic History of India, Volume-II, p.952). The first Plan stated that correcting only the inequalities of income may not be sufficient but inequalities of wealth which are at the foundation of income inequalities. The Plan noted that progressive income taxation can prevent further concentration of wealth however this cannot reduce existing inequalities (The First five Year Plan, A Draft Outline, p. 23). In conformity to what was declared and envisioned with regards to redistribution a decade after the initiation of planned economic development in India in 1950-51, a '*Committee on Distribution of Income and Levels of Living*' under the chairmanship of Prof. Mahalanobis[9] was constituted in 1960 to look into the distribution effects of Ist and IInd Five Year Plans. The committee used data from various NSS rounds on consumption expenditure for calculating fractile wise distribution of consumption surveyed in terms of amount of cereals consumed which included rice, wheat and coarse cereals and their monetary values. The study found that bottom 10 percent of population shared about 3 percent of total national consumption and for the top 10 percent population consumption was recorded in the range of 25-30 percent. The report explicitly recognized that the survey had its serious limitations as the very high-income class and the very poor (usually homeless

moving communities) were not well represented in the survey. Despite these limitations, the committee noted that the study could bring useful results. The study also revealed that the share of top 10 % income tax assesses in total assessed income was 40.7 % in 1950-51 that declined to 35.4 % in 1958-59 whereas the pre-tax income of the bottom 70 % assesses increased from 35.9 in 1950-51 to 39.8 % in 1958-59. In case of middle 20 %, the share increased from 23.4 % to 24.8 % during the same period. The report also found that the share of top 1 % declined from 13 % in 1953-54 to 10 % in 1959-60 and the share of top 5 % declined from 28 % in 1953-54 to 24 % in 1959-60 (Report of the Committee on Distribution of Income and Levels of Living, 1964, p.27, 75). Thus, in terms of pre-tax assessed national income first and second Five Year Plans presented a positive redistribution trends and showed decline in income inequality.

It was during the early 1980s that the government at the centre began to prioritise growth over redistribution and slowly began to take measures to promote private businesses to invest in a growth intensive manner; selective opening of market segments to international trade was also part of the growth strategy in the 1980s (Kohli, 2006). The pro-growth process that began with caution and some degree of reluctance in 1980s got more paced and structured after the 1991 economic reforms, partly due to a need for easing the state control in economic affairs as a measure to promote market instruments for better allocation of resources and partly due to unfolding of an economic crisis in 1990.

In continuation to the central theme of economic development philosophy in India which is growth with redistribution, the 10th Five Year Plan (2002-07) reiterated that the plan must be formulated in a manner that it ensures development with equity and social justice (Approach Paper to 10th Five Year Plan 2002-07, p. 5). In similar lines, 11th Five Year Plan stated that the Plan shall focus to pave ways to restructure policy priorities in order to make growth and development process more inclusive that aims to bring strategies for faster reduction of poverty and remove various disparities that has always been capturing the attention of policy experts as well as the political class from time to time.

With this backdrop, we summarize that there have been numerous attempts to provide philosophical basis, theoretical as well as empirical explanations to the phenomenon of income inequality in India and a number of institutional efforts have also appeared in form of policy and legal provisions from time to time, intending to check explicit or implicit effects of rising income inequality. We now move on to the vast literature that is available at our disposal for an extended understanding of the problem.

2. Review of Literature

Kuznets (1955) mentioned that the inequality in distribution of savings is greater than that in the distribution of property incomes, and hence of assets. He identifies legislative interference and political decisions as the factors counteracting the cumulative process of concentration of savings. These factors limit the process of accumulation of property through inheritance taxes and capital levies. He hypothesised that in the long run market forces increase income inequality during initial stages of growth and later decrease it; thus, an inverted U-shape curve is formed. There have been many studies in the later years that contended the hypothesis and have shown that in most of the cases the reverse has happened. Sundrum (1974) noted that growth of developing economies during 1960s were impressive enough to surpass the targets envisaged under the 'The First Development Decade'[10] and to a great extent countered the pessimism towards growth in the wake of World War II; the growth was primarily attributed to the expansion of world trade. He also noted that governments in these developing economies have majorly focused upon the sectors which were already modernized; than modernizing the traditional sectors, such leaning towards the modern sectors contributed to the already existing high levels of economic inequality. He pointed out that as part of the policy of equalization, minimizing inequality of opportunities is essential however inequalities of opportunities emanate from inequalities of income and wealth. As a prescription to reducing wealth inequality, in particular, he suggested land distribution as a key policy solution and for reducing inequality of opportunities, public provision of such opportunities and during the situation of resource constraints to such provisions deprived sections should be given preferential treatment.

Ahluwalia (1976) conducted a cross country analysis of income inequality along a range of development indicators for 60 selected countries consisting of 40 developing, 14 developed economies and, 6 countries with

socialist economic system. He found that there is a strong support for the hypothesis that relative inequality increases during the initial phase of development and later reverses in subsequent phases. He noted that such tendency holds true in case of developed, developing and underdeveloped economies however the process usually is much longer in case of underdeveloped economies.

Nagraj (2000) pointed out to a number of aspects considering redistribution of income including the issue of non availability of income-based data on distribution; thus, consumption-based analysis of distribution is what is widely done in developing countries in general and India in particular. He endorsed that decline in absolute poverty implicitly indicates for an improvement in the distribution and noted that from 1977-78 to 1993-94 average consumption at all India level increased annually by 0.9 % and that of the bottom 50 % rural population by 1.5 %; he further opined that albeit these moderate changes, growth with distribution is somewhat evident. He went on to point to the distribution of value added between wages and profits in private corporate sector and concluded that although share of private corporate sector in the total value added is about 10 % of the GDP in 1990s however it utilizes a greater proportion of domestic savings and attracts disproportionate attention of the policy makers. He found that proportion of wage in value added in the sector decreased from 35 % in 1985-86 to 20 % in 1996-97 while share of profits increased by 15 %; he remarked that this shows that distribution of income is distinctly in favour of capital owners amidst the analytical limitations of such simplified comparisons. Banerjee & Piketty (2005) found that during the post liberalization period, the top income groups gained, unlike in 1980s when every section shared the fruits of growth. They concluded that ultra rich (top 1 % and top 0.1%) individuals cornered most of the rise in national income during this phase. Bardhan (2007) cautioned against the usual generalization with regard to the impact of globalization on poverty and inequality in developing economies particularly on India and China. He opined that the section of both media and academia that look to generalize the proposition that reduction in poverty and rise in inequality in both India and China is to be attributed to the openness of these economies are based on hasty statistical judgements and lack a comprehensive analysis that focuses on causal aspects of such inter-relationships. Pal & Ghosh (2007) examined inequality by analysing NSS consumption expenditure of NSS 50^{th} round (1993-94) and 55^{th} (1999-00) round data and concluded that claims of a reduction in inequality in the mainstream are unsubstantiated rather there has been a rise in inequality in terms of consumption and it has increased both in rural and urban India. They opined that such inequality in consumption is due to rise in income inequality caused by stagnancy of employment creation in the post-reform period.

Atkinson et al. (2011) argued that studies and analysis of top incomes is important for understanding broad aspects of income inequality by assessing and envisioning the direction of public policy in this regard. They admitted that the tax-data used for these long run estimates may have serious limitations, however by far these are the only credible sources available at our disposal for analysing income inequality in the long run. Zagha (2013) remarked that growth in the post reform period in India has unleashed economic disparities and there is an ongoing policy discourse that is of the view that growth should come with opportunities to all sections of society. Engberg-Pedersen (2015) noted that Gini-coefficient as a measure of inequality is though widely used however it may indicate to ambiguous and misleading conclusions. For instance, if the share of the middle-income groups in national income increases, the value of the coefficient decreases and hence it indicates to reduction in inequality even if the relative inequality between the top income groups and bottom groups remains unchanged. To overcome such ambiguity a new measure termed as Palma Ratio (see methodology section and, Palma, 2011) is becoming increasingly popular and useful in drawing more accurate conclusions with regard to relative income inequality between top and bottom income groups. Alvaredo et al. (2016) assessed income concentration during the 1885 to 1946 period and found that the pattern of income concentration shows a U-shape trajectory during this phase of British India. Anand and Thampi (2016) examined trends of wealth inequality in recent years (1992-93 to 2011-12) and found that wealth inequality increased during the period and concentration of wealth towards the top 10 % increased at even greater pace. Alvaredo et al. (2017) assessed the WID project and opined that determinants of global inequality dynamics involve in its ambit some very strong and contradictory forces. They observed that income and wealth are concentrating towards top income groups in all countries in general, however the magnitude varies across countries; thus, the assessment of factors governing such rise in top incomes and wealth as well as the policy remedies to it should be viewed and envisaged as per country specific circumstances.

Roy (2018) astonishingly rejected a number of already established and popular hypotheses regarding economic inequality in colonial India. He rejected that inequality between the propertied class and the non-propertied increased during this period to which the capitalist exploitation and adverse government intervention is often held accountable. He concluded that colonial policies particularly relating to openness of economy were favouring the business class and were adversely affecting agriculture sector including the landowners. He mentioned that large landowners were tiny portion of the population and thus held a small share of the national income. Similarly, he admitted that European personals working with government earned high income in comparison to ordinary Indians; thus, there was a huge difference between these two classes however this gap was not increasing and the numbers of the officials was again quite insignificant to the country's population. The study concluded that a sizable middle class emerged and gained prominence during this period. Dixon (2018) concludes that growing concentration of wealth and income in the hands of a tiny population of rich individuals and compression of the middle class poses a threat to liberal democracy and the constitutional system; rising inequalities at such alarming pace in the advanced democracies are common and there appears an erosion of trust of the common people in the governments and the public institutions due to the meagre response from the constitutional framework in this regard.

Chancel & Piketty (2019) documented that the estimates for the pre-tax income share of top 1 % in India are at its peak at 22 % of total pre-tax national income since the British created an Indian Income Tax statistics system in 1922. Top incomes decreased during the 1950s and 1970s while they again showed signs of reversal in the 1990s are continued to rise. They refrained from generalizing their findings to become any final say to various debates articulated around the impact of reforms on inequality and poverty in India by stating about their contribution as moderate and better suited for a democratic conversation on these issues. Banerjee et al. (2019) found that there is strong political divide in India to which they called a 'strong political cleavage'. They showed that this divide is mostly caused by elements of social fragmentations such as caste and religion whereas inequality in education, income levels or occupation shows very limited effect on such cleavage. They cautioned that the most challenging aspect for Indian state would be to design policy instruments that can allow the lower and middle class individuals to get access to high quality public services. Himanshu (2019) used NSS consumption survey data for assessing economic disparities among top and bottom population groups and found that there has been rise in economic disparity in form of average consumption of various groups in post 1991 period however there is some moderation after 2004-05. He also utilized WID income distribution data and concluded that income inequality in the recent years have risen sharply. Kumar (2019) analysed the trends and patterns of wealth-income ratios in India for the period 1860 to 2012 and found that prior to 1939 the wealth income ratio steadily increased except during a twenty year period between 1895 to 1914 when the ratio showed stagnancy however in the post 1939 period the ratio continuously declined till 1960 before a reversal with a slower pace till about 1990 and thereafter a decade of marginal decline till 2002 and again a sharp rise which continued till 2012. He inferred that the U-shaped trajectory of wealth-income ratio curve is due to an asset price slowdown during the middle of the twentieth century and the reversal of the high compositional share of land-based assets in the national wealth.

3. Research Gap and Objectives

There are a number of studies on income as well as wealth inequality in India including the ones reviewed in the above section, analysing the long run empirical trends. However theses are mostly for either the colonial period or post-independent period with some rare exceptions which in one way or another relates to projects taken up by World Inequality Lab at Paris School of Economics. This study may be called unique in a way that it incorporates evidences of both structured quantitative data suitable for empirical analysis and unstructured set of data and information which are more suited in the sense of the analysis and interpretations done in historiography. The other aspect is the time period of the study for which well- structured data ranges from 1820 to 2020 and from 1750 to 2020 if we combine the unstructured or slightly crude estimates of data. The study argues for active use of non-quantitative aspects of information to be read simultaneously with quantitative estimates so as to get better inferences particularly for the period before 1922. The objective of this paper is to analyse and understand the changing patterns of income distribution in distinct phases of broad socio-economic and political similarities.

4. Data and Methodology

The data with regard to income distribution is taken from World Inequality Database (WID) which is prepared by a renowned team of experts at the World Inequality Lab under the aegis of the Paris School of Economics. These data sets are termed as Distributional National Accounts (DINA) and are based on pre-tax income data from historical tax records. WID has collated and presented such data for 123 countries as of June 2023. Amidst many usual and specific limitations of these data-sets, based on pre-tax income, which are widely used and claimed by many that, by far these are the only prominent source of long run data on distribution of income.

Distributional National Accounts with respect to India are available from 1820 to 2021 in a discontinuous manner wherein after 1820 the next data points in the nineteenth century correspond to the years 1850, 1880 and 1900 for the top 1 % population, top 10 % population and bottom 50 % population. After 1900, for the same three income categories, data is available for 1910 and 1920 however from 1922 till 2021 the data for top 1 % are available on an annual basis and for the top 10 % and bottom 50 % at decadal intervals corresponding to the ending year of the decade e.g., 1930, 1940 and 1950. It is after 1950 that we have continuous data sets which are organized both deciles-wise as well as percentile-wise. The WID has estimated Gini-Coefficients (Gini, 1912) for the period 1951 to 2021, we have used these estimates in study; thus, we do not mention specifically the method of estimation in this section. We have used the data on income series covering all the years for both pre-tax income distribution and wealth distribution for four distributional categories that are top 1 %, top 10 %, middle 40 % and bottom 50 % as well as Gini coefficients of pre-tax income from 1951 to 2020 for our analysis. The data for middle 40 % population in the WID series are obtained by simply subtracting the share coefficients of top 10 % and bottom 50 % from 1 (for the fractional data at unit wise) for the years prior to 1950. We have used data, corresponding to ending years of decades, as per availability and suitability of our analysis and thus we do not include in our analysis the data pertaining to 2021 although these are available and part of the composite data sets.

The analysis and the discussion in the subsequent sections shall follow from two distinct perspectives, one from the analysis of economic inequality from the standpoint of various historical studies mentioned in the previous sections which is based on unstructured data for various occupations and economic activities; however, these aspects provide an indication to what direction the economic status of various classes of society moved during a particular phase. The other perspectives to be discussed are based on structured data wherein we use statistical and graphical methods for elaborate understanding on income inequality in India albeit limitations of data regarding incomes as mentioned earlier.

Our focus shall be on the second perspective wherein we have more structured information with regards to income inequality in form of distributional national income accounts based on pre-tax income data. Within the structured analysis based on these data sets, the Gini coefficients are taken directly from WID, however the values of distributional accounts are converted to percentage terms from unit fractions for constructing Lorenz curves. Lorenz curves for pre-reform period (1950-51 to 1990-91) and post-reform period (1990-91 to 2019-20) are constructed, using WID figures, where we have used deciles-wise distribution of income. An illustrative Lorenz curve is presented through figure-1.

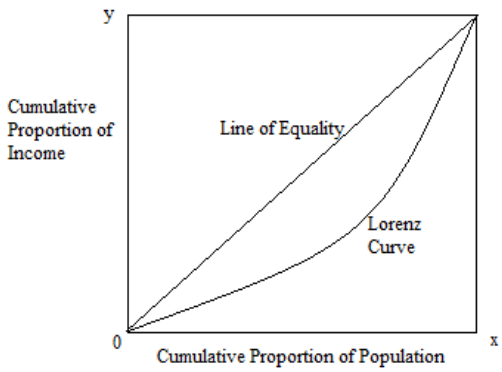

Figure 1: Graphical representation of a Cumulative Distribution Function
Source: Author's construction based on theoretical function

In addition to the Gini coefficient and Lorenz curve, Palma Ratio is also calculated for the years covered using following formula:

$$\text{Palma Ratio} = \frac{\text{Income share of the top 10 \% Population}}{\text{Income Share of the bottom 40 \% Population}}$$

Our approach to analysis is empirically comparative for data levels with decadal intervals in case of distributional national accounts for population categories specified as top 10 %, middle 40 % and bottom 50 %. For additional analysis we resorted to Lorenz curves for a comparative analysis between pre-reform and post-reform periods. For the period 1820 to 2020 Palma Ratios at decadal intervals are calculated for additional inferences. The Gini coefficient, Lorenz curves and Palma Ratios are all calculated using pre-tax income distribution data from WID.

5. Analysis and Discussion

An economic phenomenon as integral and vital as income inequality is not limited to any particular phase in history in any pre-identified pattern rather it is an inherently perpetuating one, albeit involving compositional changes taking place in the long run. The elements causing and perpetuating income inequality are both natural and institutional. The natural causes are closely related to state of technology and the ones that are institutional are concerned with the moral and governing systems in the society. The pattern of income distribution in the pre-colonial India was in congruence to the social stratification with relatively lower sensitivity to technological state whereas the colonial phase was more sensitive to technological effects on both the social stratification and the resultant patterns of income distribution. The role of institutional factors in determining the levels of income distribution are always significant in every phase of history and colonial period in India was no exception to this. Our enquiry during the colonial phase shall primarily be based on some of the most noted and endorsed researches pertaining to those times whereas the analysis relating to post-independent era are based on more concrete evidences that are backed by comparatively more reliable sources of data than the colonial phase as mentioned in the previous section. Apart from this, central presentation pertaining to colonial and post-independent India, we shall, in brief, discuss the basic idea as to how income inequality or economic affluence among the individuals and groups of individuals took shape over the course of history. In this context, we shall attribute a brief discussion on ancient and medieval India through various quantitative and non-quantitative estimates and evidences presented by experts of socio-economic accounts for these periods in history in the subsequent section.

5.1 A brief View of Income Inequality in Pre-colonial India

In every civilization across the world, the first stage of evolution of human society characterises a primitive nomadic groups of hunter gatherers, the second as settled-life due to discovery of agricultural practices and in later stages the consolidation of society by small chieftains and eventually organization of society by large feudal lords which later becomes the basis for large kingdoms and empires. There is clear consensus among the experts of ancient human society and life that inequality was least in the primitive phase and gradually started increasing due to a number of organisational and technological factors evolved over time. In this study analysing inequality in context to the nature and scope of the analysis for ancient period would be of distant significance thus we shall restrict our analysis mainly to later Moghul period, the colonial phase and the post-independent India. The next section throws light on a broader view of income inequality in late-medieval and early colonial India.

Unlike ancient India, we have relatively greater information and some limited but useful quantitative estimates to give us broad understanding of the patterns of income distribution. The political power in the medieval India was fundamentally vested in crude military force, although this crudeness is limited by the religious value-systems prevalent in those times to some extent, the dominating factor remains to be military power or what we call in

other words the crude physical force. The state, thus, was expressing its sovereignty in most of the public functions through means of power and the economic aspects were not among the exceptions. For instance, the way the distribution of agricultural produce was governed was that the state was extracting about 40 to 45 percent of gross agricultural production of which most of the share was held by a few military nobles called '*Mansabdars*'. Stein (1999) depicts that such pressure by the state resulted in subversion of superior or gainful agriculture and also created increased disparities between the rich and poor, particularly in the countryside. Gini Coefficient in Moghul India in 1750 were estimated to be 0.489 (48.9 %) and the income share of top 1 % population was estimated at 15 % of total national income for the same year (See Appendix-3, Table-1, Milanovic et al. 2007).

Table 1: Social Structure wise Share of Income and Labour Force in Moghul India (1750)

Broad Generalization on Location of Socio-economic Group	Socio-economic/Occupational Group	Group Code*	% Share in Total Income	% of Labour Force
Non-village Economy	Moghul Emperor and Court, Mansabdars, Jagirdars, Native Princes, Appointed Zamindars, Hereditary Zamindars	A	15	1
	Merchants and Bankers, Traditional Professions, Petty Traders & Entrepreneurs, Soldiers & Petty Bureaucracy, Urban Artisans & Construction Workers, Servants, Sweepers, Scavengers	B	37	17
Village Economy	Dominant Castes, Cultivators and Rural Artisans, Landless Labourers, Servants, Sweepers, Scavengers	C	45	72
Tribal Economy	Native Tribes and Forest Dwellers	D	3	10

Source: Table constructed by authors based on data from Maddison (2001), p.110, originally based on Maddison (1971), p. 33.

*The codes are purely for analytical convenience and not signifying any hierarchy of income classes.

The socio-economic structure towards the end of the Moghul Empire largely presents the structure and pattern of much of the medieval period. Table-1 presents the broad segregation of labour force and their corresponding income as per estimates of Maddison (1971). We see that income is necessarily concentrated towards the elite occupations which suggest that top income groups held a disproportionately large chunk of income. However, while drawing conclusions on the basis of the data contained in table-1, a great deal of caution must be exercised for the reason that the division between Non-village economy and Village economy include all strata of labour force while the corresponding income are mixed for the rich, the seemingly middle class occupations and low paying jobs such as that of the scavengers. What we suggest is that a fraction of the dominant land owning castes from the village economy must be earning higher income than most occupations in middle class and lower class occupations in the urban areas which correspond to 37 % of income against a workforce of 17 % in Group-B, however this does not necessarily mean that every occupation in this 17 % is earning equally or for that matter largely sharing the 37 % income rather within this 17 % labour force the income share must be skewed towards a small section of Merchants, Bankers, and other top professional occupations whereas the vast urban labour force consisting of small traders, soldiers, lower bureaucracy, artisans, construction workers servants and sweepers would only be sharing a small portion of this 37 % income. What is apparent that 18 % of urban labour force (shown as Group A & B) share 52 % of national income whereas 82 % of rural and tribal people share 48 % national income; this suggest that deprivations and disparities were more stark in rural areas than in urban centres.

5.2 Income Inequality in the Colonial Period

The distribution pattern evident in table-2 and the one in table-3 is distinct in great manner as the data in table-2 include overlapping occupational and income classes. Thus, generalizing the patterns of both the data sets together would be incorrect. One of the basic differences between these two data sets is that the first one is location sensitive and the second one from table two is location neutral. Despite these key technical distinctions, we can broadly infer that both data sets reflect a high skew in income distribution towards elite occupational classes or top income groups. Like table-1 which presented social and occupational structure pertaining to late medieval India (1750), table -2 presents almost on similar lines with more elaboration; towards the end of the British rule such as occupations listed in group A & B in table-1 are segregated with some variations among Groups A, B, C, D and E in table-2; thus, caution must be exercised as in case of table-1, explained earlier while drawing inferences.

Table 2: Social Structure wise Share of Income and Labour Force in British India (1947)

Broad Generalization on Location of Socio-economic Group	Socio-economic/Occupational Group	Group Code*	% of Labour Force	% Share in Total Income
Non-village Economy	British Officials and Military, British Capitalists, Plantation Owners, Traders, Bankers & Managers	A	0.05	5
	Native Princes, Big Zamindars and Jagirdars	B	0.95	3
	Indian Capitalists, Merchants, Managers	C		3
	The new Indian Professional Class	D		3
	Petty Traders, Small Entrepreneurs, Traditional Professions, Clerical and Manual Workers in Government, Soldiers, Railway Workers, Industrial Workers, Urban Artisans, Servants, Sweepers and Scavengers	E	17	30
Village Economy	Village Rentiers, Rural Moneylenders, Small Zamindars, Tenants–in–Chief	F	9	20
	Working proprietors, protected tenants	G	20	18
	Tenants–at–Will, Sharecroppers, Village Artisans and Servants	H	29	12
	Landless labourers, scavengers	I	17	4
Tribal Economy	Native Tribes and Forest Dwellers	J	7	2

Source: Table constructed by authors based on data from Maddison (2001), p.111, originally based on Maddison (1971), p. 69.

*The codes are purely for analytical convenience and not signifying any hierarchy of income classes.

We observe that this pattern existed during most of the 19th century with top 1 % population sharing about 16-18 % income and the bottom 50 % at about same level, sharing 15-17 % income. We observe that during much of the 19th century these categories showed similar trends with marginal variations.

Table 3: Pre-tax income share of various population groups (1820 to 1950)

Year	Pre-tax National Income share of Top 1% population	Pre-tax National Income share of Top 10% population	Pre-tax National Income share of Middle 40% population	Pre-tax National Income share of Bottom 50% population
	Distributional Trends in the 19th Century Colonial India (1820-1900)			
1820	16.0	48.0	34.4	17.6
1850	18.0	50.0	33.1	16.9
1880	18.2	54.6	30.1	15.3
1900	16.8	53.8	30.6	15.6

	Distributional Trends in the 20th Century Colonial India (1900-1950)			
1900	16.8	53.8	30.6	15.6
1910	14.0	44.8	36.6	18.6
1920	16.7	53.3	30.9	15.8
1930	13.7	47.8	34.6	17.6
1940	19.5	50.7	32.7	16.7
1950	11.7	35.2	42.9	21.9

Source: Author's calculation based on data from World Inequality Database (WID), World Inequality Lab, Paris School of Economics

*Note: Data before 1947 was excluding of the individuals residing in the princely states. These adjustments must have taken time and thus till about 1949-50 when India adopted and implemented constitution, her functioning largely resonated with the final years of British Rule, thus including three years from 1947 to 1950 of independent India with the colonial period is reasonable from the standpoint of structural economic alignments and shift in the economy in general and distribution of income in particular. In addition India established Planning Commission in 1950 to oversee the issue of economic planning thus the period between 1947 and 1950 is better suited as pre-planning regime within post-independent India with largely colonial traits.

We observe that share of all the population categories in national income shows variation over the decades with a fluctuating trend. There is rise in the income share of the bottom 50 % and middle 40 % during the first decade of the 20th century whereas the top income categories show decline in their respective shares. In the second decade, we see the reversal of this trend and repetition of the case observed in the first decade in the 1920s, however, this time the decline in the share of top 1 % is relatively more in comparison to the share of top 10 % population and this decline resulted in the rise of income of both the bottom 50 % and the middle 40%. During 1930s the case of 1910s gets repeated; the income share of the top groups increases again and that of the bottom and middle groups decrease, however, in this decade it is the top 1 % that shows higher increase in its share from 13.7 % in 1930 to 19.5 % in 1940. Interestingly, in the next decade the trend again reverses and the top groups show a decline in their shares and the bottom groups are seen to be gaining during the period. The share of top 10 % population declines from 50.7 % in 1940 to 35.2 % in 1950, this massive decline in the share reflects in the gains of the middle 40 % as their share increases from 32.7 % in 1940 to 42.9 in 1950; similarly, the share of bottom 50 % increases from 16.7 % in 1940 to 21.9 % in 1950. This fluctuating trend of income distribution during the first half of the 20th century raises many questions as to why every alternate decade shows positive redistribution. As we are aware that economic scenarios are closely linked with other aspects of human life whether these are climate, internal political stability and global geo-politics, thus, these outcomes must be interpreted with care. In view of the above quantitative analysis, it would be appropriate to understand and examine the factors responsible for such quantitative outcomes with regards to redistribution of income. These results should then be viewed in light of the various non-quantitative materials of information which can have vital impact on our assessment and understanding of the phenomenon.

5.3 Inequality during Post-independence India

Policy initiatives were taken at many fronts to ensure that economic development in independent India is equitable. As measure to achieve socio-economic equity in society, one of the first such step was Land Reforms introduced during the early 1950s. However, the policy of land reforms could only very moderately succeeded as the number of cultivators not owning any land increased about three times between 1954 and 1971 and cultivators owning land below 2.5 hectare land increased by 40 % (The Cambridge Economic History of India, Volume-II, p. 978). The Mahalanobis *Committee Report on Distribution of Income and Levels of Living* found that income inequality during the 1950s, while the 1st and 2nd Five Year Plans were operational, did not increase as per their analysis of NSS consumption data and pre-tax income of income tax filing individuals. However, here we intend to discuss the trends and pattern of income distribution during the plan period from the data points organized at decadal intervals in the next section.

Table 4: Pre-tax income share of various population groups (1950-2020)

Year	Pre-tax National Income share of Top 1% population	Pre-tax National Income share of Top 10% population	Pre-tax National Income share of Middle 40% population	Pre-tax National Income share of Bottom 50% population
	Distributional Trends during the Plan Period (1950-1990)			
1950	11.7	35.2	42.9	21.9
1960	13.5	38.0	42.9	19.1
1970	13.3	37.5	42.6	19.9
1980	7.5	32.4	46.4	21.2
1990	10.7	34.4	45.3	20.3
	Distributional Trends during Post-reform Period (1990-2020)			
1990	10.7	34.4	45.3	20.3
2000	15.5	40.9	40.6	18.5
2010	21.6	53.2	32.5	14.3
2020	21.7	57.1	29.7	13.1

Source: Author's calculation based on data from World Inequality Database (WID), World Inequality Lab, Paris School of Economics

Note: The data from 2014-15 to 2019-20 are same over a period of seven years to which WID has provided clear declaration that data during this is based on growth neutral extrapolation. However in the declaration the WID has informed that the processing of the pre-tax data for the assessment years 2014-15 to 2017-18 is underway thus users are cautioned against drawing inferences from these uniform figures of DINA for any post 2015 economic policy stand (see Technical Note[11])

5.3.1 Income Inequality during the Planned Economy Period

It is observed from the following table-4 that during pre-reform period within post-independent India or otherwise also referred as the phase of planned economic development, the distribution of income has remained fairly stable, with some fluctuations experienced in 1980s. The income of the top 1 % and top 10 % population declined marginally in 1990 over the levels in 1950. The income share of bottom 50 % also declined slightly between 1950 and 1990; however, the income of the middle 40 % increased from 42.9 % of total national income in 1950 to 45.3 % in 1990. Thus, during this phase, it is the middle income group that gained while the top income and bottom income earners were the ones that lost the share, though marginally. The Lorenz curves corresponding to income distribution in 1950 and 1990 show an almost similar curvature as both the curves are nearly juxtaposed on each other; thus, we infer that income inequality was almost stable during the period or showed marginal decline. This decline, even if marginal during the planned economy period, is significant from the standpoint of the fact that inequality did not rise as envisaged through various policy proposals and specially mentioned in the '*Approach Paper Documents'* pertaining to various Five Year Plans. This also resonated with the trends shown by many socialist economies which opted for a Soviet Union style planning. We found, in particular, the case of Soviet Russia where we observe that all along the planning phase from early 1920s till 1990 the distribution of income remained largely stable, while there is rise in income inequality in the post 1990 period which also correspond to most of the economies that initiated economic reforms under the Structural Adjustment Programme[12] which we shall show in the subsequent section relating to Indian economy.

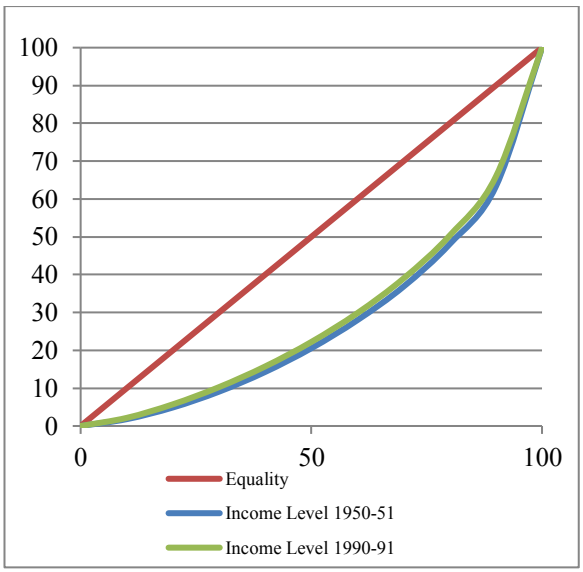

Figure 2: The Lorenz Curves for the Pre-reform (Planned Economy) Period (1950-51 to 1990-91)

Source: Author's Construction based on data from World Inequality Database (WID)

5.3.2 Income Inequality during Post-reform Period

What we observe in the post-reform period is the reversal of the situation experienced in pre-reform period with greater intensity. The share of the top 1 % population in national income doubled during the 30-year post-reform period and similarly the share of top 10 % increased by about 66 % in 2020 over the 1990 level. On the contrary, the share of bottom 50 % declined from 20.3 % in 1990 to 13.1 % in 2020 and the share of middle 40 % declined from 45.3 % to 29.7 % during the same period. This shows that income share of bottom 90 % got reduced from 65.6 % in 1990 to 42.8 % in 2020. If we compare the Lorenz curves of the pre-reform independent India and the post reform India, the curves in the post reform period shows an altogether different curvature and the curve corresponding to 2020 income level shows a greater deviation from the line of equality in comparison to curve corresponding to 1990-91 which suggest that post reform period is characterised by rising income inequality.

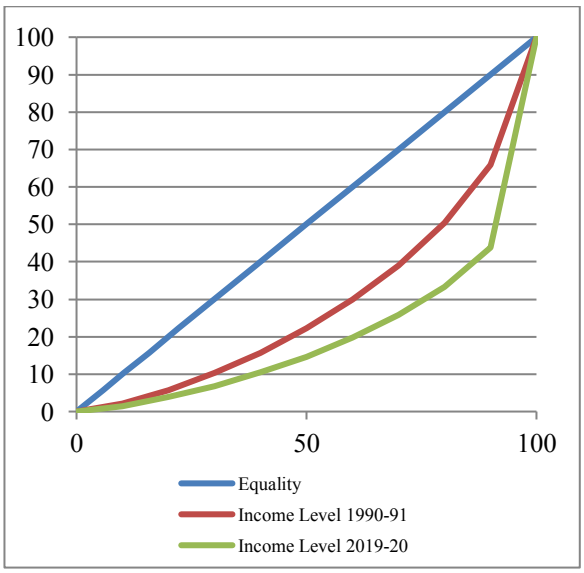

Figure 3: The Lorenz Curves for the Post-reform Period (1990-91 to 2019-20)

Source: Author's Construction based on data from World Inequality Database (WID)

5.4 Gini Coefficient and Palma Ratio

The description and analysis in the above sections was based on the empirical trends of the distribution of pre-tax national income across various population categories e.g., top 1 %, top 10 %, middle 40 % and bottom 50 %. In this section, we approach to discuss as to how certain indexes and ratios —Gini Coefficient and Palma Ratio have fared corresponding to ending years of various decades. We have used Gini values directly from WID database from 19950/51 to 2020, whereas Palma Ratios are calculated on the basis of distributional national accounts for data levels corresponding to mentioned year from 1820 to 2020. We observe that Gini coefficient declined from 0.49 in 1950 to 0.46 in 1990, signifying a decline in income inequality during the period 1950 to 1990 whereas the coefficient increased from 0.46 in 1990 to 0.63 in 2020, indicating a rise in income inequality at a high level.

Table-5: Pre-tax Income Gini, Wealth Gini and Palma Ratio

Year	Pre-tax Income Gini	Palma Ratio
1820	#	3.66
1850		3.99
1880		5.47
1900		5.29
1910		3.26
1920		5.19
1930		4.16
1940		4.08
1950/1951*	0.49	2.46
1960	0.49	3.09
1970	0.48	2.91
1980	0.44	2.38
1990	0.46	2.65
2000	0.51	3.44
2010	0.61	5.79
2020	0.63	6.79

Source: World Inequality Database (WID) for Pre-tax Income Gini values and Palma Ratio's are calculated by authors based on Distributional National Accounts (DINA), WID.

*Year corresponds to Pre-tax Income Gini as WID Pre-tax Income Gini series is available from the 1951,
#-Signifies non availability of data for these periods.

We finally turn to the Palma Ratio and observe that during most of the colonial period except 1940s the ratio remained much higher; the average value during the period between 1820 to 1950 was 4.17 (average taken on decadal data points) which denote that share of top 10 % population in national income was more than 4 time larger in comparison to the income shared by bottom 40 % population. A Palma ratio of value 1 is widely accepted as a reference level, a ratio above one indicates movement towards higher income inequality whereas a ratio equal to or below one indicates lower income inequality and higher living standards. Along the reference ratio of 1, we note that colonial India experienced a very high income disparity between the top and bottom income groups. Table-5.3 shows that the ratio declined significantly in the 1940s and increased in 1950s. The average value of the ratio during the planned economic development between 1950 and 1990 was noted to be relatively lower on average at about 2.86 (averaged for annual data points); however, it began to rise sharply after 1990. The ratio increased to 3.44 in 2000 which further increased to 5.79 in 2010 before increasing to alarming level at 6.79 in the year 2020. As argued in support of the Palma Ratio as a better indicator of the relative inequality between top and bottom income groups than Gini-coefficient, it would be appropriate to conclude that the proportional income gap between top incomes and the bottom incomes in India has increased sharply in last three decades.

6. Concluding Remarks

In view of the above, we conclude that much of the colonial India shows high income inequality and largely corresponds to what was observed towards the end of the Moghul Rule in India in the mid eighteenth century, except some changes during the late British Rule in the twentieth century, that a sizable urban middle class emerged which more or less continued to the date; however, showing some decline in the recent decades. One of the most noteworthy findings has to be the fact that during the planned economic development in India, income inequality remained under control with marginal rise in favour of the middle 40 % population. The post reform period shows growing income inequalities with a slow rise in 1990s and later intensifying in 2000s and 2010s, as shown by the distributional proportions as well as the Gini coefficients and the Palma Ratios over the years. We note that disparity between top and bottom income groups continue to widen at an alarming rate in recent decades. The common arguments that are raised for such phenomenon are capital intensity of production, low employment creation, low public expenditure towards key social services as major factors. The institutional response from the side of the government and the business sector for either to check or moderate this rise in income inequality in the recent decades has hardly been evident.

We also note that during the initial decades after the independence; the issue of income distribution attracted substantial policy space amidst pressing situations of increasing output and developing basic economic infrastructure for the country, however in the last three decades when sufficient economic infrastructure is in place and the economy is experiencing rise in income inequality at a faster pace, a proportionate policy response, both at investigative and curative level, is not visible.

The results of the above analysis are conditioned upon the usual and specific limitations of the data as discussed in the literature review part and the methodology section. These broad findings in particular the long run trends are in one way or the other give rise to a policy debate on the issue of income distribution. The broad conclusions in this study confirm the findings of the most of the studies done using the WID data-sets on pre-tax distributional national accounts, some of the most prominent studies are mentioned in the literature review section.

Notes:

1. Prime Minister's Economic Advisory Council (PMEAC) is a non-constitutional, non-permanent Advisory Body entrusted with the task of advising the Prime Minister of India on Economic Policy Matters
2. Institute for Competitiveness is an India centered International Initiative for research on Strategy and Competitiveness.
3. Naoroji (Dada Bhai Naoroji) also known as the "Grand Old Man of India' was a pioneer in early India studies on estimating National Income of India. His famous work 'Poverty and Un-British Rule in India' disclosed the systematic exploitation of Indian Economy by imperial Britain and identified and popularised phenomena causing this exploitation as 'De-industrialisation of Indian Economy' and the 'Drain of Wealth' from Indian to England particularly during the 19th century.
4. Mohan Das Karamchand Gandhi (1869-1948), was a freedom fighter and political leader of global repute, commonly referred to as Mahatma Gandhi and lovingly called as 'Bapu' by his followers and disciples.
5. The welfare of 'The Last Man' or the poorest and weakest in the society.
6. Sarvodaya was also part of the Gandhian Political Philosophy which translates into 'the welfare of all in the society whether rich or poor, elite or commoner, literate or illiterate'.
7. A Voluntary Land Distribution movement in form of charity or gift was initiated by Vinoba Bhave, A follower of Gandhi in 1951.
8. A Plan of Economic Development for India (1944), Volume-I & II prepared and authored by renowned industrialists and business leaders of those times whom included were, Sir Purshotamdas Thakurdas,

JRD Tata, A D Shroff, G D Birla, Sir Shri Ram and Kasturbhai Lalbhai along with economists and civil administrators whom Sir John Matthai and Sir Ardeshir Dalal were included.

9. Prasanta Chandra Mahalanobis was a well known scientist and statistician who had actively participated in economic planning and institutional development of India during the initial decades after independence. He founded Indian Statistical Institute and known for discovering a statistical measure named 'Mahalanobis Distance'.
10. The First Development Decade is a UN designated term to the decade of 1960s for this period to be the years laying the strong initial foundation for future development of erstwhile underdeveloped economies across the globe, particularly in the Global South.
11. A technical note on the quality of Indian data on income distribution and issues relating to disclosure of NSS Survey data on Monthly Consumption Expenditure was written to Indian Authorities by World Inequality Lab, see, Technical Note. *WID.world. (2023).* https://wid.world/document/indian-inequality-updates-2015-2019-world-inequality-lab-technical-note-2020-09/
12. An International Monetary Fund and World Bank led initiative to structurally transform the economies to adopt to more resilient market practices, reduced government spending, a prudent fiscal policy, greater openness of the economy and introducing measures for labour market flexibility. Many developing and underdeveloped economies adopted these policies in order to secure loans from the IMF and World Bank particularly during a fiscal crisis, India initiated many such policy reforms in the wake of a balance of payment (BoP) Crisis in 1990.

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Foreign Direct Investment (FDI) in Poland 2023: An Update and Appraisal

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Abstract
This article is third in a yearly series relating to foreign direct investment in Poland which has remained an important part of Poland's transition from state central planning to a market economy. The context of the article is the current state of the Polish economy, which includes a discussion of inflation, unemployment, and an assessment of special economic zones in Poland supported by a variety of tax and investment incentives. The article focuses on the positive and negative aspects of foreign direct investment, with a detailed look at U.S. investment, and concludes with a discussion of recent limitations placed on foreign ownership in the Polish economy for investors outside of the European Union, the European Economic Area, and the OECD.

Keywords: Foreign Direct Investment, Inflation, Unemployment, Special Economic Zones, Limitation on Foreign Investment

1. An Overview of Foreign Direct Investment (adapted from Hunter & Lozada, 2022, pp. 93-94)

To place the discussion in its proper context over more than thirty years, Gorynia, Nowak, and Wolniak (2007, p. 132) noted that "Foreign direct investment (FDI) has played a pivotal role in the transformation of post-communist economies of Central and Eastern Europe (CEE) for more than a decade now. This is especially true for Poland which experienced a phenomenal growth of inward FDI."

Foreign direct investment, more commonly known as FDI, occurs with the purchase of "the physical assets or a significant amount of the ownership (stock) of a company in another country to gain a measure of management control" (Hunter & Ryan, 2012, p. 594). Ordinarily, FDI inflows into a host country are counted from a *10 percent stock ownership.* FDI may be distinguished from a more traditional type of investment termed *portfolio investment* (also called *passive investment*) because in a passive investment, the investor is not seeking effective *control* in a company, but only a return on investment. Examples of portfolio investment include the purchase of corporate debt securities, debentures, mutual funds, stocks, bonds, interest-bearing bank accounts, treasury bills, and promissory notes (see Chen, 2020a). Broszkiewicz (2018, p. 244) states that "It is important to compare the effects

of the inflow of portfolio investments to the Polish market to foreign direct investment in order to specify what actions should be undertaken to increase the attractiveness of the Polish market for portfolio investment."

As an active form of investment, FDI may take the form of a merger-and-acquisition activity with an existing company or entity (often referred to as a "brownfield" activity) where the purchaser acquires an ongoing business operation (Hayes, 2021). FDI may also take the form of creating an entirely new investment—literally from the "ground up" (often referred to as a "greenfield" activity) (Chen, 2020b; adapted from Hunter & Ryan, 2012).

Poland has remained one of the most attractive destinations for foreign direct investment in Europe (Hunter & Ryan, 2001; Hunter, Shapiro, & Ryan, 2003; Hunter & Ryan 2013a; Invest in Poland, 2020). The Polish government has made it a top policy priority to expand the domestic economy by "supporting high-tech investments, increasing productivity and foreign trade, and supporting entrepreneurship, scientific research, and innovation through the use of domestic and EU funding" (U.S. Department of State, 2019).

Some of the main targets of FDI have been the individual properties or entire industries that were the subject of the program of Polish privatization (Hunter &Ryan, 2008), most notably during Poland's early transition from the socialist system of state-central planning and state-ownership (Rondinelli & Yurkiewicz, 1996; Cienski, 2019). The process of "mass privatization" [MPP] undertaken by the Polish government provided numerous opportunities for the introduction of foreign capital into the Polish economy (Hunter & Ryan, 2004; Hunter & Ryan, 2007; Hunter & Ryan, 2008; Hunter & Ryan, 2013b) by "achieving widely-understood management effectiveness" (Lis, Mazurkiewicz, & Zwierzechlewski, 2013, p. 42). The Polish government invited foreign investors to participate actively in most of the major privatization programs.

