ISSN 2775-9237 (Online)

Asian Institute of Research

Economics and Business Quarterly Reviews

Vol. 5, No.2 June 2022

Asian Institute of Research
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Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2 June 2022

Economics and Business Quarterly Reviews
ISSN 2775-9237 (Online)

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Economics and Business Quarterly Reviews
ISSN 2775-9237 (Online)

The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 1-15
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.409

Cash Flow and Capital Account Liberalization on some Nigerian Firms' Investment Growth: The Sequel (Disaggregated Approach)

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Abstract
This study examined the impact of cash flow, capital account liberalization (CAL) on investment growth of firms from both the direct and indirect channels, using the disaggregated firm-level data of 44 tradable and 31 non-tradable firms for the period of 2006 to 2016. It employed the differenced dynamic panel regression technique. Among others the results revealed that CAL is positively but insignificantly related to investment growth, and investment growth appeared to be determined by cash flow (internal) thereby indicating the presence of financial constraint for both samples. However, when we compared the level of financial constraint of the tradable and non-tradable firms, judging by the magnitude of the coefficients of cash flows in both samples, non-tradable firms were found to be severely financially constrained. The study also determined that CAL appeared to be sensitive to investment growth for both firm types through the indirect route, precisely the capital/credit availability channel measured as cash flow. The level of capital openness is still low for tradable firms hence the need for more but monitored openness.

Keywords: Capital Account Liberalization, Cash flows, Investment, Firms, Tradable firms, Non-Tradable Firms

1. Introduction

1.1. The Research Problem

In response to the unfavourable economic and financial conditions that characterized most economies, especially those in Sub-Saharan Africa (SSA), in the 1980s, Nigeria adopted the Structural Adjustment Programme (SAP). A programme that advocated for change from a close to an open economic system; as well as a market and private sector-driven one. A vital element of the programme in Nigeria is the Capital Account Liberalization (CAL) which was proposed to help bridge the huge savings-investment gap that characterized the economy due to low-income level. CAL is viewed from the microeconomic level as the removal of all forms of restriction thereby causing an

opening of the domestic stock market to foreigners as well as allowing local investors to invest abroad freely. This, therefore, presumes that capital should be re-shuffled from the capital-surplus economies with low expected returns on capital to capital-poor nations, with high potential to utilize resources due to the presence of high expected return. CAL has been seen to possess numerous benefits like booting of capital inflows, which will in turn reduce cost of capital, reduce financial constraint of small firms and in the long-run cause both domestic and foreign direct investment growth. (Obadan, 2006; Bankole, 2007). From the other angle, CAL has also been said to be bedeviled by some flaws such as fragmentation of the market, macroeconomic instability, capital flight declining welfare of the citizens to mention but a few. (Borensztein, Gregorio and Lee 1998). Extant studies on the impact of Capital Account Liberalisation on investment growth are cross-country and macro-based which did not give credence to the possible channels. Thereby leading to the production of weak or inconclusive results. This study by way of overcoming that shortcoming just like Okungbowa (2021) tilted towards the microeconomic-based analysis. Following the suggestion that investment related issues should be approached from the firm perspective (Eichengreen, 2001; Henry, 2007; Chang, 2012). This study adopted the firm level data of non-financial listed firms on the Nigeria stock exchange over the period 2006 to 2016 rather than macro-based data to examine the impact of cash flows and CAL on investment growth in Nigeria as well as the role that cash flow or financial constraint plays in the CAL-investment nexus.

1.2. Importance of the Problem

Sequel to the dissimilarities that may occur among firms in terms of their level of capital openness and financial constraint or ability to attract external funds, this study differs from the earlier study Okungbowa (2021) by examining this topic of discourse from the disaggregated approach to check the firm type that impacts firm investment the most or possess the highest financial constraint. This study also differs by adopting only the cash flow channel. To the best of our knowledge, there are no previous studies on the impact of CAL on investment growth using firm-level measures of CAL and investment growth of firms in Nigeria and from the disaggregated angle.

The rest of the study is organized into, the literature review in the succeeding section 2. Followed by Sections 3 and 4 that house the theoretical framework, types/sources of data, method of analysis, hypotheses development and empirical analysis respectively. While sections 5 and 6 cover the discussion of results, conclusion, summary of findings and recommendations.

1.3. Relevant Literature Review

In the extant literature, there appears to be a strong correlation between financial deepening and capital account openness and economic growth (Darat, 1999; Unamis, 2002; Khalid, 2007; Adam, 2011; Onwumre, Onudugo and Ibe, 2013). Also empirics that took their root from the seminal work of Feldstein & Horioka (1980) and those that countered their findings (Obstelf & Rogoff, 2000; Ketenci 2015) are legion. The debate on the impact of CAL on investment growth is still ongoing as some studies concluded that a positive correlation runs between CAL and investment in both developed, developing and emerging countries (Desai, Foley, and James 2003; Shrestha and Chowdhury 2005; Asiedu and Gyimah-Brempong 2008; Deepak, Mody, and Murshid, 2001; Sarode (2012; Galindo, Sciantarelli, and Weiss 2001; Beck and Levine 2002; Chari and Henry 2003; Alfaro and Charlton 2006; Fry, 1980; Fry 1982; Agrawal 2004); other studies posit that there are no correlation between them rather capital openness impedes investment through capital flight (Montiel and Reinhart 1999; Asiedu and Lien, 2004; Boamah, Craigwell, Downes, and Mitchell, 2005; Alfaro, Kalemi-Ozcan, and Volosovych, 2006; Aizenman and Noy 2003; Mody and Murshid, 2005; Adegbite and Adetiloye, 2013; and Bankole and Ayinde 2014). Saki, Boachie, and Nmurana, (2016) found a mixed outcome from the short and long-run. Few studies among those in the first category are of the opinion that the impact of CAL on investment growth may work through some channels and not necessarily impact investment automatically. (Deepak, Mody, and Murshid, 2001; Brafua and Biekpe, 2011; Noy and Vu, 2007; Chinn and Ito, 2008; Mouna and Mondher, 2014, Okuungbowa, 2021)

From the indirect route, the neoclassical theory and some empirical studies posit that CAL may not translate directly into investment or economic growth. It could rather go through some channels like cost of equity capital,

high stock liquidity, changes in expected future earnings (profitability), access to foreign currency, and strong corporate governance channels. In the case of the capital/credit availability channel, precisely the cash flow-investment as advanced by Fazzari, Hubbard and Peterson (1988) who posited that sensitivity of investment to cash flow is stronger for high financial constraint firms. Also, Laeven (2001) being one of the earliest authors on studies around the role that cash flows play on domestic and foreign direct investment in the face of liberalization opined vehemently that investment is sensitive to cash flows, and that increased financial liberalization can translate into increase in stock liquidity and reduction in cost of equity capital. He also stated that firms especially small or non-tradable firms are highly constrained financially but this constraint can be eased off by financial liberalization or free- flow of capital. Sequel to that, studies have shown that non-tradable firms tend to benefit more from capital liberalization than tradable firms, as such, removal of the restriction on capital flow through CAL, increase debt holdings, opening firms up for franchise and others may impact them greatly. (Alessandro, Schindndler and Valenzuela, 2009; Lewellen and Lwellen, 2016; Pacheco, 2017; Ahiadorme et,al., 2018; Dogru and Upneja, 2019; Gupta and Mahakud, 2019). Contrary results was also found from earlier firm-level analysis in Ivory Coast, Taiwan, Ghana, Kenya (Evans and Jovanovic, 1998; Fafchamps and Oostendorp, 1999; Soderbom, 2001; Harrison and McMillian, 2003; Wang, 2003; Harrison, Love and McMillian, 2004; Barimah, 2010).

From the foregoing, it is evident that the debate is on-going, much focus has been on cross-country and macroeconomic based studies while country-specifics and firm level studies with recourse to stock exchange market liberalization have been ignored. A hand few of studies which went through the micro route also merged the firms and examined it from the aggregated perspective like the case of Okungbowa (2021). This study therefore contributes to knowledge by examining CAL-investment nexus from the direct and indirect channels using a disaggregated firm-level data of non-financial firms in the Nigeria stock exchange market.

Some stylized Facts

1.3.1. Capital Account Liberalization Trend for some listed firms based on sector

For the period under study, available data have shown that the listed firms vary in terms of their level of capital openness when viewed from the firm-level CAL as measured by (foreign institution ownership) used in the study both on individual firm level and on sector base (firm's Annual Reports for 2006 to 2016; SEC Annual Fact Books for 2006 to 2016). On the individual firm bases, Capital oil, an oil and gas sector firm, appears as the most liberalized firms among the 80 firms in this study for the period of 2006 to 2015. The firm has 90% foreign institutional ownership relative to the total ownership. However, its position in 2016 could not be ascertained as there was no record to that effect. A.G Leventis Nigeria (a conglomerate firm) top the list in the year 2016 but was in the second position between the years 2006 to 2015 with about 88% of the domestic firm owned by foreign institution. But on the average, and from the sectorial point of view, consumer sector firms appear to be the most liberalized while firms in the services and construction and real sectors are the least liberalized firms among the ten sectors and 80 firms understudy.

Figure 1.1 below which shows the average foreign institution ownership of the listed firm under study on a sector bases for the period of 2006 to 2016 gives a clear picture of the above description.

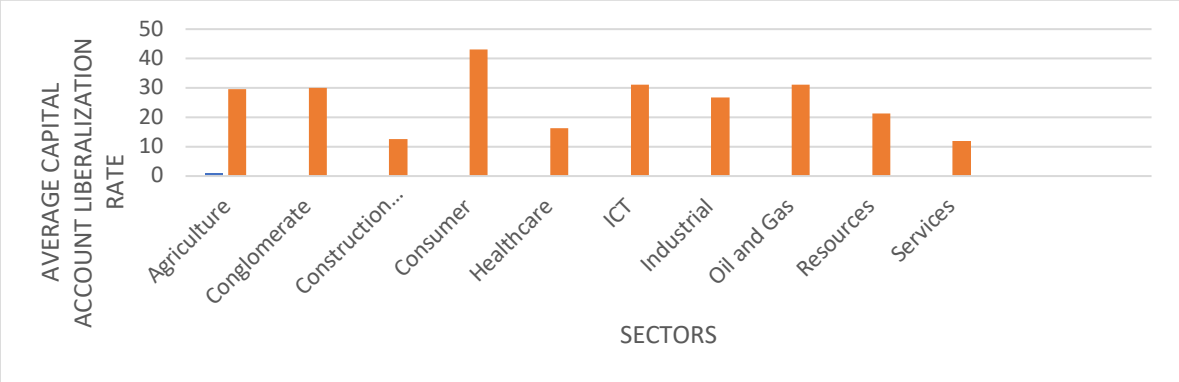

Figure 1. 1. Chart showing the average trend of firms' level of capital liberalization by sector.

Source: (Firm's Annual Reports, 2006 to 2016; SEC Facts Books, 2006 to 2016).

A quick comparison of the above average values and particularly that of the 11 years for the entire firms under each sector show that the consumer sector firms appeared to be more capital opened. This may be due to the importance of consumer goods to Nigerians and the fact that most of the manufactured goods are imported from other developed countries. Next are firms in oil and gas sector then those in the ICT sector followed by the conglomerate firms. The level of capital openness that the ICT firms received could be attributed to the global development in ICT and the recent quest for its advancement in developing countries of which Nigeria is inclusive. Next are the firms in the agriculture sector, then those in the industrial sector. The fact that the oil and gas sector appeared as the second most capital open sector in spite of its massive role in the Nigerian economy could be blamed on the recent global fall in oil price, weak institution, political instability and Boko-Haram insurgency in the Northeast Nigeria that has led most multinationals in that sector to withdraw their funds and even discourage foreign institutions from acquiring equity. Last on the list are firms in the resources sector, then healthcare, as well as services sector. The least group of firms with capital openness are those in the construction and real sector.

1.3.2. Trend in firm's investment growth (individual firm and sector bases)

For the period under study, investments growth of firms as computed by growth of long-term asset, fixed asset to total asset or capital stock, non-current asset to total asset and CapEx (capital expenditure) both on individual firms and on sector bases have been highly stochastic with more downward pressure especially for firms that have more foreign share ownership (capital openness) (Firm's Annual Reports for 2006 to 2016; SEC Annual Fact Books for 2006 to 2016). For instance, the firm named Capital oil being the most capital opened one (as seen from its level of capital ownership) among the 80 firms under study, experienced a fall in investment growth.

The Chart below shows the average value of the investment growth rate of the firms under study on a sector bases for the period of 2006-2016.

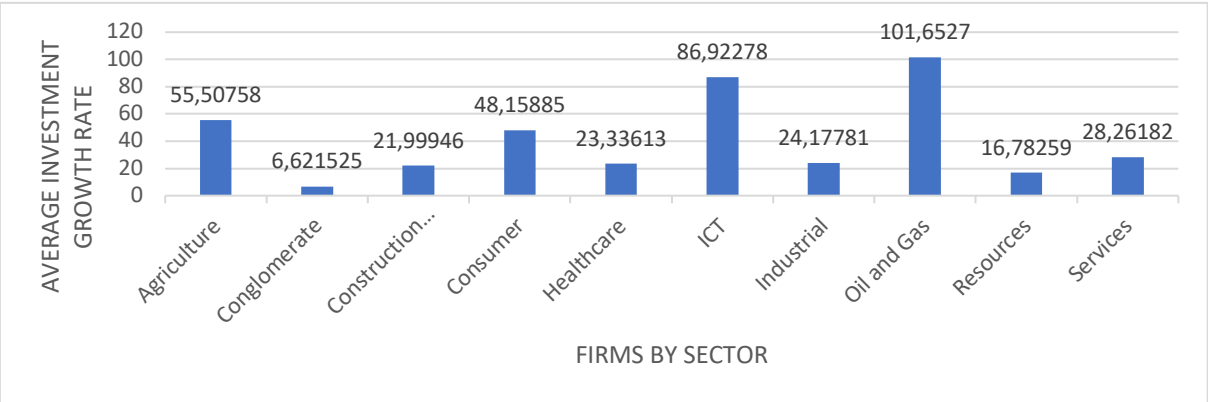

Figure 1.2: Chart showing the average investment growth rate of firms by sector.

Source: (Firm's Annual Reports, 2006 to 2016; SEC Facts Book, 2006 to 2016).

From the sector point of view, as seen in Fig. 1.2, using investment growth as measured by growth of long-term fixed asset, the Oil and gas sector firms have the highest investment growth rate on the average, followed by those in ICT, then Agriculture and consumers sectors while those in conglomerate sector have the least investment growth rate among others which happened to be the less opened.

If we super impose figure 1.1 and 1.2 we will arrive at a graph showing the relationship that runs between capital openness and investment growth of firms as follows:

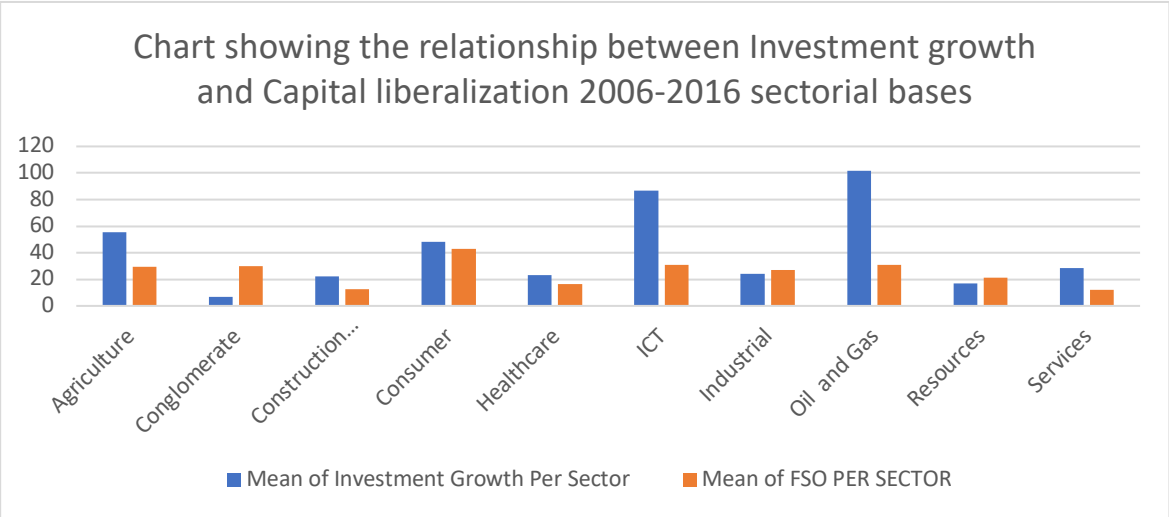

Figure 1.3: Chart showing the relationship between investment growth and foreign institution ownership share to total share.

Source: (Firm's Annual Reports, 2006 to 2016; SEC Facts Book, 2006 to 2016).

From the above chart, we can say that on the whole, firms that are more liberalized experienced more increase in investment although there are some few exceptions with firms under the Conglomerate, industrial and Resources sectors. Following the few exceptions, it's therefore imperative to examine empirically the impact of CAL on investment growth with evidence on firm-level data. It is obvious from the graph above that there exists a positive link between capital account liberalization as measured by the firm-level data, foreign institution ownership (FSO) but the extent to which this holds in the real sector may not be ascertained until after a vivid empirical analysis is carried out.

1.4. Research Hypotheses and their link with Study

Following the background to the study and the literature reviewed, the following null hypotheses are stated as follows:

H_1: Increased CAL does not significantly impact on investment growth of the different firm types.
H_2: Firm's investments growth are not sensitive to cash flow for both tradable and non-tradable firms (firms are not financially constrained).
H_3: Increased CAL in the domestic firm does not significantly reduce financial constraints in the different firm type and in turn boosts their investment growth.
H_4: there is no significant difference between the cash flow sensitivity of the tradable and non-tradable firm samples.