Puntillo and Ipsen (1996, p. 41) commented that Poland's program of mass privatization was:

> "designed to privatize en masse over 400 mid-to-large size Polish SOEs. In the mid-1995, Poland's MPP installed 15 specially designed national investment funds (NIFs) as core investors in each of the 400+ privatized firms. NIFs, which are like high-powered Western mutual funds, have hired consortia of Polish-foreign fund managers or advisors to help restructure the target operating companies over the next ten years. The stated goal of the MPP Law — and the key basis of fund managers' incentive compensation — is to increase shareholder value in the former SOEs through restructuring."

As Lis, Mazurkiewicz, and Zwierzechlewski (2013, p. 42) noted: "The process of privatization continued—apart from liberalization and stabilization—one of the major elements of the system transformation in Central and Eastern European countries." FDI activities were the most pronounced in the banking sector, where foreign-controlled banks hold today over 70% of banking assets (see Miani & Sagan, 2006; Santander, 2021). Major privatizations have largely been completed, and the focus today is on "consolidation and improvement of efficiency in entities still under state control" (Santander, 2021).

2. The Context: The Polish Economy

Why has Poland remained among the most attractive countries in Europe in terms of FDI? Poland has a large internal market of over 38 million consumers and provides easy access to the greater European Union market, which has 500 million consumers, as well as to the other countries of Central and Eastern Europe. ING (2023), stated:

> "Why is it worth investing in Poland? There can be many answers, but in three words: people, location and economy. Since 1989, Polish economy and society have undergone a huge transformation, decisively making efforts to align the quality of life with this in Western Europe. Since 1990, Polish GDP has increased 7-fold, and since 2010, Poles' purchasing power has risen by nearly 30% (from 21 thousand USD to 34 thousand USD). Membership in the European Union (since 2004) and NATO (since 1999) has allowed Poland to safely develop and adapt to the requirements of modern economy. With 38 million 353 thousand citizens, Poland is the largest country in the region of Central-Eastern Europe and 6th most populous in the European Union. As a result, investors perceive our country not only as an attractive place to locate

> production, but also as a significant market. In addition, EU membership gives them access to 500 million EU consumers."

In 2022, the Polish economy emerged strongly from the pandemic (Bukowski & Paczos, 2021) and grew an estimated 3.8%, with industrial output and retail sales expanding at a solid pace. However, in the fourth quarter of 2022, consumption in Poland decreased by 0.7 percent caused by high inflation and strong monetary tightening, raising at least a partial "red flag" for the future.

2.1. Main Sectors of the Polish Economy

Agriculture employs 9% of the active Polish population and contributes about 2.2% of GDP (World Bank, 2023). More than 60% of Poland's total land area is taken up by farming, and Poland is generally self-sufficient in terms of its food supply. Main crops include rye, potatoes, beetroot, wheat and dairy products. Poland also breeds pigs and sheep in livestock production. The main minerals produced are coal, sulfur, copper, lead, and zinc.

The industrial sector comprises 27.9% of GDP and employs 32% of the workforce. Poland's main industrial sectors are machine manufacturing, telecommunications, environment, transport, construction, industrial food processing, and certain component parts of IT. Steel had been in decline but has rebounded in recent years. There are currently 36 steel mills operating in Poland, employing nearly 30,000 Polish workers. Gajdzik (2021, p. 165) reported and "The steel industry in Poland is one of the key production industries in the national economy. The share of the steel industry is 3%, The value of annual sales production is approximately PLN40 billion (per year). The number of suppliers in Polish steel industry is 13.5 thousand (suppliers from country and abroad). Number of customers in Polish steel industry: 6.6 thousand (in 2018)." [At this writing one Polish zloty is approximately .25 US cents; one euro is 1.09 US dollar.]

Shipbuilding continues to be problematic. Market Hub (2022) notes that

> "During this year, at Polish seaports, the following numbers dropped: cargo turnover, passenger traffic and the number of ships calling at Polish seaports. The shipbuilding market in Poland in 2020 recorded drops. On an annual basis, at Polish seaports, the following indicators decreased in 2020: cargo turnover, passenger traffic and the number of ships calling at Polish seaports. As at the end of 2020, the maritime transport fleet had fewer ships than in the previous year. Compared to 2019, there was a decrease in cargo transported by the sea fleet by Polish carriers and a decrease in passenger transport in international transport."

Likewise, with reference to Poland's mining industry, Hockenos (2020) stated that in 1979, "420,00 mine workers extracted 201 million tons of lignite and black coal." Hockenos (2020) continued: "But now the shaky economics of coal and a concerted climate push by the European Union are forcing the nation's government to rethink its embrace of the dirtiest fossil fuel." In 2020, the number of employees in the mining of coal and lignite industry in Poland remained nearly unchanged at around 84,511 employees (see also Brauers & Oei, 2020).
The Polish automobile industry is mainly export-oriented and had been highly resistant to the effects of the 2008 economic crisis; however, this sector has been the worst-hit domestic sector in the coronavirus pandemic (also due to the chip shortages). Yet, RSM (2023) notes:

> "Poland's automotive industry is one of the most important manufacturing sectors in Poland, accounting for 11.1 % the total value of the country's production, and is second only to the food industry. In recent years Poland has attracted a substantial amount of foreign direct investment in the automotive manufacturing sector and, consequently, has become one of Central and Eastern Europe's major manufacturing hubs for cars, car parts and components. Automotive manufacturing has evolved into one of Poland's key industries in terms of production value, employment, capital expenditures and exports. Poland is the region's largest automotive market in terms of sales and services."

RSM reports the following relating to the Polish automotive sector:

- Industry income: ~ 34.9 billion EUR
- Total industry share: 11.1 %
- Number of employees: 240,500

- Average salary: 1152.92 EUR (monthly)
- Annual production: 642.5 thousand motor vehicles
- Export volume: 28.7 billion (+ 3.8% year-on-year)
- Total of FDI positions: 10.3 billion EUR

In recent years, Poland has attempted to diversify its manufacturing base, developing sectors such as electrical appliances and clothing production. According to the latest yearly data by Statistics Poland (2023), the value of *sold production* of industrial products increased by 23% on a year-to-year basis in 2021, with that of the gas sector, in particular, growing by 115%.

The service sector, represented by financial services, logistics, IT, and tourism, represents 56.9% of GDP, also employing about 59% of the active population. Poland recorded 14.7 million overnight stays — of which 2.3 million involving foreign tourists — an increase of 177.1% compared to the same period one year earlier. The banking sector is made up of 30 commercial banks (of which 8 are controlled by the State Treasury, accounting for 41.1% of the sector's total assets), 511 cooperative banks, and 37 branches of credit institutions (European Banking Federation (EBF), 2023; Korzeb & Niedziolka, 2020; Korzeb & Samaniego-Medina, 2019).

2.2. The Impact of Inflation

The major negative impacting the economy has been inflation. A gradual increase in inflation was experienced beginning in 2021, gaining significant "momentum" in 2022. Poland was one of the European Union countries that exhibited the highest harmonized index of consumer prices (HICP). One of the main factors behind this was the high prices of raw materials, commodities, and Russia's invasion of Ukraine. Statista (2023) reported that "Sanctions imposed on Russia disrupted supply chains and significantly worsened consumer and business sentiment."

Since June of 2021, Poland's consumer price index (CPI) steadily increased, reaching a record high of 17.9 percent in October 2022. By comparison, annual inflation in 2021 was 5.1 percent (Statista, 2023). In 2022, prices of goods and services increased by 14.4 percent year-over-year. In 2021, the average price increase for the EU countries was 9.2 percent. Inflation has its major impact reflected in higher transport and housing prices, including energy carriers. Housing prices increased by nearly 23 percent in December 2022, compared to a year earlier. Preliminary results indicated that Poland's annual inflation rate eased to 10.8 percent in July 2023 from 11.5 percent in the previous month and slightly below the market estimates of 11% (Budapest Business Journal, 2023). GUS, Poland's Central Statistical Office, reports the increase was "the softest reading since February 2022, mainly due to the slowdown in prices of food & non-alcoholic beverages (15.6 percent vs 17.8 percent in June) and a drop in cost of fuels for personal transport (-15.5 percent vs -18 percent). On the other hand, inflation picked up for housing & utilities (16.7 percent vs 14.6 percent). Monthly, consumer prices edged down by 0.2% after remaining unchanged in June" (Trading Economics, 2023c, citing the Central Statistical Office of Poland (GUS)). ING (2023) reports, however, that the recent

> "decline in Polish CPI inflation is set to continue, supported by a rapid unwinding of external supply chocks. And that should allow the central bank to cut rates by 50-75bp in 2023. However, the slow decline in core inflation compared with the rest of the region suggests that the second stage of disinflation will be difficult."

Polish households were most affected by the rise in food prices. In 2022, food products and non-alcoholic beverage prices increased by 15.4 percent yearly. Food prices rose nearly three percent during this period, with pork, a staple in the Polish economy, showing the most significant increase at 14.4 percent. On a year-on-year basis, the price of a basket of essential products in retail chains in 2022 increased by 18 percent on average

Rising grocery prices have translated into significant changes in consumer behavior for the average Pole. Four out of 10 consumers chose to buy fewer alcoholic beverages, clothing, footwear, or cosmetics. In contrast, 17 percent have given up buying electronics altogether. The "good news" is that ING (2023) reported that "Polish CPI inflation for July came in at 10.8% YoY, compared to 11.5% YoY the previous month" — including "seasonal falls in food prices, which subtracted 0.6pp from annual CPI inflation."

Despite rapidly rising prices, Poland has remained as one of the countries in Europe where the costs of essential products are much cheaper than in the European Union. By comparison, prices of food products in 2021 were 28 percent cheaper than the EU average, and Poles paid 48 percent less for communication services (see Kafkadesk, 2018, citing Eurostat).

Private consumption is expected to rebound in the second half of 2023, partly boosted by spending by Ukrainian refugees and by full recovery from the effects of the pandemic. The IMF is predicting that GDP will grow by +0.5%. In 2024, the easing of "supply bottlenecks" and supply chain issues should support exports, with growth forecasted at 3.1% (see generally Veselovska, 2020).

The measures taken by the Polish government to mitigate the impact of rising energy prices included lowering VAT rates, offering heating subsidies to Polish households in the form of cash, and establishing a "multi-annual support program" for energy-intensive industries. Despite a "multi-annual program of investment in defense" which will see an average increase of 3% of GDP per year — 4% alone in 2023/2024 (Strzelecki, 2023) — the IMF sees a lower budget deficit in 2023 to 3.7% of GDP. Poland's *debt-to-GDP ratio* is relatively low and was estimated at 48.7% in 2022 and is forecast to decrease further this year to 45.1%, before rising again in 2024 to 46.2% (Trading Economics, 2023d).

The unemployment rate has remained low in recent years (just above 3%), though around one in four employees are working under "temporary contracts," which is twice the EU average. The labor market has proved "resilient," although labor shortages could act as a significant "drag" on employment growth in the future. The overall unemployment rate stood at 2.8% in 2022 and is seen to increase only slightly to 3.2% in 2023, and 3.4% in 2024 (Trading Economics, 2023a).

3. The FDI Scorecard

According to UNCTAD's *2022 World Investment Report* (2022), FDI inflows to Poland reached a record-high level of USD24.8 billion in 2021, compared to USD13.8 billion one year earlier, and 83% above the pre-COVID level. Statista (2023) noted that "In 2011, FDI inwards flows amounted to approximately 16 billion U.S. dollars; by 2022 this had increased to approximately 29.2 billion U.S. dollars." Importantly, fully 94% of investors indicated their willingness to reinvest in Poland — a significant proof of their trust in Polish economy (Rodl & Partner, 2020).
For comparison purposes, according to the Polish Economic Institute, Poland was 14th globally and third in the EU in terms of the value of FDI inflows in 2021 (Lloyd's Bank, 2023). In the same year, the *total inward stock of foreign investments* stood at USD269.2 billion or +7.8% on a year-to-year basis. Data provided by *fDi Intelligence* indicate that in the period 2019-2021, foreign investors in Poland contributed to the creation of 339,000 jobs (FDI Intelligence, 2022).

Overall, greenfield investments FDI to Poland, where a parent company starts a new venture by constructing new operational facilities "from the ground up," has remained strong and have been increasing since 2015. Poland is a leader in the Central and East Europe (CEE) region in terms of the number of greenfield investments and ranks third overall in Europe.

The largest investor in Poland during 2021 in terms of capital investment was South Korea (USD1.9 billion), followed by the United States. (USD364 million) and Germany (USD 155 million). In terms of regional breakdowns, the Masovian voivodeship (the highest-level administrative division of Poland, corresponding to a province or state in many other countries) received 28% of inward FDI for 2021, followed by Lower Silesian (15%), and the Lesser Poland and Silesian voivodeships (10% each) (see Lyttle, 2022). The majority of FDI stocks are held by Germany (21.2%), France (10.8%), the Netherlands (10.4%), and the U.S. (9.7%), with investments directed mainly towards the manufacturing (31.3%), wholesale and retail (14.8%), financial and insurance activities (14.2%), and real estate sectors (10.4%).

3.1. U.S. Investment in Poland

In its executive summary to its report, "30 years of American investments in Poland," KPMG (2020) noted the following:

- "Companies from the United States are the second largest group of foreign investors in Poland. As the second most important source of investment capital in the Polish market, the U.S. accounts for 11% of the value of all foreign direct investment into the country.
- Total U.S. investments are equivalent to 4% of Polish GDP and constitute an important part of the Polish economy. U.S. investors operating in Poland have more than $54.5 billion (PLN 205 billion) of assets.
- The value of assets accumulated by companies with U.S. capital represents about 18% of all foreign companies' assets in Poland. Between 2010 and 2018, the value increased by as much as 67%. The assets are owned by corporations from both manufacturing and services, as well as funds integrating investment capital. More than half of American investment in Poland is in manufacturing Companies with American capital have a significantly higher share in investments in the industrial sector compared with other foreign investors in Poland, at 55% compared with 38%.
- The cumulative value of American investments in Poland is near $62.7 billion (PLN 236 billion). According to official statistics, the current value of American investments in Poland at the end of 2018 was estimated at $24.4 billion (PLN 92 billion). However, according to AmCham data, total investments that have come into Poland from the United States are worth as much as $62.7 billion (PLN 236 billion), taking into account investments made by U.S. companies that now belong to entities from other countries.
- Companies with U.S. capital employ about 267,000 people in Poland American companies are constantly creating new jobs in Poland, and their employment growth rate is much higher than the market average. Employment in knowledge-intensive sectors is growing particularly fast. According to AmCham research, there are more than 1,500 companies with U.S. capital operating in Poland, which in total employ some 267,000 employees; including indirect employment, the total rises to 309,000. Between 2010-2018, employment in companies with U.S. capital doubled. 6 30 years of American investments in Poland.
- Companies with American capital are succeeding in Poland American companies operating in Poland provide attractive, competitive products and services and are important suppliers to the domestic and foreign markets. In 2010-2018, these companies recorded an increase in sales by as much as 60%, reaching $60.3 billion (PLN 227 billion) in revenues. Recently, American investors have become significantly more active than other foreign companies in Poland: in 2010-2018 U.S. investments increased 1.5 times faster than other foreign investments.
- American investment is well distributed throughout the country The majority of companies with American capital are registered in Mazowieckie Voivodeship (60%). Warsaw dominates as the investment registration location. However, by value as much as 57% of American companies' investment is located outside the voivodeship, according to AmCham data. Other attractive regions for American business include Wielkopolskie, Pomorskie and Małopolskie Voivodeships.
- Poland-U.S. trade reached $21.6 billion (PLN 81 billion) in 2018 The American market is the 8th largest for sales of Polish industrial products, up from 17th 10 years ago. Poland's most important export to the United States is machinery and mechanical equipment; in this category, parts for turboprop and turbojet engines account for the largest share. The United States is the 5th-largest market for exports of Polish services, and more than 70% of service export value is accounted for by telecommunications, IT, technical, R&D and engineering services, i.e., knowledge intensive services. Such exports are estimated at about $3 billion (PLN 11 billion). Export of IT services, including software, has increased fivefold since 2010 and now accounts for 1/3 of total Polish services exports to the United States."

3.1.1. Major U.S. investors in Poland

Top 10 U.S. investors by asset value:
1. CVC CAPITAL PARTNERS
2. GOLDMAN SACHS GROUP, INC

3. GIORGI GLOBAL HOLDINGS, INC (CAN-PACK)
4. INTERNATIONAL PAPER CO
5. GENERAL ELECTRIC COMPANY
6. UNITED TECHNOLOGIES CORPORATIONS
7. DISCOVERY, INC
8. MARS, INC
9. PROCTER & GAMBLE CO
10. WHIRLPOOL CORP

Top 10 U.S. investors by employment:
1. AMAZON.COM, INC
2. UNITED TECHNOLOGIES CORPORATIONS
3. LEAR CORP
4. IBM CORP
5. MCDONALD' S CORPORATIONS
6. CITIGROUP
7. CVC CAPITAL PARTNERS
8. TENNECO, INC
9. GENERAL ELECTRIC COMPANY
10. WHIRLPOOL CORP

Top 10 U.S. investors by operating revenue:
1. PHILIP MORRIS INTERNATIONAL, INC
2. CVC CAPITAL PARTNERS
3. GENERAL ELECTRIC COMPANY
4. MARS, INC
5. UNITED TECHNOLOGIES CORPORATION
6. GIORGI GLOBAL HOLDINGS, INC (CAN-PACK)
7. INTERNATIONAL PAPER CO
8. WHIRLPOOL CORP 1
9. CARGILL, INC 1
10. GOLDMAN SACHS GROUP, INC

4. Poland's Special Economic Zones

In an effort to attract FDI, Poland originally established a number of *Special Economic Zones* and created the Polish Investment and Trade Agency (PAIH) to facilitate the entry of FDI into Poland, although the tax exemptions made available in the SEZs are "now available across the entire territory of Poland" (PAIH, 2023b) and not only in the established SEZs.

The Polish Council of Ministers set out the objectives of the SEZs in 1994. The original legislation set forth seven broad objectives to be achieved mainly through 100 percent income tax relief:

1. "The development of certain areas of economic activity;
2. "Development of new technical and technological solutions and their use in the national economy;
3. "Export development;
4. "To enhance the competitiveness of manufactured products and services;
5. "Fitting the existing assets of the industrial and economic infrastructure;
6. "Creation of new jobs;
7. "Management of unused natural resources while maintaining the principles of ecological balance" (Centre for Public Impact, 2018).

The Centre for Public Impact (2018) noted that "After the collapse of the Soviet Union, Poland enacted a broad transition towards a market economy, which left large parts of Poland unable to compete in the new liberal market

regime." As a result of high and persistent unemployment in rural areas and the difficulties encountered in attempting to "counter the negative effects of economic transition," the government created Special Economic Zones (SEZs) in 1994. SEZs were seen as part of that "broad drive toward market liberalization, which was supported by the majority of Polish politicians and parties" (Pey, 1994). [See Appendix I for a list of current Polish SEZs].

These zones aimed to directly "tackle increasing regional unemployment and attract foreign direct investment into Poland via major corporate tax relief." By 2012, SEZs had generated over EUR20 billion in investments and created over 186,000 jobs (see Czyzowska & Zmija, 2022).

In order to spur economic development in targeted regions of Poland, the government developed an extensive regional policy aimed most especially at rural areas (Stanny, Komorowski, & Rosner, 2021) in order to "to accelerate the economic development of regions; manage post-industrial property and infrastructure; create new jobs; and attract foreign investors to Poland" (KPMG, 2009; see also Dorozynski, Swierkocki, & Dobrowolska, 2021). There are 14 different SEZs in operation, spanning over 25,000 hectares (nearly 68,000 acres) placed strategically throughout Poland (Nazarczuk, & Uminski, 2018).

The government structured the SEZs to be a tool that would be "based on a mix of financial support (tax incentives mainly targeted at investment expenditure), non-financial support (the regulatory environment is business-friendly), and investment in public infrastructure, which aims at attracting investors and businesses with a focus on specific sectors" (OECD, 2016).

The program was based on a combination of three components relating to taxation issues (Ambroziak, 2016; see also EY, 2020):

1. Complete *tax exemptions* for companies operating in SEZs for the first 10 years of the zone's activity, and no more than 50 percent taxes thereafter;
2. *Real estate tax exemptions;*
3. *Allowances* (business deductions) to cover investment costs (see Smetkowski, 2002).

The policy, however, could be seen as problematic in terms of Poland's interest in joining the European Union (EU) (Hunter, 2019). As a result, in order to comply with EU rules relating to state aid within the EU's "Single Market," the government made several alterations to the original policy: SEZs were established for a set period of time (usually 20 years), and the system had to be "renewed" via policy reforms in parliament on a semi-regular basis. Kislowska (2006) noted that "The core conflict between Polish and EU competition law was that the 1994 SEZ regime infringed EU limits on financial state aid. EU law clearly states that state aid cannot exceed 50 percent of the cost of the investment for large firms and 65 percent of the cost of investment for small and medium-sized enterprises. At the time, the firms that were investing in Polish SEZs had already or would have in the near future exceeded these limits."

Based on the EU's objection to the legislation, Poland agreed to amend the law on SEZs, and those modifications took effect on January 1, 2001. The government altered the SEZ policies during further reforms in the early 2000s to set the maximum corporate tax exemption at 50 percent (Kislowska, 2006).

Reflecting on the success achieved in the SEZs (see Dziedzik, 2017), in 2018, the Polish parliament enacted legislation essentially designed at turning "the entire territory of Poland into a special economic zone" (Grzezgorczyk, 2018). The legislation, which will expire by 2026, gives preference to investments in struggling and medium-sized towns in Poland and not just those which were part of the previously established SEZs.

Grzezgorczyk (2018) noted: "At the end of 2016 the companies operating in Polish SEZs had 2,263 permits to conduct business activity within that year. The Ministry of Development estimated that in 2017, 14 SEZs may have attracted EUR5 billion in investments with 16,000 jobs. At the same time, every fifth project is implemented by a small or medium-sized company."

The Polish Investment and Trade Agency (PAIH), which came into existence in 2017, was originally established in 1992 under the title of the Polish Agency for Foreign Trade (PAIZ). PAIH has played a major role in managing and promoting the SEZs both internally and externally. The success of the SEZ program "was first and foremost driven by the involvement of the external investors through FDI activities by parties who set up companies in these zones with the active participation of PAIH" (Zarycki, 2009).

In furtherance of meeting its core objectives, certain "investment incentives" (Slusarczyk, 2018; PAIH, 2023a) have been provided by the European Development Fund and the Multi-Annual Support Programme from the Polish government, designed to create new jobs and infrastructure in regional areas. In the years 2007 to 2013, Poland was granted EUR67.3 billion from EU *cohesion policy funds* (see Blom-hansen, 2005) for the purpose of constructing new infrastructure necessary to assuring the success of SEZs (see Serafin, 2012; Mendez, 2013), through "greenfield investments" where the government provides a piece of land with no existing infrastructure, and on which investors can then "build offices, roads and factories on their own initiative rather than occupying pre-existing buildings. This has been important for local development and enabling SEZ management to collaborate with local authorities."

Importantly, the management of SEZs has remained largely with the investors themselves, working with local SEZ management authorities, overseen by the PAIH. "Regulations applicable to a particular SEZ may specify the minimum investment value required or the number of employees that must be hired to benefit from the tax exemption" (Guagliano & Riela, 2005). Regulations may also be based on a region's own local requirements.
In support of its domestic economy, under the 2021-2027 EU budget, Poland will receive USD78.4 billion in cohesion funds, as well as approximately USD27 billion in grants and USD40 billion in loan access from the EU Recovery and Resilience Facility. Lloyd's Bank (2023) reports that "Overall, the Polish business climate is good and the country ranks 29th out of 82 countries in the Economist Business Environment ranking."

Foreign Direct Investment	2020	2021	2022
FDI Inward Flow *(million USD)*	15,195	29,580	29,462
FDI Stock *(million USD)*	256,008	270,719	269,840
Number of Greenfield Investments*	472	513	509
Value of Greenfield Investments (million USD)	23,644	23,168	17,793

5. Why Poland Appeals to Foreign Investors (adapted from PAIH, 2023c)

The following factors are seen as most important in Poland's sustained and successful effort at attracting FDI:

- **"Economic stability and a healthy economy,** with a **"**sound state of public finance and the opportunity for long-term investment planning, thanks to the country's economic stability and predictability." Poland is the only country in Europe to evade the financial crisis of the last decade. In terms of debt-to-GDP ratio, Poland's public finances remain in a much better state than the EU's average.
- **Investment potential:** In 2021 the Polish Investment and Trade Agency (PAIH) offered support to almost *96 foreign investment projects*.
- **Strategic location in the heart of Europe.**
- **An abundance of business opportunities**, due in part to the rapid modernization of infrastructure, including road and rail transportation as well as energy infrastructure.

- **Human capital and country statistics.** It can be argued that **"**Poland's greatest asset are its citizens, especially their ambitious nature, eagerness to learn, great work ethics, loyalty and entrepreneurial spirit."
- **An innovative country with an immense capacity for growth,** with a business environment that "supports start-ups and entrepreneurs, as well as aids the development of R&D activities."
- **Expertise across a variety of sectors** and a "diverse range of enterprises in the manufacturing, service and agricultural sectors." PAIH notes that "finding a partner in sectors such as, for example the, automotive, aviation, IT, food processing, electronics or finance is hardly a problem." In addition, "the flexibility of Polish entrepreneurs and their readiness to meet even the most rigorous quality and industry standards proves another significant advantage.""

PAIH supports both the foreign expansion of Polish business and the inflow of FDI into Poland (Crescenzi, Caltado, & Giua, 2021). As an indication of the success of these endeavors, it is worth noting that Poland has entered into 36 *bilateral investment treaties with parties outside the European Union* (UNCTAD, 2023). [See Appendix II for a list of bilateral investment treaties (BITs) currently in force.]

Regional aid is the most prevalent type of assistance offered to companies carrying out investment projects in Poland. It is granted only for "initial" or "new" investments, which are generally defined as investments related to setting-up of a new business, extension of activities, or related to products not previously produced. The level of aid a project is eligible to receive depends on the size of the company and where in Poland the project is to be located. Regional aid may consist of a corporate income tax (CIT) exemption in special economic zones government grants (support from domestic budget), and cash grants or loans from EU funds.

The Multi-Annual Support Programme – known as MASP — is a *regional aid* program (Credit Agricole, 2023) dedicated to supporting large investments in the so-called "priority sectors," which have been identified as automotive, electronics, aviation, biotechnology, communication services (IT centers, business processing outsourcing companies (BPOs)), telecommunications, and research and development (R&D), which focus on innovative new investments, energy efficiency projects, and production of energy from renewable sources. Assistance in the form of state aid can be granted for R&D projects that carry out fundamental research, industrial research, or experimental development research. Parties conducting activities in the area of research and development may be granted income tax relief as will (Zawalinska, Tran, & Ploszaj, 2018; Szopik-Depczynska, Cheba, & Wisniewska, 2020; EY, 2020).

5.1. Negative or "Weak Points"

There are, however, also several disadvantages that may be encountered by potential foreign investors. These include:

- Rigidity of the labor market, with Poland struggling to find qualified, educated, and well-trained workers in certain sectors (Wilczek, 2019);
- "Bottlenecks" in administrative procedures (Grzebyk, Pierscieniak, & Stec, 2021)(for example, Poland stands as the 120th country for the speed of starting a business according to the World Bank);
- Current account deficit (Trading Economics, 2023b), placing pressure on the state budget;
- The adoption of the euro initially planned for 2012, once again delayed, was further jeopardized by the financial crisis (European Commission, 2023; Euronews, 2023); and
- The relatively unstable political landscape which has slowed down the implementation of necessary reforms (generally, Hunter & Lozada, 2022; Cienski, 2023).

In addition, specifically with regard to FDI, recent measures undertaken by the Polish government to restrict certain types of foreign investments have come to the forefront.

6. Limitations on Foreign Direct Investment

Poland has recently placed limits on foreign ownership and foreign equity in a number of sectors in the economy. Polish law essentially adopts a "Golden Share" model (Sun; 2020; Dhir, 2022; Srivastav, 2023) and limits non-EU citizens to 49 percent *ownership* of a company's capital shares in the air transport, radio and television broadcasting, and airport and seaport operations sectors. *Licenses* and *concessions* for defense production and management of seaports are granted on the basis of national treatment for investors from OECD countries. The *Law on Freedom of Economic Activity* (2004) (LFEA) requires companies to obtain government concessions, licenses, or permits to conduct business in certain sectors, such as broadcasting, aviation, energy, weapons/military equipment, mining, and private security services.

In May of 2020, the Polish government approved a series of regulations aimed at making it difficult for investors from *outside* the European Union, the European Economic Area or EEA, and the Organization for Economic Cooperation and Development or OECD to take over low priced or distressed companies that Poland considers *strategic* to its economy (see Feliszewski & Brynska, 2020). The regulations were a part of a government rescue or "bailout" package worth more than PLN300 billion designed to assist Poland to survive the coronavirus pandemic and the resulting economic crisis. These new restrictions, passed in the form of amendments to the existing 2015 *Act on Control over Certain Investments*, entered into force as of July 24, 2020.

The new Polish regulations correspond with efforts to implement "sovereign control mechanisms" for FDI in relation to the COVID-19 pandemic. As a justification for the amendments to the Act, the government of Prime Minister Morawiecki cited the need to protect Polish companies against hostile takeovers in several sectors of the Polish economy that are *strategically important* for the national economy or to the functioning of the state. Regulations apply to entities included on a list prepared by the Council of Ministers.

New investment control limitations will apply if an entity from outside the European Union, EEA, or OECD intends to acquire significant participation, defined *inter alia* as no less than 20% of the total number of votes, value of contributions or share in profits (Wnukowski & Lasowska, 2023), or achieve a dominant position with respect to a Polish business which:

1. Is a **public company** – regardless of the business sector;

2. Holds property classified as **critical infrastructure**;

3. Conducts business activity in the **sectors considered under the legislation to be of "strategic importance"** for the economy and functioning of the state (e.g. energy generation, production, transport and storage of fuels, production of chemicals, fertilizers and chemical goods, telecommunications operations, transport, production of medical equipment, instruments and goods, production of medicinal and other pharmaceutical products, processing of meat, milk, cereals, fruit and vegetables) or provides cloud data storage or processing services; or

4. Develops or modifies certain kinds of **software** (e.g., used to control power plants, energy, fuel or heat supply systems, manage water supply or sewage treatment installations, operate voice or data transmission devices or data storage and processing devices, operate hospital systems or devices and systems used in selling medicinal products, handle passengers or cargo, or to operate food supply devices or systems) (see Sojka, 2020).

Currently, there are nine companies on the list: Emitel S.A. [TV and radio broadcasting and infrastructure provider], Grupa Azoty S.A. [Domestic fertilizer macheting, fertilizer and chemicals], HAWE Telekom sp. z o.o. [Telecommunication services], innogy Stoen Operator sp. z o.o. [Electric power generation], KGHM Polska Miedź S.A. [Multinational mining corporation], Polski Koncern Naftowy Orlen S.A. [Polish multinational oil refiner and petrol refiner], PKP Energetyka S.A. [Cross country electricity distributor to the Polish railway industry and other

companies], Tauron Polska Energia S.A. [Energy holding company], and TK Telekom sp. z o.o. [Telecommunications operator].

6.1. Mandatory Notification of a Contemplated Transaction

The new regulations require that notice be given in advance (termed *ex ante*) of any actions as defined under the Amendments. Any foreign investment that meets the criteria noted above is required to notify the President of the UOKiK (Polish Office of Competition and Consumer Protection) *prior* to the execution of any agreement giving rise to an obligation acquiring significant participation or achieving a dominant position in a covered Polish company. With respect to an investment in a listed company, the notification must be filed *before* a tender offer for the sale or exchange of shares is announced. The notification is required to provide financial and other details regarding the potential buyer.

The Act also describes circumstances that are indicative of an "abuse or circumvention" intended to evade mandatory notification. Such circumstances include: "if the investor actually does not conduct business activity in its own name; or does not have a permanent establishment, office or staff in a member state of any of the aforesaid international organizations." In such cases of alleged "abuse or circumvention," the Polish regulatory authority may initiate a preliminary investigation on its own initiative at any time within five years following the date of acquisition of significant participation or achieving dominant position by the foreign investor.

The ability to initiate a preliminary investigation provides the Polish regulatory authority with a period of *30 business days* to issue a clearance for the transaction. In addition, the regulator will launch an additional investigation lasting up to *120 days* in order to more thoroughly review the planned transaction or require the potential foreign investor ("notifying entity") to provide any missing documentation and other information.

The regulatory authority may object to any transaction which poses "at least a potential threat to the public order or public security of the Republic of Poland, or public health in the Republic of Poland." An objection may also be raised if proper documentation is not forthcoming; if certain "clarifications" demanded by the authority in the course of the proceedings are not provided; if it proves impossible to establish whether the investor is a citizen of, or has its registered office in, an EU, EEA or OECD member state; or if the transaction may adversely affect any projects or programs that foster EU interests.

6.2. Sanctions for a Breach of Statutory Obligations

The acquisition of significant participation or achieving a dominant position in any covered entity without the required notification or contrary to the objections of the regulator is *prima facie* invalid by operation of law. Additionally, sanctions that may be imposed on the foreign investor which include a fine up to *PLN50 million* or imprisonment up to *five years* (or both). The same sanctions apply to the persons acting for or on behalf of the investor in an agency capacity.

In 2022. Poland extended controls on new foreign direct investments for another three years, until mid-2025 (Pietrzak & Kuc, 2022). As a justification for the extension of the controls, the government invoked the need to protect Polish companies against hostile takeovers in the midst of the current geopolitical crisis unfolding in Ukraine and its international effects.

The new Act, *Amending the Law on Goods and Services Tax and Certain Other Laws from 12 May 2022,* signed by Polish President Marek Duda, extends, the prior restrictions (see Kalotay & Sass, 2021) and amends the existing (i) *Act on Control over Certain Investments* from 2015; and (ii) the *Act on Subsidies to Interest on Banking Loans Granted to Businesses Affected by COVID 19 and on Simplified Composition Proceedings Related to COVID 19* from 2020. The changes, which became effective as of 1 July 2022, included a time extension of the Polish Covid-19 FDI regime by three more years, to 25 July 2025; and an amendment to the scope of the Polish Covid-19 FDI regime, extending the language from references to "Covid-19" to "Covid-19 and or an international situation disrupting the market or competition."

7. Some Concluding Comments

Hunter and Ryan (2013a, p. 14) commented that "From the start of the process of economic transformation in Poland in the fall of 1989, attracting FDI has been considered as a main policy objective of nearly all political parties and parliamentary configurations that have governed Poland and of all the individuals who have held the critical position of Minister of Finance in the Polish government."

However, as the nation approaches Parliamentary elections in October of 2023, the "Poland of 2023" may once again be seen to be at a crossroads, with inflation, although easing from highs in 2022, still being recorded at 10.8% in July (Budapest Business Journal, 2023). Because of skepticism or even hostility to further integration with the European Union (Szczerbiak, 2021) on issues relating to culture, politics, immigration (Connolly, 2023), the "rule of law" (Coakley, 2021; Casert, 2021), fears of a "democratic backsliding" (Bernhard, 2021) and religion, the economic progress that Poland has experienced may be in jeopardy, "muddled in mass of social paradoxes brought on by internal political machinations and interference by certain internal forces" (Hunter & Lozada, 2022, p. 107), including actions undertaken by the Polish Roman Catholic Church (Wanat, 2019; Burdeau, 2020; Higgins, 2023).

The next five years will determine whether Poland continues on its "glide path to success" or whether these paradoxes overwhelm Poland in ancient grudges, political feuds, conflicts with neighbors and EU member states, and ultimately into a series of unwise economic decisions that might jeopardize Poland's success in attracting foreign investment assuring its future success and progress.

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APPENDIX I: List of Special Economic Zone (SEZ) managing companies:

1. Special Economic Zone Kamienna Góra: Provinces: Dolnośląskie, Wielkopolskie;
2. Special Economic Zone Katowice: Provinces: Śląskie, Małopolskie, Opolskie;
3. Special Economic Zone Kostrzyn-Słubice: Provinces: Lubuskie, Zachodniopomorskie, Wielkopolskie;
4. Special Economic Zone Kraków: Provinces: Małopolskie, Podkarpackie;
5. Special Economic Zone Legnica: Provinces: Dolnośląskie, Powierzchnia;
6. Special Economic Zone Łódź: Provinces Łódzkie, Wielkopolskie, Mazowieckie:
7. Special Economic Zone Mielec: Provinces: Podkarpackie, Małopolskie, Lubelskie, Zachodniopomorskie;
8. Pomeranian Special Economic Zone: Provinces: Pomorskie, Kujawsko-pomorskie, Zachodniopomorskie, Wielkopolskie;
9. Special Economic Zone Słupsk: Provinces: Pomorskie, Zachodniopomorskie, Wielkopolskie:
10. Special Economic Zone Starachowice: Provinces: Swiętokrzyskie, Mazowieckie, Opolskie, Lódzkie, Lubelskie;
11. Special Economic Zone Suwałki: Provinces: Podlaskie, Warmińsko-mazurskie, Mazowieckie;
12. Special Economic Zone Tarnobrzeg: Provinces: Podkarpackie, Mazowieckie, Swiętokrzyskie, Lubelskie, Dolnośląskie;
13. Special Economic Zone Wałbrzych: Provinces: Dolnośląskie, Opolskie, Wielkopolskie, Lubuskie;
14. Warmia-Mazury Special Economic Zone: Provinces: Warmińsko-mazurskie, Mazowieckie.

APPENDIX II: List of Polish Bilateral Investment Treaties in Force (Outside of the EU):

Albania – 1993
Argentina – 1992
Australia – 1992
Azerbaijan – 1999
Bangladesh – 1999
Belarus – 1993
Canada – 1990
Chile – 2000
China – 1989
Egypt – 1998
Indonesia – 1993
Iran – 2001
Israel – 1992
Jordan – 1999
Kazakhstan – 1995
Malaysia – 1994
Moldova – 1995
Mongolia – 1996
Montenegro – 1997
Morocco – 1995
North Macedonia – 1997
Norway – 1990
Kuwait – 1993
Singapore – 1993
Slovenia – 2000
Switzerland – 1990
Thailand – 1993
Tunisia - 1993

Turkey – 1994
Ukraine – 1993
United Arab Republic (UAE) – 1994
United States – 1990
Uruguay – 1994
Viet Nam – 1994

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The Role of Pescatourism in Enhancing the Competitiveness of the Tourism Sector in the Algerian Coastal Territories: An Analytical Approach

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Abstract
The Algerian coastal territories have very distinctive morphological characteristics, this has helped to develop several activities we find the tourism sector at the forefront. In this context, the study addresses the introduction of Pescatourism as a new ecosystem in Algeria and how can it contribute to increasing coastal territories capacity and competitiveness. The results showed that this activity has significant potential opportunities for the tourism sector, as well as for the fishing sector in Algeria's coastal regions, by increasing competitiveness and economic, social and material absorptive capacity on the one hand, In addition to maintaining artisanal fishing activity as a socio-cultural heritage, on the other hand.

Keywords: Pescatourism, Coastal regions, Fishing, Algeria

1. Introduction

In recent years, coastal places with a strong fishing tradition are trying to promote a new tourism modality (Moreno Muñoz, 2018) and tourism is growing and is developing considerably today. Tourism has become one of the most important economic and social phenomena that occupy an important place in the economies of many developed and developing countries. It is one of the pillars of most of their economies because of its effective contribution to the diversification of national sources of income; Coastal territories are of great importance to the tourism economy, given their very distinct natural resources and potential. Foremost is the landscape of the sea, mountains, sand and living marine resources. Whether the individual is satisfied with his/her job or not is an important determinant for the continuity of the profession (Durgun, Günden, & Ünal, 2021), what has made the relationship between these resources and the activities within them, Coastal tourism is one of the drivers of development on the one hand and the tourism sector is one of the most promising sectors in terms of potential growth, in addition to the foregoing fishing is a key development activity in coastal territories and World

fisheries particularly marine fisheries face many dangers in recent decades (Piasecki, et al., 2016), and to being an extractive primary sector, can play an important role in tourism development and ensure that it has a positive impact on the domestic market primarily. In Algeria artisanal fishery is an ancestral activity, it is a legacy of historical and cultural heritage with over 1600 km of coastline It is already one of the Mediterranean countries where fishing is an essential activity (Guedri & Chakour, 2015).

In this context, we find Pescatourism as an ecosystem activity and an integrated approach linked to several sectors that can contribute to enhancing the competitiveness of the tourism sector within Algeria's coastal territories and increase its absorptive capacity, and Pescatourism is a new eco-tourism approach (Guedri S. E., 2021) its considered one of the most innovative activities of the coastal fishing system (Saba, 2013) , and he should be considered different activity from fisheries tourism or recreational fishing (Piasecki, et al., 2016) , especially as the marine ecosystems are undergoing major transformations due to the establishment and spread of Non-Indigenous Species (Kleitou, et al., 2021) and it is a relatively new development in sustainable tourism, becoming established in the early 1990s in Italy (Lai, Gianna, & Del Giudice, 2016), in 1992 Italy became the first nation within the EU and the Mediterranean Sea area to allow tourism trips onboard professional fishing boats (Romanelli & Meliado, 2021).

The importance of this study is to highlight the role played by Pescatourism in diversifying the tourism sector's resources by attracting tourists and increasing their capacity within coastal territories and thus increasing competitiveness within the tourism sector.

This article attempts, therefore, to answer the question: *How can Pescatourism contribute to improving the attractiveness of Algeria's coastal territories and increasing the competitiveness of its tourism sector?*

To answer to this question we have formulated the following hypothesis: *Pescatourism can contribute to increasing the attractiveness of Algeria's coastal territories and increasing the competitiveness of its tourism sector by increasing its absorptive capacity - economic, material and social- as well as being a tourist show that enters the experience economy where experience is integrated into the valuation process of goods and services to provide tourist services and new experiences for tourists.*

The descriptive analytical method was used in this research, using theoretical concepts of Pescatourism as an integrated approach, as well as the presentation of mathematical equations demonstrating how this approach has contributed to enhancing the competitiveness of the tourism sector in the Algerian coastal regions.

2. Pescatourism Concepts:

Pescatourism emerged as a new development in sustainable tourism in the early 1990 in Italy, with many definitions, the most important of which can be mentioned as follows:
- ***Pecatourism*** is a supplementary diversionary activity for marine fishing activity, where tourists are transported on fishing boats to discover the occupation of artisanal fishermen as well as the discovery of the sea world, so that the fishing activity remains the main (Guedri S. E., 2017).
- ***Pecatourism***is a new eco-tourism approach that gives fishermen the opportunity to welcome tourists aboard their boats, to make them discover their fishing activity and the practices of an ancestral profession (Guedri S. E., 2021).
- ***Pecatourism***is atrips on fishing boat with local fishermen take tourists on board, where tourists participate in the fishing process by throwing and pulling nets and performing other tasks, such as eating fresh fish cooked on board and visiting fishing villages (Lai, Gianna, & Del Giudice, 2016).
- ***Pescatourism*** is "the transport of passengers carried out on board a professional fishing or aquaculture vessel with the aim of making the latter discover the profession of shellfish farmer or fisherman and the marine environment in a manner concomitant with the activity and not linked to remuneration for this benefit." (Baranger, Benceny, Bigot, & Le Bihan, 2012).