Therefore, investment growth ought to be positively influenced by increased cash flow through capital account liberalization for both samples, cash flow is supposed to be positively related to investment growth of the non-tradable or small and insensitive to tradable or large firms Consequently, if any sampled firm investment is found to be sensitive to cash flow, we can conclude that such firms in the given sample are financially constrained. Also, increased capital liberalization which leads to increased cash flow is supposed to ease the financial constraints

faced by the non-tradable or small firms or the sampled firm that is experiencing financial constraint. Note that if the interactive term of foreign share ownership (FSO) and cash flow to capital stock variables (CFLOWK) which is denoted as $[Cflowk_{it} * FSO_{it}]$ is positive or declines a little in magnitude and becomes more significant, it indicates that capital liberalization helps to reduce the level of financial constraints of the firm type.

Again, all things being equal. Non-tradable firms may appeared to be highly financially constrained since they have little or no access to external cash flows, supposed this is also the case for tradable firms which ought not to be since they appear to have access to external fund through inflows and export potentials, we can compare the level of sensitivity between both samples to find the firm type that is more financially constrained. In this case, if cash flow variable appears to be very sensitive to investment growth of any firm type, we can conclude that such a firm type is more financially constrained than the other.

2. Methods

2.1. Theoretical Framework and Model Specification

2.1.1. Theoretical Framework

The study hinges on the extended version of the traditional Tobin's-q model as advanced by Chari and Henry (2003) and a further extension by Okungbowa (2021).

According to them, prior to capital account liberalization, the basic firm level investment equation appears like thus:

$$(\frac{I}{K}) = \alpha + \beta q_i \quad (1)$$

Where α and β are positive constants and q is Tobin's q- ratio. The intention of equation 1 is to arrive at an expression of the form below following openness.

$$\Delta (\frac{I}{K}) = \alpha + \beta \Delta q_i \quad (2)$$

Δq_i represents a change in Tobin's q-value that will take place following liberalisation of capital account. q_i is the ratio of the market value of the capital to the replacement cost of firm's capital stock in the goods market.

$$q_i = \frac{M_i}{Pl_i K_i} \quad (3)$$

By standard normalization, $taking\ Pl_i = 1$, then we will arrived at the normal textbook expression for Tobin's q-value (Obstfeld and Rogoff, 1996):

$$q_i = \frac{M_i}{K_i} \quad (4)$$

Assuming that the domestic firm is financed wholly by domestic equity, then the market value of the capital of the firm will be equal to the stock market value of its equity. A further assumption that r is the risk-free interest rate in the domestic economy and that firms generate volatile earnings stream, $\breve{A}_i$, which is expected to grow at the rate, g_i in perpetuity. From the above assumptions, it follows that the stock market value of the firm will be:

$$M_i = \frac{\bar{A}_i}{[r + \theta_i - g_i]} \quad (5)$$

Where $\bar{A}_i$ is the expected value of $\breve{A}_i$, $and\ \theta\ is\ the\ risk\ premium\ needed\ to\ ho$ld a share of firm i's stock. If we substitute this into the q_i (Tobin's q) expression will be:

$$q_i = \frac{\bar{A}_i}{K_i[r + \theta_i - g_i]} \quad (6)$$

Suppose we relax the assumption of a closed economy and assume that the stock market opens up, this will cause a fundamental change in the firm investment level through the determining factors of the stock market prices such

as interest rate, risk premium and the growth rate of earnings. So, the domestic values of these fundamentals will change to the world values as r^*, θ^*, $and\ g^*_i$ consequently, the Tobin's-q model will change and look thus:

$$q_i^* = \frac{\bar{A}_i}{K_i[r^* + \theta_i^* - g_i^*]} \quad (7)$$

The basic firm level investment model will change following capital account liberalization, and appear as:

$$\Delta\left(\frac{I}{K}\right) = \lambda_i[r - r^*] - \gamma DCOV_i + (g^*_i - g) \quad (8)$$

Where: $r - r^*$ is aftermath of liberalization, the benchmark risk-free rate for determining the hurdle rate for individual investment project changes from r, the closed economy rate to r^*, the world risk-free rate. .λ_i Is the firm-specific scaling factor that has some technical implications for empirical estimation. $DCOV_i$- this term shows the firm-specific change in investment that occur following liberalization is inversely related to the change in the equity premium.$DCOV_i = \theta - \theta^*$ $g^*_i - g$ - this term shows that a change in an investment of a firm after liberalization will depend positively on the change in its expected future growth rate of earnings. Okungbowa (2021) further extended the above model by replacing $r - r^*\ with\ CAL\ thereby$ employing the use of the actual inflow of capital following openness rather than its cost of capital outcome on investment and included the investment growth rather than investment level.

2.2 *Model Specification and Data Type/Sources*

The models specified for this study are based on the Tobin's q-model and its modified versions by Chari and Henry (2003), the ideas of Mody and Murshid (2005); Leaven (2000); Lee (2003); and Barimah (2010) and the further extension in the area of investment growth and indirect route via interaction (Okungbowa, 2021). The functional model is given as:

$$INVESTG_1 = f(FSO, X, Z) \quad (9)$$

Where: $INVESTG_1$ is the growth of long term assets, FSO is the firm-level measure of CAL, the domestic ownership of 5% and above own by foreign institution or the share of foreign institutional ownership of domestic investment to total shares, while X, and Z are vector of other macro and micro control variables that influence domestic investment as identified in the literature. The dynamic panel models to analyze the impact of capital account liberalization on firm-level investment growth following the Arellano and Bond (1991) estimator for both samples are as follows:

$$Investg_{it} = \beta_0 + \beta_1\, Investg_{it-1} + \beta_2 SalesK_{it} + \beta_3 Cflowk_{it} + \beta_4\, FSO_{it} + \sum_{i=1}^{I} \alpha_I\, Z_{it} + \sum_{j=1}^{J} \emptyset_J\, X_t + \mu_{it} \quad (10)$$

We specified model 11 with an inclusion of an interactive term of FSO and CFLOWK denoted as $[Cflowk_{it} * FSO_{it}]$ to determine the role of capital/credit availability (cash flow) on CAL-investment growth nexus.

$$Investg_{it} = \beta_0 + \beta_1\, Investg_{it-1} + \beta_2 SalesK_{it} + \beta_3 Cflowk_{it} + \beta_4\, FSO_{it} + \beta_5[Cflowk_{it} * FSO_{it}] + \sum_{i=1}^{I} \alpha_I\, Z_{it} + \sum_{j=1}^{J} \emptyset_J\, X_t + \mu_{it} \quad (11)$$

2.3 *Data Types and Sources*

This study employed a firm-level panel data for the periods of 2006 to 2016 for 80 non-financial listed firms in the Nigeria Stock Exchange Market that was further disaggregated into 44 Tradable firms drawn from agriculture, industrial, oil and gas, consumer, and conglomerate sector and 31 non-tradable firms drawn from construction and

real, services, healthcare, resources, and ICT sectors. The grouping of firms was based on firm's ability to access and attract external capital either by exporting or having potentials to export its products. The choice of the number of firms was based on availability of data. The firm-level data used for this study were sourced from the various volumes of the Annual Reports of the firms, Security and Exchange Commission's (SEC) Annual Facts Book. While the macro control variables data were extracted from the World Bank's World Development Indicators, various volumes of the Central Bank of Nigeria's Statistical Bulletin and National Bureau of Statistics' publications.

2.4 Estimation Technique

This study employed the differenced Generalized Methods of Moment (GMM) with instrumental variables (IV) regression as advanced by Arellano and Bond (1991) and a dynamic panel data (DPD). This approach appears to be more appropriate for this analysis following its ability to correct any endogeneity problems, its ability to explore the previous year's effect of the dependent variable on its current value and the fact that that the model has short time series, T (11 years) and large cross-section, N (44 tradable firms and 31 non-tradable firms).

3. Results

3.1. Dynamic Panel Regression Results on Investment Growth

The dynamic panel data regression results for the, non-tradable and tradable samples obtained, are presented in Tables 1 and 2 below:

Table 1: Dynamic Panel Regression Result for the Non-Tradable Firms with DEPENDENT VARIABLE as investment growth (INVESTG1)

	Direct channel model (Model 10)		**Indirect channel model (Model 11)**	
Variables	**One-step**	**Two-step**	**One-step**	**Two-step**
Investg1$_{it}$-1	**-.3056*[0.001]**	**-.3066*[0.001]**	**-.3365* [0.006]**	**- .3380* [0.005]**
Fso	**.8647 [0.693]**	**1.258 [0.608]**	**.6358 [0.767]**	**.4511 [0.822]**
Cflowk	**16.419***[0.06]**	**16.449*** [0.059]**		
Rgdp	**549.8 [0.403]**	**457.7 [0.421]**	**760.02 [0.290]**	**675.71 [0.376]**
Fsize	**400.35**[0.041]**	**377.58**[0.036]**	**363.9**[0.050]**	**356.9***[0.074]**
Bsize	**-60.990[0.283]**	**-68.048[0.270]**	**-57.636 [0.263]**	**-56.243 [0.331]**
Cflowk_fso			**.4075**[0.017]**	**.4093**[0.013]**
AR(1)	**-1.42[0.155]**	**-1.84[0.066]**	**-1.40 [0.161]**	**-1.64[0.100]**
AR(2)	**-0.02[0.987]**	**-0.06[0.951]**	**0.44[0.663]**	**0.42[0.673]**
Sargan-Hasen	**24.54[0.966]**	**24.54[0.966]**	**28.81 [0.884]**	**28.81 [0.884]**
Difference-in-Hansen tests	**24.34[0.946]**	**24.34[0.946]**	**26.28 [0.905]**	**26.28 [0.905]**
Exogeneity Test	**0.20[0.904]**	**0.20[0.904]**	**2.52[0.283]**	**2.52[0.283]**
F-TEST (4)	**4.26*[0.003]**	**4.46*[0.002]**	**4.22*[0.003]**	**3.58*[0.008]**
No. of Instruments	**45**	**45**	**45**	**45**
No. of Observations	**199**	**199**	**199**	**199**

*Source: Authors' computation Note: (a) items in bracket [ ] represents p-values (b) ***=Significant at 10%; ** = Significant at 5%; *, Significant at 1%.*

Table 1 shows the results of the direct and indirect channel models. Each of the models was estimated with the two approaches (one-step and two-step. Based on the coefficients of the F-statistic, the one-step approach with robust standard error appeared to be more appropriate for the direct channel model while the two-step approach was more appropriate for the indirect channel model under the non-tradable firm analysis. The estimated result from the direct channel model as seen under the two-step approach indicates that the coefficients of foreign share ownership (fso), that is, the firm-level measure of capital account liberalization and the level of cash flow of firms (CFLOWK) met the a-priori expectations. FSO appeared to be direct and statistically insignificant. This signifies that an increase in the capital openness reform leads to an upshot in the investment growth of the non-tradable firms by 1.258 percent. This confirms economic theory, but negated statistical theory. CFlowk coefficient was positive and statistical significant at 10% in driving investment growth of non-tradable firms by 16.449 percent. Following the huge magnitude of the cash flow coefficient which show that cash flow appears very sensitive to investment growth, it suggests that the non-tradable firms are highly financially constrained due to information asymmetry problem in the capital markets and lack of access to external funds. Based on the coefficient of the F-statistics with its probability value (p-value) (0.002) which suggests a 1% level of significance, it can be said that the model has a well performed goodness of fit and as such, we can conclude that a linear relationship exists amid the dependent variable and all the independent variables combined. Also, we can conclude that the model is free of serial correlation problem since at least one out of the two Arellano and Bond first difference autocorrelation tests (that is, the first order and second order) show that in the model, serial correlation problem was not noticed. So, we accept the null hypothesis of no autocorrelation following the high p-value of the second order test given as (0.957). Following the Sargan-Hansen over-identifying restriction validity test result above, we can conclude that the instruments are valid as the p-values are greater than 0.05, also the difference-in- Hansen test shows that the dynamic model is valid as the null hypothesis which says the model is not strictly exogenous was accepted following the high p-value of 0.904. From the one-step approach in the indirect channel model, the coefficient of the interactive term, (cflowk_fso) which was used to measure the role of Cash flow on CAL-Investment nexus and the rate at which CAL assists in reducing the financial constraint faced by firms. The result is positive and statistically significant at 5% level for the non-tradable firms' sample. This, therefore, implies that in the face of capital liberalization, CAL plays a vital role of easing the financial constraints faced by firms and in turn boosts their investment growth. This supports the indirect route of CAL-investment growth nexus. The above conclusion is based on the drop in the magnitude of the coefficient of cash flows after the interaction compared to its value before interaction, and the 5% level of significance of the coefficient of the interacted term which is an improvement over the cash flow and FSO prior to their interaction. The F-statistics value and probability value (p-value) of (0.003) suggesting a 1% level of significance, also suggests well performed goodness of fit for the second model under this sample. The Arellano and Bond first difference autocorrelation test at order one and two show that there is no serial correlation in the model since the negative hypothesis of no autocorrelation were accepted with the high p-values (0.161 and 0.663).

Table 2: Dynamic Panel Regression Result for the Tradable Firms with DEPENDENT VARIABLE as INVESTG1.

	Direct channel Model (Model 10)		**Indirect Channel Model (Model 11)**	
Variables	**One-step**	**Two-step**	**One-step**	**Two-step**
$Investg1_{it}$-1	**-.4631*[0.000]**	**-.4623*[0.000]**	**-.4653* [0.000]**	**-.4651* [0.000]**
Fso	**-.0292 [0.990]**	**.2278 [0.924]**	**-.8233 [0.718]**	**-.6453 [0.803]**
Cflowk	**3.042**[0.024]**	**3.078** [0.028]**		
Salesk	**-344.33***[0.077]**	**-345.20***[0.081]**	**-363.1**[0.05]**	**-365.2***[0.056]**
Rgdp	**-2652.9***[0.068]**	**-2480.1***[0.070]**	**-2663.3***[0.06]**	**-2617.4***[0.053]**
Fsize	**474.12**[0.035]**	**461.99**[0.050]**	**452.7**[0.037]**	**444.4***[0.053]**

Bsize	**-154.75 [0.213]**	**-150.93 [0.211]**	**-148.2 [0.226]**	**-146.15 [0.253]**
Cflowk_fso			**.0463** [0.018]**	**.0458** [0.020]**
AR(1)	**-1.58[0.115]**	**-1.51[0.130]**	**-1.56 [0.118]**	**-1.49 [0.136]**
AR(2)	**-0.99[0.320]**	**-1.15[0.251]**	**-0.99[0.321]**	**-1.15[0.248]**
Sargan-Hasen	**38.91[0.608]**	**38.91[0.608]**	**37.61 [0.664]**	**37.61 [0.664]**
Difference-in-Hansen tests	**38.59[0.534]**	**38.59[0.534]**	**53.40[0.677]**	**53.40[0.677]**
Exogeneity Test	**0.31[0.855]**	**0.31[0.855]**	**2.22[0.330]**	**2.22[0.330]**
F-TEST (4)	**78.77*[0.000]**	**69.55*[0.000]**	**83.44* [0.000]**	**82.07* [0.000]**
No.of instruments	**49**	**49**	**49**	**49**
No. of Observations	**291**	**291**	**291**	**291**

Source: Author's computation; *Note: (a) items in bracket [ ] represent p-values (b)*** = Significant at 10%; **, = Significant at 5%; * = Significant at 1

Table 2 shows the results of the direct and indirect channel models, for the tradable firms. The estimated result from the direct channel model as seen under the two-step approach indicates that the coefficients of foreign share ownership (fso), that is, the firm-level measure of capital account liberalization also met the expected sign and appeared to be statistically insignificant in the case of the tradable firms. This implies that an increase in the capital openness reform directly may cause a rise in the investment growth of the tradable firms by 0.2278 percent. This speaks of the fact that CAL may likely encourage capital inflows for firms that are already exposed to external funds through exportation of goods. CFlowk coefficient was positive and statistical significant at 5% in driving investment growth of the firms in question by 3.078 percent. The positive coefficient showed that cash flow appeared sensitive to investment growth, and as such tradable firms are financially constrained due to information problems in the capital markets and lack of access to external funds. This result is somewhat striking as such firms ought not to be financially constrained since they already have access to external funds. However, when we compared the magnitude of the tradable cash flow coefficient of 3.078 to that of non-tradable firms which is 16.419 and their levels of significant of 5% and 10% respectively, it therefore suggests that the tradable firms are less financially constraint compared to the non-tradable firms. The sales variable (salesk) showed an inverse and statistically significance relationship between sales volume of the firms and their investment growth. This is in contrast with common results in the literature, as the result suggests that higher sales volume of a firm retards investment growth. Judging from the F-statistics, it can be said that the model has a satisfactory 'goodness of fit' and as such, we can conclude that a linear relationship exists between the dependent variable and all the independent variables. We can concluded that the model was free of serial correlation problem since the two Arellano and Bond first difference autocorrelation tests (that is, the first order and second order) show that serial correlation problem did not surface in the model. So, we accept the null hypothesis of no autocorrelation following the high p-values of the first and second order test given as (0.130) and (0.251).

From the indirect channel model, the coefficient of the interactive term, (cflowk_fso) which was used to measure the rate at which CAL helps to reduce firm's financial constraint was positive and statistically significant at 5% level for the tradable firms' sample. This, therefore, implies that increased foreign share ownership has great implication for easing of the financial constraints and boosting of investment growth of firms. This shows that capital openness plays an indirect role of reducing of firms' financial constraints and in turn boosts their investment growth. The above conclusion is based on the drop in the coefficient of cash flows after the interaction compared to its value before interaction, and the 5% level of significance of the coefficient of the interactive term which was an improvement over the cash flow and FSO prior to when they were not interacted. Judging by the coefficient of the F-statistics with probability value (p-value) (0.000) which suggests a 1% level of significance, it can be said that the model has a well performed goodness of fit and as such, we can conclude that a linear relationship exists amid the dependent variable and all the independent variables combined. The Arellano and Bond first difference

autocorrelation test at order one and two show that there is no serial correlation in the model since the null hypothesis of no autocorrelation was accepted with the high p-values (0.136 and 0.248). For both samples, the speed of adjustment which represents the lagged dependent variable's coefficient (*Investg1it-1) shows a negative and a 1% level of significance. The relevance of the lagged investment growth confirms the existence of a dynamic adjustment process towards a target level. The inverse relationship between the lagged dependent variable and the dependent variable in both samples show that the past period investment leads to a decline in the current level investment but it appears very vital in driving investment growth.*

4. Discussion

Regarding the impact of cash flow, capital account liberalization on investment growth of sampled firms in table 1 and 2, the results show that some the variable met the expected sign and some were also statistically significant these thus corroborating the results from earlier papers (Okungbowa, 2021; Chari & Henry, 2003; Shrestha & Chowdhury, 2005; Alfaro & Charlton, 2006; Noy & Vu, 2007; Asiedu & Gyimah-Brempong, 2008; Sarode, 2012; Okada, 2013; and Mouna & Mondher, 2015). But, they contrast the results of (Bascom, 1994; Montiel & Reinhart, 1999; Lee, 2003; Asiedu & Lien, 2004; Bankole & Ayinde, 2014; Adegbite & Adetiloye, 2013; and Foong & Lim, 2016).

Next is to discuss the results in Table 1 and 2 with respect to the stated hypotheses:

Hypotheses 1: Increased CAL does not significantly impact investment growth of the different firm types.

Following the statistical insignificant results of the foreign share ownership for both the Non-tradable and tradable firms samples, *we accept the above hypothesis which states that increased foreign share ownership that (CAL) does not significantly impact investment growth of firms*.

Hypothesis 2: Firm's investments growth are not sensitive to cash flow for both tradable and non-tradable firms (firms are not financially constrained).

*Cash flow (*CFlowk) coefficient was positive and statistical significant at 10% in driving investment growth of the firms in both samples by 16.449 and 3.042 units for both non-tradable and tradable samples respectively. Following the huge magnitude of the cash flow coefficients which show that cash flow appears to be very sensitive to investment growth, it suggests that Nigeria firms are financially constrained. This appeared to be profound for the non-tradable firms and this is attributed to information asymmetry problems in the capital markets and lack of access to external funds. Based on that we reject *hypothesis 2 which says that firms (non-tradable and tradable) are not highly financially constrained.*

Hypothesis 3: Increased CAL in the domestic firm does not significantly reduce financial constraints in the different firm type and does not in turn boost their investment growth.

From the one-step approach, the coefficient of the interactive term, (cflowk_fso) which was used to measure the rate at which CAL will help to reduce the firm's financial constraint was positive and statistically significant at 5% level for both sample. This, therefore, implies that CAL through increased foreign share ownership has great implication for reducing the financial constraints and boosting investment growth of firms. This revealed that capital openness plays an indirect role of reducing of firms' financial constraints and, in turn, boosts their investment growth. As a result of this, *we rejected hypothesis 3 which states that increased CAL does not significantly reduce the financial constraints in non-tradable firms and does not boost their investment growth.* The above conclusion is based on the drop in the magnitude of the coefficient of cash flows after the interaction compared to its value before interaction, and the 5% level of significance of the coefficient of the interacted term which is an improvement over the cash flow and FSO prior to when they were not interacted. This indirect channel result supports those of (Fazzari et al., 1988; Evans & Jovanovic, 1998) and negates Barimah, (2010) whose result did not support the hypothesis that financial/capital openness can ease off the financial constraint faced by Ghanaian firms.

Hypothesis 4: there is no significant difference between the cash flow sensitivity of the tradable and non-tradable firms sample.

Judging by the magnitude of their cash flow coefficients for the two samples, non-tradable firms were found to be more severely financially constrained. As such Cash flow sensitivity to Investment growth-CAL nexus happens to be more profound for non-tradable firms. So we reject hypothesis 4 that says that there is no significant difference between the cash flow sensitivity of the tradable and non-tradable firms.

5. Summary of Findings, Recommendations and Policy Implications

In sum, the study found the following, first for both tradable and non-tradable firm samples, cash flow was found to be highly sensitive to firms' investment growth. A situation that implies a profound financial constraint among firms of both samples. This ordinarily ought not to be the case for tradable or big firms due to their capacity to access external funds. However, when we compared the level of financial constraint between the two samples, judging by the magnitude of their cash flows coefficients, non-tradable firms were found to be more severely financially constrained. Second, CAL appeared to be sensitive to investment growth for both firm types through the indirect (cash flow) channel. Third, investment growth-CAL nexus appears to be more sensitive and significant with cash flows. This was profound for the non-tradable firms' sample. Hence, we concluded that the level of capital openness is still not enough or properly channeled to abate financial constraints that firms face in Nigeria. This anomaly was found for tradable firms too. Consequently, the study recommends amongst others that, capital openness should be intensified and channeled rightly so as to encourage more capital inflows that will help to reduce financial constraints from the firms particularly the non-tradable firms which appeared to be more financially constrained and whose investment growth responded more profoundly to liberalization, the relevant government agencies should intensify efforts toward enhancing capital inflows to firms generally irrespective of their sizes; and lastly, government should discourage all forms of post-liberalization capital restriction syndrome that are prominent among the small or non-tradable firms due to market imperfections and corporate governance bottle necks.

Looking at the outcome of this study in that firms in both tradable (large) and non-tradable (small) samples were found to be faced with financial constraints. This ought not to be so for especially in the case of large firms. This led to the recommendation of further capital opening with caution, there will be need for future researchers to carry out some threshold analysis on both samples as aggregated and disaggregated to know the extent of openness that will impact investment growth of the firms in question so as to advise as appropriate. Again there will be need to examine other channels through which investment growth will be sensitive and financial constraint will be eased off in the face of capital openness other than cash flow channel

Acknowledgement

Our profound gratitude goes to Africa Economic Research Consortium (AERC) through the Collaborative PhD Program for providing funding for the thesis from where this article was extracted and further developed.

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ASIAN INSTITUTE OF RESEARCH
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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 16-30
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.410

A Panel Data Analysis into the Impact of Regulations and Supervision on the African Banking Profitability and Risk Profile

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Abstract
This paper investigated the effect of banking regulations and supervision on the profitability and risk profile of banks in selected African countries over the period 2009 to 2019. The study focused on 33 banks operating across 9 African countries, namely South Africa, Uganda, Kenya, Tunisia, Egypt, Namibia, Zambia, Nigeria and Ghana, as representative of the continent. It includes data from some of the major economies in the continent such as South Africa, Nigeria and Egypt to ensure that regulatory and supervisory developments in the continent are analysed appropriately. The analyses of the various interrelations were done using dynamic panel data modelling, Cointegration, and error correlation modelling approaches using Eviews statistical software. The study uses an unbalanced panel of commercial banks in the selected countries to estimate the model with both the return on equity and the return on assets as proxies for profitability. Overall, evidence shows that a well-regulated, stable and supervised banking sector is critical in the sustainable economic growth of the prospective economies. The findings of the study, however, provide an interesting outcome, in contrast to other studies, highlighting that the coefficient of the capital adequacy ratio is negative and statistically not significant to the profitability. This reflects the weak financial conditions in most African countries. The negative and statistically insignificant capital adequacy ratio could also be a reflection of the unacceptable risk profile of banks in the continent. Besides the literature reflecting that adjustment in the inflation rate improves banks' profitability, this study contrasts with this view, a further reflection of the uniqueness of the banks operating environment in the continent. This output cautions banks in Africa on the profile of risks that they should take as this could impact negatively on their profitability during periods of increasing inflation. This again offers important policy implications for regulators of banks and policymakers in Africa regarding the regulations and supervisory frameworks that relate to on boarding of clients and management of the loan portfolios.

Keywords: Banks, Regulations and Supervision, Profitability and Risk profile, Africa

1. Introduction

The literature on banking and profitability shows that the banking sector largely supports the growth and development of the economy worldwide. The sector is viewed as the pillar of growth in the economy and therefore

authorities make every effort to ensure that it is well established and stable. This is accomplished through the regulation and supervision of the banking sector. Banks the world over are required to be responsible for providing credit, therefore they are encouraged to screen the creditworthiness of their customers to establish suitability and ensure that they will be able to repay their debt with the interest incurred. In addition to adhering to the rigours of the banking legislation, central banks regulate the capital reserves and interest rate charged in line with developments in their economies.

With the advent of globalisation, countries strive to operate within international practices, as organisations operating in their jurisdictions pursue their trade across borders. The same applies to the banking sector. Banks endeavour to adhere to global regulatory and supervisory standards such as Basel frameworks and other requirements by the global and regional bodies where countries have membership. It is therefore imperative to highlight that, although many countries reformed their financial/banking sector over the last decade, few countries can claim to have a desired, well-established and stable banking system; they still have some improvements to make to realise that status. These assertions seem to be truer in the case of developing countries than the developed ones. Africa, being a developing and largely poor continent, falls within this category.

African countries are at different levels concerning economic and financial development. Some of the countries are advanced, with South Africa at the forefront in the development of financial or banking regulatory and supervisory frameworks. The country has a good financial infrastructure in comparison to first world economies with competitive, if not cutting-edge, regulatory, and supervisory regimes.

Other African countries that compete favourably by international standards are the ones with large economies such as Nigeria, Egypt, and Kenya. On the other hand, the continent is constituted by small economies with poor infrastructure and therefore challenged in economic and financial development. Their regulatory and supervisory frameworks are at a “basic” level. The effect of poor regulation and supervision, seem to impact negatively on the activities of banks operating in those countries.

There are various reasons for this status to prevail in the continent, ranging from historical disadvantages, corruption, and lack of resources or their abuse. The challenges experienced by countries in the continent tend to determine the investors' appetite, including fiscal and monetary policy developments.

2. Objectives of the study

This study sought to empirically investigate and analyse the impact of regulation and supervision on the profitability of banks by analysing a panel data in selected countries in Africa. In recapitulating, the purpose of the study was to investigate the effect of how the implementation of regulation and supervision affects the activities of banks in Africa. This is in coherence with continuous developments in international banking and regulatory requirements that are meant to deal with crises in the banking sector. Governments and regulators in Africa often align with these requirements and in many instances, the alignment is based on little information as the literature on this is scarce in Africa.

3. Literature review

Discussions around the regulations and supervision of the financial sector have been ongoing for decades. However the 2008 to 2009 global financial crisis have amplified the discussions and debates among researchers and policymakers. The discussions were also exacerbated by the evolution of the financial sector as economies globalised and financial markets integrated worldwide. According to Botha and Makina (2011), one of the causes of the global financial crisis (2008 to 2009) often cited is inadequate or improper regulation and supervision of the financial sector. The researchers argued that the crisis exposed the existence of the inadequate regulatory frameworks which could not keep up with developments in the globalised environment. This persuaded developed economies to reform the financial regulations and supervision with the United Kingdom and other major European economies implementing the Twin Peak strategy and the United State of America enacting the Dodd-Frank act (Botha & Makina, 2011). Although many countries revamped or are revamping their regulatory and supervisory

frameworks, there seems to be no consensus on a single framework to implement. Countries are adopting frameworks in line with the development in financial systems and economic environments.

Africa as a continent has mixed economies with the majority of the countries in the continent operating under poor governance and economies. This could place a strain and challenge in prioritising the development of financial regulations and supervision as there always tend to be competing needs. However, there are countries such as South Africa which is the only country in the continent that fully implements the Basel III standards with the majority of the countries such as Egypt, Tanzania, Kenya, Senegal, Cameroon, Uganda, Nigeria and Ghana still under lower standards (Ozil, 2019).

Gale (2010) argues that when general equilibrium effects are considered, it is not clear that higher capital requirements will reduce the level of risk in the banking system. It is therefore essential, that regulators take a clear view and understanding of the impacts of the reforms intended to mitigate banks' operations, as this could lead to unintended consequences to the profitability of banks and their risk profile. This contrasts with the findings of the work performed by Deloitte (2019) in their Financial Services regulatory outlooks. Deloitte contends that, nearly ten years after the financial crisis, the long shadow it has cast has started to fade. Except for the final stages of Basel III, most post-crisis prudential policies have now been decided, and banks in particular are now much better capitalised and more liquid than before the crisis.

Amid varied approaches and timetables to national implementation of agreed prudential reforms, attention is now more acutely focused on culture and governance, the challenges of new technology, and emerging economic, market and operational risks. Firms need to be prepared to respond to this shifting focus and the new demands that it will place on them.

Indeed, the mixed messages emanating from the two studies, although at different times and under different circumstances appear to assure the researcher that more work needs to be performed on this subject. The work by Deloitte is intriguing. The study conveniently does not comment on the requirements of Basel IV that places more regulatory pressures on banks. These committees continuously review and make recommendations that require member banks to implement new regulations over time.

Having said that, Schmidt (2002) found some evidence that one of the competing requirements for the success of any business in any economy is the existence of favourable regulatory environment. This is also evidenced in the works of Thatcher and Stone (2002), and Moran (2002) which stated that regulations can be either a boon or bust to the profitability and risk profile of banks.

In addition, empirical evidence from Kerwer (2005), King (2005) and Quaglia (2005) suggests that environmental regulations deter entry into industries where the requirements for regulatory compliance activities are high. This does not seem to be a major problem in the banking sector; however, the industry is increasingly operating from environmentally friendly buildings. This stance informs their investing principles, which in turn affects the bank's risk profile, and profitability. From the work performed by the above esteemed researchers, it could be argued that regulators are encouraged to implement regulations that are favourable to their environment to stimulate their economies. It appears that a one size fits all principle in the development and implementation of regulation and regulatory framework does not work well for emerging markets, particularly African economies.

Following the discussions above, it is evident that regulations and supervision of banks are in line with the vital role they play in the economic growth of various countries. They provide liquidity and intermediation in the market and therefore are required to maintain a high level of solvency and liquidity. The work performed by Oloyode (1994) observed that the banking industry is susceptible to volatility and fragility that arise from exogenous or endogenous shocks and are therefore acquiescent to regulation and supervision.

Gale (2010) further observed that, tougher bank regulations may have positive benefits; they may reduce the consequences of market freezes; they may encourage banks to become smaller to avoid "systemic" capital requirements; and they may reduce contagion, but they may not be relied on to reduce the risk of bank failure.

This aligns with the work of Oke (2006) that observed the inconsistency in monetary and regulatory policies as a major setback to banks' stability.

The critique on the work by Gale and some of the researchers reviewed above is that they appear to be unappreciative of the volumes and the pace of regulations since the 2008/9 global financial crises. In addition, the developments in technology within the financial sector in general and the banking sector in particular were either not considered or too early to show any impacts during the above studies. Ten years since the crises, the researcher is inclined to argue that further studies in this area could reveal a different view.

Mishkin (1997) viewed that forging a strong bank supervision system will be one way out of financial crisis, while Ogunleye (2005) summarised the rationale for banks regulation as efficiency, diversity of choice, competition stability of financial system, macroeconomic stability and development and social objectives. This view is concordant with that of the World Bank (1986), that argues that good regulation and supervision will minimise the negative impact of moral hazard and price shocks on the financial system leading to a reduction in bank distress and failure.

On the other hand, the opponents of regulation argue that consolidation could increase banks' propensity toward risk taking through increases in leverage and off balance sheet operations. In addition, scale economies are limited as larger entities are usually more complex and costly to manage (De Nicoló, 2000). When the performance of banks and other financial institutions are conducted, it is mainly based on the analysis and assessment of how certain key indicators perform; indicators such as Return on Assets, Return on Equity, and other financial ratios. The ability of the bank to generate high profits at a fraction of costs (lowest amount of input) (efficiency) on the other hand could be conducted through the application of parametric or non-parametric frontier techniques (Eken & Kale, 2013).

The work performed by Lee and Chih (2013) analysed the effects of regulations that included the imposition of a strict capital base, liquidity and provisions and leverage ratios. The work concentrated on banks within the ambit of the China Banking Commission and analysed the effects that Basel III regulations have on the profits and risk-taking activities of banks for the period 2004 to 2011.

The researchers applied ordinary least squares (OLS) regressions to establish the relationship between regulation and risks. The study found that the effect of regulation impacts differently between small and big banks. It showed that the current ratio did not affect the risk takings by banks. This is partly in contrast to the findings of Delis *et al.* (2014) and confirms the mixed findings of studies on the impacts of regulation and supervision on the profits and risk profile of banks. It appears that different methodologies, different scopes, methods, data and the jurisdictions where these studies are made are not uniform; this argument could be made for formulae and variables that are used by different researchers from different jurisdictions to include general and distinctive variables to the study. This could be construed to be a signal of paucity in the work performed in the area, especially in emerging markets of which Africa is a part.

Gaganis and Pasiouras (2013) studied the relationship between the efficiency of bank profit and supervisory frameworks imposed by central banks using approximately 4000 commercial banks operating in 80 countries for the period 2000 to 2006. The researchers applied the intermediation approach and stochastic frontier model. The results of the study indicated that profits of banks operating under countries with too many supervisory regimes are impacted negatively (i.e. the profits decreased). In addition, the study concluded that efficiency decreased as the number of financial sectors that were supervised by the central banks increased.

With the pace and number of regulations being implemented in the banking sector for the duration of this study, an argument could be made that under the current operating environment the results could have been different. However, the researcher will remain none the wiser until more work is performed in this area. Barth (2013) examined whether bank regulation, supervision and monitoring enhanced or impeded banks' operating efficiencies based on three worldwide surveys sponsored by the World Bank covering 4,050 banks' observations in 72 countries over the period 1999 to 2007. The study examined the relationship between bank regulation, supervision

and monitoring, and bank efficiencies. They found that; "Tighter restrictions on bank activities were negatively associated with banks' efficiencies, while greater capital regulation stringency was marginally and positively associated with banks' efficiencies." The study also found that a strengthening of official supervisory power was positively associated with bank efficiency only in countries with independent supervisory authorities. In addition, independence coupled with a more experienced supervisory authority tends to enhance bank efficiency.

Barth (2012) argued that although many countries had reformed their bank-regulatory regimes in the last twelve years, there was no evidence for better improvements. Many countries had obeyed the Basel guidelines and strengthened capital regulations and empowered supervisory agencies; but existing evidence did not support that this would improve the banking-system stability, enhance the efficiency of intermediation, or reduce corruption in lending. It is therefore important to study the impact that regulation and supervision have on banks, to contribute to the body of knowledge that will assist regulators and policymakers on the development, review and implementation of regulations.