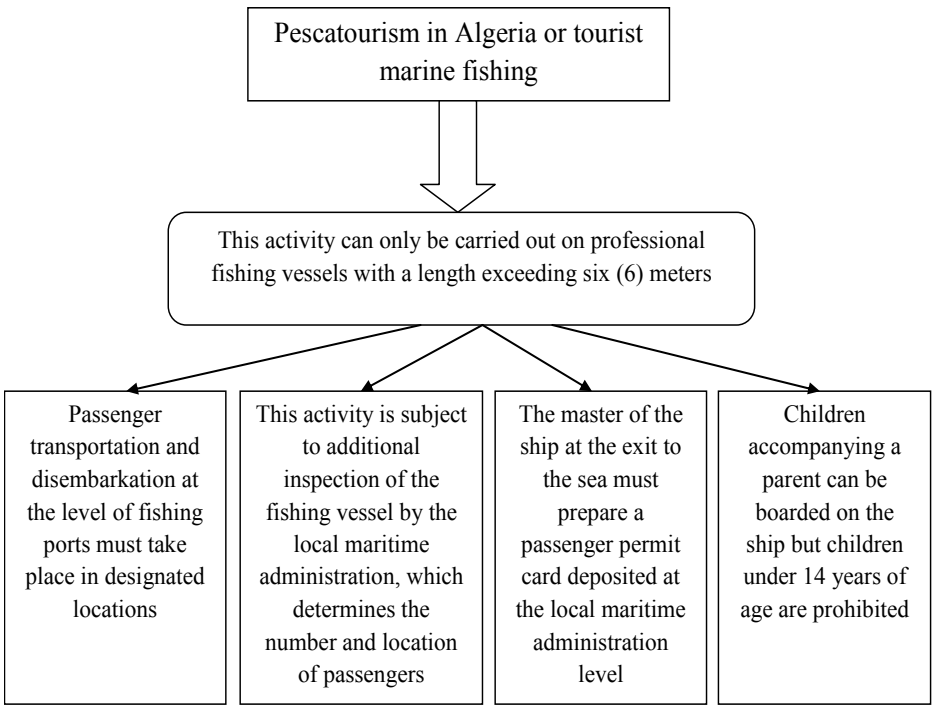
Based on the foregoing, Pecatourism can be defined as: a kind of responsible travel to marine spaces that contributes to the preservation of the marine environment and ensures improved welfare of artisanal fishermen in order for artisanal fishermen to receive a number of tourists on board their boat and make them discover their profession and various traditional practices, Pescatourism can therefore be regarded as a new and authentic ecosystem with fishermen aboard their boats using humanitarian activity within a distinctive natural environment and thus increasing the tourism sector's competitiveness within coastal territories.

It is characterized as a joint activity between three main sectors: artisanal fishing, tourism and the environment; If offshore fishing is an initial activity based on the extraction of fish resources using appropriate equipment vessels and fishing equipment, the tourism sector is a more complex activity, as it is based on a series of services provided by tourist companies as well as elements and natural conditions such as: accommodation, transport, climate, historical sites, landscapes, etc., and therefore Pescatourism can be considered as a tourist activity applied from the traditional human activity of "artisanal hunting" rich in a great cultural and social heritage, and within the framework of a distinctive natural environment.

1.1 Pescatourism in Algeria

Pescatourism or tourist marine fishing is a recent occurrence, where it was established after the issuance of the Executive Decree of 16-203 of 25 July 2016, which sets out the conditions and qualifications for the exercise of urban shipping and maritime activitiesthis Decree defines this activity in article three as: « Passenger fishing on ships equipped for sea fishing or water vessels as a complementary picnic activity in order to discover the profession of fishermen or aquaculture breeders and so on»(Official Journa No. 44 of 2016).
The organization of Pescatourism in Algeria can be explained in the following format:

Figure 1: Organization of Pescatourism in Algeria



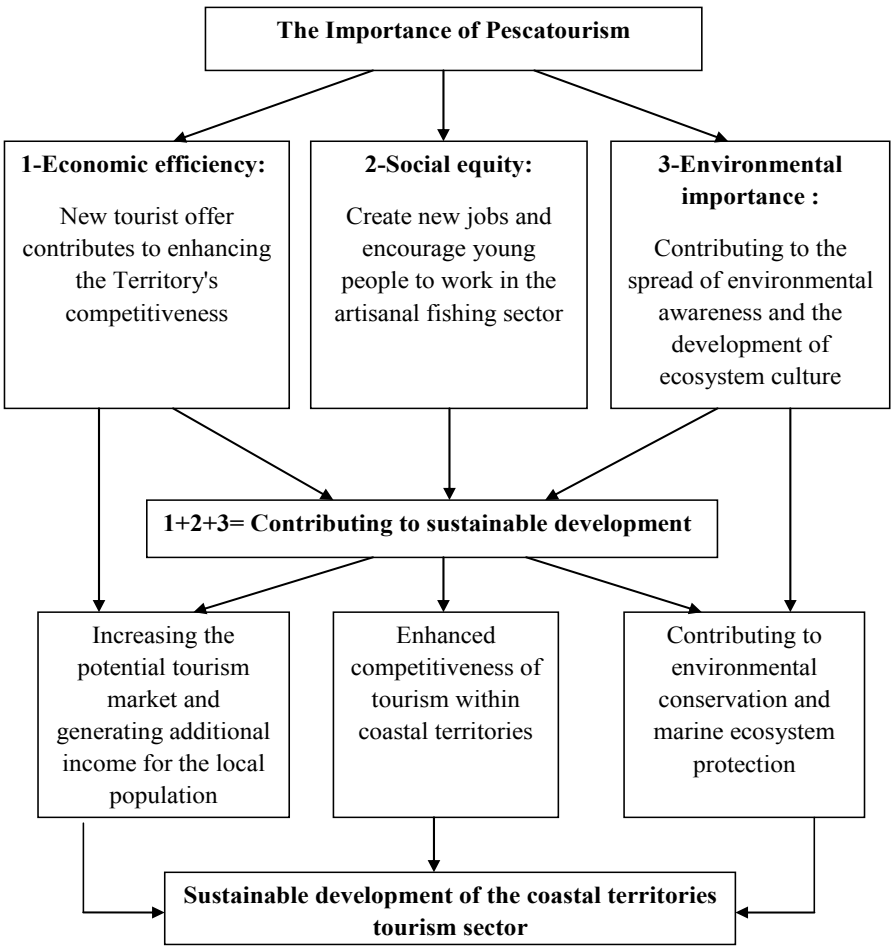
Source: realized by the authors, based on Executive Decree of 16-203.

3.Pescatourism contribution to the development of the tourism sector in Algeria's coastal territories

The tourism sector is one of the few sectors that continues to grow in the world despite various crises, as the interests of tourists in the territories have transcended their traditional concept based on the sun and the beach, where Pescatourism as an activity can develop the tourism sector and the fishing sector as taking into account the

specificities of local fishing from heritage and traditions, as well as educating and familiarizing tourists with methods.

Figure 2: Pescatourism contribution to the sustainable development of the tourism sector in coastal territories



Source: realized by the authors, based on (Guedri S. E., 2017)

Pescatourism has great importance for the tourism sector, as it is an ecosystem that offers new tourism offers as well as old ones, thus contributing to the development of the tourism sector especially in the Algerian coastal territories, towards sustainable local tourism development.

4.Pescatourism contribution to enhancing the Territories competitiveness and increasing its absorptive capacity.

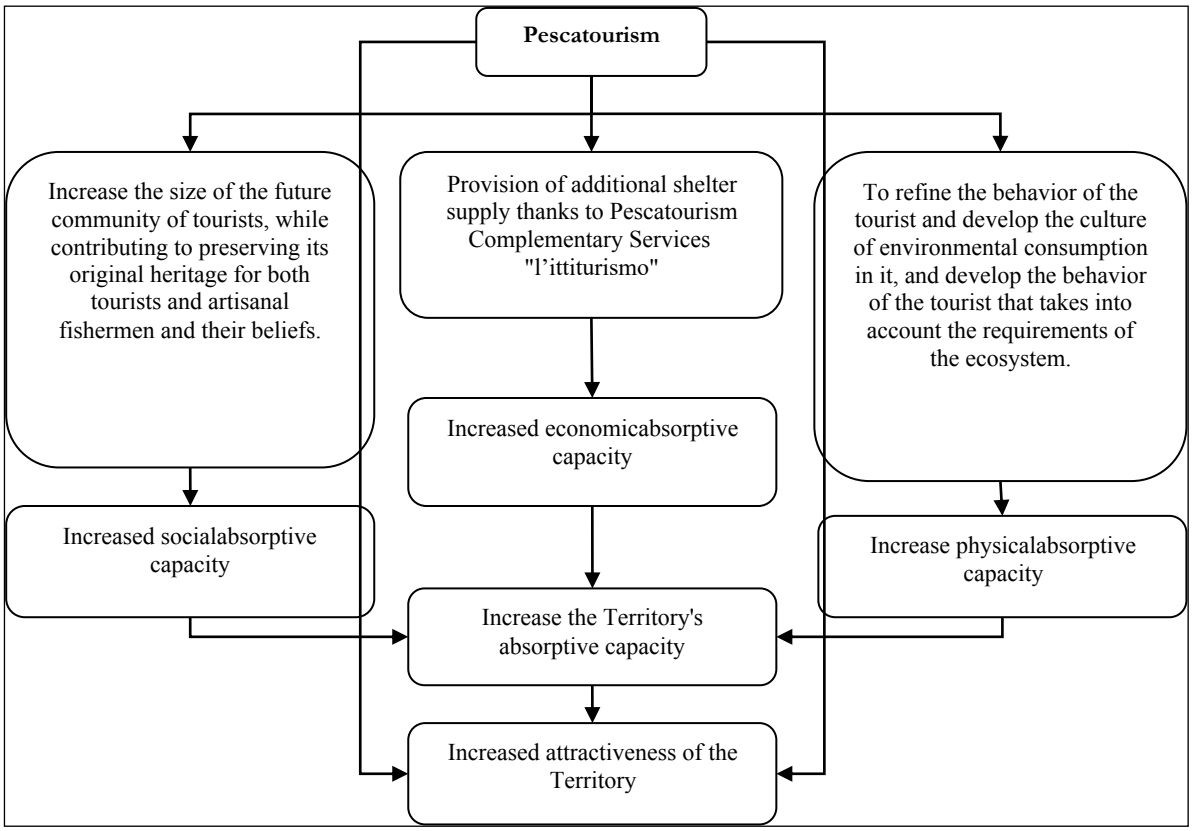
Ostensibly, the term competitiveness seems to be a simple concept. According to the Oxford dictionary, the word competitiveness is derived from the Latin word "competitit", which was in the early 19th century. According to the World Economic Forum Global Competitiveness Report, competitiveness was defined as: "The range of institutions, policies and factors determining the level of productivity in a country", and from the perspective of "Franziska Blurk" competitiveness can be defined as "the ability to provide more efficient and effective products and services than competitors in the field" (Guedri S. E., 2017) , competitiveness has a direct bearing on the attractiveness of the Territory, which is a multifaceted concept, defined as the Territory's ability to attract various factors of production and/or population, and thus the Territory's ability to be chosen by a particular actor as a temporary or permanent location by "moral persons or individuals" (Guedri S. E., 2017) and one of the problems presented by the marine is fishing tourism (Moreno Muñoz, 2018).

According to the World Tourism Organization, "OMT", absorptive capacity is "levels that can be maintained without destroying the physical environment and without generating social, cultural and economic problems for society".... This definition includes a set of sub-definitions, where each definition represents a particular area as follows:

- ✓ **Physical absorptive capacity:** This sub-concept shows the damage tourism can cause to the environment as a result of the inappropriate behavior of tourists "pollution, excessive water consumption, loss of greenery... etc."
- ✓ **Social absorptive capacity:** We deal with this concept with the two pivotal parties in the field of tourism "Tourists and the host community", since the capacity of the host community expresses the maximum tolerance, actions and demands of the alien without the sense of pressure, coercion or psychological harm, while the capacity for tourists is affected by their customs, principles and distortion, as the origin in tourism is to enrich the tourist's knowledge and not to abandon/or abolish his original heritage and beliefs.
- ✓ **Economicabsorptive capacity:** This concept means that tourism does not adversely affect various economic activities, in terms of non-price manipulation, raw materials, non-monopoly of transport by tourism companies... etc.

In this context, Pescatourism can provide the addition in the field of physical absorptive capacity, economic and social, as follows:

Figure 3: The role of Pescatourism in increasing the absorptive capacity and attractiveness of coastal territories.



Source: realized by the authors, based on (Guedri S. E., 2017)

5. Method and Tools

Thus, the Territory's absorptive capacity is strictly commensurate with ecosystems, which serve to refine the behavior of tourists and develop the culture of environmental consumption and the behavior of tourists that takes into account the requirements of ecosystems, as well as economic and social absorptive capacity. In this context we find artisanal fishing as a highly inherited activity, based on fishing techniques distinct from other modern fishing gear, an important attraction that can contribute to enhancing the Territory's competitiveness and increasing its attractiveness.

The relationship between Pescatourism and the Territory's attractiveness and the development of local tourism can be explained mathematically as follows:

We have:

Nt : Number of tourists;

At :The Territory's attractiveness;

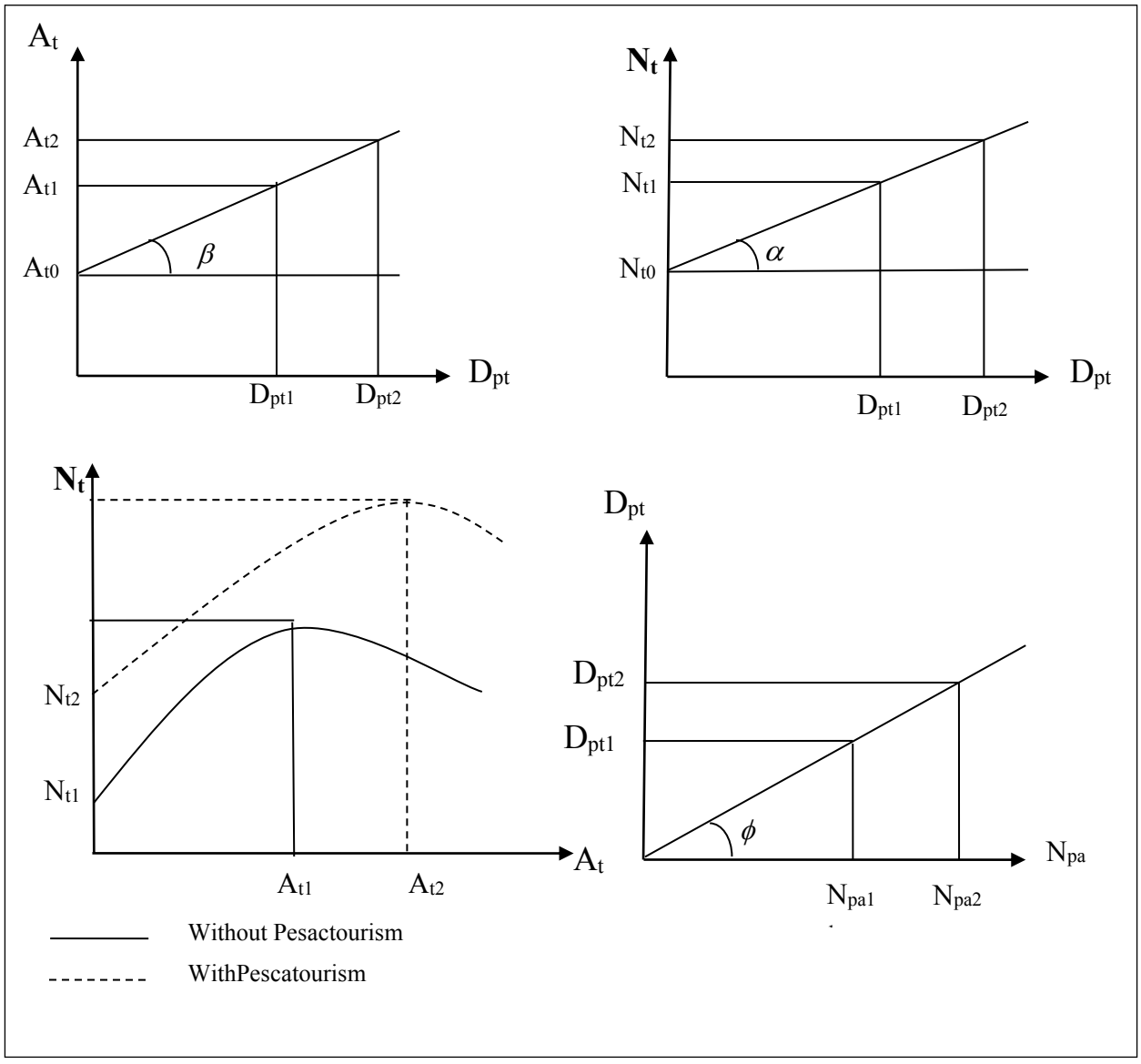
Dpt : Developing the activity of Pescatourism; It is a function of the number of artisanal fishermen who engage in this ecosystem approach;

Nt 0 : Number of tourists in the absence of Pescatourism activity;

At 0 : The Territory's attractiveness in the absence of Pescatourism activity;

Npa : Number of artisanal fishermen engaged in this activity.

Figure 4: Relationship between Pescatourism, the Territory's attractiveness and local tourism development.



Source:(Guedri S. E., 2017)

6. Results and Discussion

We note through the curve that there is an expulsive correlation between the attractiveness of the Territory and the number of tourists, as increasing the attractiveness of the Territory in the application of the tourism activity will create added value as follows:

$$\Delta N_t = N_{t2} - N_{t1} \quad (01)$$

In addition, the Territory's "especially physical" absorptive capacity in the presence of Pescatourism will increase, as this ecosystem approach will contribute to the development of ecosystem culture and the preservation of the state of the coastal environment with all its multiple environmental wealth. This increases the Territory's "especially environmental" absorptive capacity as follows:

$$\Delta A_t = A_{t2} - A_{t1} \quad (02)$$

$$A_t = f(D_{pt}) = \beta . D_{pt} + A_{t0} \quad (03)$$

$$N_t = f(D_{pt}) = \alpha . D_{pt} + N_{t0} \quad (04)$$

$$\alpha = tg\alpha = \Delta N_t / \Delta D_{pt} = (N_{t2} - N_{t1}) / (D_{pt2} - D_{pt1}) \quad (05)$$

$$\beta = tg\beta = \Delta A_t / \Delta D_{pt} = (A_{t2} - A_{t1}) / (D_{pt2} - D_{pt1}) \quad (06)$$

Through the above figure, artisanal fishermen's incomes are directly commensurate with the number of **Pescatourists** as follows:

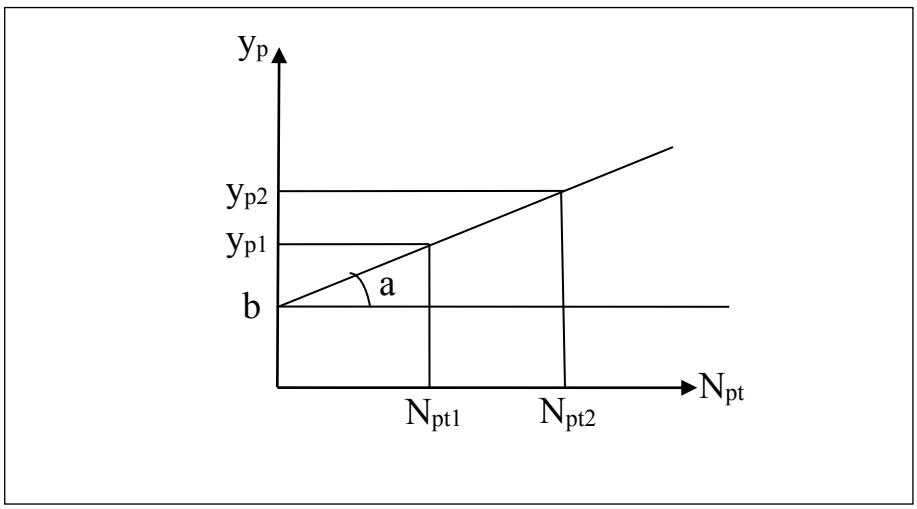
We have:

Npt : Number of Pescatourists;

Yp : Artisanal fishermen's income.

Where: $Y_p = f(N_{pt})$ (07)

Figure 5:The relationship between the number of Pesactourists and the income of artisanal fishermen.



Source:realized by the authors, the results of our research.

The above figure shows us the parcel relationship between the tourist flow and the incomes of artisanal fishermen, as an increase in the number of tourists as part of the valuation of artisanal fishing activity "Pscatourists" will increase the incomes of fishermen. The relationship between the two variables can be written as follows:

$$Y_p = f(N_{pt}) = a . N_{pt} + b \quad (08)$$

Where*:*

b = Artisanal fishermen's income in case the number of Pscatourists is equal to zero;

a = tendency.

Where:

$$a = tga = \Delta Y / \Delta N_{pt} = \left(Y_{p2} - Y_{p1}\right)/\left(N_{pt_2} - N_{pt1}\right) \quad (09)$$

Our equation number (04):

$$N_{pt} = f\left(D_{pt}\right) = \alpha.D_{pt} \quad (10)$$

Where:

$$\alpha = \Delta N_t / \Delta D_{pt} = \left(N_{t2} - N_{t1}\right)/\left(D_{pt2} - D_{pt1}\right)$$

From (10) and (08) we find that:

$$Y_p = f\left(N_{pt}\right) = a.N_{pt} + b = a.\left[\alpha.D_{pt}\right] + b \quad (11)$$

As a result of the Territory's increased attractiveness, as a result of the valuation of artisanal fishing activity in tourism, the incomes of artisanal fishermen will increase as follows:

$$\Delta Y = Y_2 - Y_1 \quad (11)$$

Where:

$$Y_1 = f\left(N_{t1}\right) = a.N_{t1} + b = a.\left[\alpha.D_{pt1}\right] + b \quad (12)$$

$$Y_2 = f\left(N_{t2}\right) = a.N_{t2} + b = a.\left[\alpha.D_{pt2}\right] + b \quad (13)$$

From (11), (12) and (13) we find that:

$$\Delta Y = a.N_{t1} + b - a.N_{t2} - b = a\left(N_{t1} - N_{t2}\right) \quad (14)$$

$$\Delta Y = a.\left[\alpha.D_{pt2}\right] - a.\left[\alpha.D_{pt2}\right] = a.\alpha\left[D_{pt2} - D_{pt1}\right] \quad (15)$$

We also have: Developing the activity of Pscatourism as a function of the number of artisanal fishermen who engage in this ecosystem activity.
Where:

$$\mathrm{D_{pt}} = M\left(N_{pa}\right) = \phi.N_{pa} \quad (16)$$

From (15) and (16) we find that:

$$\Delta Y = a.\alpha\left[D_{pt2} - D_{pt1}\right] = a.\alpha.\phi\left[N_{pa2} - N_{pa1}\right] \quad (17)$$

Where:

$$a = tga = \Delta Y / \Delta N_t = \left(Y_2 - Y_1\right)/\left(N_{t2} - N_{t1}\right) \quad (18)$$

$$\alpha = tg\alpha = \Delta N_t / \Delta D_{pt} = \left(N_{t2} - N_{t1}\right)/\left(D_{pt2} - D_{pt1}\right) \quad (19)$$

$$\phi = tg\phi = \Delta D_{pt} / \Delta N_{pa} = \left(D_{pt2} - D_{pt1}\right)/\left(N_{pa_2} - N_{pa1}\right) \quad (20)$$

Through the above, it can be said that exploiting and valuing artisanal fishing as a sociocultural activity in the tourism sector will contribute to local tourism development, and the development of Pescatourism will also enhance the territory's competitiveness and absorptive capacity, resulting in returns for the territory as a whole, the so-called multiplier effect, as well as enhance the survival of this activity by protecting its authenticity and enhancing the confidence of artisan fishermen in its membership.

7. Conclusion

As discussed in this study, we have seen how important Pecatourism is as a new ecosystem that contributes to supporting and enhancing the competitiveness of coastal territories by increasing their absorptive capacity on the one hand, as well as preserving marine ecosystems by keeping pressure on fishery resources and developing a behavior that takes into account ecosystems requirements; It thus contributes to the achievement of sustainable local tourism development on the one hand, and the preservation of fishing activity and all its cultural components on the other. This activity also contributes significantly to the achievement of food security, increased national wealth, national income, economic output levels and the creation of positions of employment, since relieving pressure on fisheries resources achieved through this activity will allow fisheries resources to proliferate rapidly.

8. Results

In Algeria, the public authorities are working today to give effect to the legal provisions concerning the dissemination of this activity to the coastal states in the framework of various projects with artisanal fishermen and in the framework of marine reserves, as part of a participatory consultative process between the various actors involved in this project, as well as a multidisciplinary approach to ensure that all those involved in this project benefit.

9. Recommendations

As recommendations we propose to enhance the competitiveness of the tourism sector in the coastal regions through the Pescatourism activity in Algeria:

- Take advantage of various global experiences in this activity, especially Italy's experience in these projects;
- The need to strengthen existing artisanal fishing units for this activity and to avoid the establishment of new fishing units, this will spur this approach from its true content;
- Encouraging tourist agencies to promote and approach this activity and to grant them fiscal and financial concessions in case of attracting a large number of tourists in the context of this activity;
- The need for all actors to participate in this activity by contributing to its explanation, definition and promotion, also to ensure the success of this project;
- Focus on the composition of artisanal fishermen in this activity;
- Coordinating various sectors active in this area, such as fishing, tourism, the environment, transport and forestry, in order to sustain this activity and to support policies to develop the tourism sector and enhance its competitiveness in coastal territories and thereby generate financial returns in hard currency for the public treasury outside the revenues of the petroleum sector.

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The Influence of Influencer Marketing, Online Customer Review and Online Customer Rating to Purchasing Interest on the Tik Tok Shop Application

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Abstract
Along with the Tik Tok Popularity, there has been TikTok Shop Application that enables the users to buy product directly from Tik Tok platform. The aims of this research are to analyze the influence of influencer marketing, online customer review and online customer rating to the buying interest, and to analyze simultaneously to the influencer marketing, online customer review, and online customer rating to the purchasing interest. The method applied of this research is Multiple linear regression analysis. The data of this research are primary data, while the test stages carried out are: validity, reliability, normality, heteroscedasticity, multicollinearity, coefficient of determination, f test, and t test. The research data collection used a questionnaire instrument, and the valid data collected were 150 respondents. The sampling method in this study is non-probability sampling with purposive sampling technique. The results showed that the variables of influencer marketing, online customer review, and online customer rating had an effect on purchasing interest. Simultaneously, the variables of influencer marketing, online customer review, and online customer rating have an effect on purchasing interest in the TikTok Shop application.

Keywords: Influencer Marketing, Online Customer Review, Online Customer Rating

1. Introduction

In this digital era nowadays, social media has become an integrated part of many people's daily lives. Social media platforms like TikTok have experienced rapid growth and become popular places for people to share creative content, entertainment, and interact with other users. Along with TikTok's popularity, there has been the TikTok Shop application, which allows users to buy products directly from the TikTok platform.

In an effort to promote and market the products available on Tik Tok Shop, the use of influencer marketing and online consumer reviews is becoming an increasingly common strategy. Influencer marketing involves TikTok users who have a large follower base and significant influence to promote products and brands to their followers.

Meanwhile, online consumer reviews and product ratings also play an important role in creating consumers' perceptions and purchase intention towards the product.

Based on Figure 1, it shows that the survey conducted by the Populix team, 86 percent of respondents have shopped social commerce. The most widely used platform is TikTok Shop (45 percent), followed by WhatsApp (21 percent), Facebook Shop (10 percent), and Instagram Shop (10 percent). TikTok Shop is mostly used by women. While men, especially those aged 36-45 years. Populix wrote, in the future time, women aged 18-25 years will continue to dominate TikTok Shop users.

One of the previous studies conducted by Waluyo and Trishananto (2022), showed that influencers have a positive and significant influence on purchase intention. This means that Shopee users' buying interest is influenced by an influencer. According to Kotler, Kevin, and Chernev (2021, p. 81), influencer marketing is a person who offers informal advice or information about a particular product or product category, such as which brand is best or how a particular product can be used. The influence of individuals or groups who are considered experienced in a field can be an important factor in creating consumer behavior. In the context of TikTok Shop, if an influencer recommends a certain product, consumers tend to feel more confident and interested in buying the product. This can influence consumer purchase intention in the TikTok Shop application.

Figure 1: Social Media Commerce in Indonesia

Source: Rian and Kevin, KumparanTECH on Populix (kumparan.com) 2022

Online consumer reviews play an important role in creating consumer perceptions and purchase intention. According to Kotler et al. (2021, p. 92), consumers tend to search information and recommendations from others before making a purchase decision. Positive online consumer reviews can build trust and increase consumer buying interest in a product or brand. Conversely, negative reviews can reduce consumer buying interest. Therefore, online consumer reviews on the TikTok Shop application can influence user buying interest by providing useful information and providing views on product quality. This is supported by the results of research from Harli, Mutasowifin, and Andrianto, (2021), showing that buying interest comes from online customer reviews and online customer ratings which can influence consumers to buy products.

According to Kotler et al. (2021, p. 104), consumers tend to trust and choose products with high ratings. Good ratings can provide positive signals about product quality and increase consumer buying interest. In previous research conducted by Harli, Mutasowifin, and Andrianto (2021) ratings have a positive and significant effect on buying interest in health products at Shopee during the COVID-19 pandemic, high ratings will further influence consumer purchasing interest In the TikTok Shop application, high product ratings can build trust and make consumers more motivated to buy the product. In the online shopping process, there are several risks that consumers often face, that they do not have the ability to assess goods or services directly. Consumers rely on the seller's information about the product being sold with a description of the product and product images provided by

the seller by looking for information about reviews provided by other consumers who have purchased the goods or services.

According to Kotler, Kevin and Chernev (2021, p. 108), influencers are people who influence purchasing decisions, often by helping to determine specifications and providing information to evaluate alternatives. In the next explanation, Kotler. Kevin and Chernev (2021, p. 318), the term influencer marketing refers to the use of popular online figures to promote products, services or brands in their social media feeds. Influencer marketing has grown rapidly in recent years into a multi-billion dollar industry. This rapid growth has presented some challenges for marketers. Since more companies realize the value of using influencers to promote their offerings, the demand for influencers has increased, and the price to secure an endorsement has risen many times over to reach over $100,000 for some top influencers.

In Figure 2, the TikTok users can identify the influencer performing the usage of the advertised product. In the video, it is shown that there is a yellow basket as a TikTok Shop feature that makes it easy for users to see the products being sold. In addition, users can see the rating given ranging from 1 star to 5 stars. With the presence of the review feature, of course, users can consider more before buying the product. The existence of these features can give buyers the confidence to use this TikTok Shop and return to shop online using the TikTok application.

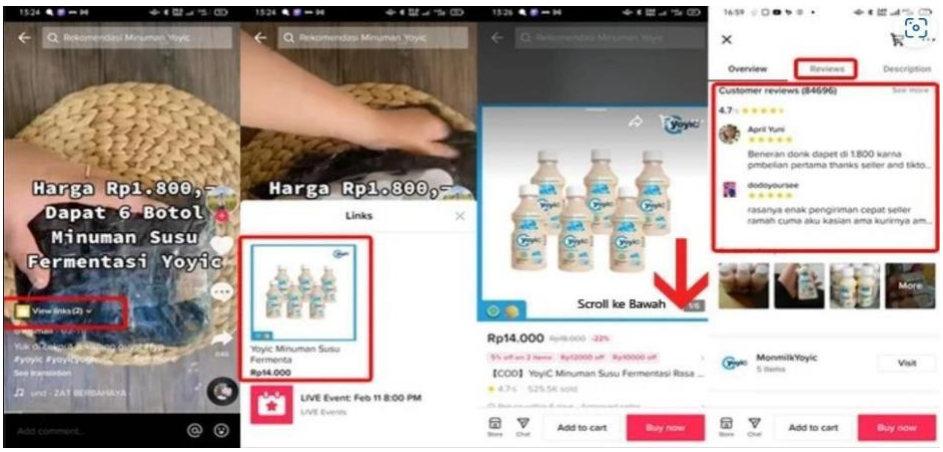


Figure 2: Online Customer Review dan Online Customer Rating

Source: TikTok Shop 2023

The previous research conducted by Waluyo et. al (2022), it was found that influencer marketing has a positive and significant effect on purchase intention. In line with the results of research from Agustin and Amron (2022), the influencer marketing has a significant relationship or influence on buying interest. This means that an influencer who has high popularity, credibility, many fans and many followers on social media can make influencers directly determine purchasing decisions.

Harli, Mutasowifin, and Andrianto (2021), show that online consumer reviews have a positive and significant effect on purchase intention, because reviews come from the direct experience of previous consumers who bought the product. In Komariyah's research (2022), it shows that ratings have a positive and significant effect on purchase intention for the Shopee online marketplace. With these rating limitations, it still has an influence on consumer purchasing interest, because the rating shows the quality of a product. Similar to the results of research from Mauli and Zulfebriges (2022) and Novihenti and Amin (2022), that online customer ratings have a positive effect on purchase intention.

In the e-marketplace, online customer reviews can greatly influence purchase intention because reviews come from the direct experience of previous consumers who bought the product. A review is one of the main sources of consumers when they want to decide on purchasing interest. Therefore, companies must ask consumers to write the reviews honestly and properly in order to create buying interest for the next consumer (Harli et al., 2021).

According to research by Hasrul, Suharyati and Sembiring (2021); Mawa and Cahyadi (2021), that online customer reviews also have a positive and significant effect on purchase intention.

A description of the results of previous studies in more detail as follows. Lackermair, Kailer, and Kanmaz (2013) studied the acceptance and use of ratings and reviews in the context of e-commerce transactions. A survey was conducted among 104 online shoppers in Germany to examine how consumer reviews and ratings are used to support purchasing decisions. The survey results show that the reviews and ratings are important sources of information for consumer.

Arif, Mustikowati, and Chrismardani (2023) conducted a study with a quantitative approach. A total of 120 respondents were involved in this study by using convenience sampling techniques in data collection. Multiple linear regression was used to analyze the data. The results of the study show that influencer marketing and online customer reviews have an impact on online purchase decision. Agustin and Amron (2022), analyzed the effect of influencer marketing and price perceptions on interest in buying skincare at TikTok Shop. It was carried out to determine the effect partially or simultaneously using quantitative methods by distributing questionnaires in the form of google forms to 100 people. The samples in this study were TikTok application users who had purchased skincare at TikTok Shop in Semarang City. The technique of data analysis applied is multiple linear analysis and complemented by classical assumption tests in the form of normality, multicollinearity, and heteroschedasticity tests. This study provides information both partially and simultaneously that influencer marketing variables and price perceptions that have a significant relationship or influence on purchase intention.

Amelia, Sakti and Mulyono (2022), analyzed the effect of viral marketing and online customer reviews using TikTok media on buying interest in Scarlett Whitening products. The type of the research used is causal associative research with a quantitative approach. The datum collection method used is a survey method using primary data collected directly from respondents using a questionnaire. The population in this study were all NTB people, with a research sample of 84 people. Sampling using non-probability sampling with purposive sampling technique. The results of the analysis show that viral marketing has a positive and significant effect on purchase intention and online customer reviews also have a positive and significant effect on purchase intention.

Harli, Mutasowifin and Andrianto (2021), in this study analyzed the effect of online consumer reviews and ratings on buying interest in health products on the Shopee e-marketplace during the COVID-19 pandemic in Jabodetabek. Sample withdrawal was carried out using purposive sampling technique. The methods used in this research are descriptive analysis and SEM-PLS, with 191 respondents. The results of the analysis show that the online consumer review and rating variables have a positive and significant effect on the purchase intention of health products with the rating variable having a more dominant influence.

Komariyah (2022), analyzed the effect of online customer reviews and ratings on Shopee online purchase interest in female santri of the Salafiyah Syafi'iyah Seblak Islamic Boarding School. Data collection was carried out by distributing questionnaires to 60 respondents. The results of this study state that online customer review and rating each have a significant positive effect on purchase intention. Online customer review and rating together have a significant positive effect on purchase intention seen from the results of the f test which states the F count value of 94.405> Ftable of 3.16 and a significance value of 0.000 <0.05. The hypothesis in this study can be accepted, therefore online customer reviews and ratings are included in the important factors that influence purchase intention.

Mauli and Zulfebriges (2022), in their research, analyzed the effect of online customer reviews and Shopee online media ratings on consumer buying interest in the Erigo brand. This study uses multiple linear regression analysis methods, using random sampling techniques. This study took 100 respondents. The results show that online customer Review and Rating have a positive effect on buying interest. Mawa and Cahyadi (2021), using the Snowball Sampling technique so that a sample of 40 respondents was obtained. Based on the results of multiple linear regression analysis, it shows that price, online customer review and rating have a positive and significant effect on purchase intention.

Novihenti and Amin (2022), in their research analyzed the effect of online customer reviews, online customer ratings and ease of use of the Shopee online shop application on buying interest. The data analysis method used is multiple linear regression analysis. The sample in the study was 130 respondents. The results of this study indicate that there is a significant influence between online customer review and purchase intention. Furthermore, there is a significant influence between online customer rating and ease of use with purchase intention.

Rohmatulloh and Sari (2019), conducted a research to determine the effect of online customer reviews on purchase intention with trust as an intervening variable for Shopee users. This study uses descriptive and causal analysis methods with Structural Equation Modeling (SEM) PLS analysis tools. Based on the results of descriptive analysis of online customer review variables, trust and purchase intention are in the very good category. The results of hypothesis testing, online customer review and trust directly have a significant effect on purchase intention, while online customer review on purchase intention through trust, shows a significant indirect effect.

Iffah and Farouk (2022), examined the effect of influencer marketing strategies and online customer reviews on purchase intention in Sociolla users. The scale used in this research questionnaire is a Likert scale. The analysis method used is descriptive analysis, instrument test, classical assumption test, linear regression analysis method, and hypothesis testing. The results of this study indicate that influencer marketing and online customer reviews have a significant effect on purchase intention.

Oryza and Nilowardono (2022), this study, they examined the impact of digital marketing, online customer reviews and ratings on Shopee consumer buying interest. The analysis method used in this research is quantitative analysis by conducting a survey of 106 respondents, namely Narotama University students who have made purchases through shopee. The results of this study indicate that digital marketing, online customer reviews and ratings have a positive effect on buying interest through Shopee. When consumers find Shopee's digital marketing attractive, online customer reviews and other user ratings provide benefits in terms of providing product-related information, this can increase buying interest.

In addition to ratings with star, the users can also first look at the testimonials that other buyers have given. If the product gets a lot of stars of 5 or 4 and positive comments, then it is likely that the product is indeed as expected and as needed. Another facility provided by TikTok Shop is as compensation for discounts if the product obtained is not suitable or damaged, while the money will be returned if the item is not available through notification by the seller.

Various kinds of previous research results that use influencer marketing variables, online customer reviews and online customer ratings, encourage this research to be conducted again. The purpose of this study is to analyze the effect of influencer marketing, online customer reviews, and online customer ratings on buying interest in the TikTok Shop application. The result of this study can be a reference and source of information so that companies can increase buying interest by paying attention to aspects of influence marketing, online customer review, online customer rating in the future.

Based on the results of previous research studies and supporting theories, the hypothesis of this study is as follows:

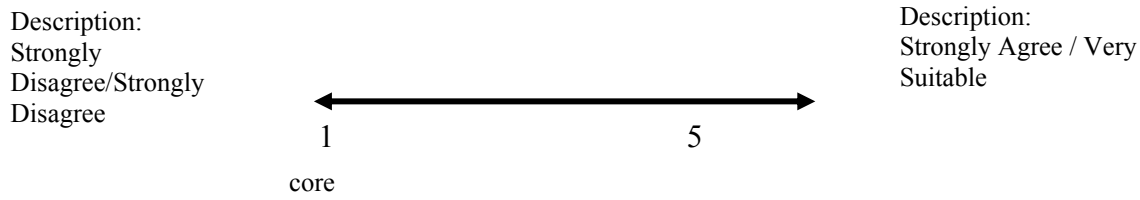
H1: There is an influence between influencer marketing on buying interest in TikTok Shop.
H2: There is an influence of online customer reviews on buying interest in TikTok Shop.
H3: There is an influence of online customer rating on buying interest in TikTok Shop.

2. Method

The subjects in this study are TikTok Shop users. The aspects consist of influencer marketing variables (X1), online customer reviews (X2), online customer ratings (X3), and purchase intention (Y). The approach in this study is a quantitative approach, because the data taken during the research can be in the form of numbers and can be analyzed by calculations using statistical methods. The source of information for this research was obtained from the appropriate questionnaire via google form filled in by respondents from TikTok Shop users. This strategy is used to collect information by asking respondents several questions with a survey guide containing questions

related to the Influence of Influencer Marketing, Online Customer Review and Online Customer Rating on Buying Interest in the TikTok Shop application. Sampling according to Hair et al (2018), is used because the population size is uncertain and suggests a minimum sample size of 5-10 multiplied the indicator variable. The number of indicators in this study were 15 times 10 (15 x 10 = 150). So through calculations based on this formula, the number of samples obtained was 150 respondents from TikTok application users.

To measure the ability to influence influencer marketing variables, online customer reviews and online customer ratings on purchase intention, it can be carried out by using Semantic Differential. According to Sugiyono (2019, p. 97), semantic differential is a scale used to measure attitudes, only the form is not multiple choice or checklist, but arranged on a continuum line where the "very positive" answer is located on the right side of the line, and the "very negative" answer is located on the left side of the line, or vice versa. The datum obtained is interval data, and usually this scale is used to measure certain attitudes/characteristics that a person has. Each respondent's answer will be given a value with an interval score of 1 (strongly disagree) to 5 (strongly agree).



The respondents can give answers, in the range of positive to negative answers. This depends on the respondent's opinion or perception of each question. Respondents who gave an assessment with a number 5, it meant that the respondent's perception was very positive to the question, if the respondent gave an assessment with a number 3, it meant that the respondent's perception was neutral, and if the respondent gave an answer at number 1, the respondent's perception was very negative to the question. The complete operational definition of variables can be seen in the following Table 1.

Table 1: Definition of Operational Variables

No	Variable	Definition	Indicator	Scale
1.	*Influencer marketing* (X1)	Kotler. According to Kevin and Chernev (2021, p. 318), influencer marketing refers to the use of popular online figures to promote products, services or brands within their social media feed	*1. Visibility* (Popularity) *2. Credibility* *3. Attractiveness* *4. Power*	Interval
2.	*Online Customer Review* (X2)	Kotler, Kevin and Chernev (2021, p. 319), customer reviews can be very influential in creating customer preferences and purchasing decisions.	*5. Motivation* *6. Source* 7. Content	Interval
3.	Online Customer Rating (X3)	Megawati (2019, p. 78), a rating is a consumer's opinion on a certain scale, a popular rating scheme for ratings in online stores is by giving a star rating.	5. *Credible* 6. *Expertise* *7. Likable*	Interval
4.	Purchase Interest (Y)	Kotler and Keller (2021, p. 5), a purchase intention is consumer behavior that arises in response to objects that indicate a person's desire to make a purchase.	1.Transactional interest 2.Referrential interest 3.Preferential interest 4.Exploratory interest.	Interval

In this study, the validity test was carried out using a method by comparing the calculated r value with the r table value for degree of freedom (df) = n-2, in this case n is the number of samples. According to Mokodompit et al.

(2022, p. 980), reliability is a measurement result that can be trusted or must be reliable in the sense that it must have a level of consistency and stability.

3. Results

The characteristics of respondents based on the age of 150 respondents are 117 people (78%) aged 17 - 23 years, 33 people (22%) aged 24 - 30 years, and 0 people (0%) aged> 31 years. It can be concluded that the characteristics of respondents based on the most dominant age as users of the TikTok application and have or are still shopping at TikTok Shop, namely ages 17-23 years. This is due to the distribution of questionnaires to WhatsApp groups and friends of Gunadarma University, the majority of whom are aged 17-23 years.

The characteristics of respondents based on the occupation of 150 respondents are 116 people (72%) as students, 26 people (17%) as private / public employees, 6 people (4%) choose others, and 2 people (1%) as entrepreneurs. It can be concluded that the characteristics of respondents based on the most dominant occupation as users of the TikTok application and have or are still shopping at TikTok Shop, namely students. This is due to the distribution of questionnaires to WhatsApp groups and friends of Gunadarma University, the majority of whom are students. The characteristics of respondents based on income from 150 respondents are 73 people (49%) have an income of < Rp.1,000,000, 45 people (30%) have an income of Rp.1,000,000 - Rp.3,000,000, 26 people (17%) have an income of > Rp.5,000,000, and 6 people (4%) have an income of Rp.3,000,000 - Rp.5,000,000. The results can be explained that the questionnaire was distributed to whatsapp groups and friends of Gunadarma University who on average have an income or pocket money of less than Rp. 1,000,000.00.