According to Barth, Caprio and Levine (2001), there is evidence that the literature on regulation and supervision of banks in the developing countries is biased towards the way things are done in the consultants' home countries due to their lack of information on practice in other countries. Experts on the subject tend to use the supervisory and supervision framework of their country of origin as a benchmark model for developing countries. Africa, as part of the developing economies of the world falls within the parameters of such biasness. The trio further indicated that there is anecdotal evidence accumulated over the years that suggests that an astonishingly high degree of accuracy could be obtained merely by knowing each consultant's country of origin.

The literature on the impact of regulation and supervision on the activities of banks concentrates on developed economies in the main (Deng, Casu & Ferrari, 2014). Although large economies in Africa such as South Africa and Nigeria boast "sophisticated banking systems", they tend not to be included in studies of this nature. Despite the Regulators and Supervisors (Basel, FSOC, 2016.) in some African countries operating within international frameworks in monitoring and supervising their banks, the literature in this area on Africa is scarce.

Chortareas (2012) investigated the dynamics between regulatory and supervisory policies and bank performance for a sample of European banks over the period 2000-2008. The investigation found that strengthening capital restrictions and official supervisory powers could improve the efficient operations of banks. The results also indicated that interventionist supervisory and regulatory policies such as private sector monitoring and restricting bank activities could result in higher levels of inefficiency. That being the case, the beneficial effects of capital restrictions and official supervisory powers on banks' efficiency are more pronounced in countries with higher quality institutions. This is supported by the findings of a study by Lee and Hsieh (2013) that focused on Asian banks over the period 1994-2008, which pointed to a positive relationship between capital and profitability in Asian banks. The study concluded that the effects of the influencing factors should be taken into consideration.

Taking into consideration the outcomes, findings and recommendations from studies as articulated in this literature reviewed above, it is comprehensible that the impact of regulation and supervision on banking activities varies and appears to be hybrid and specific to the period and sample under consideration. Such rules appear to evolve naturally according to economic and financial contexts and per country. In order to apprehend such effects parsimoniously, researchers investigated this relationship during the last period of the subprime crisis based on a large sample (European banks) using panel data modelling in order to take other heterogeneous effects per time and per bank into account (Lee & Hsieh, 2013).

4. Research Methodology

4.1 Data description

The study utilised the latest secondary data from Bankscope, Banks audited financial statements and the World Bank for data variables on financial factors and regulation and supervision respectively. Macroeconomic variables

were sourced from the World Development Indicators (WDI) database. The study included at nine African countries that seek to implement the requirement of the Basel II framework in their regulatory and supervisory framework. The selected countries were South Africa, Nigeria, Kenya, Ghana, Zambia, Egypt, Tunisia, Namibia and Uganda.

The theory on this method of data collection was informed by documents and work from the Central Banks of selected countries, research articles and work from large banks in the countries selected for the study. The availability of data in the selected countries banks, the size of the turnover of the banks in US dollars were also considered in selecting the countries. These constituted the inclusion and exclusion criteria for the study.

4.2 Estimating the model

The study draws from the two-step dynamic panel data approach that was pioneered by Blundell and Bond (1998) which proposed a dynamic panel model to apprehend the determination of profitability and how it is impacted by the independent factors. In addition, the study drew from the work performed by Athanasoglou, Brissimis and Delis (2005) who examined the effects of bank-specific, industry specific and macroeconomic determinants of bank profitability in Greece, also applying the dynamic panel model techniques to a panel of Greek banks that covered the period 1985 to 2001. This study also drew from this work in the development of the Model.

The general model used for this study is estimated linearly as follows:

$$\Pi_{it}=C+\sum_{k=1}^{K}\beta_k X_{it}^k+\varepsilon_{it} \text{ where } \varepsilon_{it}=\nu_i+\mu_{it} \quad (1)$$

Where Π_{it} represent the profitability of the bank at a certain time t, with i= 1 to N and t=1 to T. The C in the equation represents a constant term, X_{it}^k represents the k explanatory variables, ε_{it} is the error term with ν_i the unobserved effect specific to the bank, and μ_{it} is the idiosyncratic error,

This is a one-way error component regression model, where $v_i \sim$ IIN $(0,\delta_v^2)$ and independent of $u_{it} \sim$ IIN $(0,\delta_\mu^2)$.

The explanatory variable may be grouped according to bank, industry, and macroeconomic variables. In this case the specification of equation (1) maybe broken down into three groups as follows:

$$\Pi_{it}=C+\sum_{j=1}^{J}\beta_J X_{it}^j+\sum_{l=1}^{L}\beta_l X_{it}^l+\sum_{m}^{M}\beta_m X_{it}^m+\varepsilon_{it} \quad (2)$$

X_{it} with j, l and m as subscripts representing bank, industry, and macroeconomic variables respectively. Berger (2000) highlighted that bank profits show a tendency to persist over time. This reflects impediments to market competition, opacity of information, and sensitivity to regional shocks to the extent that these are serially correlated. The model therefore adopts a dynamic specification by including a lagged dependent variable among the regressors. This is done by augmenting equation (2) with a lagged profitability.

$$\Pi_{it}=C+\delta\Pi_{i,t-1}+\sum_{j=1}^{J}\beta_J X_{it}^j+\sum_{l=1}^{L}\beta_l X_{it}^l+\sum_{m}^{M}\beta_m X_{it}^m+\varepsilon_{it} \quad (3)$$

$\Pi_{i,t-1}$ is the one period lagged profitability and δ is the speed of adjustment to equilibrium. A value of δ between 0 and 1 implies that profits persist but they will return to their normal (average) level. A value close to 0 means that the industry is competitive while a value close to 1 implies less competitive structure.

4.3 Estimating the panel data model for the study

The following dynamic panel model to capture the impact of regulation and supervision on the profitability and risk profile of banks (using panel data analysis) in selected African countries was proposed for the study. Profitability which is the dependent variable is proxied by the return on assets and return on equity. The capital adequacy ratio will deal with the behavior of the risk profile.

Fixed Effects Models:

$$ROE_{it} = \alpha_0 + \beta_1 CAR_{it} + \beta_2 NPL_{it} + \beta_3 RGDP_{it} + \beta_4 Inflation_{it} + \beta_5 llr_{it} + \beta_6 nim_{it} + \beta_7 Cost\_to\_Income_{it} + \varepsilon_{it} \quad (4)$$

$$ROa_{it} = \alpha_0 + \beta_1 CAR_{it} + \beta_2 NPL_{it} + \beta_3 GDP_{it} + \beta_4 Inflation_{it} + \beta_5 llr_{it} + \beta_6 nim_{it} + \beta_7 Cost\_to\_Income_{it} + \varepsilon_{it} \quad (5)$$

Where, **ROE** is the return on equity that measures the efficiency of the management of the bank in using the resources of the bank (investments). **ROE** is calculated as net income divided by total equity; **ROA** is the return on assets which constitutes the amount that is available to banks through the shareholders to support the business and therefore acts as a safety net in the case of the possible bank failure. ROA is calculated by dividing the Net investment after tax by the average total assets of the bank. The following represents independent variables: **CAR** is the capital adequacy ratio which is a proxy that is used to determine the banks' ability to pay their liabilities in the response to credit risk and operational risk. Central Banks set standards for the level of capital adequacy ratio required for banks; **NPL** is the non-performing loans ratio which ratio articulates the quality of the portfolio of loans of the bank and is calculated as the non-performing loans as a percentage of the total loans advanced by the bank. This would express the quality of the credit exposed to the bank; therefore, it is crucial for banks to screen credit policies as this could impact on the profile of the bank; **RGDP** is the real gross domestic product used to proxy the macroeconomic activities of the countries under study; **Inflation** is the change in the general price level of goods and services in the economy which affects ROA and ROE (Bilal *et al.,* 2013). It can impact the cost and revenues of banks. The interest rate can be adjusted to provide good returns on loans in instances where it is predicted appropriately. The literature defines the relationship between inflation and profitability as inconclusive. In this study, the inflation is proxied current inflation as calculated in the world development indicators database. Profitability can impact positively or negatively depending on whether the inflation is anticipated or unanticipated (Perry, 1992); **NIM** is the net interest margin. The competitive nature of banks is reflected by the development of the net interest margin. Constriction of margins as a result of competition weakens the competition of banks; therefore, banks could adopt a risky stance impacting on the quality of the business underwritten; **LLR** is the loan loss reserve ratio that shows how the total loan portfolio of the bank is provided for and not charged off by the bank. It is expressed as the loan reserves as a percentage of the total loans advanced by the bank. The ratio impacts on the quality of the bank loan portfolio; **Cost_to_Income is** the loan to income ratio which is a measure of the cost of running the bank. To operate a bank, just like in many businesses, some expenses need to be catered for (such as hardware and software resources, salaries of human resources, etc.) as a percentage of income generated before provisions. This ratio measures efficiency and can be affected/distorted by volatile trading income.

5. Empirical results analysis

Before estimating the panel data regression model, the study considered a variety of aspects such as descriptive statistics, stationarity, and co-integration among others. Another issue dealt with before the panel data model was estimated is the issue of choosing the correct estimation model. This involves the choice between the fixed effects and the random effects model. The study by Rehman, Khan and Rhaman (2018) clearly described the two models in their research on the profitability of banks in Pakistan. Their study articulates that according to the random effect model, each organisation's (bank in the case of this study) intercept is randomly drawn from a much larger population with a constant mean value whereas fixed effects models assume that the intercept may vary across organisations but each organisation's intercept does not vary over time (it is time-invariant).

Several tests can be performed to select the appropriate model for the panel. The most common tests used by researchers are the Chow test, Hausman test, and the Lagrange multiplier test. For this study, the Hausman test was used to eliminate selection bias.

Based on the findings of the Hausman test, the fixed-effect model is used in this study.

The tables below tabulate the results of the panel data regression with return on equity (ROE) and return on assets (ROA) as the dependent variables

Table 1: ROE estimates using the fixed-effect model

Dependent Variable: ROE				
Method: Panel Least Squares				
Date: 06/29/20 Time: 20:03				
Sample: 2009 2019				
Periods included: 11				
Cross-sections included: 17				
Total panel (unbalanced) observations: 137				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDP	1.088559	0.345166	3.153725	0.0021
NPL	0.223320	0.209279	-0. 179520	0.8579
NIM	-0.644271	0.264756	-2.433451	0.0165
LLR	-1.233628	0.379676	-3.249162	0.0015
INFLATION	0.879429	0.206526	4.258192	0.0000
COST_TO_INCOME_RATIO	-0.298457	0.041564	-7. 180602	0.0000
CAR	-0.062795	0.198643	-0.316120	0.7525
C	16.77162	3.403977	4.927066	0.0000
Effects specification				
Cross-section fixed (dummy variables)				
Root MSE	5.475066	R-squared		0 878041
Mean dependent var	3.651626	Adjusted R-squared		0.853218
S.D. dependent var	3.114893	S.E. of regression		4.020753
Akaike info criterion	5.778587	Sum squared resid		1826.809
Schwarz criterion	6.290117	Log likelihood		-371.8332
Hannan-Quinn criter.	5 986461	F-statistic		35.37149
Durbin-Watson stat	2.120476	Prob (F-statistic)		0.000000

Statistically significant at 0.05 %

Table 2: ROA estimates using fixed effect model

Dependent Variable: ROA				
Method: Panel Least Squares				
Date: 07/05/20 Time: 17:29				
Sample: 2009 2019				
Periods included: 11				
Cross-sections included: 17				
Total panel (unbalanced) observations: 137				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDP	0.129634	0.053437	2.425940	0.0169
NPL	0.042514	0.032399	1.312182	0.1921
NIM	-0.099358	0.040988	-2.424070	0.0169
LLR	-0.224672	0.058779	-3.822295	0.0002
INFLATION	-0.069247	0.031973	2.165787	0.0324
COST_TO_INCOME_RATIO	-0.056789	0.006435	--8.825327	0.0000
CAR	-0.002130	0.030753	-0.069248	0.9449
C	3.442990	0.526985	6.533376	0.0000
Effects specification				
Cross-section fixed (dummy variables)				
Root MSE	0.565324	R-squared		0.856039
Mean dependent var	0.435155	Adjusted R-squared		0.826737
S.D. dependent var	1.495431	S.E. of regression		0.622471
Akaike info criterion	2.047531	Sum squared resid		43.78407
Schwarz criterion	2.559061	Log likelihood		-116.2559
Hannan-Quinn criter.	2.255404	F-statistic		29.21460
Durbin-Watson stat	2.115792	Prob (F-statistic)		0.000000

Statistically significant at 0.05 %; Source: Researcher's calculation using Eviews Statistical Software

From on the results of the panel regression above (Table 1), it can be observed that among the internal factors or bank-specific variables, NIM, LLR, cost_to_income ratio has a statistically significant relationship with profitability at 95.95% significance level. Although the relationship is negative with ROE, there is however, a positive and statistically significant relationship between ROE and the external factors or macroeconomic-specific variables, namely: Inflation and RGDP. The relationship between NPL, CAR and ROE is statistically not significant.

Based on the results of the panel regression on table 2 above, it can be observed that among the internal factors or bank-specific variables, NIM, LLR, cost-to-income ratio have a statistically significant relationship with profitability. Although the relationship is negative with ROA, there is however, a positive and statistically significant relationship between ROA and RGDP; however, the relationship with inflation is negative. The relationship between NPL, CAR and ROA is statistically not significant

The study uses an unbalanced panel of commercial banks in select countries in Africa to estimate the model. The panel was used to estimate both the return on equity (ROE) and the return on assets (ROA) that proxy the profitability of banks. The same panel also estimates the risk profile of banks.

From the results of the model tabled in tables 1 and 2, estimation seems to fit the dependent variables reasonably well with R squared of 87.80% and 85.60% for ROE and ROA respectively at 99.95% level. This means that 87.80% of the sample describes ROE whilst 85.60% represent ROA. With both models having high F statistics at

35.37% and 29.22% respectively, this shows the overall significance of the estimated models. The high R squared and F statistics generated by the models also show that only just over 10% of the variation remains unexplained by the independent variables. This shows that banks in Africa tend to have good quality management and therefore can convert the assets of the bank into good earnings for the shareholders.

The good fit of the panel for both ROE and ROA augur well for the study as these are two of the most important measures for evaluating the quality of management of banks that manage the capital that they are entrusted with to generate the returns from the assets financed by the bank. The generation of a good return on assets has in turn a good impact on the shareholders' value.

Real gross domestic product (RGDP) is statistically significant to ROE and ROA with a positive coefficient. This reflects that when the macroeconomic conditions are healthy, shareholders' expectations of good returns can be realised under good RGDP. Management of the banks' assets during good economic conditions in the continent also has a potential for banks' profitability in the continent. The RGD positive relationship with ROE and ROA is expected and is in line with the findings in studies by Ozil (2017), Demirguc-Kunt and Huizinga (1999) and Flamini *et al.* (2009).

The impact of non-performing loans (NPL) has an insignificant impact on ROE and ROA with a negative coefficient. The negative coefficient on NPL is predictable (expected) and it reflects that as losses from loans are materialised, the ROA and ROE of banks in Africa decrease. This is in line with the findings of the study by Ongore and Kusa (2013) who also found a negative relationship between ROA and NPL. Ozil (2017) also came to similar conclusions. Amuakwa-Mensah and Marbuah (2015) also found that the state of the economy has some impact on the profitability of banks.

The coefficient of net interest margin (NIM) is negative and (NIM) is statistically highly significant. This reflects that margins commanded by banks in Africa impact negatively on shareholders' value as long as the quality of the assets is not maintained, as reflected by the negative impact that net interest margin has on ROA. It indicates that banks in Africa are earning poor interest on the loans that are offered to the customers relative to the interest paid to the customers on funds deposited with the banks. The offsets of this result are a decrease of profits for the banks and a poor return on investment for the shareholders. The negative relationship is inconsistent with the previous literature that confirms the findings on the study by Demirguc-Kunt and Huizinga (2000) in the study to examine the impact of financial development on bank profits and bank margins, and Naceur and Goaeid (2003) in the examination of factors that had an impact on the profits of ten Tunisian banks over the period 1980–2000. These studies and many others that were concluded in the developed countries found a positive and significant relationship between net interest margin and bank profitability.

Although the loan loss reserve (LLR) ratio is statistically highly significant, its coefficient is negative, indicating higher reserves held by banks as an indication of the low quality of the loan portfolio and therefore is not desirable to the return on shareholders' equity. A similar reflection is made with the return on assets.

Inflation is statistically significant to the dependent variables with positive coefficients to the return on equity and a negative coefficient on return on assets. This shows that inflation impacts on profitability and risk profile in a different manner for the management of assets and shareholders' equity. This could be attributed to the bank's management ability to satisfactorily forecast future inflation (although not fully) and therefore implying that interest rates have been appropriately adjusted to achieve higher profits. It reflects that above-normal profits could be gained from asymmetric information. It is consistent with the study by Boyd, Levine and Smith (2001) and also a study by Haron and Azmin (2004). On the other hand, the negative coefficient on the return on assets reflects that the quality of the loan portfolio is weak and therefore results in impairments when the inflation rate increases, and therefore results in the decrease in the return on assets being managed by banks.

Coefficient of the capital adequacy ratio (CAR) is negative and statistically insignificant. This is counterintuitive as the literature on studies in other regions shows that higher bank's capital ratio can take advantage of higher profitability (Mendes (2000), Demirguc-Kunt and Huizinga (1999) and Bashir (2000).

This could reflect the poor status of the financial conditions of most banks in Africa, however, observing the behaviour of other variables there is an indication that there are pockets of countries with strong financial regulations and supervision and sound capital positions. Banks in these countries can pursue business opportunities more effectively and at times generate more than normal profits in comparison to the global counterparts of similar stature.

On the other hand, there are countries with poor or nonexistent financial regulation and/or supervision. The aggregated status shows poorly capitalised banks in Africa, a misleading state to investors as many countries are reforming their regulatory and supervisory regimes. It could also be attributable to the fact that banks that reserve or maintain adequate capital levels do not have profitable investment proposition to invest the extra capital. Excess capital could therefore become a cost to the banks as it is not used profitably. The quality of management of banks' assets in many countries needs to improve so that assets could be managed in ways that contribute positively to shareholders' value.