The next stage is that the data that have been obtained are then classified by using the average score of the respondents' answers into five categories, namely strongly agree, agree, neutral, disagree, and strongly disagree. According to Azwar (2021, p. 159), the categorization will be carried out on each variable using the formula presented in the following Table 2.

Table 2: Categorization Norms

Categorization Norms	**Categorization**
$X \geq M + 1{,}5\ SD$	Strongly agree
$M + 0{,}5\ SD < X \leq M + 1{,}5\ SD$	Agree
$M - 0{,}5\ SD < X \leq M + 0{,}5\ SD$	Neutral
$M - 1{,}5\ SD < X \leq M - 0{,}5\ SD$	Disagree
$X \leq M - 1{,}5\ SD$	Strongly disagree

Description: X = Total Score; M = Mean; SD = Standard Deviation

Based on the result of the calculation, on the influencer marketing variable, out of 150 respondents, 51.3% agreed and 30% strongly agreed. This shows that the most respondents' response to the influencer marketing variable is 51.3% which is in the "agree" column, meaning that the influencer marketing variable gets a positive response from respondents. The results of the calculation of the online customer review variable show that of the 150 respondents, 96.7% strongly agreed and 2.7% agreed. This shows that the most respondents' response to the online customer review variable is 96.7% which is in the "strongly agree" column, it means that the online customer review variable gets a positive response from respondents. The results of the calculation of the online customer rating variable in the table can be concluded that of the 150 respondents, 92.7% strongly agreed and 4% agreed. This shows that the most respondents' response to the online customer rating variable is 92.7% which is in the "strongly agree" column, meaning that the online customer rating variable gets a positive response from respondents.

Finally, the results of the calculation of the purchase interest variable in the table can be concluded that of the 150 respondents, 96% strongly agreed and 3.3% agreed. This shows that the most respondents' response to the purchase interest variable is 96% which is in the "strongly agree" column, it means that the purchase interest variable received a positive response from the respondents.

The stages of validity and reliability testing begin by testing as many as 30 respondents. After all the statements are valid and reliable, the distribution of the questionnaire is continued until the desired target is met, namely as many as 150 respondents.

Table 3: The Result of Validity Test of 150 Respondents

Variable of *Influencer Marketing* (X1)	**R Count**	**R table**	**Description**
X1.1	0,709	0,159	VALID
X1.2	0,885	0,159	VALID
X1.3	0,833	0,159	VALID
X1.4	0,784	0,159	VALID
X1.5	0,732	0,159	VALID
X2.2	0,710	0,159	VALID
X2.3	0,643	0,159	VALID
X2.4	0,698	0,159	VALID
***Online Customer Review* (X2)**			
X2.1	0,661	0,159	VALID
X2.5	0,714	0,159	VALID
***Online Customer Rating* (X3)**			
X3.1	0,736	0,159	VALID
X3.2	0,779	0,159	VALID
X3.3	0,644	0,159	VALID
X3.4	0,750	0,159	VALID
X3.5	0,712	0,159	VALID
***Purchasing Interest* (Y)**			
Y.1	0,705	0,159	VALID
Y.2	0,722	0,159	VALID
Y.3	0,658	0,159	VALID
Y.4	0,774	0,159	VALID
Y.5	0,708	0,159	VALID

Table 4: The Result of Reliability Test of 150 Respondents

The Result of Reliability of 150 Respondents			
Variable	***Cronbach Alpha***	**Reliable Value**	**Description**
***Influencer Marketing* (X1)**	0.844	0,70	Reliable
***Online Customer Review* (X2)**	0,716	0,70	Reliable
***Online Customer Rating* (X3)**	0,773	0,70	Reliable
Purchasing Interest (Y)	0,758	0,70	Reliable

Classical Assumption Test

The Kolmogorov-Smirnov test results show the significance value of Asmp.Sig. (2-tailed) on the data is 0.200> 0.05, it can be concluded that the data is normally distributed. Heteroscedasticity testing using the glejser test.

Based on the results of the glejser test, it shows that the influencer marketing variable value has a significance value of 0.506, the online customer review variable has a significance value of 0.891, and the online customer rating variable has a significance value of 0.191. It can be concluded that the influencer marketing, online customer review, and online customer rating variables do not occur symptoms of heteroscedasticity because they have a value above 0.05 or 5%. Each independent variable, namely influencer marketing, online customer review, and online customer rating, has a tolerance value> 0.1 and a VIF value < 10. It can be concluded that there is no multicollinearity between the independent variables in this study.

The next step after the classical assumption test is to ensure that the variables that have been selected are suitable for inclusion in the research model. This determination is made by conducting an F test first. The F test results show that the calculated F value is 29.021 and the F table value is 2.67. The significance value is 0.000. This means that the value of F count> F table (29.021> 2.67) and the significance value is smaller than the significance level (0.000 <0.05) then H0 is rejected, and Ha is accepted. Thus it can be interpreted that this research model is feasible to use because there is an influence between influencer marketing, online customer reviews, and online customer ratings on buying interest in the TikTok Shop application simultaneously.

Table 5: Test Result T

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.248	2.035		1.596	.113		
	X1	.103	.052	.132	1.990	.048	.970	1.030
	X2	.588	.075	.526	7.835	.000	.953	1.050
	X3	.163	.064	.172	2.526	.013	.925	1.081

a. Dependent Variable: Y

The results of hypothesis testing for the influencer marketing variable (X1) show that the t value is 1.990 and the t table value is 1.655, as seen in Table 5. This means that the value of t count> t table (1.990> 1.655) and the significance value is smaller than the significance level (0.048 <0.05) then H0 is rejected, Ha is accepted. So it can be concluded that there is an influence between influencer marketing variables on customer buying interest in the TikTok Shop application. In this study, the influencer marketing variable has an effect on buying interest in the TikTok Shop application. This is supported by the results of respondents' responses agreeing that being an influencer must be reliable in promoting products, so that individuals imitate what is displayed. The results of hypothesis testing for the online customer review variable (X2) show that the t value is 7.835 and the t table value is 1.655. This means that the value of t count> t table (7.835> 1.655) and the significance value is smaller than the significance level (0.000 <0.05) then H0 is rejected, Ha is accepted. Therefore it can be concluded that there is an influence between the online customer review variable on customer buying interest in the TikTok Shop application. In this study, the online customer review variable has an effect on buying interest in the TikTok Shop application. This is supported by the results of respondents' responses strongly agreeing that the more the number of positive reviews, the better the product's reputation.

The results of hypothesis testing for the online customer rating variable (X3) show that the t value is 2.526 and the t table value is 1.655. This means that the value of t count> t table (2.526> 1.655) and the significance value is smaller than the significance level (0.013 <0.05) then H0 is rejected, Ha is accepted. Therefore it can be concluded that there is an influence between the online customer rating variable on customer buying interest in the TikTok Shop application. This is supported by the results of respondents' responses strongly agreeing that ratings have a direct influence in finding the product information needed.

$$\text{Purchasing Interest} = 3{,}248 + 0{,}103\ \text{IM} + 0{,}588\ \text{Re} + 0{,}163\ \text{Ra}$$

The test results can show that there are three independent variables, namely influencer marketing, online customer reviews, and online customer ratings. The highest coefficient value of them is the online customer review variable, that is 0.588. It can be said that the online customer review variable has a more dominant influence on purchase intention. According to Ghozali (2018) if the regression coefficient value of the independent variable on the dependent variable has the largest value, then the independent variable has a dominant influence.

Based on the results of the coefficient of determination test, it shows that the coefficient of determination (Adjusted R Square) is 0.361 or 36.1%. This means that 36.1% of purchasing interest can be explained by influencer marketing variables (X1), online customer review variables (X2), and online customer rating variables (X3). The remaining 63.9% is influenced by other variables not explained in this study such as price, product quality, brand image, and others.

4. Discussion

The influencer marketing has a lot of fans (popular aspect) and can make it like an advertisement so that it easily gets attention (credible aspect). An influencer can attract individuals or groups of advertised products (attractiveness aspect), is also reliable in promoting products so that individuals or groups follow or imitate what is shown (strength aspect). The results of this study are in line with Arief, et.al (2023), Agustin and Amron (2022) and Iffah and Farouk (2022) that influencer marketing affects a person's buying interest in a product. The results of research conducted based on questionnaires filled out by respondents stated that the online customer review variable on buying interest in the TikTok Shop application is classified as good with an average of 96.7% from several statements such as the more the number of positive reviews, the better the product's reputation, getting benefits from online customer reviews, and positive review results affect the opinion of the product.

Online customer reviews affect purchasing interest in the TikTok Shop application. Statistically, it can be seen that the effect on buying interest is because the t value is obtained at 7.835 with a significance level of 0.000 <0.05. The existence of this influence indicates that the better the online customer review, the more buying interest will increase. Vice versa, the worse the online customer review, the more buying interest will decrease. The consumers benefit from online customer reviews. Because a positive review will influence someone's opinion of the product (awareness aspect). Reviews of an e-commerce product will provide information about the advantages and disadvantages of the product (frequency aspect).

The number of positive online customer reviews indicates that the store is trusted. The results of this study are in line with previous research conducted by Lackermair et.al (2013), Arief, et.al (2023), Harli, Mutasowifin, and Andrianto (2021) that online consumer reviews have a positive and significant effect on purchase intention. Thus, sellers should ask consumers to write honest and true reviews in order to create interest in buying the next consumer.

The online customer rating affects purchasing interest in the TikTok Shop application. The existence of this influence indicates that the better the online customer rating, the more buying interest will increase. Vice versa, the worse the online customer rating, the more buying interest will decrease. Ratings increase the effectiveness of online shopping (credible aspect) and have a direct influence in finding the product information needed (expertise aspect). The existence of a rating can also convience the choice (expertise aspect) and make the person selling the product happy because people can trust and choose the desired product (fun aspect). The results of this study are in line with previous research conducted by Oryza et.al (2022), and Komariyah (2022) that ratings have a positive and significant effect on purchase intention.

5. Conclusion

Based on the results of research and discussion conducted it can be concluded that influencer marketing, online customer reviews, online customer ratings affect buying interest in the TikTok Shop application. The results of this study prove that the influencer marketing, online customer reviews, and online customer ratings are among the variables that determine buying interest in the TikTok Shop application. The research implications are as

follows: TikTok application users consider that being an influencer must be reliable in promoting products, the more the number of positive reviews, the better the product's reputation. Furthermore, the ratings also have a direct influence in finding the product information needed.

The suggestions of this research are: the sellers / companies must be able to maintain and improve influencer marketing, online customer reviews, and online customer ratings that are very good considered by the TikTok users so that the users choose to purchase their needs and are willing to recommend TikTok Shop to the closest people. For further research, it is hoped that this research can be a reference for the future and there are still other factors that influence purchasing interest. It is expected that this research can be continued by other researchers by adding other variables such as price, brand image and product quality, so that the research becomes better and more complete.

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Offshoring, Globalization, Skill: Impacts of International Offshoring on Employment and Wages

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Abstract
The phenomenon of offshoring has become a prominent topic in contemporary economic discussions, closely tied to globalization and communication. Offshoring involves importing input items from foreign countries at a lower cost, enabling cost-effective production. However, it raises concerns among workers regarding job loss and wage reduction. The aspect of collective bargaining, crucial in understanding the dynamics of offshoring, has often been overlooked in previous research. This journal paper aims to address this research gap by examining the impact of collective bargaining on determining equilibrium wages in the context of offshoring. Through a comprehensive analysis of three cases—Autarky, Small Country, and a two-country scenario—we explore how fluctuations in offshoring costs influence employment levels and wage rates. Additionally, we investigate the policy implications of offshoring decisions in one country and their effects on its partner country. The study also considers the role of skill acquisition in the offshoring process and its multifaceted impact on the labor market. By shedding light on the influence of collective bargaining in determining equilibrium wages within the offshoring framework, this research provides valuable insights for policymakers, academics, and industry practitioners. The findings contribute to a more comprehensive understanding of the complexities surrounding offshoring and its implications for the labor market.

Keywords: Offshoring, Collective Bargaining, Equilibrium Wages, Globalization, Labor Market

1. Introduction

The decline in transportation costs since the 1950s has significantly contributed to the growth of international trade, particularly in the trade of final goods. Nowadays, companies in one country are taking advantage of lower input prices in other countries by either importing goods or relocating their production processes.

One of the most widely discussed topics in economics today is "Offshoring." This term can be divided into two types: material offshoring and service offshoring. Material offshoring involves the assembly and production of intermediate goods for manufacturing, while service offshoring refers to offshore business services such as call centers, financial services, and customer service. Advancements in communication and transportation technologies have played a pivotal role in driving the trend of offshoring in recent times. Many countries are now leveraging offshoring to stimulate economic growth without physically relocating their workforce across borders. Countries like China, India, and South Korea have greatly benefited from offshoring, along with the importers of offshored

products. As offshoring proves to be mutually beneficial for both exporting and importing nations, its popularity continues to increase. However, it is important to consider the impact of offshoring on the job market in both countries, which we will discuss in more detail later.

2. Driving factors behind offshoring

Offshoring is a most common used term in international business and trade for recent days and the major driving force is difference in factor prices in different region. Tough there are large arbitrage gain to be made by offshoring several barriers and restrictions also lay down there. If these barriers are overcome, then it's expected that offshoring will grow more. There are some factors give positive feedback to grow the offshoring.
If there are tariff for crossing every border than production become unworthy. A small reduction in the tariff rate can lower the overall cost. The reduction generates a large effect and there are many proofs of this in last few decades trade history.

The cost of air transportation has falls over the past fifty years but the cost of ocean transport still so high. On the other hand, tax for trade decreases significantly which spurring offshoring activities. Technological improvements are the other most prominent factor for offshoring. In example, China the most popular offshoring zone in recent days made tremendous success in robot technology which makes them one of the successful offshoring exporter in the world.

Globalization is most important key for the increasing level of offshoring in recent decades. For the technological revolution, it is much easier to contact with people stay far miles away. Traders take the chances. The difference in factor prices for production encourage them to spread the production process to another country. In the era of globalization we know everything about every part of the earth by sitting at home. It added an influential dimension to the economy. We use our knowledge of communication in trade to find out which regions are good for the factors we need for production. After that the term ''offshoring '' emerged. Now, it is one of the most important driving force to the international trade. But it has not only a good side, there are also many demerits. In the long run it increases unemployment. Cheap labour offshoring rise unemployment rate home (importing) country. Low-skill people lose their job and skill acquisition become costly for them. As a result offshoring reduced the welfare level of that economy. It became up and down process. Workers tried to be high-skill and find out matching job for them which increase growth level afterwards.

3. The Model

P. Ranjan (2013) descried impact of offshoring in three different way. First, she described autarky equilibrium in a country called home. Second, she described impact of offshoring on home country assuming home is a small country. Third and finally she walks through in a two-country world where price of offshoring input determined endogenously.

4. Autarky equilibrium at Home

In perfect competition market, Union first set the wage and then firm determine their employment level by considering that wage level. P.Ranjan (2013) separated this problem in two different parts, in one parts she described the firms problem and then in another part she analyse the wage determination process. D.Mitra and P. Ranjan (2009) shows how offshoring effected the labour market in the presence of perfect competitive market. In our analysis we will discuss how they framed their work. We will divide it into two sections as they do- 1. The Model analysis 2. Offshoring. Then we will move towards the work of P. Ranjan (2013) where she also followed the similar steps but with broader perspective with a small country world and two country world.

5. Why Perfect Competition instead of Monopoly?

P. Ranjan (2013) in his analysis considered the perfect competition market instead of monopoly. The intuition behind that is to make model analysis easier. In monopoly market union is much bigger that it gains huge power

in wage bargaining process and when union gain so much power, it's become difficult for the firm to make offshoring and gain a reasonable profit. On the other hand, in perfect competitive case firm has more power in wage determination process that it could threat the union/workers to make the job offshore. Its lower wages, increased employment. In that process firms gain more control in offshoring field. Moreover, perfect competitive analysis makes model framework analytically traceable and provide us more comfort to obtain several analytical result rather than depends on numerical simulation.

In model analysis, D. Mitra and P. Ranjan (2009) divided their work in some subsection. We will not go in details in every of those subsections. We will just try to keep our focus how they actually modelled their work.

First, they started their analysis with a lifetime Utility function given by

$$\int_t^{\infty} exp^{-r(s-t)}\, C(s)\mathrm{dS}$$

where asset market are complete.

The final consumption good C is produced under CRS using two goods Z and X as inputs:

$$C = F(Z,X)$$

Now, we are going to moved towards goods and labor markets where X is produced by perfect competitive markets means to produce one unit of X firm need one unit of labor.

Z is produced by slightly more sophisticated technology-

$$Z= (\tau m_h^{\rho}+(1-\tau)m_p^{\rho})$$

Where m_h is the labor input that engaged in home country and m_p is the input of labor that can be offshored. τ is the intensity of headquarters and $\sigma = {}^{1}/_{1-\rho}$ is the elasticity of substitutions between headquarter and production service.

We then proceed to the labour market. By analysing matching function and all other related measures D. Mitra and P. Ranjan (2009) finished in labor market by finding a standard Beveridge curve in pissarides type search model,

$$\mathrm{ui} = \frac{\delta}{\delta_i+\theta i q(\theta i)}$$

In firm optimization problem, which is the key in our analysis D. Mitra and P. Ranjan (2009) solved the optimization problem in two stages. In first stages, firm determined the proper employment level by figuring the correct wages. Then in the second stages, wages are determined through the Nash bargaining process between firms and union.

By maximizing the firm's following profit function,

$$\underset{V(s),mh,mp}{\text{Max}} \quad \int_t^{\infty} e^{-r(s-t)}\{P_z(s)Z(s) - w_z(s)N(s) - C_z V(s)\}\, ds$$

Subject to,

dynamics of employment, $\dot{N(t)} = \mathrm{q}(\theta_z(t))V(t) - \delta N(t)$

Production function, $Z= (\tau m_h^{\rho}+(1-\tau)m_p^{\rho})$

and total amount of labor employed by firm, $N = m_h + m_p$

D. Mitra and P. Ranjan (2009) bring out a key equation[1]

[1] Hamiltonian method has been used during the maximization problem. Details have been presented on Appendix

$$\frac{\tau/P_z - w_z}{(r+\rho)} = \frac{c_z}{q(\theta_z)} \tag{1}$$

Where marginal benefit from creating a job is equal to cost of creating a job, [2]which is known as job creation condition.

Then, the wage is determined through a Nash bargain process between individual workers and firm. D. Mitra and P. Ranjan (2009) represent a wage equation[3] as like as Pissarides model,

$$w_i = b + \frac{\beta c_i}{1-\beta}\left[\theta_i + \frac{r+\delta}{q(\theta_i)}\right] \tag{2}$$

Where, β is the bargaining power of the workers. This equation represent a wage curve (WC) and clearly this wage curve is upward slopping in (w,θ) space.

Now, the intersection of JC and WC depicted from equation (1) and (2) will provide the equilibrium level of wage (w_i), market tightness (θ_i) and price level (p_i).
D. Mitra and P. Ranjan (2009) then shows how equilibrium in autarky is settled[4]. We will not go in details of those analysis. Now, we will see how they proceed towards the offshoring analysis. They assumes firms of sector Z have the option for offshore input m_p from abroad and then by solving the firm optimization problem they bring out the following expression[5],

$$P_z = (\tau^\sigma(\widetilde{w_z})^{1-\sigma} + (1-\tau)^\sigma w_s^{1-\sigma})^{\frac{1}{1-\sigma}} \tag{3}$$

and Nash bargained wage,

$$w_z = b + \frac{\beta c_z}{1-\beta}\left[\theta_z + \frac{r+\delta}{q(\theta_z)}\right] \tag{4}$$

Productivity effect itself creates greater job creation and lower unemployment[6].

P. Ranjan (2013) in her work also followed the similar procedure where she begin with a production function using sophisticated technology,

$$Z = AX^\gamma$$

She then goes through the model analysis and finished with finding the similar pissarides type Beveridge curve that we discussed above. We are not going in details of those analysis. Now, we moves towards the firms optimization problem and Nash wage bargain process in Autarky case.

Since firms have to look for workers and any job could be destroyed due to an idiosyncratic shock created by union with their wage setting and interaction with policies as described by Pissarides (1986) and Delacroix(2006), P. Ranjan(2013) solved her model in backward direction where she solved the firm's problem in first stage then solve the wage.

In firm's optimization problem they (firm) maximizes their profit function

$$\underset{v_{h(s)},L_h(s)}{\text{Max}} \int_t^\infty e^{-\rho(s-t)}\left\{A\big(L_h(s)\big)^\gamma - w_h(s)L_h(s) - c_h v_h(s)\right\}ds$$

Subject to,

$$L_h(t) = \mu_h\theta_h(t)^{\delta_h - 1}V_h(t) - \lambda_h L_h(t) \tag{5}$$

[2] A similar calculation can be done for the sector X
[3] Details given in Appendix 7.2 of D. Mitra and P. Ranjan (2009) PP.25
[4] See D. Mitra and P. Ranjan (2009)
[5] Details calculation provided in Appendix
[6] See D. Mitra and P. Ranjan (2009)

taking $w_h(s)$ and $\theta_h(s)$ as given.

And then following Hamiltonian approaches[7] P. Ranjan (2013) find the following expression for employment level,

$$\gamma A {L_h}^{\gamma-1} = w_h + \frac{(\rho+\lambda)c_h}{\mu_h {\theta_h}^{\delta_h - 1}} \quad (6)$$

Here, employment level (L_h) is a function of wage (w_h) and tightness (θ_h). If union demanded higher wages it will resulted in a higher unemployment.

In the wage determination process union's objective is to maximize its member's aggregate surplus or rent,

$$\left(\left(\frac{\bar{L}_h - L_h}{\bar{L}_h}\right)\rho U_h + \left(\frac{L_h}{\bar{L}_h}\right)\rho E_h - \rho U_h\right)\bar{L}_h = \rho(E_h - U_h)L_h = \frac{\rho(w_h - b_h)L_h}{\rho + \lambda_h + \mu_h {\theta_h}^{\delta_h}} \quad (7)$$

Then, by maximizing equation (7) subject to equation (6) subgame perfect equilibrium can be obtained and the solution provided an expression for wage[8],

$$w_h = b_h + \gamma(1-\gamma)A{L_h}^{\gamma-1} \quad (8)$$

6. Offshoring for a Small country case

Now, we move toward a small country case where some input can be imported from the foreign and there have some cost associated with those imported inputs i.e. communication barriers, legal restrictions, cultural differences, trade barrier etc. P. Ranjan (2013) in her work denotes M is the imported inputs, P_f as input prices, ϕ as the offshoring cost and h(M) as adaption cost. In this small country case this country small enough to take $P_f$as exogenous.

Now as like as previous analysis, P. Ranjan (2013) solves firm's problem first by taking $w_{h,}$ θ_h and P_f as given and then the wage.

Firm's maximizes their objection function,

$$\underset{Vh(s),Lh(s),M(s)}{\text{Max}} \int_t^{\infty} e^{-(\rho-t)} \left\{A\big(L_h(s) + M(s)\big)^{\gamma} - w_h(s)L_h(s) - p_{f\emptyset\,h}(M)M(s) - c_h v_h(s)\right\}ds$$

Subject to equation no (5) and then by using Hamiltonian approach and taking $\dot{\psi} = 0$ in steady sate she found following expression for employment (L_h) and imported input amount (M) respectively,

$$\gamma A(L_h + M)^{\gamma-1} = P_f \emptyset\big(h(M) + h'(M)M\big) \quad (9)$$

and

$$\gamma A(L_h + M)^{\gamma-1} = w_h + \frac{(\rho+\lambda_h)c_h}{\mu_h {\theta_h}^{\delta_h - 1}} \quad (10)$$

Now, by maximizing the equation (7) subject to equation no (9) and (10) offshoring equilibrium wage is obtained [9] which is given by

$$w_h = b_h + \frac{L_h\left((1-\gamma)\gamma A(L_h + M)^{\gamma-2}P_f\emptyset\left(2h'(M) + Mh'(M)\right)\right)}{(1-\gamma)\gamma A(L_h + M)^{\gamma-2} + P_f\emptyset\big(2h'(M) + Mh'(M)\big)} \quad (11)$$

[7] Details calculation provided in the appendix.
[8] See Appendix
[9] See Appendix

P. Ranjan(2013) then make some propositions with comparative statistics[10]. We will not go in details on those propositions. Now we will move our discussion towards bargaining for wages by individual instead of union.

7. Individual Wage bargain with Job loss fear

Offshoring act as a strong weapon for firm in wage bargaining with individual worker if the cost of offshoring become low. Firm threaten the individual workers in the process of individual bargaining to accept the low wage or to shift the job abroad. In that case, worker face a fear for job loss and most of the time willing to accept the lower wages offered by firm. Riedl and Frijters (2012) found evidence that possible treat of offshoring towards low-wage countries increases job loss fear among German workers. Manshki (2004) also mentioned that job insecurity could be a determinant for lower wage means treat of offshoring could be an indicator of lower wages. Meanwhile, skill might play an important role on the bargaining process during offshoring environment. We will discuss later about the skill issue. In this part we will see how individual bargaining could impact the wages during offshoring environment.

During the individual bargaining process firm maximizes its objective function by assuming the domestic employment as well as amounts of offshored inputs in the first stage and anticipating the wages will be determined in the second stage. In maximization process firm have to take into consideration whether the wages taken as given from second stage will have an impact on the firm's employment determination in first stage. There also have two important issues in the bargaining process, whether renegotiation for wages with all workers will takes place or not.

- If it takes place then firm might take an counter decision of overhiring (first indicatd by Stole and Zwiebel (1996)) which will reduce the marginal product of each worker for hiring an extra worker. That will reduce the wages for worker.
- On the other hand, if every single worker doesn't see the renegotiation and firm will also ignore the any possible outcome (i.e. employment decision), outcome will be the same. Wage will be down for each worker, firm will gain more strength in bargaining process.

According to P. Rajan (2013) finding analytical result on the impact of offshoring is difficult for the number one case described above. That's why numerical calibration might be a solution for that case. But for the other case analytical result might work well.

For the above two case P. Ranjan (2013) found two separate equation by which we could determine the number of employed worker hired by firm (L_h), amount of input offshored(M), wage of home worker(w_h) and labor market tightness of home country(θ_h)[11]. From proposition-4 described by her we also get a clear idea about the wage determination in the process of individual bargaining.[12]

$$\frac{1}{\beta_h} L_h^{\frac{1}{\beta_h}} \gamma A \int_0^{L_h} (x+M)^{\gamma-1} x^{\frac{1}{\beta_h}-1} dx = w_{h+} \frac{(\rho+\lambda_h)C_h}{\mu_{h\theta_h}{}^{\delta_h-1}} \quad (12)$$

and,

$$w_h = (1-\beta)b_h + \beta_h C_h \theta_h + \beta_h \gamma A (L_h + M)^{\gamma-1} \quad (13)$$

However, Skaksen (2004) build a framework where he describes firm's decision about offshoring and the wage determination via Nash Bargaining process. He figured out three different scenario of the Nash bargain process depending on the cost of offshoring.

- Scenario-1: Offshoring cost is too high that firm will not be comfortable in doing offshoring. In that case, Union as well as individual will have higher power in the process of wage bargain.

[10] See details P.Ranjan (2013) PP. 177
[11] See P. Ranjan (2013) PP 178. We also provided some details in appendix
[12] See P. Ranjan (2013) PP 178. Proposition-4

- Scenario-2: Offshoring cost is so low that Union as well as individual worker have no option rather than accepting offshoring. Firm have greater power to threat the home labor market. Wage will be lower, employment will be up.
- Scenario-3: It's the most interesting one that bargaining outcome has no analytical result. He proposes a scenario where employment cost will be equal to offshoring so that firm might find it profitable to work at home.

8. Numerical Representation

P. Ranjan (2013) in her work provided some graphical representation by using the data of Sweden collected from the work of Albrecht et al. (2006). She demonstrated how employment and wages effected in the case of individual and collective bargaining. [13] We will see how it worked in case of linear adoption cost.[14]

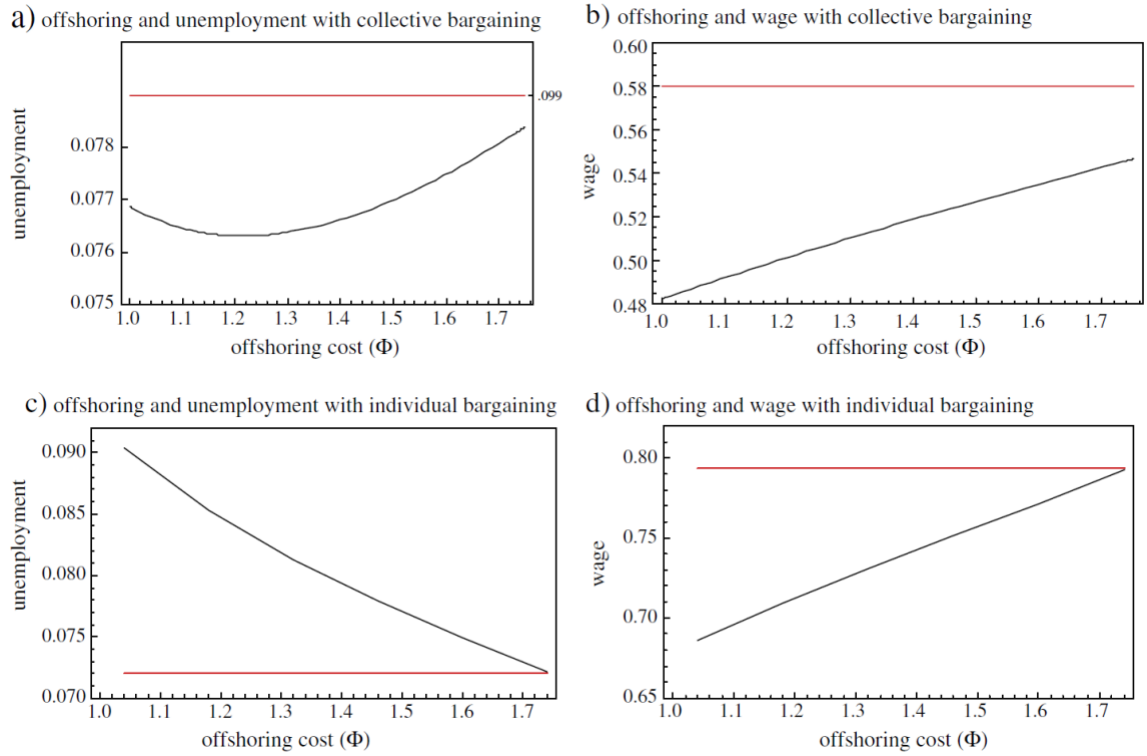

Figure 1: Unemployment, wage, and offshoring (linear adaptation cost).
Source: P. Ranjan (2013) PP 179

In figure 1(a) she has shown how employment decreased due to an increase in offshoring cost. The red horizontal line shows the hypothetical autarky unemployment which says if Sweden were a closed country its unemployment rate was become 9.9% instead of 7.7%. For the offshoring cost 1.7 the amount of offshoring will be zero. On that case unemployment rate is become 7.8% which is still lower than the autarky.

Fig 1(b) says how wage increases along with the increase of offshoring cost. With the high value of offshoring cost 1.7 the wage increases to 5.4% which is still below the autarky level. It happened because due to the rise in offshoring cost union gain more power over wage bargaining and that's why wage demand goes higher but still with the offshoring environment its stays lower than the autarky level.

[13] See P. Ranjan (2013) PP 178 for data description
[14] For other case see P. Ranjan (2013) PP 180, 181

In fig 1(c) and 1(d) she has shown the impact of offshoring in case of individual bargaining. From both figure we can see that each employment and wages going up in case of offshoring cost going higher. [15] It is consistent with our analysis cause as offshoring cost going higher unemployment always become lower and wages moving higher.

9. Two country worlds of offshoring

Now, we move towards the two-country world where one country is the source of offshoring input (we will call it developing countries) and other country will be the importer of those offshoring inputs (we will call it developed nations)[16] and price of offshoring inputs are determined endogenously. In this part we will see how increase in offshoring cost and imposing wage tax or minimum wages can create some impact on labor market in both countries.

According to the work of S. Bandypadhay, A.K. Basu, N.K.Chau and D. Mitra(2017) the reduction of offshoring cost always increase the amount of offshoring, always increased the wage of host(developed country) but decreases the wage of developing countries.

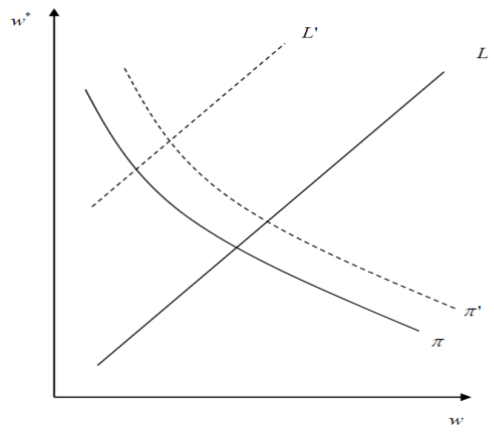

Figure 2: Unequal gain from reduction in offshoring cost
Source: [S. Bandypadhay, A.K. Basu, N. K. Chau and D. Mitra (2017)]

From fig-2 we see that reduction of offshoring cost shifts the π(profit) and labor (developing country) schedule upward. That's bring the wage (w^*) of home country (developed country) higher due to the inelastic labor market but the wage of host country (developing country) going lower.

An interesting finding from the work of S. Bandypadhay, A.K. Basu, N. K. Chau and D. Mitra (2017) will give us some indication how increase/decrease in offshoring cost could make rise/fall of the wage of both host (developing) and offshoring country(developed). In the finding they added two interesting variable- equilibrium relative wage cost(ρ) and equilibrium index of the marginal offshored task(I) which makes the idea more clearer.

[15] See P. Ranjan(2013) PP 178 Proposition 4
[16] The notation used by S. Bandypadhay, A.K. Basu, N.K.Chau and D. Mitra(2017)

Table 1: Impact of offshoring cost on wages

			% change from when β =1.2	
β	ρ	I	in w	in $w*$
0.8	5.053	0.080	-2.33%	1.38%
0.9	4.426	0.077	-1.25%	1.00%
1	3.941	0.075	-0.54%	0.65%
1.1	3.557	0.072	-0.15%	0.31%
1.2	3.246	0.069	0.00%	0.00%
1.3	2.989	0.067	-0.06%	-0.30%
1.4	2.774	0.064	-0.30%	-0.57%
1.5	2.593	0.061	-0.68%	-0.83%
1.6	2.437	0.059	-1.19%	-1.08%
1.8	2.185	0.054	-2.51%	-1.53%

Source: S. Bandypadhay, A.K. Basu, N. K. Chau and D. Mitra (2017)

From Table-1 we see that due to the decrease in the offshoring cost from 1.2 to 0.8 wage of developing country fall sharply whether wage of developed country increased gradually. On the other hand, escalation of offshoring cost reduced the wages of both developing and developed country.

Now we will discuss what happen to the Global welfare when offshoring cost is starting to decline. Its clear, National welfare rises if wage rises due to the cost reduction of offshoring. When wages of both countries increase then joint welfare (which we called global welfare), will rise. But question arises on the case when wage of one country (developing country) decreases and other country increases (developed country), what happened to the global welfare? S. Bandypadhay, A.K. Basu, N. K. Chau and D. Mitra (2017) replied to that question with a answer[17]- yes, Global welfare always increases due to the reduction of offshoring cost.

As wage decreases in the developing country which discussed above, they (developing country) might take some policies to increase the welfare in National level. But offshoring is a form of trade. That's why they always have to fix the trade related distortion before taking any policy consideration. In example, wage tax[18] or minimum wage could be less objectionable to trading partner rather than using direct tax polies. Here we are providing some quick snapshot about how wage tax and minimum wage could increase the welfare of developing country-

- As offshoring export country have monopoly power in the world market they sets a markup over its cost as well as government of this country levies a tax on wages received on this sector in inverse relation to its elastic of demand. The intuition behind it to get a better price for the offshoring product they are exporting. A higher elastic means wage tax could bring a TOT benefits. However there have some adverse effect too. If the offshoring market of developing country is highly responsive to relative wage, a high wage tax might reduce the export amount of offshoring as well as the labor supply to offshoring sector. On the other hand, if the labor supply in developed country is quite elastic then for the hike of wage tax in developing country might significantly reduce the labor supply to the offshoring sector and by feedback effect could reduce the labor demand to the offshoring sector of developing country. The following diagram[19] might provide us more idea,

[17] See S. Bandypadhay, A.K. Basu, N.K. Chau and D. Mitra(2017) PP 16
[18] Wage tax and Export tax could use as synonyms.
[19] See S. Bandypadhay, A.K. Basu, N.K. Chau and D. Mitra(2017) PP 21,22

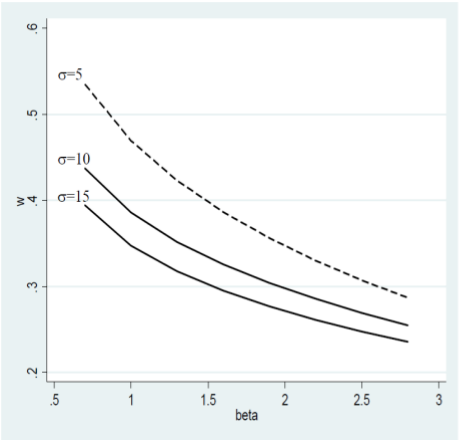

Figure 3a: Developing Country Wage (w) Simulation: (With Optimal Wage Tax)

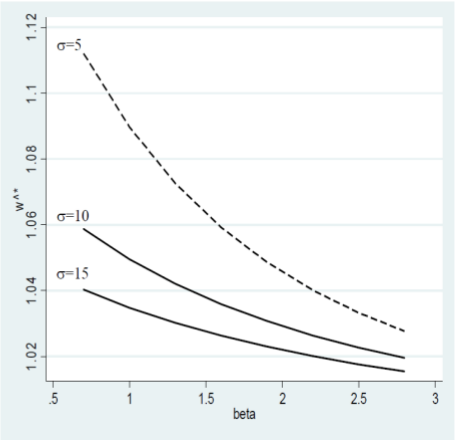

Figure 3b: Developed Country Wage (W*) Simulation: (With Optimal Wage Tax)

Sources: S. Bandypadhay, A.K. Basu, N.K.Chau and D. Mitra(2017)

- Rather than using wage tax to a sector, minimum wage might be more effective.[20] According to the finding of S. Bandypadhay, A. K. Basu, N. K. Chau and D. Mitra (2017) if the employment average weighted labor demand elasticity in the economy is quite inelastic at the equilibrium then by setting a minimum wages slightly above the equilibrium wages a welfare gain is possible.

10. Effects of skill on Offshoring

In the paper of Pablo and Jana (2017) build a matching model with endogenous skill requirement. Skill requirements set by employers and it depends on availability of skilled workers. Workers schooling decision depends on the wage differential between high and low skill jobs. Low-skill job candidate increase if firm increase the low-skill vacancies with low-skill requirements. As a result, low-skill offshoring activities increase low skill productivity and it's not a good sign for long run welfare analysis.

As in Albrecht and Vroman (2002) two equilibria will be discussed. The equilibrium with Cross-skill matching (CSM) and the equilibrium with ex-segmentation (EPS). CSM is reached when high-skill workers and low-skill vacancies are matched. Whereas EPS is what follows when there potential matches do not meet.
With the higher intensity of offshoring home country tends to import from low wage countries.

[20] Different wage taxes in different sectors might be unpopular. Instead of wage tax, minimum wages could be more effective. Because people might take it easy to use higher minimum wages for a foreign designated sector where discrimination in wages with foreign(developed countries) need to be reduced.

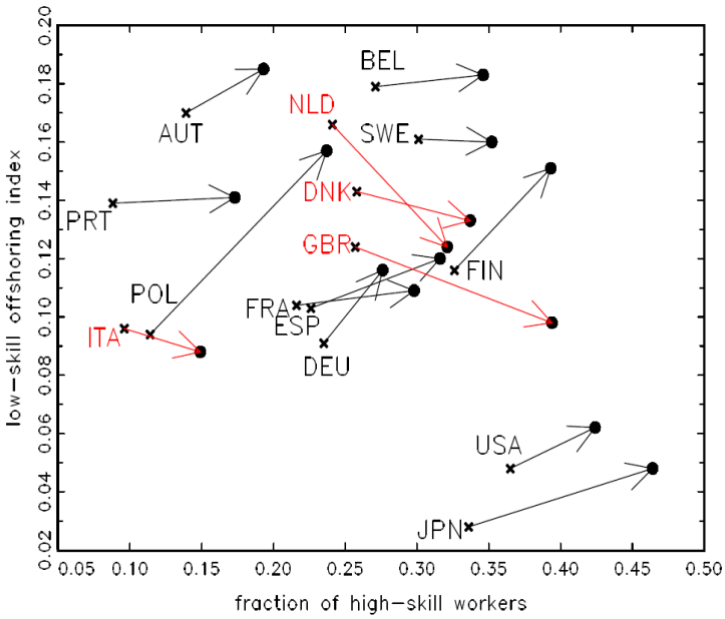

Figure 4: Offshoring trends and high-skill shares, 5-year averages

Source: [Pablo and Jana (2017)]

In the work of Pablo and Jana (2017), they found the mechanism for considering low and high-skill and the workers educational choice related cost. But it's not working well to back in pre-offshoring welfare level. To solve the problem they emphasized on lowering the acquiring skills and in the study the found higher share of high-skill workers leads to economic growth and higher welfare.

11. Model description

Now, we will proceed with a short model provided by Pablo and Jana (2017).

There are two types of agents: workers and firm. Here, the cost acquiring skill is a monotonic function,

$$\frac{dcost(x)}{dx} < 0; \;\; and \; cost(1) = 0$$

Each worker indexed by x, they infinitely lived and x=1. The opportunity cost of being low-skill ranging from 0 to 1. If the value of x is 1, then the opportunity cost of remaining low-skill is the highest and when x is 0 then worker become high skill at zero cost.

Workers choose their skill decision up to the skill acquisition cost and the wage differential between low and high skill jobs. Here,

$$w_H - w_L > cost(x)$$

If the wage differences in high and low skill job is greater than the cost of skill acquisition, then workers chooses to be high skill.

$$w_H - w_L = cost(x)$$

If there are no differences between both wage difference and cost of skill gain, then workers choose to be indifferent.

The firm's cost for financing a vacancy is C (Its mainly firing and hiring cost). An unemployment worker expected life time utility is U_L or $U_H(x)$ and a firm expected lifetime profits are $V_j; j = L \; or \; H$. Low skill workers unemployment benefit is b and high skill workers is $b - cost(x)$. The value of working and unemployment stands for $w_i(x)$ and $U_j(x)$ respectively. J_i stands for the value of the job and V_j for the value of the vacancies.

Wages are set to maximize the weighted surplus of workers and a firm in a Nash bargaining process

$$\max_{\{w_i\}}[w_i(w_i,x)-V_j(x)]^{\beta}[J_i(y_i-w_i-c)-V_j]^{1-\beta}$$

Here, β is the bargaining power of workers.

12. Two types of equilibrium

In analysis of equilibrium Pablo and Jana (2017) found two types of equilibrium-(i)the equilibrium with cross skill matching (CSM)and (ii) the equilibrium with ex-post segmentation(EPS). When high high-skill workers willing to work in low skill job CSM occurs and if high skill workers only in high skill jobs then EPS happened.

Due to the offshoring if the condition of low-skill workers worses then EPS will be the good solution. CSM would be avoided to increase overall welfare of workers of the host country.

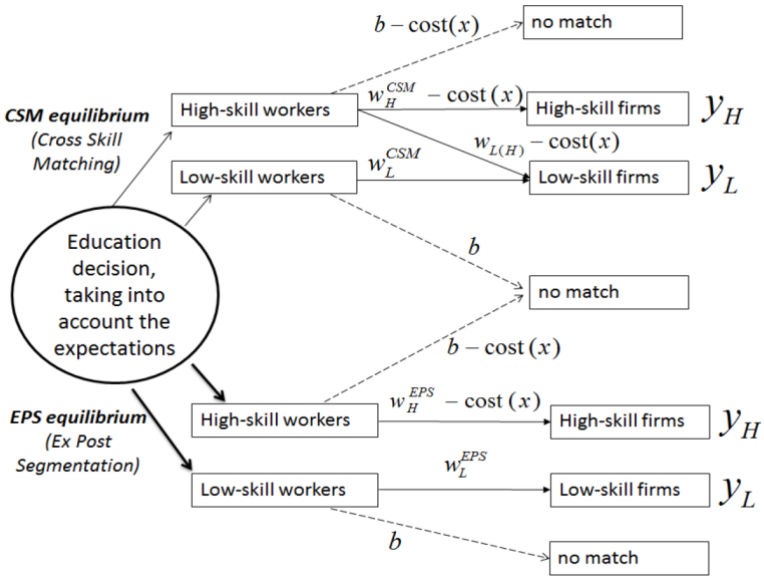

Figure 5: Possible Matches and equilibria

Sources: [Pablo and Jana (2017)]

13. Solution of the model

The cost of acquiring skill,

$$cost(x)=\lambda(1-x)^{a}\ ;where\ a\geq 1\ and\ \lambda>0$$

λ measures the dispersion between the extremes of the distributions. Previous analysis shows worker with $x=1$ have an infinite opportunity cost of remaining low skill. As a result, workers will always become high-skill. Value of a is significant in this equation, lower value of homogenous distribution with respect to the cost of skill acquisition and higher values show higher inequality.

For the CSM equilibrium,
When low-skill firms profit is $V_L=0$;

$$C=z(\theta)[\gamma J_L+(1-\gamma)J_L(H)]$$

And if high-skill firms profit is $V_H=0$;

$$C=\ z(\theta)(1-\gamma)J_H$$

For the EPS equilibrium[21],

When $V_L=0$, $C=z(\theta)\gamma J_L$

and, When $V_H=0$, $C=\ z(\theta)(1-\gamma)J_H$

[21] Bellman principle used. See Pablo and Jana (2017) PP 13

14. Impacts of offshoring

Offshoring wildness the wage gap, the number of low-skill workers will drop-switch from CSM to EPS will take place. It is noticeable that there will be increase in the share high-skill workers as a result of increase in high-skill wages which entice workers into higher productivity levels. As a comparison the wages of low-skill workers drop more than their productivity. Total output of the economy decreases and the unemployment rate of both high and low skill worker increase.

For the workers who remain low-skill, post of sharing phase will be less good because total welfare effects are negative. In that phase skill acquisition also become costly and after gaining skill it also difficult to match with the correct job. Other hand welfare of the average high-skill worker decreases with the offshoring though number of high-skill workers are increased after offshoring. Compare to the CSM equilibrium, in EPS the welfare of high-skill workers is higher. As welfare reduced, the low-skill workforce also reducing with it. In both equilibria, the welfare loss due to offshoring for the both type of worker is not compensable.

If the low-skill workers get grants or specific job training, the share of high-skill worker increase, which equivalently results in higher wages and a higher welfare level for high-skill workers. Growth is another measurement for a economy to calculate the effects of offshoring.

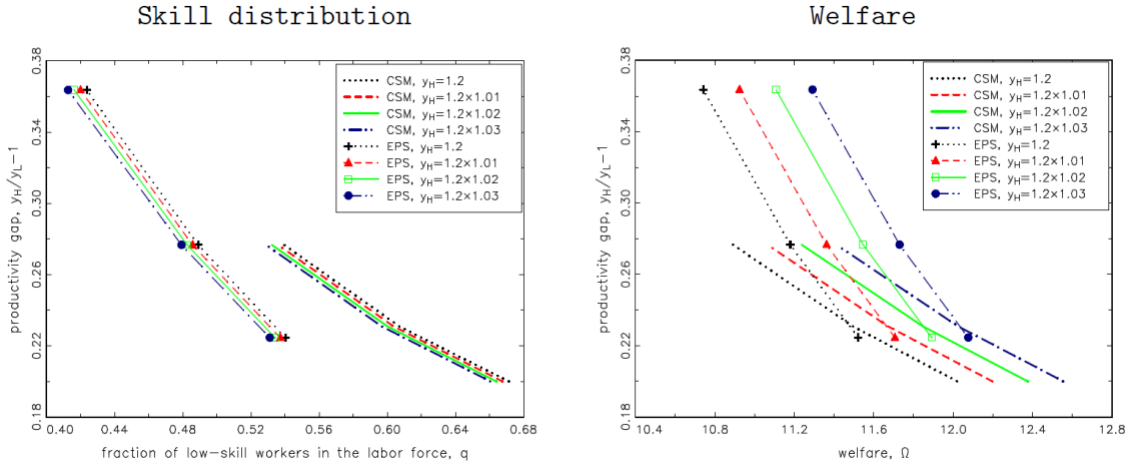

Figure 6: Effects of growth and offshoring on the skill distribution and welfare
Source: [Pablo and Jana (2017)]

Increasing of offshoring in both figure shows that increase of the fraction of high skill workers. The slope indicated the substantial reduction of welfare. Welfare loss due to offshoring could be slightly compensated by increasing in productivity along with switch from CSM to EPS.[22]

15. Final Remarks

In this seminar paper we show the impact of offshoring in determining the level of employment and amount of wages. We saw in case of individual bargaining unemployment may rise due to the weak position of individual worker whereas it could fall in the presence of union. We also see job loss fear can increased unemployment in both individual and collective bargaining case. By using numerical calibration of Swedish labor market data we show how rise/fall in offshoring cost can increase/decrease the unemployment and wages. In extend to the two-country world we show the policy taken one country can create spillover effect on the labor markets of partner country. We have used wage tax and minimum wage to show how labor market from different sectors might express reaction because of unequal policy. Since skill is another important component in offshoring environment we tried to draw some idea how worker from different skill type might affected from offshoring. Our final remarks is that, if workers always have alternative opportunities to find job anywhere else then impact of offshoring on the

[22] For more information see Pablo and Jana (2017) PP 19

unemployment will be low and before taking any policy one country should always think about the labour market of partner country so that global welfare will increase.

16. Research Questions

- How regional offshoring might have less impact on unemployment rather than the international offshoring?

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Appendix

1. Maximization of firms profit function

In firm's maximization problem Hamiltonian method were used.

$$H = P_z Z - w_z N - c_z V + \lambda[q(\theta_z)V - \delta N] + \emptyset\left[N - m_h - m_p\right]$$

Inserting the value of Z,

$$H = P_z\left(\tau {m_h}^{\rho} + (1-\tau){m_p}^{\rho}\right)^{1/\rho} - w_z N - c_z V + \lambda[q(\theta_z)V - \delta N] + \emptyset\left[N - m_h - m_p\right]$$

The first order condition for maximization as follows,

$$\frac{\partial H}{\partial m_h} = \emptyset \Longrightarrow \frac{1}{\rho} P_z\left(\tau {m_h}^{\rho} + (1-\tau){m_p}^{\rho}\right)^{\frac{1}{\rho}-1}.\rho.\tau.{m_h}^{\rho-1} = \emptyset \tag{14}$$

$$\frac{\partial H}{\partial m_h} = \emptyset \Longrightarrow \frac{1}{\rho} P_z\left(\tau {m_h}^{\rho} + (1-\tau){m_p}^{\rho}\right)^{\frac{1}{\rho}-1}.\rho.\tau.{m_h}^{\rho-1} = \emptyset \tag{15}$$

$$\frac{\partial H}{\partial V} = 0 \Longrightarrow c_z = \lambda \mathrm{q}(\theta_z) \tag{16}$$

$$\frac{\partial H}{\partial N} = -\dot{\lambda} + r\lambda \Longrightarrow w_z + \lambda\delta - \phi = \dot{\lambda} - \mathrm{r}\lambda \tag{17}$$

Now, (14) and (15) imply

$$\frac{m_h}{m_p} = \left(\frac{\tau}{1-\tau}\right)^{\frac{1}{1-\rho}} \tag{18}$$

Using (18) in (14) gives

$$\tau^{/} p_z = \emptyset \tag{19}$$

In steady state $\dot{\lambda} = 0$. By using $\dot{\lambda} = 0$ and (16), (19) into the equation no (17) we get,

$$\tau^{/} p_z - w_z = (r+\delta)\lambda = \frac{(r+\delta)c_z}{q(\theta_z)} \tag{20}$$

2. Maximization of firm's profit for the case of Autarky equilibrium at Home

The Hamiltonian is,

$$H = A{L_h}^{\gamma} - w_h L_h - C_h V_h + \psi\left[\mu_h \theta_h^{\delta_{h-1}} V_h - \lambda_h L_h\right]$$

Then the F.O.C is as follows

$$\frac{\partial H}{\partial V_h} = 0 \Longrightarrow -C_h + \psi\mu_h\theta_h^{\delta_{h-1}} = 0 \Rightarrow C_h = \psi\mu_h\theta_h^{\delta_{h-1}} \tag{21}$$

$$\frac{\partial H}{\partial L_h} = -\dot{\psi} + \rho\psi \Longrightarrow w_h + \psi\lambda_h = \gamma A{L_h}^{\gamma-1} + \dot{\psi} - \rho\psi \tag{22}$$

In steady state, $\dot{\psi} = 0$, then from equation (22)

$$\gamma A{L_h}^{\gamma-1} = w_h + \psi(\lambda_h + \rho)$$

$$\gamma A{L_h}^{\gamma-1} = w_h + \frac{(\rho+\lambda)c_h}{\mu_{h\theta_h}{}^{\delta_h - 1}} \tag{23}$$

3. Wage determination for the case of Autarky equilibrium at Home

The asset values are as follows (P. Ranjan (2013)PP. 176).

$$\rho E_h = w_h + \lambda_h(U_h - E_h) \tag{24}$$

and

$$\rho U_h = b_h + {\mu_{h\theta_h}}^{\delta_h}(E_h - U_h) \tag{25}$$

Now, subtracting (24) and (25)

$$\rho E_h - \rho U_h = w_h - b_h + \lambda(U_h - E_h) - {\mu_{h\theta_h}}^{\delta_h}(E_h - U_h)$$

follows,

$$\rho E_h = \frac{\left(\rho + {\mu_{h\theta_h}}^{\delta_h}\right)w_h + \lambda_h b_h}{\rho + \lambda_h + {\mu_{h\theta_h}}^{\delta_h}} \tag{26}$$

Similarly,

$$\rho U_h = \frac{{\mu_{h\theta_h}}^{\delta_h} w_h + (\rho + \lambda_h)b_h}{\rho + \lambda_h + {\mu_{h\theta_h}}^{\delta_h}} \tag{27}$$

Union maximizes equation (7) subject to equation (6). By applying Lagrangian,

$$\Pi = \left(\frac{\rho(w_h - b_h)L_h}{\rho + \lambda_h + {\mu_{h\theta_h}}^{\delta_h}}\right) + \xi\left[\gamma A {L_h}^{\gamma-1} - w_h - \frac{(\rho + \lambda)C_h}{{\mu_{h\theta_h}}^{\delta_h - 1}}\right]$$

The first order condition are,

$$\frac{\partial \Pi}{\partial w_h} = 0 \Longrightarrow \left(\frac{\rho L_h}{\rho + \lambda_h + {\mu_{h\theta_h}}^{\delta_h}}\right) = \xi \tag{28}$$

and,

$$\frac{\partial \Pi}{\partial L_h} = 0 \Longrightarrow \left(\frac{\rho(w_h - b_h)}{\rho + \lambda_h + {\mu_{h\theta_h}}^{\delta_h}}\right) = \xi(1-\gamma)\gamma A {L_h}^{\gamma-2} \tag{29}$$

Now,

$$\begin{gathered}\left(\frac{\rho L_h}{\rho + \lambda_h + {\mu_{h\theta_h}}^{\delta_h}}\right) = \frac{\left(\frac{\rho(w_h - b_h)}{\rho + \lambda_h + {\mu_{h\theta_h}}^{\delta_h}}\right)}{(1-\gamma)\gamma A {L_h}^{\gamma-2}} \\ \Longrightarrow L_h = \frac{(w_h - b_h)}{(1-\gamma)\gamma A {L_h}^{\gamma-2}} \\ \Longrightarrow w_h - b_h = L_h\left((1-\gamma)\gamma A {L_h}^{\gamma-2}\right) \\ \Longrightarrow w_h = b_h + (1-\gamma)A\gamma {L_h}^{\gamma-2+1} \\ \therefore w_h = b_h + (1-\gamma)A\gamma {L_h}^{\gamma-1}\end{gathered} \tag{30}$$

4. Determination of wage in the offshoring case

The Lagrangian,

$$\Pi = \left(\frac{\rho(w_h - b_h)L_h}{\rho + \lambda_h + \mu_h {\theta_h}^{\delta_h}}\right) + \psi\left[\gamma A(L_h + M)^{\gamma-1} - w_h - \frac{(\rho + \lambda)C_h}{{\mu_{h\theta_h}}^{\delta_h - 1}}\right]$$

$$+ \varphi\left[P_f \emptyset\big(h(M) + h'(M)M\big) - w_h - \frac{(\rho + \lambda)C_h}{{\mu_{h\theta_h}}^{\delta_h - 1}}\right]$$

F.O.C is as follows,

$$\frac{\partial \Pi}{\partial w_h} = 0 \Longrightarrow \left(\frac{\rho L_h}{\rho + \lambda_h + \mu_h {\theta_h}^{\delta_h}}\right) = \psi + \varphi \tag{31}$$

$$\frac{\partial \Pi}{\partial L_h} = 0 \Longrightarrow \frac{\rho(w_h - b_h)}{\rho + \lambda_h + \mu_h {\theta_h}^{\delta_h}} = \psi(1-\gamma)A\gamma(L_h + M)^{\gamma-2} \tag{32}$$

$$\frac{\partial \Pi}{\partial M} = 0 \Longrightarrow \psi(1-\gamma)A\gamma(L_h + M)^{\gamma-2} = \varphi P_f \emptyset\left(2h^{/}(M) + Mh^{//}(M)\right) \tag{33}$$

Taking the value of ψ and φ from (32) and (33) and substituting to (31) we get,

$$\frac{\rho L_h}{\rho + \lambda_h + \mu_h {\theta_h}^{\delta_h}} = \frac{\rho(w_h - b_h)}{\rho + \lambda_h + \mu_{h\theta_h}{}^{\delta_h}} \cdot \frac{1}{(1-\gamma)A\gamma(L_h + M)^{\gamma-2}} + \frac{\psi(1-\gamma)A\gamma(L_h + M)^{\gamma-2}}{P_f \emptyset\left(2h^{/}(M) + Mh^{//}(M)\right)}$$

Now Let,

$$\rho + \lambda_h + \mu_h {\theta_h}^{\delta_h} = A$$
$$(1-\gamma)A\gamma(L_h + M)^{\gamma-2} = B$$
$$\text{and, } P_f \emptyset\left(2h^{/}(M) + Mh^{//}(M)\right) = C$$

Then,

$$\frac{\rho L_h}{A} = \frac{\rho(w_h - b_h)}{A} \cdot \frac{1}{B} + \frac{\psi B}{C}$$
$$\Longrightarrow \frac{\rho L_h}{A} = \frac{\rho(w_h - b_h)}{A} \cdot \frac{1}{B} + \frac{\rho(w_h - b_h)}{A} \cdot \frac{1}{B} \cdot \frac{B}{C}$$
$$\Longrightarrow \frac{\rho L_h}{A} = \frac{\rho(w_h - b_h)}{A}\left(\frac{B + C}{BC}\right)$$
$$\Longrightarrow w_h - b_h = L_h \cdot \left(\frac{BC}{B + C}\right)$$
$$\Longrightarrow w_h = b_h + L_h \cdot \left(\frac{BC}{B + C}\right)$$

That's mean

$$w_h = b_h + \frac{L_h\left((1-\gamma)\gamma A(L_h + M)^{\gamma-2} P_f \emptyset\left(2h^{/}(M) + Mh^{/}(M)\right)\right)}{(1-\gamma)\gamma A(L_h + M)^{\gamma-2} + P_f \emptyset\left(2h^{/}(M) + Mh^{/}(M)\right)} \tag{34}$$

5. Determination of Employment, offshoring amount and wage equation in case of individual wage barraging

Hamiltonian as follows,

$$H = A(L_h + M)^{\gamma} - w_h L_h - P_f \emptyset h(M) M - c_h V + \psi\left[\mu_h \theta_h^{\delta_{h-1}} V_h - \lambda_h L_h\right]$$

First order condition is,

$$\frac{\partial H}{\partial V_h} = 0 \Longrightarrow c_h = \psi \mu_h \theta_h^{\delta_{h-1}}$$

$$\frac{\partial H}{\partial L_h} = -\dot{\psi} + \rho\psi \Longrightarrow \gamma \cdot A(L_h + M)^{\gamma-1} - \left(w_h + L_h \frac{\partial w_h}{\partial L_h}\right) - \psi\lambda_h = -\dot{\psi} + \rho\psi$$
$$\Longrightarrow \gamma \cdot A(L_h + M)^{\gamma-1} - L_h \frac{\partial w_h}{\partial L_h} = w_h + \psi\lambda_h - \dot{\psi} + \rho\psi$$

Now taking $\dot{\psi} = 0$ at steady state and placing the value of c_h we get,

$$\gamma \cdot A(L_h + M)^{\gamma-1} - L_h \frac{\partial w_h}{\partial L_h} = w_h + \frac{(\rho + \lambda_h)c_h}{\mu_h \theta_h^{\delta_{h-1}}} \tag{35}$$

Here terms $\frac{\partial w_h}{\partial L_h}$ captures the effect identified by Stole and Zwiebel(1996). Equation (35) shows the employment decision of the firm when there have a possibility of renegotiation.

If there have no chance of renegotiation,

$$\gamma \cdot A(L_h + M)^{\gamma-1} = w_h + \frac{(\rho + \lambda_h)c_h}{\mu_h \theta_h^{\delta_{h-1}}} \tag{36}$$

For the optimal choice of offshoring amount,

$$\frac{\partial H}{\partial M} = 0 \Longrightarrow \gamma \cdot A(L_h + M)^{\gamma-1} = P_f \emptyset \Big(h(M) + Mh^{/}(M)\Big)$$

$$\therefore \ \gamma \cdot A(L_h + M)^{\gamma-1} = P_f \emptyset \Big(h(M) + Mh^{/}(M)\Big) \tag{37}$$

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Analysis of Interest in Forming Cooperatives in Kayoman Village, Gedangsari District, Gunungkidul Regency, Yogyakarta

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Abstract
This research was conducted to help the people of Kayoman Village, Gedangsari District, Gunngkidul Regency, Yogyakarta to overcome the problems they face regarding the management of funds originating from fees charged to residents for the use of clean water. The formation of cooperatives is one of the solutions that is considered appropriate for this problem, so research is carried out on the influence of the factors that influence interest in forming cooperatives in the Village. The results showed that knowledge of cooperatives, subjective norms, and behavioral control influenced the interest of the Kayoman Village community to form cooperatives. While the attitude does not affect the interest in the formation of cooperatives.

Keywords: Knowledge of Cooperatives, Subjective Norms, Behavioral Control, Attitude

1. Introduction

Economic development is one step that can be taken to achieve social welfare. Economic development shows a process of change towards improvement that is carried out consciously and planned to be able to increase the standard of living of the community. In general, economic development is used to describe changes in the economy within a country that involve both qualitative and quantitative improvements. Economic development is said to be successful if there is a continuous process of change, there is an increase in income in the long term, and there is a change in the economic structure. In this economic development, the community will act as the main actor and the government will act as a supporter.

Cooperatives are a suitable platform for economic development in Indonesia. Cooperatives can help develop the economic potential and capabilities of their members to improve the economic and social welfare of the community. In rural areas, village cooperatives are needed to support government development programs in the economic sector. Growing village cooperatives and awareness of cooperatives among the community, especially

youth, is still very much needed due to the lack of knowledge of the village community about the importance of cooperatives.

Interest in cooperatives is an important factor that influences the formation of a cooperative. Interest in cooperatives can be manifested by feeling happy to join cooperative members voluntarily, willing to take advantage of cooperative services, willing to make purchases at cooperatives, paying attention to the development of cooperatives, and having awareness and willingness to be involved in every cooperative activity. If someone already has a high interest in cooperatives then that person will be willing to participate actively in forming and promoting cooperatives. Interest is strongly influenced by various factors, including the learning process (Putra, 2014); attitudes, subjective norms, and behavioral control (Jayanegara, et al., 2020); perception and motivation (Pangestuti, 2016, Yanti, 2020, Alamsyah, 2021), cooperative knowledge (Jaya, et al., 2019), and cooperative behavior (Fatmawati, et al., 2019).

Kayoman Village is a village located in Gedangsari District, Gunungkidul Regency, Yogyakarta. For years, Kayoman Village has experienced problems in the supply of clean water. Since 2017, residents and the village government have overcome this problem by building drilled wells as a source of clean water for the community. Residents who need clean water can get it by paying a certain fee to get clean water from drilled wells. In its development, the village government needs a forum for managing funds originating from fees charged to residents for the use of clean water. The role of cooperatives is quite important so that the funds collected can be managed properly and can be used to improve the welfare of the village community. In addition, it is hoped that with the formation of cooperatives, the development of business groups in Kayoman Village, which so far have been in the form of household businesses, can open up and create wider employment opportunities. It is also hoped that the development of this business group will improve with the existence of cooperatives, both in terms of increasing income, managing ability, and contributing to the economy of families and surrounding communities.

This study seeks to analyze the factors that influence interest in forming cooperatives in Kayoman Village, Gedangsari District, Gunungkidul, Yogyakarta as an initial effort to pioneer the formation of cooperatives in Kayoman Village. It is hoped that by knowing the factors that influence people's interest in forming cooperatives, people will be encouraged to actively participate in the process of establishing and developing cooperatives in the future.

2. Literature Review

2.1 Interest in Cooperative

Interest in cooperatives is a high desire that is manifested in feelings of pleasure, attention, concentration, awareness, and a willingness to be involved in cooperative activities (Catur and Setiawina, 2018). Interest in cooperatives consists of indicators of feeling happy in cooperatives, attention to cooperatives, concentration on cooperative activities, awareness of cooperatives, willingness to participate in cooperative activities, and involvement in cooperative activities.

One's interest in cooperating is a basic determinant related to personal factors and social influence. Personal factors that determine interest in cooperatives are in the form of feelings of pleasure or displeasure towards cooperatives, awareness of cooperatives, attention, and willingness to cooperate efforts. Meanwhile, subjective norms relate to one's perception or view of social pressure (other beliefs) which will affect the intention to do or not to do the behavior being considered (Jogiyanto, 2007:31-32).

2.2 Cooperative Knowledge

UU no. 25 of 1992 concerning cooperatives, mentions various knowledge about cooperatives, including cooperative business entities, cooperative foundations, goals, benefits, and cooperative principles. Cooperative knowledge possessed by a person will determine the success of the course of a cooperative. According to Widiyanti (2002: 74), the success of cooperatives in achieving their goals will largely be determined by the knowledge,

appreciation, and awareness of the cooperative members. By knowing the life of cooperatives, a person will have the awareness to be able to participate actively, and cooperative efforts will be able to progress and develop so that cooperative success is achieved.
Hypothesis 1: Knowledge of cooperatives has a positive effect on interest in forming cooperatives

2.3 Attitude

Attitude is an action that tends to be obtained from learning outcomes with consistent intentions, which shows a feeling of liking or disliking an object. (Schiffman, and Kanuk, 2008). This relates to one's beliefs about the consequences arising from behavior. According to Fishbein and Ajzen (1991), attitudes in behavior are determined by (a) behavioral beliefs (*Behavioral Belief*), namely the belief that behavior will produce an output or belief in the existence of consequences for carrying out certain behaviors, and (b) evaluation of consequences (*Outcomes Evaluation / Evaluation of the Consequenc*es), namely one's evaluation of the output or evaluation of the consequences of behavioral beliefs.

In cooperatives, attitudes towards the formation of cooperatives indicate the extent to which individuals have favorable or unfavorable evaluations of the existence of cooperatives in the form of several beliefs one has about the consequences of forming cooperatives and subjective evaluations of these consequences. The convenience and benefits obtained by the existence of cooperatives will make the interest in forming cooperatives continue to grow. People will assume that the existence of cooperatives will provide many benefits for society. Thus, the formation of cooperatives is seen as a positive thing for the welfare of society in the future.
Hypothesis 2: Attitude has a positive effect on interest in forming cooperatives

2.4 Subjective Norm

Subjective norm is the extent to which a person has the motivation to follow other people's views on the behavior he will do (Ajzeen, 2007). Subjective norms are formed by normative beliefs (*normative belief*), and motivation to comply (*motivation to comply*). Normative beliefs are beliefs about other people (reference groups or references) that they think what should be done or not done; or beliefs about other people's expectations (reference group) of him about what should be done. Meanwhile, compliance motivation is motivation that is in line with normative beliefs or motivation that is in line with the people who are the reference group (Anggelina and Japarianto, 2014). In cooperatives, belief in the existence of cooperatives can come from parents, close friends, co-workers, and so on.
Hypothesis 3: Subjective norms have a positive effect on interest in forming cooperatives

2.5 Behavioral Control

Behavioral control is the ease or difficulty of perception to perform behavior (Ajzeen, 2007). Behavioral control is shaped by control beliefs (*control belief*), namely the probability that several factors support an action/behavior, and the strength of the controlling factor (*power of control factor/access to the control factor*), namely subject access or subject power related to the factors that support the behavior. (Angelina and Japarianto, 2014).

In cooperatives, behavioral control will be related to people who have the desire to make changes or do something different for the sake of the common interest and will be encouraged to achieve these goals. The belief that the establishment of cooperatives in an area will be a driving force to change life in a better direction, will encourage someone's interest in supporting the establishment of cooperatives.
Hypothesis 4: Behavioral control has a positive effect on interest in forming cooperatives

3. Research Methods

3.1 Population and Research Sample

The population in this study is the people of Kayoman Village, Gedangsari District, Gunungkidul Regency, Yogyakarta, where cooperatives have not been formed in this area and face problems that can be solved by having

cooperatives. The research sample is part of the people of Kayoman Village, Gedangsari District, Gunungkidul Regency, Yogyakarta. The data collection method is by distributing questionnaires directly. Questionnaires will be distributed in a structured manner in Kayoman Village, Gedangsari District, Gunungkidul Regency, Yogyakarta.

3.2 Variable Measurement

The variables used in this research are interest in cooperatives (as independent variables), and the 4 dependent variables are cooperative knowledge, attitudes, subjective norms, and behavior control. The data were obtained by distributing questionnaires consisting of 25 question items, which consisted of 5 variable interest in cooperating question items; 7 items of cooperative knowledge variable questions, 5 attitude variable question items; 5 items of subjective norm variable questions; and 3 question items for behavioral control variables.

Variable measurements were carried out using a Likert scale. Meanwhile, the instrument test was carried out by testing the validity and reliability. Test validity is used to measure the level of validity or validity of an instrument. A reliability test is used to measure the accuracy of measuring instruments.

4. Data Analysis Technique

Data analysis was performed using multiple regression analysis with the following regression equation:

$$Y = a_0 + a_1 Knowledge + a_2 Attitude + a_3 Norm + a_4 Behavioral + e$$

To prove hypotheses 1, 2, 3, and 4, it is expected that the regression coefficient is α_1, a_2, a_3, and α_4 significant at a specified level of significance (1%, 5%, or 10%). This shows that knowledge, attitudes, subjective norms, and behavioral control influence the interest in forming cooperatives.

5. Results and Discussion

5.1 Descriptive statistics

Table 1 shows the characteristics of the respondents based on age and education. 4.5% of respondents aged < 30 years, 72% of respondents aged 30-50 years, and 23.5% of respondents aged > 50 years. Based on education level, 21% of respondents had elementary school education; 15% of respondents had junior high school education; 46% of respondents had high school education; 1% Diploma 1 person, and 18% of respondents with undergraduate education.

Table 1: Characteristics of Respondents Based on Age and Education

Age	**Frequency**	**Percentage (%)**
< 30 years	3	4,5%
30 – 50 years	49	72%
> 50 years	16	23,5%
Total	**68**	**100%**
Education	**Frequency**	**Percentage (%)**
Elementary School	14	21%
Junior High School	10	15%
Senior High School	31	46%
Diploma	1	1%
Masters	12	18%
Total	68	100%

5.2 Instrument Test Results

Validity test results show that all the significance values of the question items are less than or equal to 0.05. So it was concluded that all question items with cooperative knowledge variables, attitudes, subjective norms, behavioral control, and interest in forming cooperatives can be declared valid. The results of the reliability test show that the value *Cronbach Alpha* all variables greater than 0.70. Thus, it can be concluded that the variables of cooperative knowledge, attitudes, subjective norms, behavioral control, and interest in forming cooperatives can be declared reliable, and testing can be continued.

5.3 Research result

The test results using multiple linear regression in Table 2 show that the variables of cooperative knowledge, subjective norms, and behavioral control show a significance value of less than 0.05. So it can be concluded that the variable knowledge of cooperatives, subjective norms, and behavioral control have a significant effect on interest in cooperatives. While the attitude variable shows a significant value of 0.927 greater than 5%, it is concluded that the attitude variable does not affect the interest in cooperating.

Table 2: Multiple Linear Regression Test Results

Model	Unstandardized Coefficients	Standardized Coefficients	Beta	t	Say.
	B	Std. Error			
(Constant)	.593	.537		1.106	.273
X1	.873	.254	.602	3.435	.001
x2	.015	.164	.013	.092	.927
X3	-.406	.201	-.322	-2.015	.048
X4	.429	.123	.434	3.499	.001

5.4 Discussion

Knowledge of cooperatives has a significant influence on interest in cooperatives in Kayoman Village, Gedangsari District, Gunungkidul Regency. This shows that respondents who have good knowledge of cooperatives will show a high interest in the formation of cooperatives in Kayoman Village. Respondent's knowledge of cooperatives, in this case, is related to knowledge of cooperative objectives, functions, and roles of cooperatives, rights and obligations of cooperative members, cooperative principles, cooperative principles, and cooperative organizational instruments. With this understanding, respondents will participate and take advantage of the existence of cooperatives to improve shared welfare. This shows that knowledge of cooperatives is the main key for someone to become a member of a cooperative. The better one's cooperative knowledge, the higher one's interest in forming cooperatives.

Attitudes indicate the extent to which individuals have beliefs about the consequences of forming cooperatives and subjective evaluations of these consequences. The results showed that attitude did not affect interest in forming cooperatives in Kayoman Village, Gedangsari District, Gunungkidul Regency, Yogyakarta. This means that the belief in the existence of cooperatives, the benefits of cooperatives, and the benefits obtained do not affect interest in forming cooperatives. The people of Kayoman Village view that the formation of a cooperative is something new that is expected to have a better impact on their lives, so there is not much thought and evaluation of the consequences of forming a cooperative which is taken into consideration for the formation of a cooperative in their Village.

Subjective norms have a significant influence on the interest in forming cooperatives in Kayoman Village, Gedangsari District, Gunungkidul Regency, Yogyakarta. Subjective norms indicate individual perceptions about whether other people will support or not realize the action (Baron & Byrne, 2003). In the interest of forming cooperatives, suggestions from family, friends, co-workers, the opinions of other people who are known, and important people around, have a positive influence on interest in forming cooperatives. The community views that

other people's favorable views of the existence of cooperatives will influence their interest in joining as members of cooperatives. The better the support from others, the higher the interest in forming cooperatives.

Behavioral control has a positive effect on interest in forming cooperatives in Kayoman Village, Gedangsari District, Gunungkidul Regency, Yogyakarta. Behavior control shows a person's perception of obstacles in carrying out a behavior. In the interest of forming a cooperative, the people of Dusun Kayoman have hope that with the existence of a cooperative, life will be better in the future. In addition, the community has confidence that it will be easy for them to join as cooperative members.

The higher the community's confidence in the convenience and welfare that will be obtained, the greater the community's interest in the formation of cooperatives.

The cooperative knowledge variable is the most powerful factor influencing interest in forming cooperatives in Kayoman Village, Gedangsari District, Gunungkidul Regency, Yogyakarta. While the attitude variable has the smallest effect compared to other independent variables. The finding that the cooperative knowledge variable has the strongest influence on interest in forming cooperatives, indicates that the community has sufficient knowledge about cooperatives, especially those related to cooperatives. cooperative objectives, functions, and roles of cooperatives, rights and obligations of cooperative members, cooperative principles, cooperative principles, and cooperative organizational instruments. In addition, the community seems to have hope that with the formation of cooperatives, the development of business groups in the Kayoman Village, which so far have been in the form of household businesses, can be further enhanced by the existence of cooperatives, both in terms of opening up job opportunities, increasing income, managing ability and contributing to the economy. family and the surrounding community.

5.5 Implications of Research Results

Based on the findings in this study, the theoretical implications that can be conveyed are that cooperative knowledge, subjective norms, and behavioral control have a positive and significant effect on the interest in forming cooperatives in Kayoman Village, Gedangsari, Guningkidul, Yogyakarta. The results of this study enrich empirical studies and clarify the relationship between the concept of cooperative knowledge, subjective norms, and behavioral control, which have a positive and significant effect on interest in forming cooperatives. As an effort to support the community's positive attitude towards the interest in forming cooperatives, the local government needs to start pioneering and prepare itself to realize the formation of cooperatives in the Village. The local government can assist people who already have activities or businesses that still need to be fostered to increase their capacity. The method of mentoring activities can be in the form of management assistance, technical/production assistance, or both. The involvement and support of the local government is needed to encourage the immediate formation of cooperatives.

6. Conclusion

Interest in cooperatives is an important factor that influences the formation of a cooperative. In this study, cooperative knowledge, subjective norms, and behavioral control have a positive influence on the interest in forming cooperatives in Kayoman Village, Gedangsari, Gunungkidul, Yogyakarta. This shows that the people of Kayoman Village have a fairly high interest in forming a cooperative which is expected to be able to solve the problems they face and can help improve the welfare of the surrounding community.

Knowledge of cooperatives that has the strongest influence indicates that the community has good knowledge of cooperatives. Communities are quite aware of the benefits and advantages of forming cooperatives. Most of the respondents who have a higher education indicate that the community is quite mature and ready for the existence of cooperatives. So that the local government can start efforts to realize the formation of cooperatives in the village.

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Some Background on Moral Hazard Management in Banks

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Abstract
The article focuses on researching the theoretical framework for moral hazard management in banks. With the desk research methodology, the content focuses on researching the overview of the concept and the causes of moral hazard, study of the theoretical literature related to moral hazard management and moral hazard management models in banks.

Keywords: Moral Hazard, Moral Hazard Management, Attribution Theory, Rational Action Theory, Process Justice Theory, Organizational Commitment Theory

1. Studies on the concept and causes of moral hazard

1.1. Concepts of moral hazard

In the early 1960s, discussions of moral hazard began to emerge in the field of economics, as study of decision-making under uncertainty increasingly (Dembe and Boden, 2000). According to Krugman (2009), moral hazard occurs when a person makes decisions or actions that benefit themselves while someone else bears all the losses if that decision or action fails. Retolaza et al. (2016) show that moral hazard is a type of market failure that arises in an asymmetric environment. Conflicts of interest may also exist within each management department (Kusairi et al., 2018; Mousa et al., 2019; Nier and Baumann, 2006). In addition, moral hazard is also a consequence of the conflict of interest between customers and service providers when there is information asymmetry (Xuan et al., 2021). At the same time, due to the separation of ownership, control and risk appetite of the participants (Eisenhardt, 1989; Jensen, 1986; Jensen and Meckling, 1976) it cannot be expected that the bank will not be interested in risk-taking and will always act for safety and sustainability, because risk and expected return are always opposite but unifying sides of every decision-making in business (Anginer and Demirgüç-Kunt, 2018; Cheng and associates, 2018; Girling, 2022). Since then, the consequences of asymmetry of information and interests in the process of operation are the cause of moral hazard in banking activities.

1.2. Causes of moral hazard

There are many causes of moral hazard. Jensen and Meckling (1976) or later Dembe and Boden (2000), Girling (2022) concluded that the main cause of moral hazard in the banking business is the asymmetry of information. Asymmetric information is the term refers to situation that management cannot be assured and cannot control over

the behaviors of their employees. Conversely, bank employees can also be affected by asymmetric information if management conceals the necessary information. Asymmetry causes stakeholders to act under uncertainty, which is undesirable for any party (Ahmad and Gao, 2018). Another cause mentioned is that the difference in interests exists, i.e. the banker exhibits opportunistic behavior to maximize his or her expected profit instead of acting in accordance with the bank goal. In addition, Prendergast (1999) argues that there is always an "imperfect contract" in a business relationship, therefore, it is very difficult to exist a clear type of contract that has all the benefits as well. as required by the bank owner to ensure that employees will comply.

2. Study on novel theories.

When studying the intention or motivation to cause an action in an organization, including moral hazard, there are some novel theories as following:
Attribution theory was originated by Heider (1958) (quoted from Heider (2013)), and lately developed by Jones and Davis (1965), Bem (1972). The studies of Kelley (1967) and Kelley (1973) apply this theory to explain the causes of organizational behavior from two perspectives: managers and subordinates. This branch of research explains that the work motivation of employees will lead to certain orientations of managers (phase 1), then, managers will rely on those orientations to make decisions related to employees related to the behavior of subordinates (stage 2). Thus, the motivation for actions in the organization (including moral hazard) will first arise from the employees, but then be mainly influenced by managers. However, these theories are criticized that ordinary events do not create a basic motivation for workers to perform a certain action, but it must be unexpected events or failure situations (Weiner, 1985). Thus, attribution theory is one of the theories that can contribute to explaining the choice of a moral hazard management model from the representative side of the bank.

The Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975) answers questions related to human behavior in general. According to this theory, behavioral intention can be explained by attitude towards behavior and subjective normative level. Attitude to behavior is defined as an individual's positive or negative feelings about performing the target behavior, while subjective norm refers to how other people feel when you do something. The ultimate determinant of behavior is not attitude but behavioral intention. Therefore, this theory is often used to study the factors that cause criminal intentions - including issues related to moral hazard of the group of bank representatives. The biggest limitation of this model is that all behavior of an individual is due to his own reason. To overcome the shortcomings of the TRA model, Ajzen (1991) proposed a model (iii) Theory of Planned Behavior (TPB). The TPB model suggests that the most important factor influencing human decision making is behavioral intention. An extension of TPB theory when researching that attitude, perceived control behavior and subjective normative level have an influence on behavioral intentions and behaviors of individuals. Perceived behavioral control is added to show how difficult or easy it is to perform a particular behavior and whether or not the performance of that behavior is controlled. This theory is considered by some studies to be more optimal in explaining and predicting consumer behavior in a research content and context. Thus, this theory can be used to explain the intention to cause moral hazard behavior of bank employees; and a part to explain the choice of moral hazard management model of bank leaders.

The theory of procedural justice contributes to explaining a number of reasons why employees are willing to cheat in organizational matters (De Angelis and Kupchik, 2007; Nguyen Van Thang, 2013; Shapiro et al., 2007), 1995). When workers are not evaluated fairly, they will find many different ways to “regain justice”. This problem is explained by the assumptions (variables) included in the model such as interaction attitude, information provision, opportunity to have a voice. And then, when there is a certain awareness, it has a positive effect on reducing the adverse risk of workers to the organization. This theory is put forward to evaluate ideas that are relevant to workers and middle or lower management. Therefore, this is one of the original theories introduced to evaluate moral hazard behavior in banks.

Organizational commitment theory. This theory suggests that employees in organizations often commit based on three components: emotional commitment (affective), utilitarian commitment (continuance) and normative commitment (mormative). (Meyer and Allen, 1991; Nguyen Van Thang, 2013; Allen and Meyer, 1996; Meyer et al., 1993; Meyer et al., 2002). In research related to individuals' commitment, their own unique problem is also

worthy of attention: if based on sentiment, there are personal characteristics and organizational structure of the business or job experience. If calculus is involved then there is a matter of investment, other options. Thus, studying the issue of moral hazard in the bank from the employee's side will introduce variables related to the personal experiences or calculations of individuals.

In summary, research on moral hazard usually has 4 main branches of the theory as above.

3. Moral hazard management model in banking activities

Due to the negative consequences and impacts of moral hazard toward the financial system and the economy, the establishment of a moral hazard management model becomes even more necessary in the future banking operations. However, the studies on moral hazard and the establishment of ethical risk management models in banks so far are limited.

The Basel Committee partly deals with moral hazard when classifying operational risks and operational risk events. Accordingly, the cause of operational risk comes from people with actions such as fraud, forgery, theft, improper activities, improper regulations or ineffective human resource management. According to the Basel Committee on Banking Supervision (Basel, 2006), operational risk management is defined as the whole process of continuously identifying, assessing, mitigation and monitoring in order to minimize the losses incurred during the implementation process and ensure business continuity of the bank (Do Hoai Linh et al., 2022). A key component of the operational risk governance framework is a set of core operational risk standards that provide guidance on the basis of control and assurance of the operating environment. Frameworks are complemented with different tools but all have the same main components: defining risk strategy (CLRR), building governance structure, establishing reporting lines, self-assessment controlling, managing risk events, setting-up key risk indicators (KRIs) and risk mitigation program (Girling, 2022). Operational risk – one of the specific risks that banks face is reflected in the framework of Basel II/III with 3 pillars according to which banks are expected to identify, measure and manage this type of risk: (i) Pillar 1 recommends that banks maintain a necessary amount of capital to deal with operational risks; (ii) Pillar 2 defines the review process of the organization's operational risk management framework and, ultimately, capital adequacy. Pillar 2 sets out specific supervisory responsibilities for the board of directors and senior management, thereby reinforcing the principle of internal control and other corporate governance by regulators around the world; (iii) Pillar 3 aims to strengthen market discipline through increased disclosure of information on operational risks, especially specific events that pose operational risks in banks. The operational risk management framework proposed by the Basel Committee includes the following steps: (i) risk identification; (ii) risk measurement; (iii) risk assessment; (iv) monitoring and (v) reporting. The Basel Committee also summarized 4 main issues including 10 principles in operating risk management and recommended banks to implement. Thus, moral hazard management from Basel's point of view has not been set out as a separate content, which is not suitable for the context of banks. It is necessary to properly recognize the impact of moral hazard in banking operations, from which, there should be a moral risk management model with a worthy position in banking governance.

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Factors Influence Organic Food Purchase Intention of Vietnamese Consumers

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Abstract
The research focuses on examining factors influencing the organic food purchase intention of Vietnamese consumers. The organic food market has been developing steadily and growing in popularity, but the factors affecting organic food purchase intention are not well-studied. A conceptual model of factors was created based on evaluating other conceptual models from global research. The conceptual model includes 8 independent variables: Health consciousness (HC), Environmental concern (EC), Personal attitude (PA); Subjective norms (SN); Perceived behavior control (PBC); Food price (FP); Food availability (FA); Transparent information (TI) which affect the dependent variable "Organic food purchase intention" (OFPI). A survey was conducted and received responses from 528 Vietnamese consumers; the data collected was analyzed by SMARTPLS to examine the factors and determine the impact of each factor. The results depict that factors affecting organic food purchases include Perceived behavior control (PBC); Transparent information (TI); Subjective norms (SN); and Food availability (FA) with a decreasing level of influence. The other factors such as Food price (FP); Environmental concern (EC); Health consciousness (HC), and Personal attitude (PA) don't possess enough statistical significance to conclude. With the results, exchanges and discussions to enhance the organic food market are drawn.

Keywords: Factors Influencing, Purchase Intention, Organic Food, Vietnamese Consumers

1. Introduction

Organic food has been growing in popularity in both developed and developing countries. Consumers are attracted to organic food since it is grown without the use of pesticides, and other detrimental ingredients. The dramatically rising demands for organic food compel producers to change from traditionally grown food to organic one.

In Vietnam, it is organic food received standardized certification from legitimate organizations in the food market: USDA (USA), NASAA (Australia), Control Union - an organization that assesses and licenses European Organic standards. Currently, the Vietnamese organic food market is developing considerably with the appearance of absolutely organic food stores or specific retail displays in supermarkets. The origin and development of the organic food market stem from the demand for a healthy diet of consumers.

In this research, the authors are examining factors influencing organic food purchase intention of Vietnamese consumers, conducting research and using 528 responses, and accreditation is implemented by SMARTPLS. 8 factors are deployed for this research model. However, the results illustrate 4 factors have a positive influence on organic food purchase intention: the highest impact is recorded for Perceived behavior control (PBC) (0.267); the second highest is Transparent information (TI) (0.21); and two factors Subjective norms (SN) and Availability (A) have an identical impact (0.138).