Negative and statistically insignificant CAR could also reflect the risk profile of banks in the continent. Banks could be taking calculated risks resulting in a good portfolio that renders capital holding insignificant. Holding less capital or no capital could contribute to profitability in the short term as all the assets are counted towards the revenue of banks. This is in line with Gale (2010) whose work found that there is no clarity that higher capital requirements will reduce the level of risk in the banking system. Barth (2012) also suggested that there is no statistically significant relationship between capital stringency, official supervisory power and bank supervision. Leaven and Levine (2009) alluded to this in an earlier study that found that capital stringency has little impact on the actual bank risk.

Non-performing loans are not significant as expected, an indication that banks could improve profitability by screening and monitoring of credit risk and such policies involve the forecasting of future levels of risks (Bilal, Saeed, Ali Gull & Akram, 2013).

The cost to income ratio is statistically significant in both the ROE and ROA estimation. This shows that the cost of operating banks does affect the banks' income and therefore their profitability and risk profile. The increase in this ratio reflects the inefficient way management of the banks are running the business.

5.1. Findings

The primary aim of the study was to analyse the impact of regulation and supervision on the profitability and risk profile of the banks using panel data from selected African countries in the context of the ongoing regulatory and supervisory reforms. The research aimed to empirically determine the relationship between the regulation and supervision on the profitability and risk appetite of banks by analysing panel data.

From the research findings it is clear that:

5.1.1. The real gross domestic product and the inflation rate are explanatory variables that were included in the study to ascertain the relationship between the macroeconomic conditions and the profitability and risk profile of banks. To this end, the study found that the health of the economy of prospective countries in the continent is a catalyst for the performance of the banks in those countries.

This finding has mixed effects and supports the literature that found that a stable and well-regulated and supervised banking system is important to the development and growth of the economy. It is intuitive; the high inflationary pressures in many countries in the continent might offset real growth and therefore negatively impact the real profitability in the banks that operate in these economies. In essence, the macroeconomic environment appears to promote greater shareholders' earnings and profitability of banks in Africa.

5.1.2. Non-performing loans are associated with the return in shareholders' equity and the return on assets in banks,

although the relationship is not statistically significant in this study. This finding is important as it reflects the risk-taking factors of banks on the continent. The finding shows that although there are banks that might be making profits, banks are investing in risky business deals that result in non-performing loans with a perverse effect on the profitability of the banks and result in poor-risk profiles.

This finding contradicts the finding by Bouheni, Ameur, Cheffou and Jawadi (2014), who in their study of the effects of regulation and supervision on European banking profitability and risk, found that risk-taking factors such as non-performing loans and inflation are significant and positive concerning the profitability of banks. In this instance, high inflation increases interest rates which increases the revenue from interest-linked products and therefore results in an increase in profitability and risk profile. This is different in Africa, where increases in inflation resulting in interest rates increasing tend to increase loan impairments and therefore non-performing loans which impact negatively on profitability and increases the poor banks' risk profile. The opposite effect reflects the heterogeneous nature in which banks are regulated in Africa. Higher inflation may result in hiking of interest rates which may be beneficial to the profitability of banks if the increase does not induce higher defaults. This could well be construed as an indication that, unlike banks operating in developed economies, banks' operations in Africa in the main have defaulting loan portfolios when the inflation increases with an increase in interest rates.

This reflects the poor-risk profile of the portfolios that banks take in the continent. It is therefore imperative for the authorities in the continent to approach the regulation and supervision in banks with caution as the findings in studies in developed economies might not apply to operating environments in the region.

5.1.3. The capital adequacy ratio is not statistically significant, with a negative coefficient in this study. This variable is material in the determination of bank profitability and risk profile. The insignificance of capital at 95.95% significance level reflects the risk and regulatory costs that banks incur in the continent to hold capital.

The finding shows that banks in the continent are still not well-capitalised and therefore riskier and mainly generate low profits as the market could perceive them to be unsafe for business. The finding further reflects that governments and the central banks in the continent are behind in regulating and supervising binding regulatory capital requirements in the industry, in which case the observation should be a positive relationship between capital and profitability as observed in the developed economies. However, previous studies by both Anthanasoglou *et al.* (2008) and Berger *et al.* (2004) who found a positive relationship between capital and profitability reflects a contrast to the finding in this study.

Similar findings were reflected by Gorton and Winton (2010) who proposed arguments of economic theory and suggest that regulation tools can impact the effectiveness of financial intermediation through the imposition of stringent capital requirements. Again, this is an indictment that the bank regulatory and supervisory regimes in the region should be cautiously developed and implemented as the region has unique challenges and opportunities.

5.1.4. The net interest margin impacts negatively on the profitability of banks at the 95.95% significance level. This is counterproductive as it reflects the vulnerabilities in the banking sector in the region. Net interest margin can be an essential contributor to the overall profitability of banks as confirmed in the literature. Demirguc-Kunt and Huizinga (2000), in a study to examine the impact of financial development on bank profits and bank margins, and Naceur and Goaeid (2003), in the examination of factors that had an impact on the profits of ten Tunisian banks over the period 1980 to 2000, found a positive and significant relationship between net interest margin and bank profitability.

The finding indicates that banks in the continent are not making a profit based on interest earned but could be investing in other businesses to increase their profits. The poor regulatory and supervisory status of the sector in the continent seems to be hampering investment opportunities into the continent and therefore the "organic" profitability of the sector in general.

5.1.5 The quality of loan portfolios held by banks is low. Banks in the continent are therefore required to hold more capital to cater for "rainy" days. This could put more pressure on the profitability of the sector. Capital is

expensive, and banks should not be holding idle capital. The role of regulation and supervision in capital levels in the continent could assist the industry in this regard, as banks would be holding capital "equally" or in line with their risk profile. Although the loan loss reserve (LLR) ratio is statistically significant (highly), its coefficient is negative, indicating higher reserves held by banks as an indication of the low quality of the loan portfolio and therefore is not desirable to the return on shareholders' equity. A similar reflection and conclusion is made with the return on assets.

5.1.6 The income that banks are generating from their operations is higher than what they are paying to the deposits and investments in their portfolios. This could reflect that many bank customers in the continent are not engaging in the interest-generating operations of banks and therefore are charged interest rather than gaining it. The result of this is healthy profits for banks. In Africa, regulation and supervision are required to deal with the implementation of interest rates. Without such regulation, banks could generate super-profits as they could charge an exorbitant interest rate on what they deem as risky and exaggerate their profits.

6. Conclusion

The study shows that regulation and supervision impact the profitability and risk profile of banks in select African countries in various ways. The study reflects that banks operating in the selected countries are at a different level of regulatory and supervisory regimes. With the continent facing challenges at the macroeconomic level, it is clear that the bank-specific variables behave in line with the economic status of the respective countries. However, the positive and significant relationship of inflation to the profitability of banks in the selected countries further shows that the risk profile of the banks is strong. An increase in the inflation interest rate could result in a hike in interest rates in countries where inflation is regulated. This could be beneficial to banks' profitability as the increase in the interest rate does not seem to induce high defaults in loans in the banks' portfolios.

Regulation and supervisory frameworks on the requirements for banks to hold capital reserves at a certain level, assist banks to hold "enough" capital for instances when an operating worst-case risk scenario materialises. The counter-intuitive relationship of capital adequacy ratios and profitability confirms that banks in the continent are not well regulated in this regard, and therefore highlight the heterogeneous way regulation and supervision of banks are being implemented in the continent. Regulations and supervision of banks in the continent that set the credit assessment on investment deals when banks offer loans and on-board investment customers would result in the decrease of non-performing loans and generation of healthy profits to the banks.

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ASIAN INSTITUTE OF RESEARCH
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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 31-38
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.411

Remuneration, Organizational Commitment, and Job Satisfaction: The Effects on Lecturer Performance A Study at UPN Veteran Jawa Timur

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Abstract
Tri Dharma Perguruan Tinggi (Three Pillars of Higher Education) is an obligatory outline that must be obeyed by lecturer as an academician in university range in Indonesia. The lecturer is not only charged on three main duties, but the lecturer is also assigned to handle a variety of other supporting activities, therefore the lecturer profession may have a high work complexity and enable the decrease of performance level periodically. One of strategies to improve the lecturer performance is to set up remuneration to them each semester. Based on the survey conducted at University of Pembangunan Nasional Veteran, East Java which has involved about 210 lecturers as the research samples and adopted quantitative method by using SmartPLS refers that remuneration and job satisfaction can affect lecturer performance, while organizational commitment is not proven to affect the lecturer performance. Furthermore, the job satisfaction mediates a relation between remuneration and performance, but the commitment does not refer as a mediation variable between remuneration and performance.

Keywords: Remuneration, Job Satisfaction, Organizational Commitment, Lecturer Performance

1. Introduction

Recently, world encounters a global competitiveness which has demanded the human resource quality which is able to face and settle free trade among countries. The high quality of human resource refers to the individual who is able to create comparative, competitive, generative, and innovative value by utilizing the energy resources such as intelligence, creativity, and imagination. One of attempts that can be managed by a country to face the global competitiveness is through educational system, which the education is the eminent key of economic welfare and human resource development, because it is closely related to the quality of labor force in a country (Marquez-Ramos dan Mourell, 2019). The rise of various empirical evidences which have pointed to a positive correlation of education to the economic growth, finally urge many countries to focus improving their educational quality, particularly at the level of university in order to produce competent graduates, through lecturer support who are qualified as educator staffs.

Practically, university performance highly depends on performance quality of lecturers and education staffs. Hence, within the university management, it needs a good regulation, either in the development or improvement of employee work performance. Generally, the university has characteristic and operational similarity as other business companies. There are a lot of parties who should obtain special concern, so the purposes are carried out comprehensively. The most significant challenge faced by public entity is about "pay for performance" system, which almost all developing countries have practiced this system nowadays (Weibel et al., 2010). In Indonesia, "pay for performance" system is commonly known as remuneration term, especially for the employees who work at public sector. The remuneration is a general term which illustrates compensation in forms of wage, allowance, incentive, and facility received by employees for their service or work. Moreover, empirical support from preliminary studies which have claimed that remuneration system can improve efficiency of public sector (Weibel et al., 2010) increase employee motivation (Blašková and Blaško, 2014), and develop employee performance (Calvin, 2017) and affect lecturer motivation and satisfaction (Kustini and Purwanto, 2020).

This research is an advanced study from previous studies. Based on the first year research finding which has focused to identify the complexity of remuneration effect on motivation, job satisfaction, and lecturer performance and found different result from the majority of research findings, it is known that the remuneration is actually not significant in influencing lecturer performance (Kustini and Purwanto, 2020) This result is supported by an assumption that even though remuneration has implemented aspects of worthiness, balance, and justice, this condition will not build a good lecturer performance without any psychological desire from the lecturer to develop their selves. Second, the relevance of job satisfaction can affect lecturer work performance and motivation.

The work performance is a crucial aspect in the scope of organization, thus many organizations have competed to arrange a comprehensive and smart scheme to improve the employee performance. The empirical support has been many given, for instance, the remuneration which is claimed to have a positive consequence within the scopes of business and performance management, either in private or public sector. The achievement of university is usually determined by the high accountability of lecturer work performance and their competence to perform tasks as academic community in its relation to Tri Dharma Perguruan Tinggi. Three functions of lecturer in Universitas Tri Dharma are Teaching, Research, and Community Development (Amiruddin et al., 2021). Further, the lecturer credibility is not only determined by commitment to do their main task, but it is also determined by lecturer ability to do scientific work publication, it is attempted as one of strategies to develop their self-competence (Sukirno and Siengthai, 2011). Although in practice, a high work complexity and demand of lecturer very likely to cause boredom and performance decrease, thus, the factors that can affect them to produce scientific work certainly requires a commitment.

1.1. Statement of problem

Survey result conducted at UPN Veteran East Java, it is found that the gain of research and community service has decreased. The total of research publications which have involved lecturer cooperation at UPN Veteran, East Java and external parties (government program, cross-university lecturer, lecturer and student, and international affiliation) or conducted independently in 2018 was about 99 researches, in 2019, it increased up to 106 researches, but then decreased drastically into 84 researches in last 2020. On the other hand, the similar thing happens to the total of community service publication which has been done by lecturer at UPN Veteran East Java either through cooperation of government program of independent publication, in 2018 there were about 15 publications, in 2019 decreased drastically into 4 publications, and in 2020 decreased into 3 publication (LPPM, UPN Veteran East Java).

This problem can be a serious concern if the similar thing occurs continuously. The low number of research in the form of domestic publication is indeed a hot issue in Indonesia; this condition is regarded as imbalance to the number of lecturers in all domestic universities. The low lecturer involvement in research and community service publication is not only risky to the university credibility, but this issue will also affect lecturer professionalism to do their role as academic community, especially at UPN Veteran East Java. Therefore, in this advanced research, the researchers will reinvestigate the relationship of remuneration, lecturer commitment, motivation, and work performance in order to see the interrelation of those issues, so it can solve the problems.

1.2. Empirical Literature

The investigation on lecturer commitment at university domain has attracted quite a lot of public, educator, and stakeholder attention in the education field. Since, the organizational commitment has a crucial role in its relation to the achievement of organizational aim in certain period of time (Alamelu et al., 2015). The lecturer with a high organizational commitment is claimed to be able to contribute to resulting superior performance. This is certainly the purpose for stakeholders on university scale, so they can have employees with a high level of commitment. The factors that can affect employee commitment will be a focus highlight of this research, one of them is delivered through remuneration. There are many research findings that have shown a correlation between remuneration and organizational commitment, as in the research done by Anggraini et al., (2019) which has asserted that the remuneration system can motivate individuals to have a high commitment to work, obey rules, build a solid teamwork, show performance expected by the organization, and encourage employee motivation to participate within the organization and achieve mutual goals. On other hand, the remuneration is proven to have a positive relationship with individual satisfaction. According to Anggraini et al., (2019), the aim of remuneration is basically to give motivation and value of justice for every employee, so they can have a healthy competition and show an optimal performance also build a good image for the organization. Moreover, if the employees are satisfied, they will show readiness to be present, active, and survive in their work and organization. The lecturer with a good quality performance is highly needed by an institution or university in improving academic quality. When the lecturers find satisfaction in work, they tend performing and accomplishing tasks with all their capabilities. However, Fozia and Ali (2016) in their research have highlighted that although remuneration certainly has a correlation to job satisfaction; it is not the one and only determinant which can influence individual job satisfaction. Basically, remuneration policy at university is a form of management responsibility to provide reward in extra amount of income. A lot of empirical evidences have explained that remuneration has effects lecturer performance, as stated in previous researches by Calvin (2017), Agustiningsih et al., (2017) and Rheny et al., (2021). In the research written by (Agustiningsih et al., 2017) it has stated that the remuneration can significantly affect employee performance at tax directorate office which both of them have negative properties. On the ideal condition, remuneration can be a tool that is used by the organization to motivate employee, but based on this case study, it has been known that the remuneration can affect negatively, since the employees do not work according to the responsibility, but according to remuneration amount given by the organization. Thus, the remuneration is valued as negative, because it may raise unwise attitude of employees.

The studies which define a positive relationship between organizational commitment and work performance (Hasanah and Madiistriyantno, 2020), Job Satisfaction and work performance have contributed a lot of critical ideas and suggestions for university management, proven by research Theresia et al., (2018) and Hanafiah et al., (2020). Lecturer with a god quality performance is highly needed by a college institution to improve student academic quality. Two indicators that can affect lecturer performance are organizational commitment and job satisfaction felt by the lecturers. Many directors have assumed that organizational aim cannot be achieved when organizational commitment is not strongly embedded in the employees. Inasmuch as, the organizational commitment will boost individual to act and behave positively, have discipline in work, obey organizational policies and rules build a good relationship with coworkers, and improve work achievement (Anggraini et al., 2019). Similar thing is also claimed when the organizational has satisfied employee it can be an advantage for the organizational. In a college, the lecturer job satisfaction is the most significant and essential aspect for improvement and effectiveness of college system. In many developing countries, the educator staffs may get mired in bureaucracy and centralized system that do not support effective performance of lecturer or career advancement (Thi Lien, 2017). To put in another word, the job satisfaction of lecturers as the educator staff, when they are not satisfied with their profession, they will not be able to show the best performance and give contribution at the university where they work, thus, the job satisfaction is said as an inseparable aspect which affects lecturer performance.

2. Method

This research used quantitative research method and SmartPLS software 3 rd version to analyze the data. The research population was taken from lecturers who were working at University of Pembangunan Nasional Veteran

East Java. There were about 210 research samples that were acquired by adopting convenience sampling technique. Each respondent of research was asked to answer the research questionnaire through two techniques. First, direct field survey in order to get the answer through interview in order to obtain further information needed as the completeness of research information. Second, to support the more optimal data collection, some data was distributed online (google form) to all lecturer networks across faculties at the university. The questionnaire is distributed for 30 days.

This study uses the exsogen variabel of lecturer performance, which is influenced by endogen variable such as remuneration, organizational commitment and job satisfaction. Below is the hypothesis of the research :
H1 : Remuneration significantly affects organizational commitmen
H2 : Remuneration significantly affects job satisfaction
H3 : Organizational Commitment significantly affects lecturer performance
H4 : : Job satisfaction significantly affects lecturer performance
H5 : : Job satisfaction significantly affects lecturer performance
H6 : Organizational Commitment moderates the relation between remuneration and lecturer performance
H7 : Job Satisfaction moderates the relation between remuneration and lecturer performance

3. Results

Based on the result of data tabulation, the majority of research respondents were female. The most dominant functional positions were lecturers with educational status of master degree and more than 10 years of work period. The respondents were spread from seven different faculties at the university. To measure the validity and reliability of each research variable in supporting this research credibility, the researchers did the test by using Average Variance Extracted (AVE, Cronbach's Alpha and rho_A), as illustrated in this following Tabel 1

Table 1: Validity Test by Using Cronbach's Alpha, rho_A, Average Variance Extracted and Reliability Test by Using Composite Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Job Satisfaction	0,919	0,931	0,932	0,580
Lecturer Performance	0,923	0,932	0,932	0,478
Organizational Commitment	0,761	0,781	0,848	0,585
Remuneration	0,871	0,881	0,906	0,657

The Table 1 illustrated that the result of AVE testing for all variables has shown the value more than 0,5, while the result of Cronbach's Alpha and rho_A testing of all variables has shown the value more than 0,7. Then, overall variable in this research could be stated to have a good validity. Meanwhile, to measure construct reliability through composite reliability value, the result of Composite Reliability testing has shown that all variables have composite reliability value more than 0,70, thus it was indicated that all variables in this research were reliable. In other hand, the testing process on structural model was also conducted to identify Rsquare value which in this context was referred to goodness-fit model test. R2 value would define the size of exogenous (independent) variable on the model could explain the endogenous (dependent) variable, as ilustrased in this following Tabel 2.