2. Theoretical basis, research models, and hypotheses

2.1 Theoretical basis

Organic food is defined as food produced without herbicides, pesticides, antibiotics, inorganic manure, and growth hormones (Honkanen, Verplanken, & Olsen, 2006). Diversified sources define organic food differently, but the majority of them depend on properties, including safety, nutrition, degree of importance, and nature. (Kahl et al., 2012).

TRA (Theory of Reasoned Action) - a research model from a psychosocial perspective to determine factors of conscious behavioral tendencies (Ajzen & Fishbein, 1975), including *(i) Consumers' attitude to perform an act; (ii) Consumers' subjective norms*.

TPB (Theory of Planned Behaviour) - is built from the original theory TRA. Model TPB of Ajzen (1991) adds a factor *"Perceived behavior control",* after two previous ones *Attitude* and *Subjective norms*, affecting the consumers' behavior.

2.2. Literature review

The research team has conducted a literature review of national and international research about organic food purchase intention in Table 1.

Table 1: Literature review

Order	Research	Authors	Year	Nation/City	Variables	Results
INTERNATIONAL RESEARCH						
1	Examining The Factors That Affect Consumers' Purchase Intention of Organic Food Products In A Developing Country	Mostafa Fawzy Zayed, Hazem Rasheed Gaber, & Nermine El Essawi	2022	Egypt	+ Personal attitude + Environmental concern + e-WOM (Marketing through the Internet/word of mouth) + Subjective norms + Perceived behavior control + Health consciousness + Purchase intention	+ Personal attitude and Environmental concern influence organic food purchase intention. + Factors that don't influence organic food purchase intention: e-WOM; Subjective norms; Perceived behavior control; and Health consciousness. + e-WOM doesn't directly affect organic food purchase intention. However, it affects other factors.
2	Factors Influencing Purchases of Organic Food	Michaela Jánská, Patrícia Kollar, & Čeněk Celer	2023	Czech Republic	+Health consciousness + Food taste + Environmental concern + Price + Purchase intention	+ Factors influencing organic food purchase intention include Health consciousness, Food taste, and Environmental concern + Price has a negative influence on organic food purchase intention

3	Factors Influencing Organic Food Purchase of Young Chinese Consumers	Xiufeng Li & Yazhi Xin	2015	China	+ Food safety + Nutrition + Environmental concern + Transparent information + Supply + Purchase intention	+ Factors significantly influence organic food purchase intention: Food safety; Nutrition; and Environmental concern. + Factors negatively influence organic food purchase intention: Price; Dearth of trust in food information; and Limited supply.
4	Understanding The Decisional Factors Affecting Consumers' Buying Behaviour Towards Organic Food Products in Kerala	Ms Krishna. R & Dr P. Balasubramanian	2021	India	+ Knowledge + Attitude + Subjective norms + Perceived behavior control + Environmental concern + Satisfaction, Trust, and Loyalty.	+ Factors influencing organic food purchase intention: Knowledge about organic food; Attitude; Subjective norms; Perceived behavior control; Environmental concern; Satisfaction, Trust, and Loyalty. + Discussion also claims deterrent factors include Opaque information and Limited supply.
5	Factors Influencing Organic Food Purchase Intention in Developing Countries and the Moderating Role of Knowledge	Xuhui Wang, Frida Pacho, Jia Liu, & Redempta Kajungiro	2019	China	+ Subjective norms + Attitude + Health consciousness + Perceived behavior control + Knowledge + Purchase intention	+ Subjective norms; Attitude; and Health consciousness influences significantly organic food purchase intention. + Perceived behavior control weakly affects organic food purchase intention. + Knowledge is a moderate factor, influencing other variables except Perceived behavior control.
VIETNAMESE RESEARCH						
6	Factors affecting organic food purchase intention of consumers in Ho Chi Minh City	Nguyen Thao Nguyen & Le Thi Trang	2020	Ho Chi Minh	+ Food safety + Health consciousness + Quality + Environmental concern + Price + Purchase intention	+ Food safety; Health consciousness; Quality; Environmental concern; and Price affect organic food purchase intention with decreasing level of influence. + High price influences weakly organic food purchase intention.
7	Factors affecting organic food purchase intention of consumers in Long Xuyen city	Huynh Dinh Le Thu, Nguyen Thi Minh Thu & Ha Nam Khanh Giao	2020	An Giang	+ Attitude + Trust + Transparent information + Knowledge + Purchase intention	+ Attitude and Trust affect organic food purchase intention. + Trust is indirect among Transparent information, Knowledge, and organic food purchase intention.
8	Factors affecting organic food purchase intention in Long Bien district, Hanoi	Nguyen Ngoc Mai & Nguyen Thanh Phong	2020	Ha Noi	+ Consumers' awareness + Health consciousness + Subjective norms + Price + Purchase intention	+ Consumers' awareness; Health consciousness; and Subjective norms have a positive influence on organic food purchase intention. + Price negatively affects organic food purchase intention.

9	What motivation affects organic food purchase intention of Vietnamese consumers	Bui Thi Hoang Lan & Nguyen Van Anh	2021	Ho Chi Minh	+ Health consciousness + Trust + Attraction + Environmental concern + Attitude + Subjective norms + Perceived behavior control + Purchase intention	+ Factors influencing organic food purchase intention includes Health consciousness; Trust; Attraction; and Environmental concern. + Factors belonging to TPB conceptual model: Attitude; Subjective norms; and Perceived behavior control have an impact on organic food purchase intention. + Perceived behavior control is the most impactful factor.
10	Factors promoting and inhibiting organic food purchase intention of consumers in Ho Chi Minh City	Huynh Thi Kim Loan & Nguyen Ngoc Hien	2021	Ho Chi Minh	+ Health consciousness + Ecosystem welfare + Food safety + Barrier of price + Barrier of risk + Barriers to use + Purchase intention	+ Motivating factors of organic food purchase intention include Health consciousness, Ecosystem welfare; and Food safety. + Deterrent factors of organic food purchase intention include Barrier of price; Barrier of risk; and Barrier to use.

Source: Summary of research team

2.3. Research factors, scales, and hypotheses

Table 2: Research factors and scales

Order	Factor	Encode	Scale	Reference
1	Health consciousness (HC)	HC1	I buy organic food due to its health benefits.	Hansen et al. (2018)
		HC2	I buy organic food to ensure health and safety for me and my family.	
		HC3	I pay attention to the long-term impact of consuming food.	
		HC4	I can sacrifice some eating interests to possess the best health.	
2	Environmental concern (EC)	EC1	I buy organic food since it contributes to environmental protection.	Teng & Lu (2016)
		EC2	I think organic food is environmentally friendly.	
		EC3	Present pollution influences my organic food purchase intention.	
		EC4	Production of organic food utilizes fewer chemical substances which are detrimental to the environment.	
3	Personal attitude (PA)	PA1	I believe organic food has less chemical substance than traditionally grown one.	Gil et al. (2000); Lockie et al. (2004); Wang et al. (2019)
		PA2	I believe organic food has a better taste than traditionally grown one.	
		PA3	I believe organic food has a better quality than traditionally grown one.	
		PA4	I believe organic food is safer than traditionally grown one.	
		PA5	I believe organic food is more visually attractive than traditionally grown one.	
4	Subjective norms (SN)	SN1	My family believes I ought to buy organic food.	Chen et al. (1998); Asif et al. (2018)
		SN2	My friends, or colleagues believe I ought to buy organic food.	
		SN3	Scientific newspapers and journals influence my organic food purchase intention.	
		SN4	Government policies influence my organic food purchase intention.	
5	Perceived behavior control (PBC)	PBC1	I can afford organic food.	Asif et al. (2018)
		PBC2	I have some knowledge about organic food.	
		PBC3	I am ready to spend money on organic food.	

		PBC4	I can purchase organic food without difficulties.	
6	Food price (FP)	FP1	I believe organic food has a higher price than traditionally grown ones.	Tandon et al. (2020); Kushwah et al. (2019)
		FP2	I believe organic food's price is suitable due to its quality.	
		FP3	I believe organic food's price is suitable due to its production.	
		FP4	I believe organic food's price is acceptable.	
7	Food availability (FA)	FA1	I can find organic food in my local area.	Xie et al. (2015); Sondhi (2014)
		FA2	I can find organic food at supermarkets.	
		FA3	I can find organic food at green stores.	
		FA4	I can find organic food on social networking sites.	
8	Transparent information (TI)	TI1	I pay attention to organic food's labels or packaging.	Krystallis & Chryssohoidis (2005); Siegrist (2000); Tandon et al. (2020); Nuttavuthisit & Thøgersen (2017)
		TI2	I pay attention to organic food possessing qualified certification.	
		TI3	I pay attention to accurate information on organic food's labels or packaging.	
		TI4	I have faith in organizations which license food quality currently.	
9	Organic food purchase intention (OFPI)	OFPI1	I choose organic food over traditionally grown ones.	Shamsi et al. (2020)
		OFPI2	I have a possibility to purchase organic food in the future.	
		OFPI3	I am ready to purchase organic food in the future.	
		OFPI4	I actively find organic food.	
		OFPI5	I will introduce organic food to my family and friends.	

Source: Summary of research team

Research hypotheses:

H1. Health consciousness (HC) has a positive influence on organic food purchase intention (OFPI)
H2. Environmental concern (EC) has a positive influence on organic food purchase intention (OFPI)
H3. Personal attitude (PA) has a positive influence on organic food purchase intention (OFPI)
H4. Subjective norms (SN) have a positive influence on organic food purchase intention (OFPI)
H5. Perceived behavior control (PBC) has a positive influence on organic food purchase intention (OFPI)
H6. Food price (FP) has a positive influence on organic food purchase intention (OFPI)
H7. Food availability (FA) has a positive influence on organic food purchase intention (OFPI)
H8. Transparent information (TI) has a positive influence on organic food purchase intention (OFPI)

3. Research Methodology

3.1. Data Collection Method

Based on the Theoretical Basis and Literature Review of factors influencing organic food purchase intention, factors in the research model include 8 independent variables *(i) Health consciousness (HC), (ii) Environmental concern (EC), (iii) Personal attitudes (PA); (iv) Subjective norms (SN); (v) Perceived behavior control (PBC); (vi) Food price (FP); (vii) Food availability (FA); (viii) Transparent information (TI)*; and a dependent variable *"Organic food purchase intention"*.

The questionnaire is constructed with Likert 5 scale: *1. Strongly disagree; 2. Disagree; 3. Neutral; 4. Agree; 5. Strongly agree.*

After erecting the questionnaire, the research team interviewed 7 consumers knowledgeable about organic food. The preliminary results of the survey depict that opinions agree with factors in the model. Based on the initial results, the research team perfected the questionnaire and administered the large-scale survey through a link (https://shorturl.at/krTV8) where the intended subjects are Vietnamese consumers.

The data collection method was executed by the research team according to Convenience sampling and Snowball sampling (the method of finding the following subjects via recent interviewees' suggestions or recommendations) to ensure a sufficient amount of required sample size. There are 528 responses that are received and analyzed.

3.2. Data Analysis Method

It is a quantitative method that is implemented to analyze data from the survey of Vietnamese consumers about organic food. SMARTPLS software is utilized to authenticate the hypotheses and evaluate the factors' level of influence.

Table 3: Steps to analyze data via software SMARTPLS

Step 1: Evaluating Measurement Model *Evaluating measurement model on the basis of auditing values of reliability, quality of observed variables, convergence, and discriminant.*		
Inspecting the quality of observed variables (Outer Loadings)	Outer Loadings of observed variables are indicators illustrating the associating degree between observed variables and latent variables (proxy variables). It is the square root of absolute value R^2 linear regression from the latent variables to sub-observed ones.	Hair et al. (2016) suggests the outer loadings ought to be greater than or equal to 0.708 observed variables that are quality. To enhance memorization, the researchers rounded 0.708 to 0.7
Evaluating Reliability	Evaluating reliability via SMARTPLS by two main indicators, Cronbach's Alpha and Composite Reliability (CR). Researchers have a preference for Composite Reliability (CR) over Cronbach's Alpha since the latter underestimates the reliability compared to the former.	Chin (1988) claims that in exploratory research, CR must be over 0.6. Studies confirm 0.7 threshold is the suitable level for CR (Henseler & Sarstedt, 2013). Others also agree that the aforementioned threshold can be utilized for the majority of cases such as Hair et al. (2010), and Bagozzi & Yi (1988).
Inspecting Convergence	Evaluating Convergence on SMARTPLS derives from average variance extracted AVE.	Hock & Ringle (2010) assert a scale reaches a convergence value providing that AVE is above or equal to 0.5. 0.5 (50%) represents that the average latent variable explains at least 50% of each sub-observed variable's variation. Thus, convergence is evaluated by Average Variance Extracted AVE $\geq$ 0.5.
Inspecting Discriminant Validity	Discriminant value can demonstrate whether a research variable is actually different from others in the model.	To evaluate the discriminant validity, Sarstedt et al. (2017) consider two criteria including cross-loadings and measurement of Fornell and Larcker (1981).
	Cross-loading coefficient is usually the first approach to evaluate the discriminant validity of indicators (observed variables).	According to Hair, Hult, et al., 2017, the loading figure of the observed variable (indicator), linked with a factor (latent variable), should be greater than any of its cross-loading coefficients (correlation) in other factors.
		Fornell and Larcker (1981) recommend discrimination is ensured when the square root of AVE of each latent variable is higher than all correlations among latent variables.
	Henseler et al. (2015) utilized simulation studies to demonstrate that discriminant validity is better evaluated by the HTMT index that they developed.	Henseler et al. (2015) propose on the condition that this value is below 0.9, the discriminant validity will be guaranteed. Meanwhile, Clark & Watson (1995) and Kline (2015) possessed a stricter standard threshold of 0.85. SMARTPLS prioritized a threshold of 0.85 in their evaluation.
Inspecting Multicollinea-rity	A scale of multicollinearity is a variance magnification factor (VIF).	VIF value >= 5 indicates an extremely high level of multicollinearity; the model lacks

		multicollinearity when VIF indicators < 5 (Hair et al., 2016).
Step 2: Evaluating Structural Model *Evaluating the structural model through the impact relationship, path coefficient, R squared, and f squared after the measurement model reaches a standard*		
Evaluating the impact relationship	Bootstrap analysis's results are deployed. In accordance with two main columns (1) Original Sample (standardized impact coefficient) and (2) P Values (sig value compared to 0.05 significance level). • *Original Sample:* standardized impact coefficient of original data. SMARTPLS doesn't have non-standardized impact coefficients. • *Sample Mean:* average standardized impact coefficient of all samples from Bootstrap. • *Standard Deviation:* deviation of standardized impact coefficient (original sample). • *T Statistics:* inspecting value t (testing student meaning of the impact) • *P Values:* significance level of inspecting value t. It is usually considered with relative thresholds like 0.05; 0.1 or 0.01 (usually 0.05)	Evaluating the level of interpretation of independent variables for the dependent one by R^2 coefficient (R square). To evaluate the R^2 coefficient, results of the PLS Algorithm analysis are utilized. The R^2 value verifies the accuracy of model hypotheses and demonstrates the level of interpretation of independent variables for the dependent one. R square ranges from 0 to 1; the closer to 1, the more independent variables account for the dependent one. (Hair, Hult, et al, 2017).

Source: Summary of research team

4. Research results

4.1. Characteristics of respondent's description

According to a survey, the research team received responses from 528 participants

Table 4: Demographic characteristics of respondents

Demographic Criteria		Frequency	Percentage (%)
Gender	Male	263	49.8
	Female	188	35.6
	Others	77	14.6
Age	Below 22	144	27.3
	22 - 31	165	31.3
	32 - 42	132	25
	Above 42	87	16.5
Academic level	High school	132	25
	Bachelor's degree	249	47.2
	Higher than bachelor's degree	147	27.8
Monthly income in VND	Under 1 million	54	10.2
	1 - under 5 million	64	12.1

	5 - under 10 million	95	18
	10 - under 20 million	178	33.7
	20 million or above	137	25.9

Source: Summary of research team

4.2. Inspecting results

4.2.1. Results of quality evaluation of observed variables in Measurement Model

4.2.1.1. Inspecting the quality of observed variables

The quality of observed variables is evaluated by outer loadings coefficients. The quality of observed variables affecting organic food purchase intention of Vietnamese consumers is presented in Table 5.

Table 5: Outer loadings of variables influencing organic food purchase intention of Vietnamese consumers

	SN	FP	EC	FA	PBC	HC	PA	TI	OFPI
SN1	0.739								
SN2	0.792								
SN4	0.755								
FP1		0.730							
FP2		0.762							
FP3		0.758							
FP4		0.712							
EC1			0.826						
EC2			0.734						
EC3			0.785						
FA1				0.835					
FA2				0.865					
PBC1					0.765				
PBC2					0.794				
PBC3					0.740				
PBC4					0.702				
HC1						0.703			
HC2						0.792			
HC3						0.700			
HC4						0.731			
PA1							0.831		
PA2							0.728		
PA3							0.767		
TI1								0.862	
TI2								0.861	
OFPI1									0.819
OFPI2									0.782
OFPI3									0.765

Source: Inspecting results of research team

After initial evaluation, 10 scales SN3, EC4, FA3&4, PA4&5, TI3&4, và OFPI 4&5 having outlet loadings < 0.7 are eliminated from the model. Results from Table 1 demonstrate outer loadings of all total variable correlation coefficients of factors influencing organic food purchase intention of Vietnamese consumers are > 0.7 (Hair & et al, 2016) which means observed variables are significant.

4.2.1.2. Inspecting scale's reliability

Inspecting scale's reliability of factors influencing organic food purchase intention of Vietnamese consumers via SMARTPLS by two main indicators Cronbach's Alpha and Composite Reliability (CR).

Table 6: Cronbach's Alpha and Composite Reliability of factors influencing organic food purchase intention of Vietnamese consumers

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
SN	0.640	0.640	0.806	0.581
FP	0.727	0.729	0.829	0.549
EC	0.684	0.685	0.825	0.612
FA	0.616	0.619	0.839	0.722
PBC	0.742	0.745	0.838	0.564
HC	0.719	0.732	0.822	0.536
PA	0.669	0.673	0.820	0.603
TI	0.653	0.653	0.852	0.742
OFPI	0.697	0.698	0.832	0.623

Source: Inspecting results of research team

According to Table 6, after the inspection of reliability through Cronbach's Alpha of factors, the results illustrate: Subjective norms (SN) reaches 0.640; Food price (FP) reaches 0.727; Environmental concern (EC) reaches 0.684; Food availability (FA) reaches 0.616; Perceived behavior control (PBC) reaches 0.742; Health consciousness (HC) reaches 0.719; Personal attitude (PA) reaches 0.669; Transparent information (TI) reaches 0.653. All of the scales have Cronbach's Alpha > 0.6.

In this research, CR values: Subjective norms (SN) reaches 0.806; Food price (FP) reaches 0.829; Environmental concern (EC) reaches 0.825; Food availability (FA) reaches 0.839; Perceived behavior control (PBC) reaches 0.838; Health consciousness (HC) reaches 0.822; Personal attitude (PA) reaches 0.820; Transparent information (TI) reaches 0.852. Therefore, all of the scales have > 0.7, reaching standards, in accordance with Chin (1998), Henseler & Sarstedt (2013), Hair et al. (2010), Bagozzi & Yi (1988).

Hence, the scale has reliability and analytical significance, and is utilized in the following factors analysis.

4.2.1.3. Convergence

As reported by the results in Table 2, AVE (Average Variance Extracted) of factors: Subjective norms (SN) reaches 0.581; Food price (FP) reaches 0.549; Environmental concern (EC) reaches 0.612; Food availability (FA) reaches 0.722; Perceived behavior control (PBC) reaches 0.564; Health consciousness (HC) reaches 0.536; Personal attitude (PA) reaches 0.603; Transparent information (TI) reaches 0.742.

Thus, AVE (Average Variance Extracted) of all variables is > 0.5 (Hock & Ringle, 2010), demonstrating that the model satisfies the standards of convergence.

4.2.1.4. Discriminant Validity

Results in Table 7 about Fornell-Larcker criteria of research model of factors influencing organic food purchase intention of Vietnamese consumers depict that factors Subjective norms (SN); Food price (FP); Environmental concern (EC); Food availability (FA); Perceived behavior control (PBC); Health consciousness (HC); Personal

attitude (PA); Transparent information (TI) all ensure the discriminant validity since AVE square root diagonal values are higher than non-diagonal ones. Therefore, discriminant validity through two indicators, including cross-load factor and Fornell-Larcker criteria, meets the requirement.

Table 7: Fornell-Larcker criteria of research model of factors influencing organic food purchase intention of Vietnamese consumers

	SN	FP	EC	FA	PBC	HC	PA	TI	OFPI
SN	0.762								
FP	0.499	0.741							
EC	0.483	0.571	0.783						
FA	0.459	0.598	0.443	0.850					
PBC	0.594	0.625	0.553	0.548	0.751				
HC	0.428	0.585	0.615	0.489	0.486	0.732			
PA	0.527	0.588	0.571	0.486	0.502	0.535	0.777		
TI	0.413	0.568	0.453	0.437	0.467	0.436	0.451	0.862	
OFPI	0.547	0.565	0.512	0.538	0.630	0.479	0.521	0.546	0.789

Source: Inspecting results of research team

Inspecting values in table 8 demonstrate HTMT index on discriminant among factors influencing organic food purchase intention of Vietnamese consumers. Garson (2016) claims that the discriminant is ensured (since all are <1). According to Henseler et al. (2016), providing that this value is below 0.9, the discriminant is ensured. HTMT index in Table 4 demonstrates the discriminant among factors in the model.

Table 8: HTMT index of research model of factors influencing organic food purchase intention of Vietnamese consumers

	SN	FP	EC	FA	PBC	HC	PA	TI	OFPI
SN									
FP	**0.727**								
EC	**0.727**	**0.809**							
FA	**0.727**	0.886	**0.673**						
PBC	0.859	**0.846**	**0.771**	**0.810**					
HC	**0.615**	**0.803**	0.857	**0.711**	**0.656**				
PA	**0.802**	**0.839**	**0.840**	**0.759**	**0.715**	**0.758**			
TI	**0.640**	**0.822**	**0.676**	**0.684**	**0.671**	**0.624**	**0.682**		
OFPI	**0.810**	**0.777**	**0.730**	**0.819**	0.870	**0.647**	**0.763**	**0.800**	

Source: Inspecting results of research team

4.2.1.5. Function value f^2

Function value $\mathbf{f^2}$ represents the level of influence of structure (factor) when eliminated from the model. $\mathbf{f^2}$ values reach 0.02; 0.15; 0.35, corresponding to small, average, and high impact (Cohen, 1988) of exogenous variables. On the condition that effect size < 0.02, no impact is recorded.

Table 9. Summary values of f^2

	SN	FP	EC	FA	PBC	HC	PA	TI	OFPI
SN									0.023
FP									0.000
EC									0.003

FA									0.023
PBC									0.071
HC									0.002
PA									0.008
TI									0.060
OFPI									

Source: Inspecting results of research team

In this research, Table 9 represents relationships among SN (0.023); FA (0.023); PBC (0.071); and TI (0.060) have an impact on organic food purchase intention of Vietnamese consumers, with $\mathbf{f^2} > 0.02$ - small impact. Factors FP (0.000), EC (0.003), HC (0.002), PA (0.008) have $\mathbf{f^2} < 0.02$, considered as having no impact on organic food purchase intention of Vietnamese consumers.

4.2.2. Inspecting level of influence via structural model

4.2.2.1. Evaluating impactful relationships

Relationships and the level of influence of factors influencing organic food purchase intention of Vietnamese consumers via SMARTPLS are presented in Figure 1.

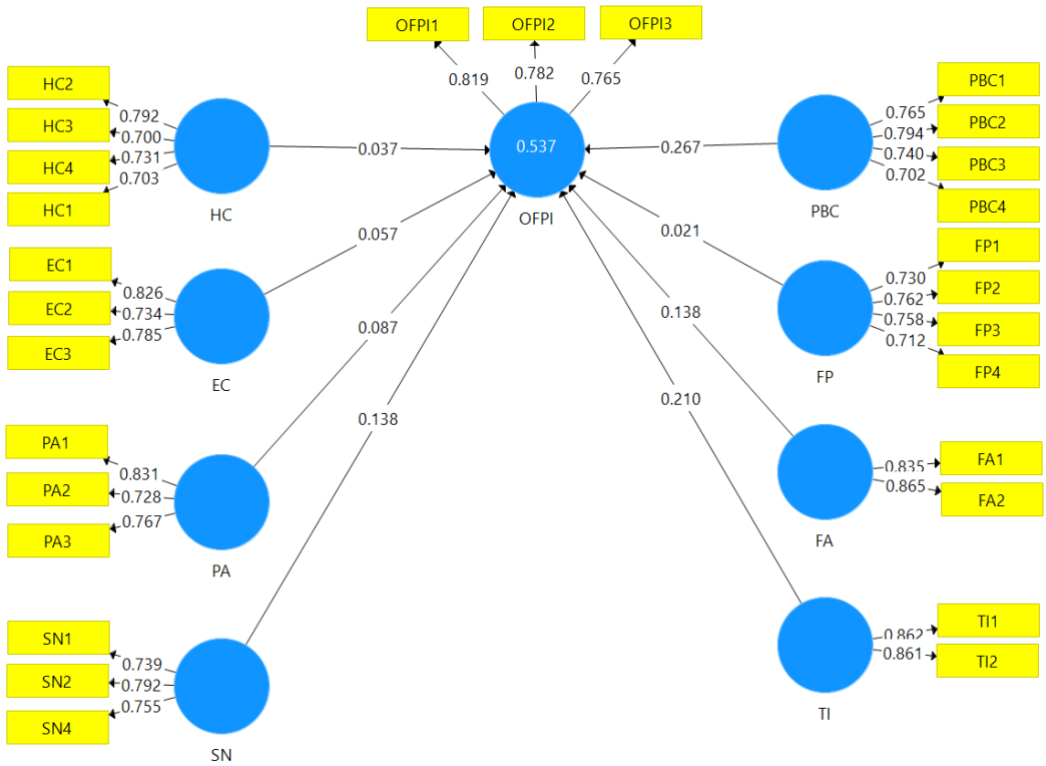

Figure 1: Factors influencing organic food purchase intention of Vietnamese consumers

Source: Inspecting results via SMARTPLS of research team

Results of analyzing Bootstrap to evaluate the impactful relationships are demonstrated in Table 10. Factors "Subjective norms", "Food availability", "Perceived behavior control", and "Transparent information" have P values < 0.05, which represents those factors have a sufficient amount of statistical significance to show a positive influence on organic food purchase intention of Vietnamese consumers (Hypotheses H4, H5, H7, H8 are supported). Factors "Food price", "Environmental concern", "Health consciousness", and "Personal attitude" have P Values > 0.05, which represents those factors don't have a sufficient amount of statistical significance to show a positive influence on organic food purchase intention of Vietnamese consumers (Hypotheses H1, H2, H3, H6 are rejected).

Table 10: Path Coefficient of structural model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
SN => OFPI	0.138	0.138	0.058	2,381	0.018
FP => OFPI	0.021	0.027	0.063	0.337	0.736
EC => OFPI	0.057	0.056	0.061	0.940	0.348
FA => OFPI	0.138	0.136	0.050	2,770	0.006
PBC => OFPI	0.267	0.272	0.059	4,559	0.000
HC => OFPI	0.037	0.039	0.049	0.762	0.447
PA => OFPI	0.087	0.083	0.053	1,627	0.104
TI => OFPI	0.210	0.208	0.053	3,967	0.000

Source: Inspecting results via SMARTPLS of research team

Results in table 6 illustrate that with reliability 95%, *"Perceived behavior control"* (PBC) influences the most significantly, with an impact of 0.267; following is *"Transparent information"* (TI), with an impact of 0.210. *"Subjective norms"* (SN) and *"Food availability"* (FA) have an identical impact of 0.138.

4.2.2.2. Evaluating coefficient of determination R^2 (R square)

Results of PLS Algorithm analysis for $\mathbf{R^2}$ value depicts the level of interpretation of independent variables for the dependent one. $\mathbf{R^2}$ measures the overall coefficient of determination (R-square value), an indicator of suitability for the data model (interpretability of model). Hair et al (2010) cite that the R-square value ought to be 0.75, 0.50, or 0.25.

Table 11: Coefficient depicting the level of interpretation of independent variables for the dependent one (R Square)

	R Square	R Square Adjusted
OFPI	0.537	0.530

Source: Inspecting results of research team

Results in Table 11 illustrate that R^2 is 0.537 and R^2 adjusted equals 0.530, which is suitable in this circumstance, and independent variables in the model can explain 53.7% *"Organic food purchase intention of Vietnamese consumers"*.

4.2.2.3. Evaluating reliability index (SRMR)

Standardized Root Mean Square Residual (SRMR) index: this index illustrates the suitability rate of the research model. According to Hu & Bentler (1999), a suitable research model usually has an SRMR index below 0.08

Table 12: Standardized Root Mean Square Residual (SRMR) index

	Saturated Model	Estimated Model
SRMR	0.067	0.067

Source: Inspecting results of research team

SRMR index in Table 12 of the research model is 0.067, below 0.08. Hence, this model is suitable to analyze data.

5. Discussions

With a significant level of 5%, among 8 factors included, there are only 4 factors influencing the "organic food purchase intention of Vietnamese consumers". ***"Perceived behavior control" (PBC)*** has the strongest influence on organic food purchase intention of Vietnamese consumers, with an impact of 0.267, showing that when Perceived behavior control increases by 1 unit, it enhances organic food purchase intention of Vietnamese consumers to increase by 0.267 unit. Following this, the factor ***"Transparent information" (TI)*** has an impact of

0.210, representing that when Transparent information increases by 1 unit, it fosters organic food purchase intention of Vietnamese consumers to increase by 0.210 unit. Factors ***"Subjective norms" (SN)*** and ***"Food availability" (FA)*** have an identical impact of 0.138, demonstrating that when those factors increase by 1 unit, it bolsters organic food purchase intention of Vietnamese consumers to increase by 0.210 unit

From responses and inspecting the influence of variables in the model on organic food purchase intention of Vietnamese consumers, the research team proposed some recommendations:

Factors "***Perceived behavior control"*** has the strongest influence. To promote this factor, the agricultural industry, local authorities, and organizations ought to coordinate training sessions, seminars, exchanges, and discussions, boosting public awareness about organic food. Concentrating on providing information, including the steady surge of producing organic food in different countries, environmental problems enhancing the demands, and benefits for the health of families ... constructs accurate awareness and encourages Vietnamese consumers to utilize organic food.

Organic food should have standardized labels, building trust in consumers, and promoting ***"Transparent information"***. With transparency and accuracy about origins, provenances, and ingredients, consumers are more inclined to purchase products. Stores, supermarkets, and groceries, which are experts at contributing organic food, must have certification from political organizations, reassuring products' quality and legit. Apart from certification, each product of the *"green store"* should have a stamp/logo, enhancing consumers to recognize and distinguish.

At certain periods, instead of devoting their effort to developing their health, Vietnamese consumers choose cheap fast food. This has culminated in detrimental problems for health. Nevertheless, through propaganda, advertising, word-of-mouth introduction, communication, and program organization, consumers presently concentrate on good eating habits and using organic food. It is a tendency to buy organic food when a person is surrounded by like-minded family members or colleagues encouraging each other. The government also assists green organizations through obvious planning; improvement in infrastructures, including drainage systems or freshwater reserves; appropriate fertilizer supply. Promotions and offers allow Vietnamese consumers to access organic food, an expensive product in markets. Propagandas and promotions bolster factor ***"Subjective norms"*** to promote, influencing organic food purchase intention.

Demands for organic food in markets are skyrocketing. Enterprises, cooperatives, and producers are paying attention to this phenomenon, rendering ***"Food availability"*** subsequently developed. Due to the ever-rising technological developments, consumers passionate about organic food can create groups to exchange, share personal experiences, answer questions, and contribute ideas. Firms, cooperatives, and producers ought to be pioneers in this field, investing money to enhance production, advertising, customer service, and orientation in which consumers acknowledge the products' merits. Additionally, organizing viable activities to orientate young entrepreneurs, potentially advancing this field in Vietnam.

Besides, factors ***"Food price", "Environmental concern", "Health consciousness",*** and ***"Personal Attitude"*** are not statistically significant enough to confirm a positive relationship with organic food purchase intention. In terms of the ***"Food price"***, Vietnamese consumers have a preference for food's quality over the price. They are willing to pay higher amounts in exchange for the health and quality of organic food, creating a competitive advantage. This will advance the intention to purchase organic food of Vietnamese consumers. Even though factors ***"Environmental concern"*** and ***"Health consciousness"*** do not have a positive influence on organic food purchase intention of Vietnamese consumers, raising awareness about health and the environment is an inevitable trend today, and, consequently, will change consumers' intention to buy organic food. Manufacturers and businesses need to pay attention to health safety and environmental friendliness in the production and processing stages, promoting organic food's quality, and, therefore, enhancing organic food purchase intention of Vietnamese consumers.

6. Conclusion

Results initially identify the relationships among factors influencing organic food purchase intention of Vietnamese consumers. A small-scale survey with 528 responses collected and analyzed, along with the convenience and randomness are the limitations of sample size and its quality. Furthermore, 8 factors included only explain 53% of "Organic food purchase intention of Vietnamese consumers", with 4 factors being statistically significant, whereas the other four are not. This represents that there are other factors influencing organic food purchase intention of Vietnamese consumers. With the results collected considered as an orientation for following research about organic food purchase intention of consumers, consequently, the research team might feasibly expand the survey, amend additional information, and select purposeful participants so as to leap the sample size, its quality, and the level of interpretation of the model.

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Analysis of Profitability, Liquidity on Company Value with Capital Structure as a Moderating Variable in Property Companies Listed on the Indonesia Stock Exchange in 2017-2021

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Abstract
This study's goal is to explore and assess the profitability, liquidity, and firm value of property companies listed on the Indonesia Stock Exchange between 2017 and 2021 using capital structure as a moderating variable. Because the data in this study is in the form of numbers, it is quantitative in nature and is based on a causality approach. This study's main objective is to analyze profitability, liquidity, and firm value with capital structure acting as a moderating variable. The population of the study consists of all the real estate firms registered on the Indonesia Stock Exchange between 2017 and 2021. Purposive sampling was the technique employed in this research. Multiple Regression and Moderated Regression Analysis (MRA) as well as descriptive statistics are used in the data analysis for this study. Utilizing the SPSS 23 application program, computer technology will be used to assist in the analysis of the data acquired for this study. All real estate companies listed on the Indonesia Stock Exchange for the years 2017 through 2021 will benefit from profitability in terms of firm value. For the period of 2017 to 2021, all property businesses listed on the Indonesia Stock Exchange can use capital structure to reduce the negative impact of profitability on firm value. For the period of 2017 to 2021, all of the property businesses listed on the Indonesia Stock Exchange can use capital structure to reduce the negative impact of liquidity on company value.

Keywords: Profitability, Liquidity, Firm Value, Capital Structure

1. Introduction

As every industry tries to achieve defined goals, the corporate climate of today is characterized by intense competition. Each organization's goals are to fulfill its short- and long-term aspirations. The company's immediate goal is to maximize profit while making the most of its available resources. The corporation constantly looks to create an effective strategy to increase the company's value because its long-term goal is to maximize share price.

Stock prices in a company's high and low range are frequently linked to firm value. Because a high company value will be accompanied by improved shareholder welfare, company value is crucial (Brigham & Houston, 2019). Before choosing to invest money in a company, investors primarily consider the firm value. The worth of the company increases as the stock price rises, resulting in larger profits for shareholders. The increase in value from year to year is evidence of the company's success in managing its operations. For a business, enhancing the value of the company is crucial because doing so also implies maximizing shareholder wealth, which is the corporation's primary objective.

Because it relates to the problem of changes in the value of the firm itself, including property companies listed on the Indonesia Stock Exchange, the rise and fall of stock prices in the capital market is an intriguing occurrence. Kontan.co.id News reports (Fitri, 2022), in the first quarter of 2022, the value of property and real estate shares has decreased by 4.85% year to date as a result of the Covid-19 pandemic which suppressed people's purchasing power. The Fed's (the US central bank's) intention to raise interest rates also had an impact on the drop in the value of real estate and real estate equities, and it is quite likely that Bank Indonesia would follow suit.

Likewise, according to him, the war between Russia and Ukraine which started in the first quarter of 2022 became a negative sentiment because it could increase the prices of property and real estate components such as steel, iron, and cement (Fitri, 2022). This can cause property development costs to increase and affect the increase in property selling prices. In addition, according to the General Chairperson of the Settlement and Housing Developers Association (Himpera), Endang Kawidjaya explained that there was no increase in the price of subsidized housing that would affect the quality of subsidized housing.

The stock price index of property issuers listed on the Indonesia Stock Exchange from 2017 to 2021 can be seen in the following diagram.

Figure 1: Graph of Property Sector Stock Price Index on the Indonesia Stock Exchange the year 2017-2021

Figure 1 illustrates how, from 2017 to 2021, the share prices of real estate businesses listed on the Indonesia Stock Exchange varied or went up and down. A company's value is positive if its stock price rises, and the opposite is true if it declines. According to some research, the following elements, among others, influence a firm value: profitability, liquidity, and capital structure.

The researcher has expressed interest in researching "The Influence of Profitability, Liquidity on Firm Value with Capital Structure as a Moderating Variable in Property Companies Listed on the Indonesia Stock Exchange in 2017-2021" based on the description provided above.

2. Literature Review

2.1 Signal Theory

According to signaling theory, a company's management practices communicate information to shareholders about the management's expectations for the company's long-term viability (Brigham & Houston, 2019), while Fahmi (2016) states that signal theory is a theory that represents the ebb and flow of market values, including things like

bonds, stock prices, and the like. This will affect investor judgment and help investors comprehend how effectively a company is using its assets and making money.

2.2 Profitability

According to Sudana (2019), profitability is a company's ability to utilize company resources (including company assets, capital, and sales) to make a profit. High profitability proves that if the company has good performance, good performance makes investors interested in investing so that the company's value will increase. Profitability is the company's ability to gain profits and relates to sales, total assets, and own assets (Sartono, 2017). Interested investors will need this profitability analysis. Profitability explains the company's profits through assets that are used as evidence of the company's ability to earn profits and review the success of company management.

2.3 Liquidity

Kasmir (2019) A company's ability to meet its obligations can be assessed using the liquidity ratio, which is a statistic that investors and businesses frequently employ. The firm's liquidity is a measure of its ability to pay off all of its debts, and if the company is experiencing financial difficulties, it will be difficult to meet all of its obligations, which will have a negative effect on the company's value, either high or low. A ratio called liquidity measures a company's capacity to pay off short-term debt that is immediately in excess of the payment ceiling. An organization's liquidity is gauged using this ratio. In the computations for this study, liquidity is the ratio used. When comparing the provision of credit, liquidity is calculated (Maith, 2013).

2.4 Firm Value

Firm value is the market value that describes the company's performance as illustrated by the stock price. The high value of the company shows the amount of profit earned by the shareholder. The price-book value ratio, which determines the market value of a business's management and organizations for sustainable corporate development, is used to calculate a firm's value (Fauziah, 2020). Investors' view of a company's performance level is reflected in its firm value. The success rate of the business is frequently correlated with stock prices. A high stock price will boost the company's value and the confidence of the market in both the company's present and future performance. A corporation must prioritize maximizing corporate value. Maximizing a company's worth is the same as maximising its primary objective.

2.5 Capital Structure

The capital structure is a comparison of long-term sources such as debt and own capital (Husnan, 2015). The purpose of the capital structure is the appropriate and most profitable components of debt and working capital in terms of debt and working capital (Brigham & Houston, 2019). When the debt level reaches an optimal level it can cause the company value to also experience optimal value, conversely if the debt level exceeds the optimal level it will hurt company value. The capital structure is a company's operational funding activity by utilizing funds obtained from a combination of company funding sources. The capital structure is a complement between equity and debt, this is a source of income for entering a company (Meivinia, 2018).

This study's conceptual structure is as follows:

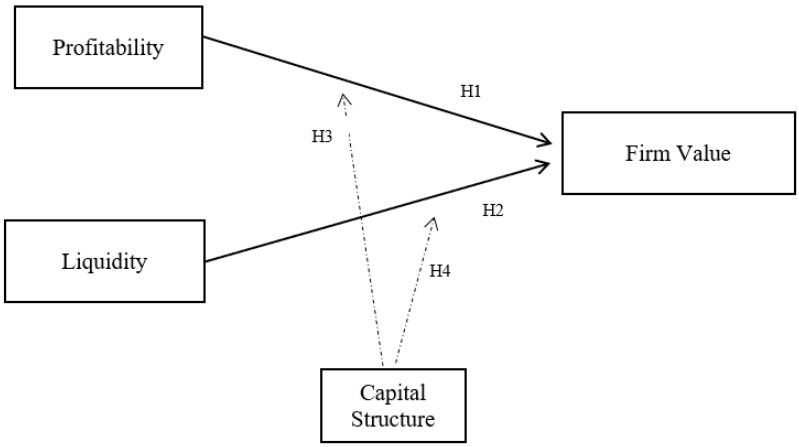

Figure 2: Thinking Framework

Concerning the framework of thought above, the hypothesis proposed in this study is:

H_1 : Profitability has a positive effect on firm value.

H_2 : Liquidity has a positive effect on firm value.

H_3 : Capital structure moderates the effect of profitability on firm value.

H_4 : The capital structure moderates the effect of liquidity on firm value.

3. Methodology

This study employs a causality method, and the sort of data used is based on its quantitative nature because the information is presented as numerical data. This study looks at how profitability, liquidity, and firm value are analyzed with capital structure acting as a moderating variable. The population of this study consists of all real estate firms that were listed on the Indonesia Stock Exchange between 2017 and 2021. The sampling method used in this study is purposive sampling, in which the researcher determines the sample with specific aims and objectives according to his wishes (Sugiyono, 2020). The data analysis method in this study uses Multiple Regression Moderated Regression Analysis (MRA) and descriptive statistics. Analysis of the data obtained in this study will use computer technology assistance with the SPSS 23 application program.

4. Results and Discussion

4.1 Descriptive Statistics Test

This analysis was conducted to determine the minimum, maximum, average (mean), and standard deviation values of the research data. The results of descriptive statistical tests on all variables can be seen in Table 2 as follows:

Table 1: Descriptive Statistical Test Results

	N	Minimum	Maximum	Mean	Std. Deviation
1. Profitability	225	-,38	,28	,0206	,06025
2. Liquidity	225	,00	5,43	,6623	,94437
3. Capital Structure	225	,02	4,12	,7350	,72265
4. Firm Value	225	,02	40,05	1,6491	3,88306
Valid N (listwise)	225				

Source: Results of Data Processing with SPSS 23

Based on the findings of the descriptive statistics in Table 1 above, it is known that the profitability variable has a mean value of 0.0206 and a standard deviation value of 0.06025, with a minimum value of -0.38 and a maximum value of 0.28.

Then the minimum value of the liquidity variable is 0.00, the maximum value is 5.43, the mean value is 0.6623 and the standard deviation value is 0.94437. Meanwhile, the minimum value of the capital structure variable is 0.02, the maximum value is 4.12, the mean value is 0.7350 and the standard deviation value is 0.72265.

Additionally, the company value variable has a mean value of 1.6491 and a standard deviation value of 3.88306 along with a minimum value of 0.02 and a maximum value of 40.05. Alkindo Naratama PT, Tbk. With a standard deviation of 0.291675, the average variable's maximum rise is indicated.

4.2 Analysis of Research Results

4.2.1. Classical Assumption Test

The classic assumption test is carried out before testing the hypothesis, because this test aims to find out, test and ensure the feasibility of the regression model used in this study, where the variables are normally distributed. The classical assumption test will be described below.

Table 2: Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Model 1	Model 2	Model 3	Model 4
	Std. Deviation	.22920666	. 39231395	.23237435	.39227670
Most Extreme Differences	Absolute	.051	.074	.120	.075
	Positive	.051	.074	.120	.075
	Negative	-.034	-.059	-.095	-.043
Test Statistic		.051	.074	.120	.075
Asymp. Sig. (2-tailed)		.200c,d	.181,d	.059c	.054c

Source: Results of Data Processing with SPSS 23

The results of the normality test for model 1, model 2, model 3, and model 4 above, obtained that the magnitude of the significance value is above the number 0.05, so it can be concluded that the results of the normality test for model 1, model 2, model 3, and model 4 are normally distributed.

Table 3: Heteroscedasticity Test Results

Variabel	Sig.	Conclusion
	Model 1	
Profitability	0,115	There is no heteroscedasticity
	Model 2	
Liquidty	0,101	There is no heteroscedasticity
	Model 3	
Profitability	0,113	There is no heteroscedasticity
Capital Structur	0,120	There is no heteroscedasticity
Profitability* Firm Value	0,133	There is no heteroscedasticity
	Model 4	
Liquidiy	0,105	There is no heteroscedasticity
Firm Value	0,100	There is no heteroscedasticity
Liquidity* Capital Sturctur	0,123	There is no heteroscedasticity

Source: Results of Data Processing with SPSS 23

The test results of the model 1 heteroscedasticity test show that the variable, namely profitability, does not experience heteroscedasticity problems because this variable has a significant value > 0.05. Furthermore, the results of the model 2 heteroscedasticity test show that the variable, namely liquidity, is free from heteroscedasticity problems because this variable has a significant value > 0.05.

Then the results of the model 3 heteroscedasticity test show that the variables namely capital structure, profitability, and profitability*capital structure are free from heteroscedasticity problems because these variables have a significant value > 0.05. Meanwhile, the results of the model 4 heteroscedasticity test show that in the variables, namely capital structure, and liquidity*capital structure, liquidity is free from heteroscedasticity problems, because these variables have a significant value <0.05.

Table 4: Autocorrelation Test Results

	N	DW count	4-dU	4-dL	Lower Limit Dw Table (*dl)*	Upper Limit DW Table (*du)*	Conclusion
Model 1	155	0,995	2,254	2,280	1,720	1,746	There is no positive autocorrelation
Model 2	107	1,426	2,306	2,346	1,654	1,694	There is no positive autocorrelation
Model 3	52	1,611	2,399	2,472	1,528	1,601	There is no positive autocorrelation
Model 4	138	1,164	2,306	2,346	1,654	1,694	There is no positive autocorrelation

Source: Results of Data Processing with SPSS 23

According to the aforementioned table, the model 1 autocorrelation test results indicate a DW-count value of 0.995. The Durbin Watson table values are dL = 1.720 and du = 1.746, and this value will be compared with the alpha table value of 5%. There are 155 samples (n) and 1 independent variable (k = 1). It may be deduced from the Durbin-Watson value of 0.995 that 0 d dl with a value of 0 0.995 1.720. Therefore, it can be said that no positive autocorrelation exists.

The DW-count value for the model 2 autocorrelation test is then 1.426. The Durbin Watson table values are produced, namely dL = 1.654 and du = 1.694, and this value will be compared with the alpha table value of 5%. The number of samples (n) is 107, and the number of independent variables (k = 1) is 1. It may be deduced from the Durbin-Watson value of 1.426 that 0 d dl with a value of 0 1.426 1.654. Therefore, it can be said that no positive autocorrelation exists.

DW-count value of 1.611 can also be seen in the model 3 autocorrelation test results. The Durbin Watson table values are acquired, namely dL = 1.528 and du = 1.601, and this value will be compared with the alpha table value of 5%. The number of samples (n) is 52, and the number of independent variables (k = 1) is 1. From the Durbin-Watson value of 1.611, it can be concluded that dl<d<du with a value of 1.528 <1.611 <1.601. So it can be stated that there is no positive autocorrelation.

DW-count is 1.164 according to the findings of the model 4 autocorrelation test. The Durbin Watson table values are produced, namely dL = 1.654 and du = 1.694, and this value will be compared with the alpha table value of 5%. There are 138 samples (n) and 1 independent variable (k = 1). It is clear from the Durbin-Watson value of 1.164 that 0 d dl has a value of 0 1.164 1.654. Therefore, it can be said that no positive autocorrelation exists.

4.2.2. Hypothesis Test

To prove the hypothesis, the following steps are taken: Hypothesis test with t-test (t-test) and F test. The use of t-test and F test in this study is intended so that it can be known how much influence each independent variable has on the dependent variable, and how much influence the independent variable has on the dependent variable if it is done simultaneously. This can be seen as follows:

Table 5: Results of Multiple Regression Test Model 1

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	,424	,020		21,272	,000
	ROA	3,940	,453	,575	8,703	,000

a. Dependent Variable: PBV

Source: Results of Data Processing with SPSS 23

The results of the regression equation in model 1 can be explained by the regression equation as a constant value (a) = 0.424; which states that if profitability (ROA) does not exist or has a value of 0, then the company value (PBV) will be 0.424 times. Profitability (ROA) = 3,940; which means that if there is an increase in the profitability variable (ROA) by 1 unit, then the company's value will increase by 3,940 times.

Table 6: Results of Multiple Regression Test Model 2

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1,060	,054		19,451	,000
	CR	-,246	,051	-,430	-4,875	,000

a. Dependent Variable: PBV

Source: Results of Data Processing with SPSS 23

The results of the regression equation in model 2 can be explained by the regression equation as a constant value (a) = 1.060; which states that if liquidity (CR) does not exist or has a value of 0, then the value of the company will increase by 1,060 times. Liquidity (CR) = -0.246; which means that if there is an increase in the liquidity variable (CR) by 1 unit, then the company's value will decrease by -0.246 times.

Table 7: Results of Multiple Regression Test Model 3

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	,348	,056		6,216	,000
	ROA	-3,985	1,216	-,577	-3,276	,002
	DER	1,683	,160	,706	10,535	,000
	ROA_DER	12,556	2,691	,837	4,666	,000

a. Dependent Variable: PBV

Source: Results of Data Processing with SPSS 23

The results of the regression equation in model 3 can be explained by the regression equation as a constant value (a) = 0.348; which states that if profitability (ROA), capital structure (DER), and profitability (ROA)*capital structure (DER) do not exist or have a value of 0, then the company's value will increase by 0.348 times.
Profitability (ROA) = -3.985; which means that if there is an increase in the profitability variable (ROA) by 1 unit, then the company's value will decrease by -3,985 times. Capital Structure (DER) = 1,683; which means that if there is an increase in the capital structure variable (DER) by 1 unit, the company value will increase by 1,683 times. Profitability (ROA)*Capital Structure (DER) = 12,556; which means that if there is an increase in the variable profitability (ROA)*capital structure (DER) of 1 unit, then the value of the company will increase by 12,556 times.

Table 8 : Results of Multiple Regression Test Model 4

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	,041	,060		,695	,488
	CR	,294	,048	,459	6,176	,000
	DER	1,572	,090	,971	17,539	,000
	CR_DER	-1,122	,152	-,552	-7,378	,000

a. Dependent Variable: PBV

Source: Results of Data Processing with SPSS 23

The results of the regression equation in model 4 can be explained by the regression equation as a constant value (a) = 0.041; which states that if liquidity (CR), capital structure (DER), and liquidity (CR)*capital structure (DER) do not exist or have a value of 0, then the company's value will increase by 0.041 times. Liquidity (CR) = 0.294; which means that if there is an increase in the liquidity variable (CR) by 1 unit, then the company's value will increase by 0.294 times. Capital Structure (DER) = 1,572; which means that if there is an increase in the capital structure variable (DER) by 1 unit, the company value will increase by 1,572 times. Liquidity (CR)*Capital Structure (DER) = -1.122; which means that if there is an increase in the liquidity variable (CR)*capital structure (DER) by 1 unit, then the company's value will decrease by -1,122 times.

4.3 Discussion

4.3.1. Effect of Profitability on Firm Value

Based on the findings of testing the first hypothesis, it can be concluded that, for the years 2017 through 2021, profitability positively affects firm value in all real estate companies listed on the Indonesia Stock Exchange. This implies that a company's value increases in direct proportion to its profitability. The findings of this study are consistent with studies done by Mardevi et al., (2020) who stated that profitability has a positive effect on company value.

4.3.2. The Effect of Liquidity on Firm Value

According to the findings of the second hypothesis' testing, all of the real estate companies listed on the Indonesia Stock Exchange throughout the 2017–2021 period had lower firm values due to liquidity. Accordingly, a company's worth would decline the higher its liquidity. The study's findings concur with Cordiaz et al., (2021) stating that liquidity has a negative effect on firm value. Previous research conducted by Utami et al., (2022) stated that liquidity has a negative effect on firm value.

4.3.3. The Effect of Profitability on Firm Value Moderated by Capital Structure

Based on the results of testing the third hypothesis, shows that capital structure can moderate the effect of profitability on firm value for all property companies listed on the Indonesia Stock Exchange for the 2017-2021 period. The capital structure relates to the issuance of long-term debt. The results of this study are in line with research conducted by Wijaya & Pancawati (2019) which states that capital structure as a moderating variable affects profitability and firm value.

4.3.4. The Effect of Liquidity on Firm Value is Moderated by Capital Structure

Based on the findings of testing the fourth hypothesis, it can be concluded that, for the period of 2017 to 2021, all of the property businesses listed on the Indonesia Stock Exchange can minimize the impact of liquidity on firm value by adjusting their capital structures. The capital structure's worth is the sum of the company's debt holdings. The findings of this study are at odds with the findings of Maulana & Sholichah (2022) who discovered that the

impact of liquidity on business value cannot be mitigated by capital structure. The findings of this research corroborate the findings of Indira & Wany (2021) and Zuhroh (2019) which state that company value is influenced by liquidity which is moderated by capital structure.

5. Conclusion, Limitations and Implications

5.1 Conclusion

On the basis of the results of the testing and discussion described in the preceding chapter, several conclusions may be drawn about the profitability of all property enterprises listed on the Indonesia Stock Exchange for the years 2017 through 2021. Liquidity lowers the value of every property company listed on the Indonesia Stock Exchange for the years 2017 through 2021. All real estate businesses registered on the Indonesia Stock Exchange can have their profitability have less of an impact on their firm value from 2017 to 2021 thanks to the capital structure. All of the property businesses that are listed on the Indonesia Stock Exchange have access to capital structures that can be used to lessen the effect of liquidity on company value during the years 2017 to 2021.

5.2 Research Limitations

The regression model test cannot use all of the data because of data outliers. It is possible that additional variables, such as management of earnings, managerial ownership, and replacement of moderating variables with variables that can strengthen the influence of independent variables on dependents, such as dividend policy and stock price, can affect firm value even though only two independent variables—profitability and liquidity—were used in this study. Examples of the businesses listed on the Indonesia Stock Exchange (IDX) for the years 2017 through 2021 are those in the real estate industry.

5.3 Implications

For companies, it is known that profitability has a positive effect on firm value. It is suggested to company management to be able to increase the company's profit level in each period, the company must be able to generate stable profits in each period. The condition of a company that is considered profitable will increase the interest of new stakeholders or investors to invest in the company. It is known that liquidity hurts firm value. It is suggested to the management of the company to be able to pay attention to the amount of its current assets so that no one is idle, such as accelerating the collection of accounts receivable, using too much cash, and not hoarding too much inventory. It is known that the capital structure can moderate the effect of profitability on firm value. But unable to moderate the effect of liquidity on firm value. It is suggested to the management of the company to maximize consideration for the company to be able to suppress and increase the value of the company. It is believed that the findings of this research will help investors make decisions about whether to invest in a company by helping them understand the value of the firm and the factors that affect it. Likewise the company itself is a consideration and input in managing the company so that optimal performance is achieved.

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Sustainable Supply Chain in the Textile and Garment Industry of Vietnam

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Abstract
The textile and garment industry has contributed significantly to the Vietnamese economy. However, as it faces increasing pressure from importers who place more stringent requirements on product quality, the industry needs to adopt sustainable practices to stay competitive in the global market. This article examines the current state of the textile and garment supply chain in Vietnam using the sustainable development goals framework proposed by the World Commission on Environment and Development (WCED) regarding the economic, social, and environmental aspects. It also considers the five criteria for determining the sustainable supply chain throughout the production-to-distribution process in the textile and garment industry suggested by Shen (2014), which cover Eco-material Preparation, Sustainable Manufacturing, Green Distribution, Green Retailing, and Ethical Consumers. The article evaluates the achievements and challenges of the supply chain in Vietnam based on these criteria and, thereby, offers recommendations to various stakeholders, such as the government, ministries, sectors, associations, and enterprises, to foster a more sustainable textile and garment industry in Vietnam.

Keywords: Supply Chain, Sustainability, Sustainable Supply Chain, Textile, Vietnam

1. Introduction

The textile industry is generating $2.4 trillion in revenue for the global manufacturing industry and employing 300 million people worldwide along the value chain. However, it also poses significant environmental challenges. The textile industry produces around 2 - 8% of the global greenhouse gas emissions. It also consumes 215 trillion liters of water annually, resulting in a $100 billion loss due to underutilization. Furthermore, the industry is responsible for approximately 9% of the annual loss due to the microplastics in the ocean that originate from the laundering of synthetic textiles like polyester (Phuong My, 2022).

These impacts have prompted a growing call for “greening” or “sustainable development” of the textile and garment industry at the international, national, and corporate levels (United Nations Environment Programme (UNEP), 2019).

In Vietnam, the textile and garment industry is one of the core contributors to exports and gross domestic product. In 2022, it achieved a record-high export turnover of nearly $44 billion USD, an increase of 8.8% from the previous

year. Vietnam has also signed many free trade agreements (FTAs), especially in 2020, creating new opportunities for market expansion for the textile industry. However, these FTAs also pose challenges as textile enterprises must comply with new ecological design criteria and standards. Therefore, the industry needs a green transformation to adopt an eco-friendly export strategy (Do & Tran, 2021).

Moreover, the industry is committed to reducing its emissions in line with the Vietnamese Government's pledge to the Net Zero Emissions by 2050 goal at the 2021 United Nations Climate Change Conference (COP26) (Dung Duc, 2022).

To achieve sustainability and circularity in the textile value chain, the industry has also innovated its develoment goals and technology, such as using clean raw and recycled materials and applying green and sustainable production methods that ensure environmental protection and social responsibility (Office of the Board of Directors of Vinatex, 2022).

The global textile and garment market is facing challenges such as supply chain disruptions, rising protectionism, and changing consumer preferences. Major importers from the US, Europe, and Japan are shifting their sourcing strategies to favor suppliers that can offer integrated, localized, and transparent production processes from raw materials to finished products. However, Vietnam's textile and garment industry suffers from a lack of supply chain linkages, which hinders its competitiveness and sustainability (Nhi Trang, 2023).

Therefore, this study aims to develop a sustainable supply chain for the textile and garment industry in Vietnam. The research objectives are as follows:

- To establish a theoretical framework for a sustainable supply chain in the textile and garment industry
- To assess the achievements and challenges of developing a sustainable supply chain in Vietnam's textile and garment industry
- To propose solutions for enhancing the sustainability of the supply chain for Vietnam's textile and garment industry

This study also presents several case studies of Vietnamese textile and garment enterprises that have implemented sustainable supply chain practices based on Shen's (2014) approach.

2. Theoretical framework

2.1. Definitions

2.1.1. Sustainable Development

The World Commission on Environment and Development (WCED) defined sustainable development in 1987 as follows: *"Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs"* (Clark & Harley, 2020). This definition implies that development should be compatible with the conservation of natural resources and ecosystems.

The concept of sustainable development was further elaborated at the United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit, held in Rio de Janeiro, Brazil, in 1992, and then reaffirmed in the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa, in 2002. The WSSD emphasized that sustainable development should be based on three interrelated and mutually reinforcing pillars: economic development (especially economic growth), social development (especially the realization of social justice, hunger eradication, poverty reduction, and job creation), and environmental protection (especially the treatment, restoration and improvement of environmental quality, the prevention of fire and deforestation, and rational exploitation and economical use of natural resources) (Ministry of Industry and Trade, 2020).

2.1.2. Sustainable Supply Chain

A *Supply Chain* is the coordinated network of all the companies, facilities, and activities involved in the creation and delivery of a product or service to the end customer. Supply chain management is the practice of coordinating sourcing, manufacturing, inventory management, and shipping among all parties involved in the supply chain to maximize efficiency and customer satisfaction (idms.vn, 2022).

A *Sustainable Supply Chain* is a fully integrated series of transparent, ethical, and environmentally responsible practices into a competitive and successful model. It requires end-to-end visibility of the entire supply chain, from the sourcing of raw materials to the distribution, return, and recycling of products (idms.vn, 2022).

According to Masoumik et al. (2014), a *Sustainable Supply Chain* is "a supply chain that closes the loop of upstream and downstream flows of products and materials by recycling and recovering used items and re-entering them in production cycles and engages in sustainability-conscious practices taking goals from all three dimensions—economic, environmental and social—of sustainable development into account, which are derived from the customer and stakeholder requirements".

2.1.3. Sustainable Supply Chain in the Textile industry

A sustainable supply chain for the textile and garment industry entails a shift in the production and business models, from selecting sustainable materials to implementing a pollution-free and eco-friendly production process and delivering products and services that bear green labels to the customers (Vietnam Industry Agency, 2023).

The production process involves the use of inputs and outputs that are safe for humans and the environment. It starts with choosing green raw materials, such as organic cotton, hemp, bamboo, or recycled fibers.

The production process also aims to optimize the use of resources and minimize the generation of waste. It eliminates or reduces the use of hazardous substances and materials that pose risks to human health and the environment, such as toxic dyes, pesticides, or microplastics. Moreover, it adopts clothes designs that enhance their recyclability and reusability, and it utilizes renewable energy sources, such as solar, wind, or hydropower (Bich, 2022).

Based on these concepts, we propose the following approach: *A sustainable supply chain for the textile and garment industry is not confined to green labeling, but rather strives for resource efficiency and waste reduction, in alignment with the three main pillars of sustainable development: environment, society, and economy. Firstly, the sustainable production process requires the minimization or elimination of substances and materials that are detrimental to human health and the environment. Secondly, it involves designing clothes that can be reused and recycled and using renewable energy sources. Besides mitigating the environmental impacts, a sustainable supply chain for the textile industry also ensures the social well-being and working conditions of the employees.*

2.2. Criteria of a Sustainable Supply Chain in the Textile and Garment industry

The Sustainable Society Index (SSI) proposes three dimensions to measure the sustainability of a supply chain: human well-being, environmental well-being, and economic well-being. *Human welfare* refers to the social performance of the supply chain, such as meeting basic needs, fostering personal development, and ensuring social equity. *Environmental well-being* encompasses the ecological impacts of the supply chain, such as maintaining a healthy environment, reducing greenhouse gas emissions, and conserving natural resources. *Economic well-being* relates to the long-term viability and resilience of the supply chain, such as preparing for future challenges and opportunities and enhancing economic growth and stability.

Shen (2014) identifies five key factors that a sustainable supply chain for the textile and garment industry should address:

- Eco-material preparation

- Sustainable manufacturing
- Green distribution
- Green retailing
- Ethical consumers

2.2.1. Eco-material Preparation

One of the key aspects of sustainable fashion products is the use of organic fabrics, which require less water and harmful chemicals in their production. Moreover, sustainable fashion products can also incorporate materials that are reused or recycled from various sources, such as old clothes, manufacturing scraps, and bottles (Shen, 2014).

2.2.2. Sustainable Manufacturing

Sustainable production is a concept that emerged from the United Nations Conference on Environment and Development (UNCED) in 1992, which highlighted the link between sustainable development and the patterns of consumption and production. The conference identified the latter as the primary cause of global environmental degradation, especially in industrialized countries.

The Lowell Center for Sustainable Production (LCSP) defines sustainable production as "the creation of goods and services using processes and systems that are: non-polluting; conserving of energy and natural resources; economically viable; safe and healthful for workers, communities, and consumers; and socially and creatively rewarding for all working people.".

Some indicators of sustainable production related to the environmental dimension are the percentage of raw materials from renewable resources; the acidification potential, measured in SO2 equivalent; the kilograms of emissions to the air; and the amount of energy used per unit of product or service (Veleva et al., 2001).

2.2.3. Green Distribution

The distribution of fashion products is a complex and dynamic process, as fashion products are subject to changing trends and have a short life span (Shen, 2014).

Nagurney and Yu (2012) propose a novel model that captures the trade-offs between manufacturing, transportation, and shortage costs in the fashion supply chain while taking into account emission reduction. Their results show that the adoption of environmental pollution-abatement technologies in distribution can improve the supply chain performance.

2.2.4. Green Retailing

Green retailing is more than just linking green products and marketing strategies. It also involves enhancing the customer experience and creating value through sustainability. Choi (2013) argues that green retailing should focus on clustering customers based on their preferences and behaviors and rethinking the value proposition of sustainable fashion products. Innovation of sustainable fashion products should target the ethical consumer market, which is growing in size and awareness. Sustainability is a key concept in marketing and branding, as it can increase customer interest and loyalty.

2.2.5. Ethical Consumer

Ethical consumption is a consumption behavior that considers the societal implications of purchasing decisions. Ethical consumers reflect on the social issues that are related to the production and consumption of goods and services and aim to benefit society through their choices.

A summary of a study on ethical consumption defines ethical consumption as follows: “A consumer practices ethical consumption when purchasing goods that are ethically produced and environmentally friendly. A basic example of ethical consumption behavior is when consumers refuse to use products created by businesses that exploit workers” (Vietnam Japan University, Vietnam National University, Hanoi, 2018).

3. Findings

3.1. Achievements

3.1.1. Achievements in the sustainable development of the garment and textile industry based on three central pillars

In terms of economics

- *Generating foreign currency revenue and initial accumulation*

The export turnover of the textile and garment industry reached $39 billion USD in 2021 and $44 billion USD in 2022, surpassing the pre-Covid level of 2019. The industry also achieved a remarkable average growth rate of 17% per year in the five-year period from 2015 to 2020. The textile and garment industry is the fifth largest industry in the Vietnamese industrial structure, with a continuously expanding and developing production volume. The industrial production index of the industry increased by an average of 10.7% per year in the period of 2016 - 2020, with the textile industry growing by 12.5% per year and the apparel production growing by 8.8% per year (Le, 2023). According to the Vietnam Textile and Apparel Association (VITAS), the textile and garment industry had a trade surplus of $7.9 billion USD in the first six months of 2023 (Vu, 2023).

In terms of society

- *Contribute to job creation*

The textile and garment industry employs workers in most provinces and cities in Vietnam, reducing urban migration and maintaining security and order in localities (Phuong My, 2022). The monthly income of garment workers in Vietnam is 30-70% higher than that of competing countries (Vietnam's monthly labor income is approximately 250 USD, India: 220 USD, Cambodia: 180 USD, and Bangladesh: 150 USD). A study by the Ministry of Labor - Invalids and Social Affairs estimated that every $1 billion USD worth of exports of the industry creates about 100,000 jobs, either direct or indirect, of which 50,000 people are directly involved in the textile and garment industry (Le, 2023). The textile and garment industry is also the leading industry in Vietnam in terms of recruitment, attracting up to 2 million workers. The average income of workers in the industry is about 8.5 million VND/ person/ month, amounting to 200,000 billion VND/year (about $8.6 billion USD/year) (Ha Song, 2022).

In terms of the environment

The textile and garment industry in Vietnam has been proactive in adopting the circular economy model, which aims to reduce waste and reuse resources in the production and consumption cycles. Since 2017, the industry has established a Committee for Sustainable Development on Environment and Labor, which collaborates with various organizations around the world (Ha Song, 2022). The industry also recognizes the need to "green" its operations, as this is a global trend that can help achieve sustainable development goals and increase exports to large markets. According to the VITAS, green production is a common strategy for many Vietnamese industries to secure and expand their export markets, and the textile and garment industry is no exception. VITAS has set a greening plan for the industry, which aims to reduce energy consumption by 15% and water consumption by 20% by 2023 and to achieve a green textile and garment industry by 2030 (Nguyen, 2022).

Figure 1: The goal of "greening" with the plan to 2023 (%)
Source: Vietnam Textile and Apparel Association (Nguyen, 2022)

Many businesses in the industry have also invested in building rooftop solar power systems and other energy recycling systems, replacing coal-fired boilers in dyeing plants with biomass materials such as rice husks, and using software tools to measure the environmental impacts from the initial stages of manufacturing. These measures aim to reduce emissions, enhance the efficiency of the production process, and use materials and technologies that have less impact on the environment (Nguyen, 2022).

3.1.2. Achievements in sustainable development of supply chain in the garment and textile industry based on the five criteria

Eco-materials Preparation
The global trend towards environmental sustainability has stimulated domestic suppliers to develop and produce new raw materials that meet the consumers' demand for green products. According to VITAS, the localization and greening of raw materials are essential for Vietnamese businesses to compete in the global market (Vietnam Textile and Apparel Association, 2022).

Box 1. Green Materials

Faslink: Faslink Fashion Connection Joint Stock Company (Faslink) has been one of the leading green material suppliers in Vietnam since 2008. The company has invested in several factories with a total area of 10,000m2, equipped with more than 300 modern machines and advanced stamping systems. It has also collaborated with many renowned global research centers to produce high-quality raw materials. Faslink's green materials are derived from natural sources, environmentally friendly, safe for human use, multifunctional, and biodegradable. In 2021, Faslink supplied approximately 8 million meters of fabrics that met the green criteria (Vietnam Textile and Apparel Association, 2022). At the "Green Path" event on January 15th, 2022, Faslink organized a "Green Fabrics" exhibition with five types of natural fibers, including coffee, lotus, seashell, coconut, and minds. These fibers were processed by modern technology, achieving remarkable softness, durability, and fashionability (Vietnam Industry and Trade Information Centre, 2022).
Green Yarn and W.ELL FABRIC: Bao Lan established its first brand, Green Yarn, in 2012 with a mission to source, research, develop, and distribute green yarns to give Vietnamese factories a competitive edge. One of Green Yarn's notable products is green yarns that meet the Global Recycle Standard (GRS) and Global Organic Textile Standard (GOTS), including Recycle Poly and Mélange. In 2019, Bao Lan launched another brand, W.ELL FABRIC, which specializes in researching and manufacturing green fabrics of natural origin, such as organic cotton, coffee, and bamboo, with additional protective features. It aims to diversify the Vietnamese garment market and make it easier for consumers to access green products (Son Tuan, 2022).

Sustainable Manufacturing
As major markets such as Europe, Japan, and the United States have imposed higher standards on imported textiles and garments, investing in green and sustainable production processes will give the Vietnamese textile and garment industry an edge over its competitors. To achieve the goal of greening the industry and moving towards

a circular economy model and sustainable development, many textile and garment enterprises have invested in and partnered with investment funds to install solar and other clean energy systems for their production.

Box 1. Cooperation Network of Sustainable Manufacturing and Consumption

Vinatex and its efforts in sustainable production and consumption

Vinatex is a major exporter of textile and fiber products, with an annual export value of about 4 billion USD. Since 2021, the corporation has undergone significant transformation to meet the demands of global buyers. According to Mr. Cao Huu Hieu, General Director of Vinatex, the corporation has collaborated with several provinces and cities in the North, Central, and South regions to obtain investment and land for building factories that comply with green standards and complete the supply chain. Vinatex aims to reduce 30% of post-dyeing wastewater and reuse 30% of post-treatment wastewater for washing and sanitation stages, to use at least 20% recycled polyester fiber and 15% organic cotton to reduce pesticide use, and to invest in solar power to generate 10% of the electricity from renewable sources. Bao Minh Industrial Park (Nam Dinh), a specialized industrial park for textiles in the North, is also transforming its production process to minimize pollution and to treat and reuse wastewater (Hoang The, 2023).

Cooperation network in sustainable production and consumption in Hanoi

On July 21, 2023, the Hanoi Department of Industry and Trade and the Ha Dong District People's Committee jointly organized the opening ceremony of the "2023 Cooperation Network in Sustainable Production and Consumption in the Textile and Fashion Industry" to promote the green economy at MELINH PLAZA Trade Center (To Hieu Street, Ha Cau Ward, Ha Dong District, Hanoi). Ms. Tran Thi Phuong Lan, Director of the Hanoi Department of Industry and Trade, stated that the department has cooperated with the Ministry of Industry and Trade to implement the National Program on Sustainable Production and Consumption effectively. The Program includes activities such as promoting sustainable production and consumption and green consumption, providing technical support for manufacturers and businesses to evaluate green production, and connecting producers and retailers of eco-friendly products. Through the Network, the Program aims to raise awareness and action on sustainable development, practice a "zero waste" lifestyle, and build a sustainable production model through clean production practices, sustainable product design, zero waste production, and reusable products with green labeling.

Source: Hien Thanh, 2023

Green Distribution

The green distribution network in Vietnam, especially in the textile industry, has shown many positive developments.

In terms of the Government,

The Vietnamese Government has committed to the United Nations Climate Change Conference (COP26) and has implemented many measures to reduce CO2 emissions. The Party and the Government of Vietnam, as well as other authorities, have paid more attention and given more priority to sustainable practices, including the development of **green logistics**. The Government has issued several legal documents and policies to create a favorable legal framework for **green logistics**.

In terms of business

According to a survey by the Editorial Board of Vietnam Logistics Report 2022, a high percentage of Vietnamese enterprises, both providers and users of logistics services, are concerned about green and sustainable logistics activities. More than 73.2% of the surveyed companies said that they integrated **green logistics** into their business strategy. This is a remarkable example of the high awareness of businesses about the role of **green logistics** in sustainable development (Pham, 2023).

Green Retailing

The domestic market in Vietnam offers a variety of fashion brands that cater to the young generation, such as CANIFA, BOO, EM Wear, SSSTUTTER, and Coolmate. Besides these well-known brands, some local brands have also gained popularity among young people, such as Dirty Coins, now Saigon, Bo Bui, Grimm DC, Degrey,

HADES, SWE, TSUN, Hanoi Boyz Swagg (HBS), and Freakers. These brands are known for their unique and creative designs, inspired by street culture, urban lifestyle, and social issues. Some also collaborate with local artists and celebrities to promote their products and messages.

Box 2. Green Retailing

A study by (Dang, 2023) reveals that only BOO Trading Co. Ltd. (BOO), Hoang Duong Co. Ltd., and CANIFA Joint Stock Co. (CANIFA) have green production and marketing activities to promote green consumption in Vietnam. These activities include:

CANIFA: Is committed to green development with Vietnamese people in thoughts and actions.

- *Green operation:* CANIFA Van Giang Complex is a pioneer in obtaining the Leadership in Energy and Environmental Design (LEED) international certificate for energy saving and positive impact on the living environment.
- *Green cooperation:* CANIFA selects Cotton USA as its main raw material supplier, which follows the sustainability indicators of American agriculture, such as water saving and zero tillage technique to protect the soil.
- *Green products:* CANIFA pays special attention to research and quality control of input materials and output products, meeting the strictest requirements of the world's most prestigious certificates (e.g., Oeko Tex, Woolmark, and WD). CANIFA is the first fashion brand in Vietnam to receive the Woolmark certificate, which is the world's leading organization for the development and quality control of wool.

BOO: Aims at manufacturing and selling green products from an early stage with specific activities such as:

- *Green destination:* When visiting BOO's stores, customers can participate in activities that contribute to environmental protection, such as donating old clothes or recycling to receive eco-friendly sedge bags, collecting batteries and milk cartons, saying no to bags to get 10,000 VND deducted per bill for social projects, and using solar-powered devices at shops.
- *Green production*: 100% of BOO's T-shirts use US cotton with a weight of 200-220 grams per square meter (gsm). BOO also uses water-based ink that is environmentally friendly, produces tote bags from fabric scraps, uses clothing tags made of recycled paper to be reused, and reduces plastic bags.
- *Power up your sustainable style:* In 2020, BOO organized a program with the slogan "Choose carefully - Use long - Wear green - Live sustainably" to spread awareness about sustainable consumption.

Source: Dang, 2023

Ethical Consumer

Customer perception in Vietnam has changed positively in recent years. Consumers have become more aware and prefer to consume goods and products that are delivered by green logistics services. Since customers are the ultimate goal of every supply chain, the change in consumer attitudes toward green logistics is a strong incentive for businesses to implement these activities. Moreover, according to a survey by Vietnam Logistics Report 2022, more than 30% of customers support the use of eco-friendly vehicles, fuels, and materials, and more than 10% of customers are willing to pay extra costs for green logistics services (Pham, 2023).

A report on sustainability by Nielsen (2016), a market research company, also confirms the high level of support for sustainable development among Vietnamese consumers. The report shows that 86% of Vietnamese consumers are willing to pay more for products from companies that have a positive impact on society and the environment. This rate is higher than the average rate of Southeast Asia at 76%. The report also indicates that a business's commitment to environmental protection influences the purchasing decisions of 62% of Vietnamese consumers (Nga Thuy, 2021).

Box 3. Ethical Consumers

According to Nielsen's "The Millennials - Unlocking a Generation of Potential" (2016) report, 73% of Millennials in Vietnam are more willing to pay more for sustainable brands, compared to 51% of Baby Boomers. The "Into the

Minds of Millennial Shoppers" report by Kantar Worldpanel (2018) also suggests that Millennials are familiar with digital technology and can influence communication media and other generations. Millennials used green products mainly for environmental protection (37.8%) and based on recommendations from others (19.3%). Additionally, customer incentive programs also motivate them to use green products (6.7%).

Source: Pham et al., 2020

3.2. Challenges of the textile and garment industry of Vietnam

3.2.1. Lack of support industry

One of the major challenges of the textile and garment industry in Vietnam is the lack of support industry. Due to environmental concerns, some localities are reluctant to invest in textile and dyeing projects. Moreover, investing and developing raw materials production requires substantial capital and advanced technology, which is a challenge for small and medium-sized businesses (Nghiep An, 2022).

Another challenge is the dependence on foreign sources for raw materials. Most of the production lines and equipment of the industry are imported from South Korea and Taiwan (China). Vietnam imports up to 80% of fabrics for garment export (e.g., cotton, fiber, fabric, accessories), spending more than 2 billion USD each month on raw material imports, most of which originate from China (Vu, 2022).

Specifically, Vietnam can only supply 0.2% of the cotton demand and 30% of the fiber demand, while the rest has to be imported from the US, China, and Taiwan. The yarn output reaches 1.4 million tons a year, but more than 70% of it does not meet domestic demand and can only be exported due to low quality (Vietnam Textile and Apparel Association, 2022).

Moreover, there is no planning for the development of large industrial parks with centralized wastewater treatment for the dyeing stage, which poses a serious environmental problem (Anh Phuong, 2022).

3.2.2. Low technology

As 70% of Vietnamese textile and garment enterprises are small and medium-sized, the industry faces significant challenges in adopting modern technology. Only 30% of enterprises, including foreign-invested and large domestic ones, have applied automation in each production stage, and less than 5% have plans to deploy connected automation technology. It is a huge challenge for domestic companies to meet the requirements of the Fourth Industrial Revolution, especially for small and medium enterprises. Moreover, the skill and capability of human resources in the industry are fairly low (with 84.4% of the workers having a high school education and 0.1% having a university degree) (Nguyen, 2022).

3.2.3. High outsourcing rate

In recent years, the industry has realized the need to achieve sustainable development by shifting from pure outsourcing (CMT) to original equipment manufacturer (OEM), original design manufacturer (ODM), or original brand manufacturer (OBM). However, until now, over 80% of the small and medium enterprises are still outsourced, with CMT being the main method (65%), FOB accounting for 25%, and ODM and OBM products only accounting for 10% (Le, 2019).

The reason is that the industry still has bottlenecks, such as product design, material production, and product commercialization. For example, the supply of raw materials and accessories largely depends on the customers' orders, the design capacity is still limited, and the trading and commercial stages are not yet effective. As a result, the industry can hardly meet the demands of customers who order outsourcing and exports and fail to compete in a fierce market environment (Dinh, 2021).

3.2.4. Competition from other markets

- *Domestic fashion market*

Vietnamese textile and garment enterprises have not established a strong brand name among domestic consumers, as they have not invested sufficiently in product design and quality. They also have to compete with big foreign brands, such as Zara, Mango, Topshop, etc., that have entered the Vietnamese market (Vu, 2022).

- *Foreign fashion market*

Besides the domestic market, Vietnamese textile and garment enterprises also compete with enterprises from many other countries, especially China and Bangladesh. These two countries are gradually meeting the strict requirements of high-class and demanding import markets, such as quality, environmental impact, traceability, recycled content, and labor standards.

For example, China is focusing on the area with the highest profit margin in the textile industry, such as recyclable materials (e.g., recyclable polyester). Similarly, Bangladesh has 9 out of 10 factories rated as green factories with the highest standards of the US Green Building Council in 2021 (Vietnam Industry and Trade Information Centre, 2022). In 2023, the textile and garment industry in Vietnam lost orders to Bangladesh because customers from Europe highly valued the environment, which was well-performed by factories in Bangladesh. 153 factories there have met LEED standards, and 500 factories are currently applying for this certification (N, 2023).

3.2.5. Lack of coherence among components in the supply chain

At present, Vietnamese textile and garment enterprises have not been proactive in many stages of the supply chain. Firstly, in the stage of searching for orders and manufacturing, businesses face great pressure from outsourcing customers. According to Vu (2023), exports in the first five months of 2023 to major markets have decreased: the US by 27.1%, the EU by 6.2%, Japan by 6.6%, South Korea by 2%, Canada by 10.9%, etc. The orders for garments are small and sporadic. Businesses have to accept orders that are not their strengths: weaving businesses do knitting and vice versa, shirt orders replace pants orders, etc. Moreover, the unit price has dropped significantly. Some products have their outsourcing rate reduced by 50% compared to the same period last year. For example, a shirt that used to cost 1.7-1.8 USD now only costs 85-90 cents.

Secondly, in the stage of product distribution, businesses encounter difficulties in cash flow and inventory management. Customers delay receiving goods after they are produced, leaving businesses with unsold stocks. At the same time, the logistics factor is also a big barrier to exporting Vietnamese textile and garment products compared to other competing countries. According to Vietnam Credit, the average logistics cost per total revenue of Vietnamese enterprises is now nearly 17%, higher than that of other countries (Vu, 2023).

3.2.6. Environmental problems

The textile and garment industry in Vietnam is facing increasing pressure from the import markets to adopt sustainable practices. However, sustainable development often involves increased initial costs, which discourages many businesses, especially the small and medium-sized that lack determination or have insufficient resources (Vu, 2022). Another environmental challenge is the lack of coherence between the policies that encourage investment in the textile and dyeing industry and those that restrict polluting industries. Unlike investment in the garment sector, which only requires a large workforce, low labor and equipment costs, and flexible production facilities for a high return on investment, investment in textile, dyeing, and finishing factories is demanding in terms of capital, technology, human resources, and strict environmental requirements, while capital recovery is slow. Printing and dyeing factories use a lot of chemicals that need a standard wastewater treatment system for disposal, but only a few provinces in the country agree to build such factories with proper wastewater treatment systems. This poses a challenge for businesses that want to invest in this industry, especially in the current context of high interest rates. As a result, the number of textile and dyeing enterprises is significantly lower than that of garment enterprises. Out of 3,700 enterprises, only 21% of them are textile and dyeing enterprises (Dang & Dinh, n.d.).

4. Proposed solutions for sustainable supply chain in the textile and garment industry of Vietnam

4.1. Attracting investment capital in the sector

4.1.1. Support and facilitation from the Government, associations, and organizations

To sustainably develop the textile and garment industry, it is essential to attract green projects in producing raw materials, establishing supporting industries, and digitalizing the manufacturing process. However, since most of the Vietnamese textile and garment enterprises are small and medium-sized, they need support from the Government and the industry associations to mobilize investment capital.

First, the Ministry of Industry and Trade and the Government should leverage foreign trade to explore and expand the import, export markets, and identify potential investors from countries such as the US, Norway, Iceland, and Sweden.

Second, the Government and the banking system should create favorable credit conditions for businesses (such as preferential interest rates, deposit support, and grace periods) so that businesses can overcome cash flow difficulties and have more capital for green investment projects. The Government also needs to reintroduce recovery packages for businesses after COVID-19 and review their effectiveness. Based on that, the Government can focus on supporting businesses in the best way.

Third, VITAS should actively connect with enterprises to develop a comprehensive development strategy towards greening production, protecting the environment, and meeting the criteria of green investment projects according to the Law on Environmental Protection as a basis for accessing effective green credit policies.

4.1.2. The initiative of the textile and garment enterprises to attract capital

Businesses should take advantage of their high import rate of raw materials as an opportunity to attract foreign investment into fabric and yarn production in Vietnam. This would help them to be more proactive in the production of raw materials, which would make the production process more coherent, cost-saving, and eco-friendly. In general, businesses should focus on attracting FDI projects because they can increase production capacity and export scale quickly.

At the same time, textile and garment enterprises should direct investment flows toward meeting the requirements of the new FTAs, such as CPTPP and EVFTA. For example, regarding the rules of origin, yarns and fabrics must be produced and used in Vietnam or in FTA countries to receive preferential tariffs.

4.2. Technology application in production

4.2.1. Promoting technological innovation in the textile industry

The Government should prioritize reviewing and developing more solutions for technological innovation, especially in the textile, dyeing, and finishing process, to foster the supporting industry and gradually fill the supply gap. Development should be prioritized for products of the supporting industry including natural fibers (e.g., cotton, jute, hemp, silk, and synthetic fibers), fabrics, chemicals, auxiliaries, dyes, and accessories (e.g., buttons and zippers). The Vietnam Textile and Apparel Association should also support businesses in reporting, proposing recommendations, and calling for support from the Government, Ministries, and local authorities.

4.2.2. Proactive investment in machinery and technology upgrades by enterprises

To enhance the greening process of the industry and ensure the sustainability of the supply chain, businesses need to actively invest in upgrading their machinery and technology. Technological innovations in the dyeing step should be prioritized to solve the problem of fabric supply in the industry. For example, green production

technology can help reduce fuel and water consumption. Enterprises need to ensure that their production technology meets the trend of using green products, nanomaterials, and functional materials.

At the same time, enterprises should keep up with the trend of using digitalized and automated textile equipment (e.g., smart factories, 3D printing, 3D knitting), especially in yarn production, weaving, dyeing, and basic sewing for a transparent connection throughout the supply chain. For the simple and highly repetitive phases like cutting fabric, businesses should use digital technology or robots to save labor and materials. Utilizing equipment can also help to increase the accuracy in the production process, such as increasing the Right First Time (RFT) rate in the textile dyeing stage from 70-80% to 95-98%.

4.3. Establishing the textile and garment industrial clusters

4.3.1. Planning and investment in the textile and garment clusters by the Government

The Government should plan and invest in the supporting industry clusters that have complete infrastructure and provide "green" raw materials for the production and distribution stages. The construction of a large textile and garment industrial complex is crucial as it will help connect activities in various stages and avoid disruption of the supply chain.

The Vietnam Textile and Apparel Association should also petition the Government to approve the development strategies of the industry, such as the *"Development strategy for textile, garment and footwear industry to 2030, with a vision to 2035"*, to facilitate the formation of large industrial complexes with centralized wastewater treatment and advanced, green technology.

4.3.2. Actively participation in the textile industry clusters

Enterprises should actively participate in the textile industry clusters to increase coherence within the supply chain. For example, an industrial cluster in Ho Chi Minh City, which contributes more than 40% of the country's export turnover, has businesses at different production stages that participate in the ecosystem to ensure the main features of the supply chain, such as design training, raw materials preparation, brand promotion, and accommodation for employees and to drive the industry forward.

Another example is that an industrial zone that focuses on producing raw materials should have standard wastewater treatment systems, convenient roads, and access to the seaport system. It should also connect with garment factories in the region. The formation and development of textile and garment industry clusters in Vietnam will help boost the productivity and efficiency of businesses through increased access to services and raw materials, speed, and reduced transaction costs. In addition, the clusters will help businesses access information easily, thereby promoting trade and innovation. In short, the industry clusters will help businesses increase competitiveness, strengthen cooperation, and make a greater impact on the development of the entire industry.