Table 2: R-square

	R Square
Job Satisfaction	0,144
Organizational Commitment	0,553
Lecturer Performance	0,618

Based on the figure 2, this research referred that R2 value for job satisfaction variable was about 0,144, it was interpreted that this model was able to explain job satisfaction phenomenon that was influenced by remuneration variable in approximately 14,1%, while the rest 85,6% was explained by the other variables. Next R2 value for organizational commitment variable was about 0,553, this was interpreted that the model was able to explain organizational commitment phenomenon which was affected by remuneration and job satisfaction variables in approximately 55,3%, while the rest 44,7% was explained by the other variables. Further, R2 value for lecturer performance variable was about 0,618, this was interpreted that the model was able to explain lecturer performance phenomenon which was affected by remuneration, motivation, and job satisfaction variables in approximately 61,8%, while the rest 38,2% was explained by the other variables out of this recent research. Additionally, in this research, Q2 value or Goodness of Fit Model was about Q2= 1 – (1 - 0,144) * (1 - 0,553) * (1 - 0,618) = 0,8538. The closer to 1, the model would be better, thus, it was said that this research model has fulfilled predictive relevance.

4. Discussion

4.1. Remuneration and Organizational Commitment

Based on the research finding, it was referred that the remuneration could affect positively and significantly on organizational commitment. The researchers have found that the item with the highest value was the conformity between remuneration and position assigned by the lecturer. Thus, the hypothesis 1 is confirmmed. Actually, reward or remuneration system received by the lecturer has facilitated lecturer needs in its relation to their functional position and lecturer role in implementing Tri Dharma idea, so it could arouse attachment from each lecturer to be the part of organization. The previous research written by Anggraini et al., (2019) has supported this idea, they have argued that the implementation of remuneration system for employee was intended so all stakeholders of organization could increase their professionalism and performance, which in its turn could improve public service performance. The aims of remuneration system practice were aimed to motivate the employee to have a high work commitment by obeying all rules and laws, build a solid teamwork, show performance expected by the organization, and boost employee motivation to create a sustainable organizational commitment. This relevance based on research results can confirm the existing theory

4.2. Remuneration and Job Satisfaction

Based on this research result, it was indicated that the remuneration could significantly affect job satisfaction. Thus, the hypothesis 2 is confirmmed. When the remuneration received by lecturer has already fulfilled justice and need, the remuneration would not only affect lecturer commitment to get attached emotionally to the university, but also boost lecturer satisfaction at work. At the same time, it has reinforced the previous research result by Apriani et al., (2019). Moreover, the researchers found that lecture at UPN Veteran Jatim has a good performance, it is proven by highest loading for public services. It means, that until the research takes place, the remuneration received is proven to be able to meet the expectations of the lecturers there. Furthermore, job satisfaction is individual and dynamic (Wibowo et al., 2014), high job satisfaction depends on the real conditions of the employee between what is obtained and what is expected. It is not impossible that the results of lecturer satisfaction will decrease when future research is carried out

4.3. Remuneration and Lecturer Performance

Based on the result of data analysis, the consequence of remuneration framework was proven to have significant effects in predicting lecturer performance. Thus, hypothesis 3 confirmmed. This result was also in line with the previous research done by Anggraini et al., (2019) in their research that the remuneration received by lecturer could be a significant indicator to stimulate lecturer performance.

4.4. Organizational Commitment and Lecturer Performance

The interesting result has been found in this research that the organizational commitment could affect positively but not significantly on lecturer performance at the university. Thus, hypothesis 4 rejected. This result was referred that if the higher level of organizational commitment owned by the lecturer was not necessarily followed by performance increase of lecturers at UPN Veteran East Java. In fact, this finding was not the first time, previously, some researchers as Hidayati and Rahmawati (2016) have confirmed the similar finding. This condition was very possible to occur in the organization, as the consequence of either external or internal factors felt by the lecturer as organizational member. The rise of this problem was possible to occur as the result of reward and punishment system which were not working properly, the lecturers who were not proud of their organization, or the lecturers have another option of side job besides the lecturer profession or reversely they did not have any option or other job, therefore they only did the tasks given without offering more efforts for the sake of organizational growth and interest. Future researchers may be able to fill in the gaps in this study's findings by looking into the relationship between organizational commitment and lecture performance.

4.5. Job Satisfaction and Lecturer Performance

The positive consequence of job satisfaction and performance have been studied for a long time, likewise this research result has also confirmed the consistency of relationship between both of aspects, which the lecturer job satisfaction could positively affect lecturer performance at the university. Thus, hypothesis 5 confirmmed. This result was in line with the previous research done by Hanafiah et al., (2020) which has said the interrelation between job satisfaction and performance of lecturers at private university. However, it should be emphasized that the lecturer performance was a multi-dimensional construct which included many influential factors, thus the low employee performance was not always based on their dissatisfaction, but it might come from remuneration received and lecturer motivation (Nasution et al., 2019).

4.6. Moderation of Organizational Commitment in the Effects of Remuneration on Lecturer Performance

Based on the research result, it was indicated that the organizational commitment was not significant to moderate the relationship between remuneration and lecturer performance at UPN Veteran East Java. Thus, hypothesis 6 rejected. In this case, the variable of organizational commitment was not the one and only moderation which related remuneration and lecturer performance. But, there were other moderation factors. This was likely possible to occur, regarding to many significant elements that have contribution in improving lecturer performance, such as motivation, competence, career planning, leadership style, and many other elements. As in the previous research written by Islamiyah (2019) which has stated that the employee could keep working on the basis of responsibility and empathy, not for the sake of organizational interest. Inasmuch as, many research results have found the inconsistency between organizational commitment and individual performance. Next, many researchers have emphasized that the organizational commitment was dynamic; it was referred that the organizational commitment of every individual could change overtime. The employees might not have bonded psychologically to the organization in the beginning of their career, but it did not mean that they would not have commitment to the organization after a long time of work in the organization.

4.7. Moderation of Job Satisfaction in the Effects of Remuneration on Lecturer Performance

Based on the research finding, it was known that the job satisfaction could significantly affect the relationship between remuneration and lecturer performance at UPN Veteran East Java. Thus, hypothesis 7 confimmed. It was indicated that the satisfaction factor could be an effective moderator in this case, essentially, every individual who worker would definitely expect satisfaction from the workplace. This satisfaction was relative and subjective, which it was referred that every individual has satisfaction level and this satisfaction might be increased due to the individual need. Islam and Purnamasari (2019) in their article have explained another perspective which the researcher with economic psychology background argued that the practice of remuneration scheme relating to performance at a public sector could ruin individual performance when it was faced to job satisfaction. Moreover, the job satisfaction was also affected by other variables outside of remuneration. Hence, they have inserted job

satisfaction as an important moderator of remuneration effect on employee performance. In sum, the lecturer job satisfaction could be an antecedent of other kinds of behavior that led to the improvement of lecturer performance at university environment.

5. Conclusion

In this research, the researchers have proven that the remuneration could be a crucial factor which has effects on lecturer job satisfaction, commitment, and performance at the university. Therefore, in the implementation of remuneration system, it needed a proper consideration, so it could improve the university performance in general. The lecturer played an important role in the success of university, the role and presence of lecturer needed to get a special concern, especially for the things that could increase their commitment. Further, this research finding has proven that the lecturer commitment at UPN Veteran East Java did not affect their performance, this finding referred that the commitment of lecturers at this time is solely because of their profession as lecturers who have to implement Tri Dharma Perguruan Tinggi in order to fulfill lecturer workload. Meanwhile, based on the result of data analysis, the most dominant organizational commitment indicator data were more on individual commitments, by regarding the commitment on the basis of pride to the institution.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 39-50
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.412

Impact of News Related to Covid-19 on Stock Market Returns in Five Major ASEAN Countries

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Abstract
The sudden tightening of global finances, unprecedented and dominating news of how negative COVID-19 is has affected the global monetary, and how pessimistic the public sentiment towards the COVID-19 virus pandemic is itself has caused uncertainty in the stock market. The purpose of this study is to analyze the relationship between COVID-19-related news and stock market returns. RavenPack Coronavirus Media Monitor was used to explain important news issues related to COVID-19 with news indices such as panic, media hype, fake news, country sentiment, infodemic, and media coverage. With the quantile regression analysis technique, the results of the study were divided into three research periods. For the research period of January 2020 to March 2020, it was found that the variables that affect stock market returns are media hype, fake news, country sentiment and infodemic index; for the research period of April 2020 to December 2020, it was found that the variables that affect stock market returns are panic, fake news and country sentiment index; while for the period January 2020 to December 2020 the variables that affect stock market returns are panic, fake news, country sentiment and infodemic index.

Keywords: COVID-19, News, Stock Market Return

1. Introduction

The Health Commission of the City of Wuhan, Hubei Province, China, reported several cases of pneumonia on December 31, 2019, where the virus with the code COVID-19 was identified. On March 11, 2020, WHO finally declared that the COVID-19 outbreak was a Public Health Emergency of International Concern (PHEIC) (World Health Organization., 2020).

The number of confirmed cases in Southeast Asia began to increase in mid-March 2020. More than 15,532 confirmed cases and more than 529 deaths were reported in April 2020. As cases continue to increase worldwide, the risk of a sudden tightening of global financial conditions increases. The impact of the pandemic brings immediate disruption in all sectors of economic activity. This is because the movement restrictions imposed through lockdowns, quarantines, temporary business closures and school closures cause the company's business activities to be significantly affected due to limitations in the supply chain, product distribution, trade and investment. Jobs and livelihoods are threatened, while consumer confidence decline.

Uncertainty emerged in Southeast Asian countries caused by the COVID-19 pandemic which triggered heavy capital outflows, leading to market declines and rapid exchange rate depreciation. Many countries do not anticipate the continued impact of COVID-19 on the economy and tend to underestimate it. The Asian Development Bank explained the magnitude of the impact seen from the forecast made last year before the outbreak with the current figures during the COVID-19 pandemic, it appears that the projected growth for ASEAN which was previously 4.4% in 2019, has changed to 1.0% in 2020 (ASEAN Policy Brief, 2020).

Countries in Southeast Asia have revised their projections for a decline in economic growth due to the impact of the COVID-19 pandemic. Indonesia is projecting to grow by 5.3 percent in 2020, the growth forecast changes to -0.4-2.3% on April 1, 2020. Likewise, the Philippines' official economic growth target, which was originally 6.5-7.5% for 2020, was lowered to -0.6-4.3% in March 2020. Thailand has also revised its economic growth forecast due to the slump in the tourism sector. Thailand, with economic growth in 2020 which was previously estimated at 2.7-3.7%, decreased its projection to 1.5-2.5%. Singapore itself through the Ministry of Trade and Industry changed Singapore's growth projection from 0.5-2.5% to -0.5-1.5%. Malaysia, which has an official economic growth target of 4.8%, changed its growth projection to -2.0-0.5% on April 3, 2020.

In early January 2020, the trend of short-lived upbeat in stock markets around the world quickly occurred, followed by a decline towards the end of March 2020 caused by the panic over the COVID-19 (ASEAN Policy Brief, 2020). 2020 Stock Market Crash, where major stock market indexes fell by 20-30% globally at the end of February and March. The recovery from the 2020 Stock Market Crash began in early April 2020 (Samuelson, 2020; Williams, 2020), and many stock market indices recovered or even set new records by the end of 2020. The impact of the 2020 Stock Market Crash in 2020 was felt in the Southeast Asia region. After World Health Organization declared COVID-19 as a global pandemic on March 11, 2020, uncertainty emerged that caused a rapid decline in stock markets throughout the Southeast Asian region. About a quarter of the market value of stocks in Indonesia, Philippines, and Thailand fell (ASEAN Policy Brief, 2020). Jakarta Composite Index fell 5,01% on March 12, 2020; Kuala Lumpur Composite Index decreased 5,26% on March 13, 2020; Strait Times Index lost 6,30% on March 13, 2020; Stock Exchange of Thailand decrease 10,80% on March 12, 2020; and the Philippine Stock Exchange fell 9,71% on March 12, 2020.

From the very beginning of securities trading, the relevant information or news has been widely read and processed by humans. Computer algorithms that are used to process data to make it simpler and easier to understand are increasingly being used to read and interpret information and news over the last two decades.

The number of articles related to the COVID-19 virus is increasing after the outbreak of COVID-19. This study uses RavenPack Coronavirus Media Monitor from RavenPack to summarize the emotions or sentiments of millions of articles, both news and information from public posts related to COVID-19 into simple indicators.

This paper examines the stock market reaction to news related to COVID-19 using quantile regression. It is similar to the researches of Cepoi (2020). He uses the panel quantile regression model and the result show there is an asymmetric dependence between the stock market and information related to COVID-19 such as fake news, media coverage, and contagion.

Research on stock price reactions to other infectious diseases has been carried out, such as SARS, H1N1 Influenza, Ebola, and Zika. Chen, Jang, & Kim (2007) using an event study approach revealed that hotel stocks in Taiwan showed a significant effect on the cumulative average of abnormal returns during and after the day of the SARS outbreak.

Several previous studies that have focused on understanding whether economic and political news can drive the stock market during the COVID-19 pandemic have been carried out. Haroon & Rizvi (2020) in their research showed that news contributed to the panic over the COVID-19 virus, which contributed more to stock volatility, especially in sectors that were considered the most affected by the COVID-19 pandemic. However, media coverage and sentiment have a small to moderate impact on stock volatility. Wu & Lin (2017) state that the attitude

of investors is not only influenced by how much quantity of the news, but also how good the quality of the available news is. Different types of investors have their response to the style or pattern of each media coverage.

The purpose of this study is to examine the impact of news related to COVID-19 on stock market returns in major ASEAN countries, namely Indonesia, Singapore, Malaysia, the Philippines, and Thailand. News variables related to COVID-19 obtained from RavenPack Coronavirus Media Monitor include the Panic Index, Media Hype Index, Fake News Index, Country Sentiment Index, Infodemic Index, and Media Coverage Index. The entire period of study is divided into three phases: Phase I (Januari 2020 to March 2020) was when the trend of short-lived upbeat in stock markets around the world occurred, followed by a decline towards the end of February and March (2020 Stock Market Crash); Phase II (April 2020 to December 2020) is when the recovery from the 2020 Stock Market Crash began in early April 2020 and many stock market indices recovered or even set new records by the end of 2020; and Phase III (January 2020 to December 2020) for the whole of 2020.

2. Literature Review

According to Fama (1970) efficient market hypothesis, prediction of stock returns should not be possible, this is because the price in the market will reflect all available information. Several financial researchers like Johnson & Tversky (1983) have shown empirical evidence that the stock market is driven by the psychology of investors. An investor when making risky decisions will depend on their mood (Johnson & Tversky, 1983). Keynes, (1936) proposed that the market was influenced by the investor's "animal spirit" which caused prices to deviate from fundamentals. The importance of this spirit is attached to the confidence factor in determining the level of investment, as well as aggregate demand. This idea was formalized by De Long et al. (1990), which theoretically shows that changes in sentiment can lead to trading noise and excessive volatility.

The current COVID-19 pandemic can affect human sentiment or psychology, where the level of "anxiety" about the pandemic which includes human reactions to the media, be it reactions to real or fake information causes excessive panic attacks. This also applies to investors where this outbreak can change sentiment about stock prices, as evidenced by the decline in stock values in several countries (Naseem et al., 2021).

Several studies have shown evidence of dynamics in the stock market caused by the COVID-19. Ashraf (2020) in his research shows that stock market returns have a negative relationship to the number of confirmed cases. Stock market returns are driven by the number of confirmed cases compared to the number of deaths. The market reaction is more volatile when there is an increase in confirmed cases and during the first 40-60 days of the COVID-19 pandemic. Liu et al., (2020) pointed out that stock markets in major COVID-19-affected countries experienced rapid decline following the virus outbreak. Countries in the Asian region experience more negative abnormal returns than other countries.

The use of computers and intelligence in processing data from sources derived from information such as social media and news has increased in recent years and has become a viable trading strategy to use .The earlier studies conducted by Smales (2014) which aims to determine the market reaction of stocks to stock-specific news shows that the number of available news items reveals different responses to market activity, volatility, bid-ask spreads, and return; The relevance of news items is very important when identifying significant effects; and reactions to volatility, market activity, and spreads are most affected by negative news. von Beschwitz et al. (2018) adds that the news release algorithm by computer can speed up the response of trading volume and stock prices. News analysis using computer algorithms can increase market efficiency because temporary price distortions due to inaccurate news analysis can be corrected quickly. Broadstock & Zhang (2019) examines the sentiment obtained from social media (Twitter), whether it can move stock returns or not. Stock price changes are vulnerable to social media sentiment factors. This change was driven by the company and the financial market sentiment. In explaining the impact of public news sentiment on stock return volatility at the company level, Shi & Ho (2020) used the RavenPack Dow Jones News Analytics database in compiling news variables, where the results of the study indicate that macroeconomic sentiment and company-specific news affect the volatility of intraday stock returns.

Some literature shows a link between stock returns and news related to the COVID-19. Salisu & Vo (2020) evaluates the relevance of health news trends in predicting stock returns in the 20 countries worst hit by COVID-19. Health news trends are derived from Google Trends search volume data. The results show that "health news" has a significant and negative effect on stock returns, which means that stock returns will decrease when the volume of searches for health issues since the COVID-19 outbreak has increased. Cepoi (2020) investigates the impact that news related to COVID-19 has had on stock market returns. Data for news comes from RavenPack and gold prices as a benchmark for global general factors. The results show that fake news, media coverage, and contagion have negative effect on stock market returns. Meanwhile, Haroon & Rizvi (2020) show that panic-laden news can increase volatility in the stock market and industries affected by the pandemic. However, sentiment index and media coverage have a small to moderate effect on volatility in the stock market.