5. Conclusion

Environmental protection is increasingly becoming a focal point in socio-economic development. Therefore, the textile and garment industry should innovate its development goals and technology to create sustainable supply chains. These include using clean and recycled materials, producing green products that protect the environment and social responsibility, distributing and retailing products in an eco-friendly way, and reaching ethical consumers who value sustainability. A sustainable textile supply chain helps companies improve their brand image and attract more ethical consumers. Therefore, for businesses, sustainability is a way to demonstrate their responsibility towards society and the environment and gain a competitive edge in the market. Although Vietnam's textile and garment export has achieved many remarkable achievements in recent years, the industry still faces many difficulties and challenges in the production process. Developing and maintaining a sustainable supply chain is one of the urgent requirements for businesses to compete in a fast-changing world of technology and consumption trends.

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Research on Digital Marketing for Play Nutrition's Nutrition Bar

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Abstract
In the 4.0 context, Digital Marketing becomes suitable for all businesses, from small to medium to large, helping businesses reduce costs, increase the effectiveness of communication tools, and align with today's digital transformation context. The study examines the degree of application of Digital Marketing tools for the Play Nutrition bar. The results show that "Content Marketing" has the highest frequency of appearance, attractiveness, and influence. Along with "Content Marketing", "Video Marketing" also has the strongest impact. Based on the theoretical study of Digital Marketing, combined with survey results and orientation toward the use of Digital Marketing tools in the future for Play Nutrition bars, the research team proposes some recommendations to enhance the effectiveness of using Digital Marketing tools for Play Nutrition bars.

Keywords: Marketing, Digital Marketing, Nutrition bar, Play Nutrition

1. Raising the Issue

Marketing is a socially oriented management process, through which individuals and groups obtain what they need and desire through creating, offering, and exchanging valuable products with others (Philip Kotler & Amstrong, 2007).
E-Marketing is the process of planning for products, pricing, distribution, and promotion of products, services, and ideas to meet the needs of organizations and individuals based on electronic media and the internet (Philip Kotler, 2007). The application of the internet and related digital technologies combined with traditional media to achieve marketing objectives (Chaffey, 2012).

In the 4.0 era, consumer behavior has changed: from going to traditional stores, to online ordering from e-commerce websites and purchasing from online trading platforms. Digital Marketing is suitable for all businesses, from small to medium to large, helping them reduce costs, enhance the effectiveness of communication tools, and adapt to the current digital transformation context.

In this study, the research team examines the extent of the application of Digital Marketing tools at Play Nutrition to consider:

- The frequency of appearance of Play Nutrition's Digital Marketing tools.
- The level of appeal of Play Nutrition's Digital Marketing tools.
- The influence level of Play Nutrition's Digital Marketing tools.

To examine these issues, the team surveyed 415 consumers in major cities in Vietnam using a random, convenient method.

The survey was constructed using a 5-point Likert scale, with:

1. *Never/ Very unappealing/ Very uninfluential*
2. *Rarely/ Unappealing/ Not influential*
3. *Sometimes/ Normal/ Moderate*
4. *Often/Appealing/ Influential*
5. *Very often / Very appealing / Very influential*

After constructing the survey, the research team proceeded to interview the leaders of Play Nutrition. The survey was refined based on the feedback from the interviewees, and subsequently, the research team conducted a random pilot survey with 10 customers. Based on in-depth interviews and the preliminary survey, the research team finalized the survey and carried out a broader survey through this link (https://docs.google.com/forms/d/e/1FAIpQLSe7EZeZxmzVIw2XPMR7NNjGN5uy8W4al2-L3OifY9Y1Knrl7w/viewform) with consumers in major cities of Vietnam. From the survey results, the research team proposes some measures to enhance the effectiveness of Play Nutrition's Digital Marketing tools.

2. Theoretical Basis on Digital Marketing

2.1. Some definitions

2.1.1. Marketing

Marketing is a socially oriented management process, through which individuals and groups obtain what they need and desire by creating, offering, and exchanging valuable products with others (Philip Kotler & Amstrong, 2007). Marketing is the process of planning and executing the creation, pricing, promotion, and distribution of ideas, goods, and services to facilitate transactions that meet the objectives of individuals and organizations (AMA, The American Marketing Association, 2017). Marketing is the economic and social mechanisms that organizations and individuals use to satisfy their needs and desires through the exchange process of products in the market (Nguyen Thi Thu Thuy, 2008).

2.1.2. Digital Marketing

E-Marketing is the process of planning for products, pricing, distribution, and promotion of products, services, and ideas to meet the needs of organizations and individuals based on electronic media and the Internet (Philip Kotler, 2007). Internet marketing and online advertising, also known as e-marketing, web marketing, online marketing, or e-marketing, is advertising products and services via the Internet (Ruzic, D. 2003). The application of the Internet and related digital technologies combined with traditional media to achieve marketing objectives (Chaffey, 2012).

Internet marketing and the use of the internet and other digital technologies, combined with traditional methods, to achieve marketing objectives (Chaffey, D., Ellis-Chadwick, F., Mayer, R., Johnston, K., 2009). Online marketing is the practice of using information technology tools instead of traditional communication tools to conduct the marketing process (Le Si Tri, 2018). Digital Marketing: encompasses all activities to satisfy the needs and desires of customers through the internet and electronic media (Joel Reedy, Shauna Schullo, Kenneth Zimmerman 2000).

Electronic marketing involves the use of the internet and electronic devices such as personal computers, handheld computers, etc. to conduct marketing activities aimed at achieving the organization's objectives and maintaining customer relationships by enhancing understanding about them (information, behavior, values, loyalty levels, etc.). From there, promotional activities are carried out targeting specific objectives and online services to satisfy customer needs (PR Smith & Dave Chaffey, 2005). Electronic marketing is the use of information technology for marketing activities and is also the process of creating, communicating, transmitting, and changing values for customers, consumers, partners, and society as a whole (Strauss & Frost, 2008).

2.2. The Necessity of Digital Marketing

Digital Marketing helps promote products, interact with customers, and increase sales revenue. The necessity of Digital Marketing: The goal of Digital Marketing is to increase brand recognition, build trust, and boost sales conversions based on digital means. This goal will be implemented based on a specific Strategic Plan and suitable Digital Marketing Channels. (OCD, 2023)

2.2.1. Optimizing cost-effectiveness, saving budget

Businesses do not have to incur costs for traditional storefronts, rent spaces, kiosks, or traditional advertising costs like leaflets, signs, magazines. In the context of the 4.0 era, consumer behavior has changed. Instead of visiting traditional stores, they now order online from e-commerce websites and buy products on e-commerce platforms. Traditional marketing methods will cause businesses to incur high costs, usually carried out by big companies with strong financial capacities. Digital Marketing is suitable for all businesses, from small to medium to large (Adsmo, 2022).

2.2.2. Expanding the market, easily targeting potential customers

Digital Marketing makes it easier for businesses to market to customers without barriers, allowing marketing anywhere, anytime, and to any audience, simplifying the buying process for customers. Customers can learn about prices, view product images, and make payments without having to visit the store in person. It can be said that digital marketing has blurred geographical distances and territorial boundaries, expanding the market globally (Adsmo, 2022).

2.2.3. Measuring the information, determining the effectiveness more accurately

Digital Marketing will provide statistics and measure specific data using tools to guide marketers, allowing them to adjust their marketing strategy most appropriately. It helps in understanding and evaluating consumer behavior, identifying needs, gender, habits, the mode of access, the duration of access, and the content that users read on the website (Adsmo, 2022).

2.2.4. Promoting the brand recognition

It can be easily seen that digital marketing is a powerful tool for businesses to increase brand recognition among customers and users. Digital marketing has gradually touched the lives of customers, enhancing awareness about the business's brand, and creating a solid impression in the minds of the customers. Promotional and communication activities on television, phones, and the Internet contribute to broadening the business's brand presence, providing free PR, creating a bandwagon effect, and fostering goodwill for the brand (adsmo, 2022).

2.2.5. Competitiveness

In today's competitive business market, digital marketing has become an indispensable factor for businesses. Digital marketing tools and strategies help businesses enhance their competitive ability and create a distinction in the market. Thanks to digital marketing, businesses can elevate their market vision and knowledge, aiding in

making intelligent and effective business decisions. This enhances the business's competitive ability in the market while simultaneously setting them apart from its competitors (ooc.vn, 2022).

2.3. Digital marketing tools

According to Asialion (2020) and BetterGrowth (2023), there are several Digital marketing tools such as:

Social Media Marketing (Marketing through social media) Social media marketing is the use of social media platforms such as Facebook, Linkedin, Zalo, TikTok, etc., to promote products or services.

Influencer/ Affiliate is a form of promoting products or services that a provider wants to convey through online promotional channels of money-making partners (publishers) to customers.
Multimedia Marketing (multimedia marketing): is the production of content to be posted on various media channels, thereby enhancing the effectiveness of marketing.
Search Engine Optimization (SEO): is the process of implementing methods to improve the ranking of a website in the results pages of search engines (the most popular being Google).
Video Marketing: Using video to market a product or service.
Content marketing: This is a marketing method with a strategy focused on creating and distributing valuable, relevant, and consistent content to attract and retain customers.
Blog marketing is a form of marketing and advertising for brands, websites, products, etc., through blogging platforms.

3. An Overview of Play Nutrition and Play Nutrition Bars

3.1. An Overview of Play Nutrition

Play's mission*: Play is not just a brand; but a lifestyle, a dynamic and modern lifestyle, always filled with energy to conquer challenges yet always maintaining a healthy heart, a peaceful mind, and a happy life.* ***PLAY*** *spreads this lifestyle to every employee, every business partner, every distributor agent, and every customer.*

To achieve this, Play continuously strives to introduce wholesome nutrition products and uses these products as a bridge from the company to the customers because ***"You are what you eat"****!*

Figure 1. Logo và Tagline Play Nutrition
Source: Play Book (2023)

2015: Play began distributing the SSP energy bar imported from the UK. Upon its introduction, the product entered a niche market and was distributed to golf courses nationwide.
2016: Contracted the manufacturing of the Protein bar from Bulgaria. Continued to distribute Play Protein Bar to over 200 gyms nationwide.

2019: Began producing their first energy bar, the Play Energy Bar. Play sponsored major marathon events such as the Vnexpress Marathon, VPBank Marathon, Techcombank Marathon, and LongBien Marathon.
2020-2021: Play became a well-known name amongst most athletes. Play supported the country in the fight against the pandemic!!!
2022: Launched a Natural and healthy product for the mass market. Started distribution through MT channels: Winmart, Win+, BigC, CircleK, Family Mart, etc.
2023: Introduced a strategic product. Expanded distribution on the GT channel.

ACHIEVEMENTS

Introduced the term "Energy Bar" and initiated the movement to produce and market this product in Vietnam.
Persuading golf course and gym operators, along with their clientele, that nutrition bars are integral to their activities is essential for transforming the dietary habits of golfers, gym enthusiasts, and runners in Vietnam.
Showing the biggest players in the retail market in Vietnam that the nutrition bar is a new sustainable line of FMCG products to be added to their portfolio.
Play became synonymous with **HIGH-ENERGY, HEALTHY** products, representing the lifestyle: "**EAT CLEAN, LIVE WELL**"
Sponsoring marathons: VNexpress Marathon 2019, 2020, 2021, 2022, 2023 in Hanoi, Ho Chi Minh City, Quy Nhon, Hue, Ha Long; Long Bien Marathon 2020, 2021; Hanoi Heritage Marathon 2020; Techcombank HCM Marathon 2020; HCMC Run 2020; Ecopark Marathon 2021, 2023; Cuc Phuong Marathon 2023.
Sponsoring Vietnam Basketball Association (VBA) events: VBA 3x3 2022; VBA 5x5 2022; VBA 3x3 2023; VBA 5x5 2023.

3.2. Play Nutrition's products.

3.2.1. Categorizing Play Nutrition bars

According to Play Nutrition (2022), the current products of the company available on the market include the following product lines:

Natural and Healthy nut bars
Blueberry Cashew Flavor: cashews, blueberries, brown rice, oats, pumpkin seeds, pumpkin seeds, maltose syrup, fibre gum B, salt. Natural & Healthy nut bars.
Seaweed Cashew Flavor: cashews, seaweed, brown rice, oats, pumpkin seeds, pumpkin seeds, roasted soybeans, black sesame, maltose syrup, fibre gum B, salt.
Mushroom Flavor: cashews, shiitake mushrooms, brown rice, oats, roasted soybeans, pumpkin seeds, white sesame, malt extract, soluble fiber, tapioca starch, salt, brown rice oil, soy lecithin, chili powder, pepper powder, garlic powder, soy sauce extract.

Protein bar
Peanut Butter Flavor: protein milk mixture (calcium caseinate, concentrated whey, hydrolyzed whey protein), peanut butter (peanuts), soluble fiber (from corn and cane), red pumpkin seed powder, vegetable glycerin, sweeteners (stevia, erythritol), flavor (peanuts), citric acid, antioxidants (rosemary extract).
Cocoa Flavor: protein milk mixture (calcium caseinate, concentrated whey, soy protein isolate), soluble fiber (from corn fiber and cane fiber), cocoa mass (non-hydrogenated palm kernel oil, erythritol, cocoa powder), peanuts, sunflower butter, raisins, pure cocoa powder, cocoa butter, vegetable glycerin, fat-free red pumpkin seed powder, sweeteners (stevia, erythritol), flavors (chocolate, orange oil), sunflower lecithin, antioxidants (rosemary extract).
Apple Cinnamon Flavor: protein milk mixture (calcium caseinate, concentrated whey, hydrolyzed whey protein), fiber (from soluble corn fiber and cane fiber), almond butter, dried apples, fat-free red pumpkin seed powder, vegetable glycerin, cinnamon, sweeteners (stevia, erythritol), natural flavors (apple), citric acid, antioxidants (rosemary extract).

Energy bar

PLAY Energy Bar Macca & Peanut Butter Flavor: Peanut butter (21.4%), malt extract, corn starch, macadamia nuts (10%), oats, peanuts, cane syrup, soy protein powder, peanut powder, cacao nibs, puffed rice, digestive fiber, vegetable oil, vegetable glycerol, soy-based emulsifier, acid regulator, salt, rosemary extract.

PLAY Energy Bar Orange Cocoa Flavor: Cashews (21.5%), orange peel (10%), mango, dried grapes, peanut butter, cocoa powder, corn starch, soy protein powder, cane syrup, malt extract, puffed rice, cocoa butter, digestive fiber, vegetable oil, vegetable glycerol, soy-based emulsifier, acid regulator, salt, orange peel oil, rosemary extract.

PLAY Energy Bar Fruits & Oats Flavor: Cashews (23%), blueberries (15%), apricots (11.5%), dried grapes (11.5%), oats, corn starch, soy protein powder, malt extract, cane syrup, peanut butter, puffed rice, digestive fiber, vegetable oil, vegetable glycerol, soy-based emulsifier, acid regulator, salt, rosemary extract.

3.2.2. Strengths of Play Nutrition bars

The Play nutrition bar is a combination of various seeds and some grains. The absorption time is around 20 minutes. The bar contains high amounts of fiber (from the seeds) which provides a lasting feeling of fullness without feeling bloated. The energy provided is steady and lasts for about 3 hours, supporting effective mental and physical training and activities (Playnutrition, 2023a).

The nutrition components of the Play Nutrition energy bar mainly come from various seeds & malt, so the blood glycemic index (GI) is ensured to be higher than the GI of whole seeds and lower than the GI of processed foods (Playnutrition, 2023a).

Advantages of Play Nutrition energy bar

Helps provide energy for athletes and those with a high workload. The product contains nutrients from fruits and various seeds, offering balanced nutrition for the body.

It is completely vegan, contains good fats, and does not contain preservatives or refined sugar. It has salt which helps prevent cramps due to the loss of minerals while sweating during physical activity. The product is suitable for pregnant women and children. It is not suitable for people with diabetes (Play Nutrition, 2022a).

When running long distances, the fiber in these bars helps the body release energy slowly and makes you feel fuller for a longer period (Play Nutrition, 2022a).

Marathon runners are often susceptible to colds due to the extended duration and distances they run. Antioxidants and nutrients like selenium, vitamin E, zinc, etc. in the Energy Bars can help you recover and boost your immune system, especially the bars containing ingredients from dried fruits, cherries, and various seeds (Play Nutrition, 2022a)

After running for an extended period, you need nutrients such as carbohydrates, protein, and fiber. These nutrients help the body recover and curb hunger. Notably, these macronutrients can only be obtained through diet, as the body cannot produce them on its own. Therefore, a Protein Bar containing some fats, carbohydrates, and high protein content is excellent for physical recovery after a marathon. (Play Nutrition, 2022a)

Advantages of Play Nutrition protein bar

Helps supplement pure protein after gym workouts and bodybuilding. This product serves as a meal replacement before and after exercise due to its high protein content and quality carbs to replenish energy (Play Nutrition, 2022b).

Protein from 5 sources: Whey Protein Concentrate, Whey Protein Isolate, Whey Protein Hydrolyzed, Casein Protein, and Soy Isolate (Play Nutrition, 2022b).

The sweet flavor of the PLAY Protein Bar comes from the Stevia sweet herb – 100% natural, calorie-free, and especially safe for health. The special preparation formula, compared to ingredients from natural seeds and fruits, is rich in nutrients beneficial for health (Play Nutrition, 2022b).

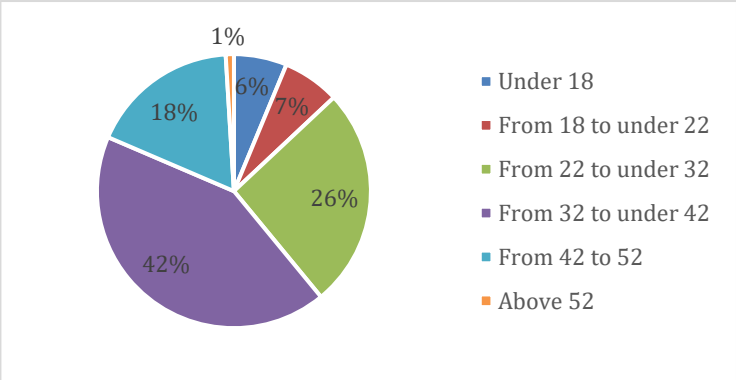
Advantages of Play Nutrition Natural and Healthy nut bar

Suitable for a snack, breakfast, or a convenient lunch that's nutritious – Provides quick energy before and after exercising, sports, or work – The bars do not have added sugar, no flavorings – Made from 100% natural ingredients from nutrient-rich seeds – Very high in natural fiber which is good for digestion and the body's activity

– Rich in Omega 3,6,9 and some essential minerals like Calcium, Iron, Magnesium – Moderately salty taste, rich and delicious without causing satiety, enticing to the last bite! – Vegan bars suitable for vegetarians. – Suitable for those on a diet, losing weight, and taking care of their physique (Play Nutrition, 2022c).
The PLAY Natural & Healthy nutrition bar is a favorite snack for many people on a diet. The bar is made from various seeds that contain beneficial nutrients, providing a positive energy source for the body (Play Nutrition, 2022c).

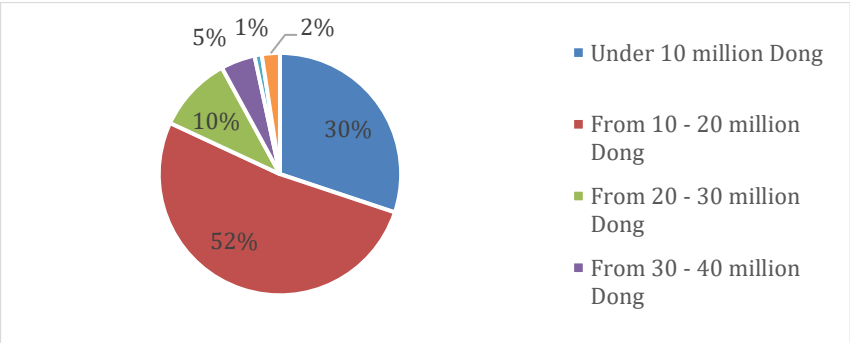
4. Consumer Reviews on Digital Marketing Activities for Play Nutrition Energy Bars

4.1. Description of the participants of the survey



Graph 1: Age of participants
Source: Survey results

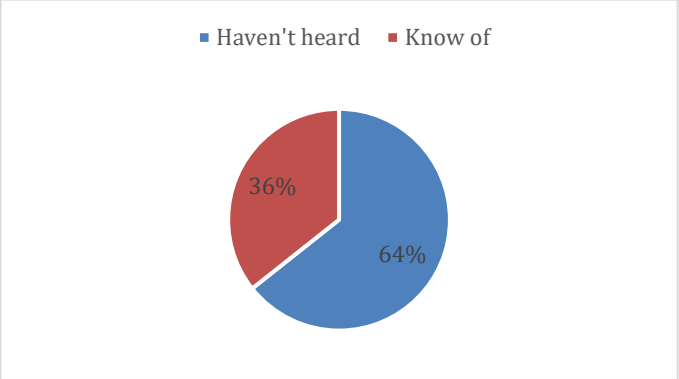
Of the 415 survey participants: 26 people are under 18 years old (6.3%), 28 people are between 18 and under 22 years old (6.7%), 108 people are between 22 and under 32 years old (26%), 176 people are between 32 and under 42 years old (42.4%), 73 people are between 42 and 52 years old (17.6%), and 4 people are over 52 years old (1%). Out of the 415 survey participants, 265 are male (63.9%), and 145 are female (35.9%). Regarding their living areas, 277 participants live in urban areas (66.7%) and 138 live in rural areas (33.3%)."



Graph 2: Survey participants' income
Source: Survey results

Regarding the income of the survey participants, the majority have an income ranging from 10 to 20 million VND (52%). The next group earns below 10 million VND (30%), and the remaining participants have an income above 20 million VND (18%).

4.2. Survey on accessibility and customers' evaluation of Play Nutrition energy bars



Graph 3: Percentage of survey participants who are aware of Play Nutrition bars.
Source: Survey results

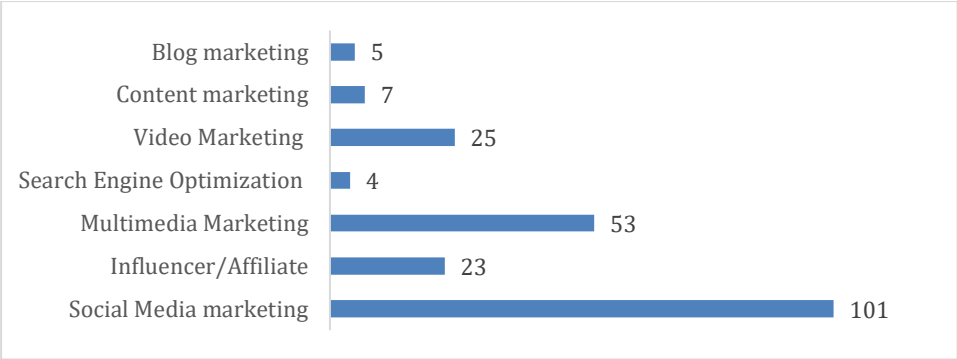
With the convenience sampling method and the "snowball" method (a method where the next participant is found based on suggestions or referrals from a just-surveyed participant), out of 415 survey participants, 267 people had never heard of Play Nutrition products (64%). Only 148 people (36%) know of Play Nutrition's energy bars.

With 64% of surveyed individuals unaware of Play Nutrition products, it's clear that Play Nutrition's market coverage is limited, and its exposure is weak. This is understandable as the product was introduced to the market in 2015, starting with the distribution of SSP energy bars imported from the UK for 65,000 VND/bar (available at various golf courses nationwide). In 2016, they began contract manufacturing Protein Bars from Bulgaria priced at 45,000 VND/bar (covering Play Protein Bar in over 200 gyms nationwide). It wasn't until 2019 that they produced their first Play Energy Bar, priced at 25,000 VND/bar. By 2022, they launched the Natural & Healthy product for the mass market at 15,000 VND/bar (distributed through MT channels: Vinmart, Win+, Big C, CircleK, Family Mart, etc.). In 2023, there are plans to introduce strategic products and expand distribution on the GT channel. (Play Nutrition, 2023)

Of those who had never heard of the nutrition bars (267 people), 218 expressed interests in learning more about them. Among these 218 individuals, when asked about which Play Nutrition product lines, they wanted to learn more about, the results are shown in Graph 4.

Graph 4: Decisions when using Play Nutrition bars
Source: Survey results

Thus, the survey results indicate that the most interest is in the Natural and Healthy nut bar, with 163 out of 218 selections. Next is the energy bar with 133 out of 218 selections, and lastly, the protein bar with 118 out of 218 selections.

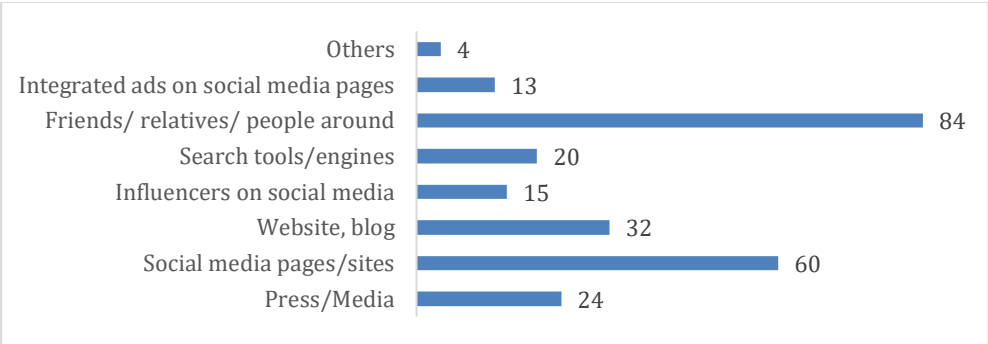


Graph 5: Approaching Digital Marketing Tools

Source: Survey results

Regarding the sources of Digital Marketing tools that customers want to use to learn about Play Nutrition energy bars: *"Social Media Marketing"* had the highest number of selections at 101; In second place was *"Multimedia Marketing"* with 53 selections; *"Video Marketing"* had 25 selections; *"Influencer/Affiliate Marketing"* had 23 selections; *"Content Marketing"* had 7 selections; *"Blog Marketing"* had 5 selections; *"Search Engine Optimization (SEO)"* had 4 selections.

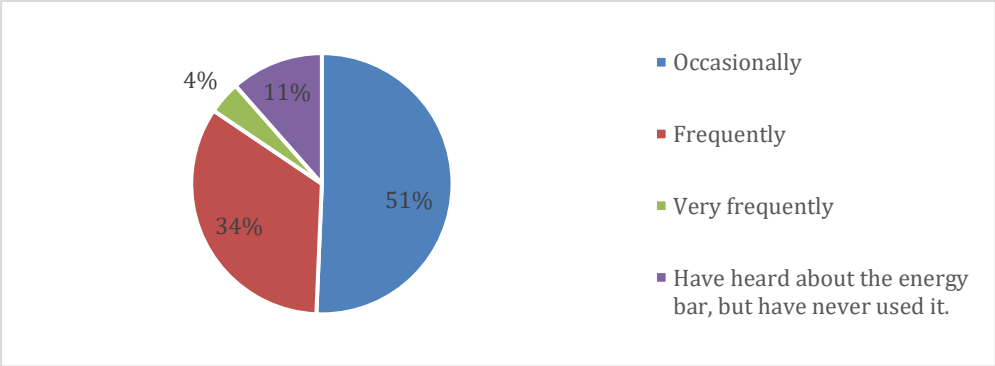
For the 148 individuals who have used Play Nutrition energy bars, the sources from which they learned about the product are shown in Graph 6.



Graph 6: Sources of information about the nutrition bars

Source: Survey results

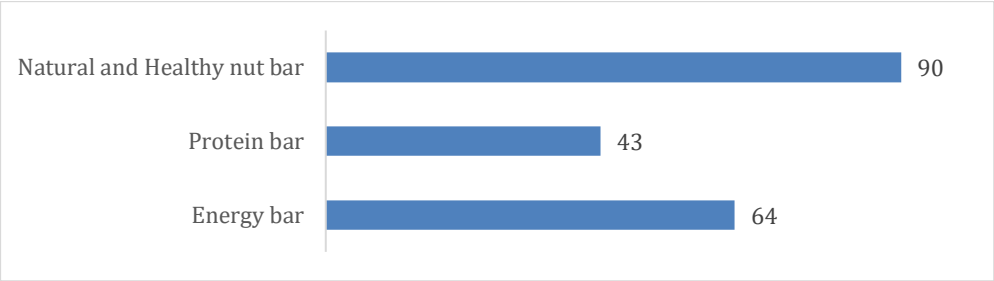
For those who are already aware of and have used the product, the most accessed sources of information about the nutrition bars are from *"Friends/relatives/people around"* with 84 selections, followed by *"Social media pages"* with 60 selections; *"Websites, blogs"* with 32 selections; *"Search engines"* with 20 selections; "Press/Media" with 24 selections; *"Social media influencers"* with 15 selections; *"Advertisements integrated on social media pages"* with 13 selections; and other channels labeled as *"Other"* with 4 selections.



Graph 7: Level of usage for the nutrition bars

Source: Survey results

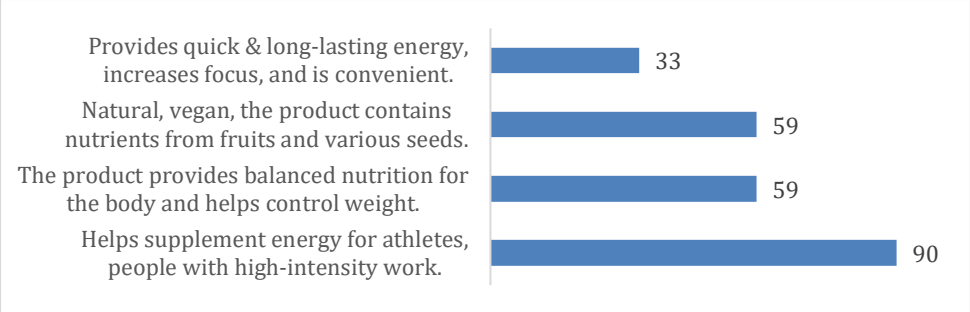
Regarding the usage level of Play Nutrition bars, the survey results show that the number of users who use it *"Occasionally"* is 75 (51%), those who use it *"Regularly"* is 50 (34%); only 6 people use it *"Very Frequently"* (4%); and there are 17 people (11%) who *"Know about the energy bar but have never used it"*.



Graph 8: Usage rate of Play Nutrition bars

Source: Survey results

Among those who are aware of/have used Play Nutrition bars, the number of people who have consumed the *"Energy Bar"* is 64; the *"Protein Bar"* is 43; and the *"Natural and Healthy Nut Bar"* is 90.



Graph 9: Pros of Play Nutrition bars

Source: Survey results

Based on the survey results, the biggest advantage of the Play Nutrition energy bar is *"Energy Boost for Athletes and High-Intensity Workers"*, chosen by 90 respondents; next is *"Provides Balanced Nutrition & Weight Control"* by 59 respondents. *"Natural, Vegan, Nutrient-Rich from Fruits and Seeds"* Another 59. Finally, *"Quick & Long-Lasting Energy, Improved Concentration, and Convenience"* with 33 respondents

4.3. Evaluating the implementation of Digital Marketing tools for Play Nutrition energy bars.

The study surveyed the frequency of appearance, attractiveness, and influence of the Digital Marketing tools for the Play Nutrition energy bar product. The results are as follows:

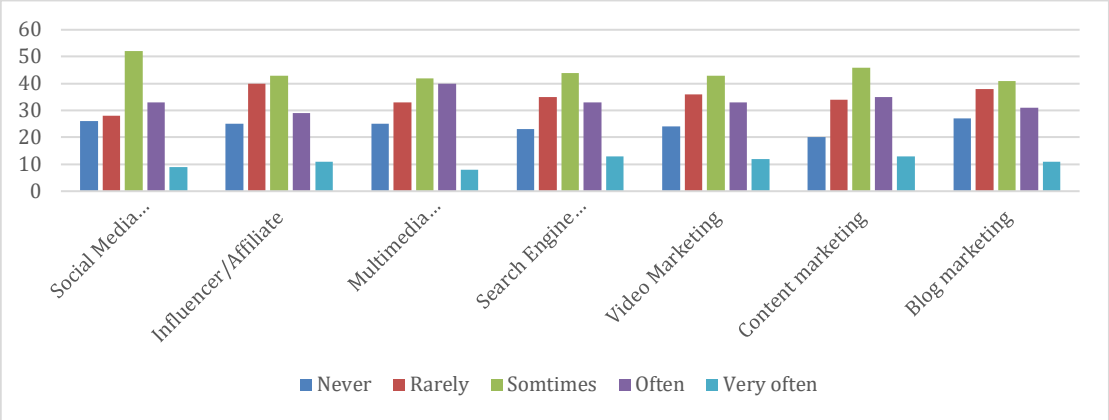
Table 1: Frequency of appearance of Digital Marketing tools for the Play Nutrition bar

	1	**2**	**3**	**4**	**5**	**Average score**	**Evaluation of frequency**	**Order of frequency of appearance**
Social Media Marketing	26	28	52	33	9	2.80	Normal	4
Influencer/Affiliate	25	40	43	29	11	2.74	Normal	5
Multimedia Marketing	25	33	42	40	8	2.82	Normal	3
Search Engine Optimization	23	35	44	33	13	2.85	Normal	2
Video Marketing	24	36	43	33	12	2.82	Normal	3
Content marketing	20	34	46	35	13	2.91	Normal	1
Blog marketing	27	38	41	31	11	2.74	Normal	5

Convention: 1. Never; 2. Rarely; 3. Sometimes; 4. Often; 5. Very often.

Source: Survey results

The survey results show that among Play Nutrition's Digital Marketing tools, the average frequency score ranges from 2.74 to 2.91, indicating that these tools appear "Sometimes". Amongst them, ***"Content marketing" has the highest score (2.91 points)***, and *"SEO – Search Engine Optimization"* ranks second (2.85 points). The lowest scores are for *"Blog marketing"* and *"Influencer/Affiliate"* tools, both with a score of 2.74.



Graph 10: The frequency of appearance of Play Nutrition's Digital Marketing tools

Source: Survey results

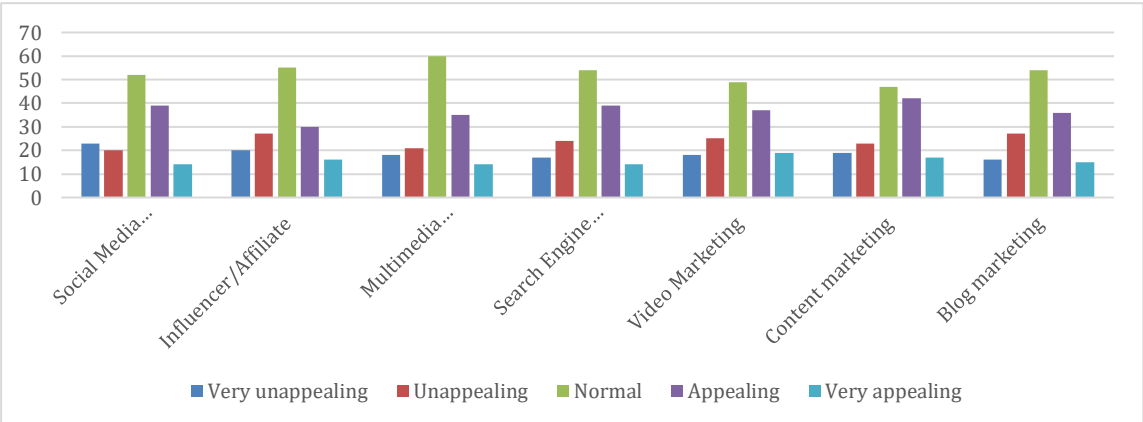
Table 2: The level of attractiveness of the digital marketing tools for the digital marketing product

	1	2	3	4	5	Average score	Evaluation of frequency	Order of frequency of appearance
Social Media Marketing	23	20	52	39	14	3.01	Normal	6
Influencer/Affiliate	20	27	55	30	16	2.97	Normal	7
Multimedia Marketing	18	21	60	35	14	3.04	Normal	5
Search Engine Optimization	17	24	54	39	14	3.06	Normal	3
Video Marketing	18	25	49	37	19	3.09	Normal	2
Content marketing	19	23	47	42	17	3.10	Normal	1
Blog marketing	16	27	54	36	15	3.05	Normal	4

Convention: 1. Very Unappealing; 2. Unappealing; 3. Normal; 4. Appealing; 5. Very Appealing

Source: Survey results

According to the survey results, regarding the attractiveness level of Play Nutrition's digital marketing tools, the average converted scores fluctuate between 2.97 and 3.1, which falls into the "Moderate" attractiveness category. Among these tools, ***"Content marketing" has the highest score (3.1 points)"***, followed by "Video Marketing" in second place (3.09 points), and the lowest score is for the "Influencer/Affiliate" tool at 2.97 points.



Graph 11: The attractiveness level of Play Nutrition's Digital Marketing tools

Source: Survey results

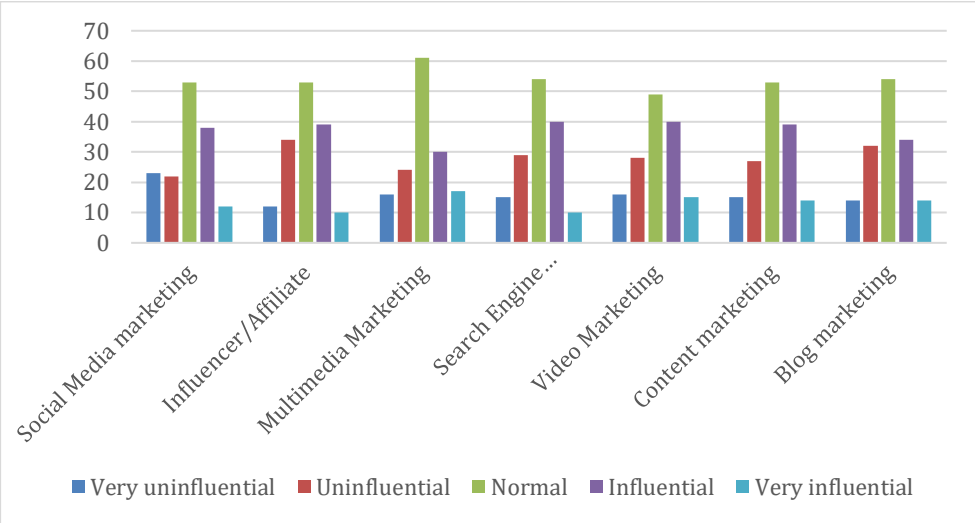
Table 3: The attractiveness level of Play Nutrition's digital marketing tools

	1	2	3	4	5	Average score	Evaluation of frequency	Order of frequency of appearance
Social Media Marketing	23	22	53	38	12	2.96	Normal	4
Influencer/Affiliate	12	34	53	39	10	3.01	Normal	3
Multimedia Marketing	16	24	61	30	17	3.05	Normal	2
Search Engine Optimization	15	29	54	40	10	3.01	Normal	3
Video Marketing	16	28	49	40	15	3.07	Normal	1
Content marketing	15	27	53	39	14	3.07	Normal	1
Blog marketing	14	32	54	34	14	3.01	Normal	3

Convention: 1. Very Uninfluential; 2. Not Influential; 3. Moderate; 4. Influential; 5. Very Influential

Source: Survey results

According to the survey results, for the influence level of Play Nutrition's Digital Marketing tools, the average scores converted into a range from 2.96 to 3.07. This indicates that the tools have a "Moderate" level of influence. Amongst them, ***"Content marketing" has the highest score (3.07 points), with "Video Marketing" (3.07 points)***, and the lowest score is for the "Social Media Marketing" tool with a score of 2.96.



Graph 12: The influence level of Play Nutrition's Digital Marketing tools

Source: Survey results

5. Completing Digital Marketing Tools for Play Nutrition Bars

5.1. Orientation for improving the Digital Marketing tools of Play Nutrition

- For the niche market. The company focuses on specific target customers for Play's unique products. Concentrating on consumers who are athletes, or those who require high levels of concentration, and intellectual labor... these are potential customers because their demand for energy supplements is higher than the average consumer due to the nature of their work. Additionally, there's an emphasis on brand-building, improving packaging, and design to attract these customers, especially for the **Protein bar** and **Energy bar** product lines.

- For the mass market. This market targets all customer groups, from young to old, prioritizing those with specific dietary needs, such as people with obesity, and type 1 diabetes... who need to control their calorie intake. Additionally, other potential consumers include pregnant women... who require a complete nutrient intake. For the mass market, the company promotes the 'Natural and Healthy' bars, which can meet the needs of the above-mentioned customer segments.

5.2. Some recommendations to improve the Digital Marketing tool for Play Nutrition bars

From the survey results of the research group, Play Nutrition's "Content Marketing" tool leads in terms of frequency, attractiveness, and influence on the surveyed subjects. Therefore, businesses need to continue to promote brand content, and the benefits of Play Nutrition bars, ensuring appropriate, quality content. To optimize this digital marketing tool, businesses need to:

- *Plan to build content to promote the brand and the function of nutrition bars for consumers in detail.*
- *Once there are articles about the product, posting frequency plays an important role in assessing the effectiveness of this digital marketing tool. Businesses need to allocate a reasonable posting time, with at least 2-3 posts per week on websites or social media pages to expand the reach of the content for the target customers.*
- *Provide accurate, trustworthy information. In addition to brand-promoting content, and introducing the product's functionality, businesses can integrate some content, and useful information about nutrition, and healthy eating habits... to score points with potential customers.*

Play Nutrition's ***"Video Marketing"*** tool, also leads in terms of influence on customers using Play Nutrition bars. It can be assessed that this is a promising digital marketing tool currently and in the future for the company's product lines. To optimize this digital marketing tool, businesses should combine it with the "Content Marketing" tool, creating product introductions and promotional videos. Promotional videos need to focus on sound quality and sharp images, attracting all customer segments. In addition, the video needs meticulous preparation, not too long but still ensures the content to be conveyed, as too long will be boring and not focused on a specific aspect, while too short will not fully convey the content to the target customers.

Although the ***"Influencer/Affiliate Marketing"*** tool does not have the same influence and appeal to survey participants as other tools, it is considered a strength of the company. The company needs to promote and develop this digital marketing tool. To maximize the efficiency of the ***"Influencer/Affiliate"*** tool, businesses need to:

- *Continue using Influencers to build market trust. The company's potential is having a brand ambassador who is a SEA Games athlete and Ironman for the triathlon (running, cycling, swimming) – the company needs sponsorship activities to continue using his image. Moreover, the company should continue to approach other KOLs like basketball and street soccer KOLs - each sport will have a representative for Play, combining to build both their brand and Play's brand.*
- *For affiliate marketing, businesses need to go through influencers. This is a promising tool to target the mass market, with two main directions: one is brand building, and the second is promoting sales, creating a shared network to build personal brands, and promoting product lines to all Play's target customers.*

The ***"Media Marketing"*** tool is the tool that survey participants most want to access when wanting to learn about Play Nutrition bars. Therefore, businesses need to continue to develop social media platforms and maximize media channels. Especially targeting platforms with a trading floor like TikTok to promote the brand, apply voucher systems, and exclusive promotions of the e-commerce platform. Given the current trend, the target customers will mainly be the younger generation, so TikTok is a potential channel, both easily accessible to target customers and solving the problem of both building the brand and pushing sales, as TikTok has platforms like TikTok shop, TikTok business account.

Businesses also need to exploit available resources. Promote website development, run ads, and promote product brands on strong platforms like Google, as Google has separate segments like the Google Network, Google Display Network, and keyword optimization (SEO) linked to the website. Make the most of available resources, namely the Play Nutrition website, which integrates e-commerce websites for ordering, both building the brand and boosting sales.

6. Conclusion

In today's rapidly evolving era, Digital Marketing channels are gradually replacing and equating with traditional marketing channels. While traditional marketing solely focuses on "making an impression", Digital Marketing

shifts to a new perspective, allowing users to experience products and services, especially in the age of the Internet explosion. Along with the introduction of health-beneficial products, Play Nutrition also targets a vibrant, modern lifestyle, always full of energy to conquer challenges and focuses on the niche market as well as gradually conquering the mass market in the future. The continued refinement of Digital Marketing tools for Play Nutrition bars is essential for the brand to be increasingly affirmed and developed. Play is not just a brand but a lifestyle.

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Informed Consent Statement/Ethics approval: All subjects gave their informed consent for inclusion before they participated in the study; all participants had been fully informed if anonymity is assured, why the research is being conducted, how their data will be used and if there are any risks associate.

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