This study uses six news variables related to COVID-19 obtained from the RavenPack Coronavirus Media Monitor, including the Panic Index, Media Hype Index, Fake News Index, Country Sentiment Index and Media Coverage Index.

Return

According to Bringham & Houston (2001), *return* is *"measure the financial performance of an investmen."*. The return is very sensitive to domestic political turmoil, economic crises, natural disasters such as earthquakes, hurricanes, floods, international oil prices, the influence of inflation, changes in policies, norms, government regulations and so on (Narayan, 2016).

There is a formula for calculating stock index returns. The following is the formula for calculating the percentage change in price during the one-day *holding period* (Ross et al., 2008):

$$Ri = \frac{Pt - P(t-1)}{P(t-1)}$$

Description:
Ri_i : Stock returns (*return*)
P_t : market index value on day t
P_{t-1} : market index value on previous day t

RavenPack Coronavirus Media Monitor

RavenPack Coronavirus Media Monitor is a summary of the emotions (sentiments) of news articles and public posts that are processed into simpler indicators. Custom indexes were created by RavenPack data experts to provide users with additional insightful information and early warning about news changes around the COVID-19 virus. (RavenPack, 2020).

First, the panic index. This index calculates the chatter rate of news that references COVID-19- related panic or hysteria. The index ranges between 0 and 100, where the higher the score on the index, the higher the number of references related to panic found in the media.

Second, media hype index. The media hype index quantifies the percentage of the latest news that talks about the COVID-19 virus. An index is in the range 0 and 100. The value indicates the percentage of all news stories that talk about COVID-19.

Third, the Fake news index. The fake news index calculates the chatter rate in the media about the COVID-19 virus whose references lead to fake news or false information related to COVID-19. The index ranges between 0 and 100 where the result is the percentage of all stories that convey fake news and COVID-19.

Fourth, country sentiment index. The sentiment index aims to measure the level of sentiment that exists across all entities mentioned in the news together with the COVID-19 virus. The index ranges between -100 and 100. A

negative value leads to a negative sentiment while a positive value leads to positive sentiment. Zero value means neutral.

Fifth, infodemic index, Infodemic index quantifies the percentage of all related entities such as places, companies, organizations, etc that are associated and reported in the media together with the COVID-19 virus. The index ranges between 0 and 100, which means the number of percentages of all news that is co-mentioned with COVID-19.

And Sixth, media coverage index. The media coverage index calculates the percentage of all news sources providing information on the topic of the COVID-19 virus. The index ranges between 0 and 100 where the result is a percentage of the total number of available news samples covering stories about COVID-19.

3. Research Method

This research is quantitative. The data used by secondary data. The stock market return is the dependent variable consisting of daily stock market return in Indonesia (*IDX)*, Malaysia *(KLCI)*, Philippines *(PSEi)*, Singapore *(SGX)*, and Thailand *(SET).* News related to COVID-19 as an independent variable, consisting of the Panic Index, Media Hype Index, Fake News Index, Country Sentiment Index and Media Coverage Index were obtained from RavenPack Coronavirus Media Monitor. Panel data is used to cover 5 working days of the stock exchange during 2020. The entire period of study is divided into three phases: Phase I, January 2020 to March 2020; Phase II, April 2020 to December 2020; and Phase III, January 2020 to December 2020.

Due to excessive stock market volatility during the financial turmoil caused by COVID-19, quantile regression was used to process data. This is because quantile regression is very useful if the data is not homogeneous where the Y variance will change with changes in X and when the data is not symmetrical, there is a tail in the distribution or a truncated distribution (Koenker, 2005). The use of the quantile regression method makes it possible to understand the relationship between variables outside the mean. Quantile regression can handle data that is not symmetrical, there are tails in the distribution or the distribution is truncated.

In this study, data processing will be assisted by the IBM SPSS Statistics 26.0 program, with the probability value used is = 0.05 (5%).

At this stage, a statistical model will be compiled for the data: Stock Market Return (Y), Panic Index (X1), Media Hype Index (X2), Fake News Index (X3), Country Sentiment Index (X4), Infodemic Index (X5), and Media Coverage Index (X6) into a Quantile Regression Model, with the following equation:

$$Q_r(Y|X) = \beta_0(\tau) + \beta_1(\tau)X_1 + \beta_2(\tau)X_2 + \beta_3(\tau)X_3 + \beta_4(\tau)X_4 + \beta_5(\tau)X_5 + \beta_6(\tau)X_6$$

Where:
$Q_r(Y|X)$: The-τ^{th} quantile function of the variable Y with the condition X
τ : Index quantile with $\tau \in (0,1)$
$\beta_i(\tau)$: The-i regression coefficient on the-τ^{th} quantile, with i = 0,1,2,3

4. Result

Appendix A, B, and C present empirical results of quantile regression which are divided into three research periods, consisting of p-value coefficients and t-test. According to the estimation results of quantile regression analysis on the 5th, 10th, 15th, 20th, 25th, 30th, 35th, 40th, 45th, 50th, 55th, 60th, 65th, 70th, 75th, 80th, 85th, 90th, and 95th quantiles.

Phase I: January 2020 to March 2020

In Appendix A it can be seen that the results of the quantile regression test show that of the six variables, four variables have a significant effect on stock market returns in five ASEAN countries, namely, Indonesia, Malaysia,

Singapore, Philippines, and Thailand in the study period January 2020 to March 2020. Media hype index, fake news index, country sentiment index, and infodemic index gained a significance value less than 0.05.

The media hype index has a positive effect on stock market returns in the 80th and 85th quantiles. Meanwhile, in the 10th quantile, the media hype index has a negative effect on stock market returns. When stock market returns are falling, the media hype index will rise and vice versa (10th quantile). This condition can occur when the stock market is in a condition of experiencing an extreme downward trend in stock values throughout the world from January to the end of March 2020. Meanwhile, when the stock market is in an uptrend or bullish condition (80th and 85th quantiles), the media hype index will increase in line with the increase in stock market returns.

The fake news index has a positive effect on the 15th, 25th, 30th, 40th, 45th, 65th, 80th and 85th quantiles. Stock market returns were driven by fake news during January 2020 to March 2020 and occurred in almost all market conditions.

The significant and negative relationship between the country sentiment index and stock market returns occurred in the upper quantiles (75th, 80th, and 85th quantiles). This indicates that the higher the sentiment associated with the COVID-19 news, the lower the expected stock market returns.

Infodemic index is affecting stock market return at the time of extreme bullish market (95th quantile). The higher the number of news about entities reported by the media mentioned together with COVID-19, the higher the stock market returns in the five ASEAN countries.

Phase II: April 2020 to December 2020

In the recovery period after the 2020 Stock Market Crash which began in early April 2020 until the end of 2020, it can be seen from Appendix B, the results of the quantile regression test show that of the six variables, three variables have a significant effect on stock market returns in five ASEAN countries. The Panic Index, Fake News Index, and Country Sentiment Index have a significance value of less than 0.05.

The level of news that refers to the COVID-19 panic has a significant and positive effect on stock market returns in the five ASEAN countries. The higher the panic index value, the higher the stock market returns in the five ASEAN countries. In particular, the panic index has a positive effect on the upper quantiles, namely the 80th, 85th, and 95th quantiles. The effect of the panic index on stock market returns occurs when the stock market is in an uptrend or strengthening (bullish condition).

The fake news index has a significant and positive effect on the upper quantile (95th quantile). This shows that the higher the level of media chatter about COVID-19 that refers to misinformation or fake news, the higher the stock market returns.

The negative relationship between the country sentiment index and stock market returns only occurred in the 75th quantile. When the value of the country sentiment index increases, the stock market returns will decrease by the coefficient value (Appendix B).

Phase III: January 2020 to December 2020

It can be seen from Appendix C, the results of the quantile regression test of six variables, four news variables related to COVID-19 affect stock market returns in the five ASEAN countries in the research period January 2020 to December 2020. The Panic Index, Fake News Index, Country Sentiment Index and Infodemic Index have a significance value of less than 0.05.

The panic index negatively affects stock market returns during bearish markets (5th, 10th, 15th, and 20th quantiles) and positively affects stock market returns during bullish markets (85th, and 95th quantiles). The panic index will increase when stock market returns decline. This condition occurs when the market is in a bearish condition (5th,

10th, 15th, and 20th quantiles). Meanwhile, when the stock market is in bullish condition (85th, and 95th quantiles), the panic index will increase in line with the increase in stock market returns.

The fake news index has a significant and positive effect on the 90th and 95th quantiles. The fake news index will increase along with the increase in stock market returns when the market is experiencing extreme bearish conditions (90th and 95th quantiles).

The country sentiment index has a positive impact from the lower quantile (10th and 15th quantile). While the negative impact occurred in the upper quantile (the 70th and 75th quantiles). The market reacts positively when it is in a bearish condition. The increase in the country sentiment index will be in line with stock market returns. On the other hand, when the market is in a bullish condition, the increase in the country sentiment index will not be in line with or against stock market returns.

The Infodemic index does not affect stock market returns when the market is in a bearish or bullish condition and seems to positively influence stock dynamics during a period that leads to a decline (around the 40th quantile).

5. Discussion

The test results in this study indicate that the effect of the panic index on stock market returns in the five ASEAN countries occurs in 2 phases of the research period, namely Phase II (April 2020 to December 2020) and Phase III (January 2020 to December 2020). Haroon & Rizvi (2020), also revealed in their research results that the panic-laden news generated by the media was related to increased volatility in financial markets around the world during the COVID-19 outbreak, especially for the industries that are most vulnerable due to events that occurred during the pandemic.

The media hype index affected stock market returns during Phase I (January 2020 to March 2020), when the trend of short-lived upbeat in stock markets around the world occurred, followed by a decline towards the end of February and March. The results of testing with quantile regression in this study are in line with the results of research conducted by Zaremba et al. (2020), which revealed in their research results that the action applied chronologically especially at the beginning of information dissemination and restrictions on public activities were the main contributors to the growth in volatility when the COVID-19 outbreak occurred.

The fake news index affects stock market returns in the three research periods. During Phase I (January 2020 to March 2020) fake news contributed positively to almost all market conditions. Several previous studies have stated that fake news has implications for stock trading, and shows that there is an increasing importance of fake news on financial markets and its implications for stock trading (Allcott & Gentzkow, 2017; Zhang & Ghorbani, 2020). The results of research conducted by Cepoi (2020), also illustrate how the fake news index affects stock market returns in several global stock markets during the global COVID-19 event. The results of his research show that the stock market presents an asymmetric dependence with information related to COVID-19, one of which is fake news.

Another variable that influences stock market returns is Country Sentiment. Country sentiment variable affects stock market return in the three research periods. The country sentiment index has a negative effect on stock market returns in the upper quintiles. Except for the research period January 2020 to December 2020, the country sentiment index has a positive impact on the lower quantile. This fact can be proven from a previous study conducted by Chundakkadan & Nedumparambil (2021), which found evidence that attention to the COVID-19 virus created a general negative sentiment among market participants and resulted in pressure on the stock market. The effect became even higher when WHO (World Health Organization) declared COVID-19 as a global pandemic. Chundakkadan & Nedumparambil (2021) also found that sentiment over the COVID-19 pandemic resulted in excessive volatility in the market.

The infodemic index has a positive impact on the middle to upper quantiles. These impacts occurred in Phase I (January 2020 to March 2020) and Phase II (January 2020 to December 2020). The test results in this study are in

line with the results of research conducted by Liu et al. (2020), where research results show that stock markets in the main affected countries and regions fell rapidly after the virus outbreak occurred. Countries in Asia experienced more negative abnormal returns than other countries. The adverse effect of confirmed cases of COVID-19 on stock index abnormal returns added to investor pessimism.

The test results in this study indicate that there is no significant effect between the media coverage index on stock market returns in ASEAN-5 countries. The media coverage index which is a percentage of total news with topics related to COVID-19 does not affect stock market returns in all quantile areas and throughout the study period. Research conducted by Haroon & Rizvi (2020), found that media coverage has a relationship with price volatility, but the relationship is small. Wu & Lin (2017) state that the attitude of investors is not only influenced by how much quantity of the news, but also how good the quality of the available news is. Different types of investors have their response to the style or pattern of each media coverage. In addition, one of the determinants of decision making is the calculation of the influence on the company's risk, and the characteristics of investors' also the personal information which cannot be observed directly.

6. Conclusion

The results of this study indicate that the effect of each variable is different depending on the period of the study. In Phase I (January 2020 to March 2020), news variables that affect stock market returns in the five ASEAN countries are the media hype index, fake news index, country sentiment index, and infodemic index. For Phase II (April 2020 to December 2020), news variables that affect stock market returns in the five ASEAN countries are panic index, fake news index and country sentiment index. Meanwhile, for the research period Phase II (January 2020 to December 2020), news variables that affect stock market returns in five ASEAN countries are panic index, fake news index, infodemic index, as well as country sentiment.

The independent variables that affect stock market returns are different from previous studies. After researching for different periods, the influencing variables also differ as the time of the research changes. Research objects such as different countries, entities, and industries allow producing different research results.

Suggestions that can be given by researchers include avoiding panic over COVID-19 so as not to take the wrong steps when making decisions on selling shares that will have an impact on losses. Be more careful in using information through the media related to COVID-19 to reduce financial turmoil.

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Appendix A Quantile Regression Result for Phase I – January to March 2020

	q=0,05	q=0,1	q=0,15	q=0,2	q=0,25	q=0,3	q=0,35	q=0,4	q=0,45	q=0,5	q=0,55	q=0,6	q=0,65	q=0,7	q=0,75	q=0,8	q=0,85	q=0,9	q=0,95
(Intercept)																			
Coefficient	-0,0123	-0,0063	-0,0038	-0,0018	-0,0018	-0,0009	-0,0011	-0,0016	-0,0014	-0,0015	-0,0013	-0,0013	-0,0003	-0,0001	0,0006	0,0020	0,0022	0,0072	0,0065
t	-0,8423	-0,5684	-0,3614	-0,2213	-0,2720	-0,1504	-0,2113	-0,3579	-0,3579	-0,3993	-0,3694	-0,3556	-0,0801	-0,0324	0,1379	0,4588	0,4168	0,5945	0,5937
Sig.	0,4004	0,5703	0,7181	0,8250	0,7858	0,8805	0,8328	0,7207	0,7207	0,6900	0,7122	0,7224	0,9362	0,9741	0,8905	0,6468	0,6772	0,5527	0,5533
PI																			
Coefficient	0,0006	-0,0003	-0,0003	0,0000	0,0000	-0,0001	0,0004	0,0004	0,0004	0,0004	0,0003	0,0004	0,0004	0,0002	-0,0001	-0,0003	0,0002	0,0006	0,0017
t	0,5343	-0,3518	-0,4005	0,0590	0,0088	-0,1284	0,9610	1,0862	1,2647	1,3592	1,1993	1,4508	1,2421	0,5360	-0,1874	-0,7300	0,3745	0,6364	1,9649
Sig.	0,5936	0,7253	0,6891	0,9530	0,9930	0,8979	0,3374	0,2784	0,2071	0,1753	0,2315	0,1481	0,2154	0,5925	0,8515	0,4661	0,7083	0,5251	0,0505
HY																			
Coefficient	-0,0015	**-0,0013**	-0,0005	-0,0004	-0,0005	-0,0004	-0,0003	-0,0004	-0,0004	-0,0004	-0,0002	-0,0002	-0,0001	0,0000	0,0002	**0,0005**	**0,0006**	0,0011	0,0007
t	-1,9416	**-2,1630**	-0,9305	-0,9957	-1,2966	-1,2755	-1,0304	-1,8506	-1,8919	-1,8199	-0,9644	-0,8341	-0,5063	0,2055	0,7913	**2,0788**	**1,9855**	1,6439	1,1412
Sig.	0,0533	**0,0315**	0,3530	0,3203	0,1959	0,2033	0,3038	0,0654	0,0597	0,0700	0,3358	0,4050	0,6131	0,8373	0,4295	**0,0387**	**0,0482**	0,1014	0,2549
FNI																			
Coefficient	**0,0059**	**0,0047**	**0,0034**	0,0025	**0,0022**	**0,0020**	0,0016	**0,0015**	**0,0013**	0,0011	0,0008	0,0008	**0,0012**	0,0011	0,0011	**0,0025**	**0,0019**	0,0001	-0,0023
t	**2,5545**	**2,6981**	**2,0718**	1,9661	**2,0990**	**2,1026**	1,9294	**2,1007**	**2,0242**	1,7816	1,4693	1,3269	**2,1494**	1,6471	1,6668	**3,7420**	**2,2509**	0,0316	-1,3153
Sig.	**0,0112**	**0,0074**	**0,0393**	0,0504	**0,0368**	**0,0365**	0,0548	**0,0367**	**0,0440**	0,0760	0,1430	0,1858	**0,0326**	0,1008	0,0968	**0,0002**	**0,0253**	0,9748	0,1896
CSI																			
Coefficient	-0,0001	-0,0005	-0,0003	-0,0001	0,0000	-0,0001	0,0000	0,0000	0,0000	0,0000	0,0000	-0,0001	-0,0002	-0,0002	**-0,0003**	**-0,0003**	**-0,0003**	-0,0001	-0,0003
t	-0,3122	-1,6186	-1,1053	-0,5412	0,1761	-0,8498	0,0209	-0,4105	-0,2721	0,0372	-0,3192	-1,0384	-1,5260	-1,7716	**-2,1730**	**-2,5912**	**-1,9800**	-0,3384	-0,9741
Sig.	0,7551	0,1068	0,2701	0,5889	0,8603	0,3963	0,9834	0,6818	0,7858	0,9704	0,7499	0,3001	0,1283	0,0777	**0,0307**	**0,0101**	**0,0488**	0,7353	0,3310
IDI																			
Coefficient	-0,0004	-0,0001	-0,0004	-0,0001	-0,0001	-0,0001	0,0000	0,0000	0,0000	0,0000	0,0000	0,0001	0,0001	0,0001	0,0001	0,0000	0,0000	0,0003	**0,0009**
t	-1,1951	-0,5841	-1,7102	-0,5014	-0,5351	-1,0190	-0,2802	-0,4070	0,0121	0,3637	0,5559	0,6573	0,9271	0,9688	0,8487	0,2299	0,3798	0,9090	**3,5320**
Sig.	0,2332	0,5597	0,0885	0,6165	0,5930	0,3092	0,7796	0,6843	0,9903	0,7164	0,5788	0,5116	0,3548	0,3336	0,3969	0,8183	0,7044	0,3642	**0,0005**
MCI																			
Coefficient	0,0005	0,0003	0,0002	0,0000	0,0001	0,0001	0,0000	0,0002	0,0002	0,0002	0,0001	0,0000	0,0000	-0,0001	-0,0002	-0,0003	-0,0004	-0,0009	-0,0010
t	0,7649	0,6311	0,3723	0,0483	0,4399	0,5361	0,1135	0,8969	0,8914	0,9278	0,3180	0,1385	-0,2735	-0,5356	-0,8391	-1,5950	-1,6353	-1,5253	-1,9303
Sig.	0,4450	0,5286	0,7100	0,9615	0,6604	0,5924	0,9097	0,3706	0,3736	0,3544	0,7507	0,8900	0,7847	0,5927	0,4022	0,1120	0,1032	0,1284	0,0547

Appendix B Appendix A Quantile Regression Result for Phase II – April to December 2020

	q=0,05	q=0,1	q=0,15	q=0,2	q=0,25	q=0,3	q=0,35	q=0,4	q=0,45	q=0,5	q=0,55	q=0,6	q=0,65	q=0,7	q=0,75	q=0,8	q=0,85	q=0,9	q=0,95
(Intercept)																			
Coefficient	0,0033	0,0037	0,0006	-0,0002	0,0002	-0,0018	-0,0038	-0,0055	-0,0038	-0,0051	-0,0051	-0,0041	-0,0029	-0,0039	-0,0035	0,0023	0,0068	0,0057	0,0091
t	0,5015	0,6955	0,1426	-0,0583	0,0564	-0,5622	-1,2934	-1,8143	-1,3027	-1,7214	-1,6370	-1,3081	-0,8826	-1,1072	-0,9832	0,5816	1,5389	0,9910	1,3295
Sig.	0,6161	0,4870	0,8866	0,9535	0,9551	0,5741	0,1962	0,0700	0,1930	0,0855	0,1020	0,1912	0,3777	0,2685	0,3258	0,5610	0,1242	0,3220	0,1840
PI																			
Coefficient	0,0000	-0,0001	0,0001	0,0000	0,0000	0,0000	-0,0001	-0,0002	-0,0001	-0,0001	0,0000	-0,0001	0,0000	0,0000	0,0002	**0,0003**	**0,0004**	0,0003	**0,0007**
t	0,0410	-0,5039	0,5805	0,1584	0,0121	0,1617	-0,5201	-1,3596	-1,0291	-0,4639	-0,2687	-0,7103	-0,4031	0,1967	1,8062	**2,3984**	**2,4168**	1,5059	**2,6656**
Sig.	0,9673	0,6145	0,5617	0,8742	0,9904	0,8716	0,6031	0,1743	0,3037	0,6428	0,7882	0,4777	0,6869	0,8441	0,0712	**0,0167**	**0,0159**	0,1324	**0,0078**
HY																			
Coefficient	0,0000	-0,0001	0,0000	-0,0001	0,0000	0,0000	0,0000	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0000	-0,0001	0,0001	0,0002	0,0003
t	-0,0635	-0,6201	-0,0974	-0,7066	-0,1530	0,2743	0,5733	1,2406	1,5627	1,4308	1,1968	1,0409	1,1972	0,9878	0,1493	-0,5547	0,5317	1,4276	1,8484
Sig.	0,9494	0,5353	0,9224	0,4800	0,8784	0,7839	0,5666	0,2151	0,1185	0,1528	0,2317	0,2982	0,2315	0,3235	0,8814	0,5792	0,5951	0,1538	0,0649
FNI																			
Coefficient	-0,0003	-0,0002	-0,0001	0,0000	0,0000	-0,0001	-0,0002	-0,0003	-0,0001	-0,0002	-0,0002	0,0000	0,0000	0,0000	0,0000	0,0003	0,0005	0,0004	**0,0021**
t	-0,8423	-0,5845	-0,5765	-0,2060	-0,1644	0,5339	0,9412	1,4796	0,7518	1,3144	-1,0374	0,1017	-0,1536	0,0918	-0,2132	1,4193	1,8484	1,3550	**5,4039**
Sig.	0,3998	0,5590	0,5644	0,8368	0,8694	0,5936	0,3468	0,1393	0,4524	0,1891	0,2998	0,9190	0,8780	0,9269	0,8312	0,1561	0,0649	0,1758	**0,0000**
CSI																			
Coefficient	0,0000	0,0001	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	-0,0001	-0,0001	**-0,0001**	0,0000	0,0000	0,0000	0,0000
t	0,4301	0,8840	0,2521	0,3654	-0,3139	-0,1721	-1,0967	-0,7261	-0,6358	-0,8674	-0,6732	-0,6939	-1,5681	-1,6882	**-2,0817**	-0,8766	-0,9579	0,0358	-0,5525
Sig.	0,6672	0,3769	0,8010	0,7149	0,7536	0,8634	0,2731	0,4680	0,5250	0,3860	0,5010	0,4879	0,1172	0,0917	**0,0377**	0,3809	0,3384	0,9714	0,5808
IDI																			
Coefficient	-0,0001	-0,0001	-0,0001	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0001	0,0001	0,0000	0,0000	0,0001	0,0001	0,0001	0,0000	0,0000	0,0000
t	-1,1455	-1,1395	-0,8070	0,0177	-0,0223	0,2296	0,7479	0,6729	0,6871	1,2615	1,2928	1,0385	0,6740	1,0372	1,0612	1,3935	0,6290	0,5627	0,3747
Sig.	0,2523	0,2548	0,4199	0,9858	0,9822	0,8184	0,4547	0,5012	0,4922	0,2075	0,1964	0,2993	0,5005	0,2999	0,2889	0,1638	0,5295	0,5738	0,7080
MCI																			
Coefficient	-0,0002	-0,0001	-0,0001	-0,0001	-0,0001	-0,0001	-0,0001	0,0000	-0,0001	0,0000	0,0000	0,0000	0,0000	0,0000	0,0001	0,0001	0,0000	-0,0001	-0,0002
t	-1,2671	-0,6473	-1,0289	-0,5151	-1,0499	0,9175	0,7901	0,5187	0,9788	-0,6511	-0,2635	0,0445	0,0120	0,2841	1,0125	0,7188	-0,3566	-0,6808	-1,2683
Sig.	0,2054	0,5176	0,3038	0,6066	0,2941	0,3591	0,4297	0,6041	0,3279	0,5151	0,7922	0,9645	0,9904	0,7764	0,3116	0,4725	0,7215	0,4962	0,2050

Appendix C Appendix A Quantile Regression Result for Phase III – January to December 2020

	q=0,05	q=0,1	q=0,15	q=0,2	q=0,25	q=0,3	q=0,35	q=0,4	q=0,45	q=0,5	q=0,55	q=0,6	q=0,65	q=0,7	q=0,75	q=0,8	q=0,85	q=0,9	q=0,95
(Intercept)																			
Coefficient	-0,0090	-0,0043	-0,0028	-0,0023	-0,0024	-0,0025	-0,0026	-0,0032	-0,0022	-0,0021	-0,0026	-0,0016	-0,0012	-0,0013	-0,0013	-0,0001	0,0005	0,0033	0,0066
t	-0,9828	-0,9688	-0,8586	-0,7921	-0,9529	-1,0779	-1,2001	-1,5542	-1,0794	-1,0703	-1,2456	-0,7294	-0,5342	-0,5545	-0,5296	-0,0437	0,1484	0,7719	1,0638
Sig.	0,3259	0,3329	0,3907	0,4285	0,3409	0,2813	0,2304	0,1204	0,2806	0,2847	0,2132	0,4659	0,5933	0,5794	0,5965	0,9651	0,8820	0,4403	0,2876
PI																			
Coefficient	**-0,0022**	**-0,0007**	**-0,0007**	**-0,0005**	0,0002	0,0002	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0000	0,0001	0,0001	0,0002	**0,0004**	0,0004	**0,0013**
t	**-5,0787**	**-3,3267**	**-4,9268**	**-3,8079**	1,7410	1,8623	1,4434	1,1131	1,0073	1,3262	0,6751	0,6142	0,0228	0,6896	1,0388	1,3553	**2,8314**	1,9246	**4,3998**
Sig.	**0,0000**	**0,0009**	**0,0000**	**0,0001**	0,0819	0,0628	0,1492	0,2659	0,3140	0,1850	0,4998	0,5392	0,9818	0,4906	0,2991	0,1756	**0,0047**	0,0545	**0,0000**
HY																			
Coefficient	0,0000	0,0001	0,0001	0,0000	0,0000	0,0001	0,0001	0,0000	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0001	0,0000	0,0001	0,0002	0,0001
t	0,1519	0,3765	0,6658	0,2370	0,1918	0,6328	1,1002	0,6758	1,2432	0,8302	1,1925	0,8300	1,5235	1,3813	0,7943	0,2514	1,1873	1,4262	0,6628
Sig.	0,8793	0,7066	0,5056	0,8127	0,8479	0,5270	0,2715	0,4993	0,2140	0,4066	0,2333	0,4067	0,1279	0,1674	0,4272	0,8015	0,2353	0,1541	0,5076
FNI																			
Coefficient	0,0002	0,0001	-0,0001	-0,0002	-0,0001	-0,0001	-0,0001	-0,0002	-0,0001	0,0001	0,0002	0,0002	0,0001	0,0001	0,0001	0,0004	0,0005	**0,0015**	**0,0015**
t	0,2525	0,2873	-0,4143	-0,6955	-0,2571	-0,6246	-0,5398	-1,1243	-0,5492	0,4857	1,2775	1,3832	0,7321	0,6242	0,3066	1,6507	1,7548	**4,4001**	**3,0344**
Sig.	0,8007	0,7740	0,6787	0,4869	0,7971	0,5323	0,5895	0,2611	0,5830	0,6273	0,2017	0,1669	0,4643	0,5326	0,7592	0,0991	0,0796	**0,0000**	**0,0025**
CSI																			
Coefficient	0,0001	**0,0002**	**0,0001**	0,0001	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	-0,0001	**-0,0001**	**-0,0001**	-0,0001	0,0000	-0,0001	-0,0001
t	1,0645	**2,4778**	**2,1477**	1,2367	0,9682	0,2689	0,5200	0,2019	-0,5260	-0,5181	-0,5374	-0,6092	-1,6476	**-2,3051**	**-2,6331**	-1,6320	-0,9497	-1,6173	-1,1283
Sig.	0,2873	**0,0134**	**0,0319**	0,2165	0,3332	0,7881	0,6032	0,8400	0,5990	0,6045	0,5911	0,5425	0,0997	**0,0213**	**0,0086**	0,1029	0,3425	0,1061	0,2594
IDI																			
Coefficient	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0001	**0,0001**	0,0001	0,0000	0,0000	0,0001	0,0000	0,0000	0,0001	0,0001	0,0001	0,0000	0,0001
t	0,2221	-0,0978	-0,3047	0,6256	0,7658	0,5970	1,6141	**2,5442**	1,3555	1,2732	1,1638	1,3731	0,7645	0,9669	1,4404	1,4677	1,0601	0,4644	0,8593
Sig.	0,8243	0,9221	0,7607	0,5317	0,4440	0,5506	0,1068	**0,0111**	0,1755	0,2032	0,2448	0,1700	0,4447	0,3338	0,1500	0,1425	0,2893	0,6425	0,3903
MCI																			
Coefficient	-0,0001	-0,0002	-0,0001	-0,0001	-0,0001	-0,0001	-0,0001	-0,0001	-0,0001	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	-0,0001	-0,0001
t	-0,4394	-1,0463	-1,0942	-1,1218	-1,1663	-1,1682	-1,7853	-1,4009	-1,3144	-0,6150	-0,5628	-0,3368	-0,5052	-0,2681	0,1178	0,3974	-0,2542	-0,4785	-0,4253
Sig.	0,6605	0,2956	0,2741	0,2622	0,2437	0,2430	0,0745	0,1615	0,1890	0,5387	0,5737	0,7363	0,6135	0,7886	0,9062	0,6911	0,7994	0,6324	0,6707

The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 51-69
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.413

An Empirical Survey of the Relationship between Transformational Leadership and Staff Retention in the Context of Microfinance Institutions in Kenya

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Abstract
Retention of the desired staff is a key determinant of success in microfinance institutions in the modern competitive world. Notably, these institutions experience poor staff retention due to inappropriate leadership. Investigations on the effect of transformational leadership on staff retention have largely considered transformational leadership as a unidimensional construct than its respective dimensions of idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. This study therefore investigated the effect of transformational leadership on staff retention in microfinance institutions in Nairobi City County, Kenya, specifically the effect of idealized influence, inspirational motivation, intellectual stimulation and individual consideration on staff retention. The underpinning theories were Transformational Leadership Theory, Leader-Member Exchange Theory, Social Exchange Theory, and Resource-Based View Theory. The study was guided by the positivism philosophy and descriptive and explanatory research designs. A total of 298 respondents was obtained through census sampling from the 12 accessible microfinance institutions licenced by the Central Bank of Kenya in Nairobi City County. Primary data was collected from senior, middle and lower-level management staff in the headquarters of these institutions, using structured questionnaires. The data were analysed using descriptive and inferential statistics, while hypotheses were tested at 5% significance level using regression analysis. The study established that transformational leadership significantly predicts staff retention through idealized influence, intellectual stimulation and individualized consideration. The study recommends that the policy makers in the microfinance institutions should align transformational leadership practices with the staff retention strategies for the success of these institutions.

Keywords: Transformational Leadership, Idealized Influence, Inspirational Motivation, Intellectual Stimulation, Individualized Consideration, Staff Retention, Microfinance

1. Introduction

Microfinance institutions (MFIs) have been identified as a potential global remedy in alleviating poverty by providing financial services to those who cannot access mainstream banking (Rasel & Win, 2020), as well as

fighting feminization of poverty (Khan et al., 2020) where more women have been perceived as poor than men. However, the success of these institutions largely depends on their ability to retain their well-trained, qualified and talented staff for the longest period of time (Hasija et al., 2019). Unfortunately, staff retention has remained a major challenge in many institutions, both at the global, regional and national level (Edirisooriya, 2020). There are numerous benefits accruing from increased staff retention including undisrupted running of the organization which would otherwise be disrupted by replacing leaving staff and reduced costs of hiring and training new staff (Wijesiri et al., 2019). This motivates the investigation of the relationship between transformational leadership and staff retention in microfinance institutions in Nairobi, Kenya. Since poor staff retention is often attributed to inappropriate leadership and poor management among others (Kayembe et al., 2021), transformational leadership is presented as a viable solution to enhancing staff retention in MFIs.

Staff retention is defined by Devi (2020) as the process through which leaders inspire staff to continue working in their institutions for the longest period of time, while Vu and Nwachukwu (2020) consider it as a deliberate effort to create a conducive environment where staff is influenced to remain working in their institutions. This implies that leaders should be intentional in creating an environment where their staff feels inspired to remain in their institution. The study adopts intention to stay, staff satisfaction, perceived organizational justice, organizational commitment as well as staff engagement as measures of staff retention as adopted by previous studies (Dahleez et al., 2021).

Transformational leadership has been defined from divergent perspectives: It is an interaction between a leader and a follower that results in their mutual elevation of morality and motivation (Northouse, 2016), the process by which a leader empowers followers to perform better than they thought they are capable of performing (Mwesigwa et al., 2020), and a leadership that transforms a leader's and follower's interests from self-aggrandizing to altruistic interests (Ma et al., 2020). Although past conceptualization of the transformational leadership construct has only focused on its bright side, extant literature exposes its negative side such as causing employees' burnout and stress by influencing them to work for too high targets (Odumeru & Ifeanyi, 2013). This study enhances the conceptual framework to emphasize the need to uphold behavioural integrity in response to the negative side criticism. Unlike the school of thought that adopts transformational leadership as a unidimensional construct (Abouraia & Othman, 2017), this study investigates the role of each of the four dimensions of transformational leadership namely idealized influence, inspirational motivation, intellectual stimulation and individualized consideration in order to resolve its conceptualization ambiguity identified by Odumeru and Ifeanyi (2013).

Idealized influence is seen as the process by which a leader creates an emotional connection with their followers in a manner that the followers admire the leader and are aligned with both the leader's and organization's goals and values (Okoli et al., 2021). This dimension is further conceptualized into two sub-dimensions, namely idealized influence attributed which focuses on how followers perceive their leader's abilities, and idealized influence behaviour which considers the leader's actual behaviour that makes them role-model to the followers (Brown et al., 2017). It follows that how followers perceive their leaders is as important as how the leaders really are, in influencing their followers' desired behaviour.

Inspirational motivation is the process by which a leader inspires and motivates the followers to perform their tasks enthusiastically, perform tasks better, and embrace the organization's vision so that they prioritize others' interests before self-aggrandizing interests (Edirisooriya, 2020). A leader can therefore use inspirational motivation to create follower's loyalty to the organization, which is an antecedent to staff retention.

Intellectual stimulation is the domain through which leaders encourage creative and innovative ways of solving problems, so that the followers question status quo and existing values (Mwesigwa et al., 2020). It therefore encourages followers' viewpoints without criticizing them in public.

Individualized consideration is deployed by leaders in mentoring followers, by focusing on their individual needs and diversity thus enabling them to achieve their goals (Okoli et al., 2021). Such followers are likely to perceive organizational justice due to the individualized attention of their leaders, an aspect regarded in this study as an indicator of staff retention (Gupta & Singh, 2018).

1.1. Statement of the problem

Microfinance institutions have continued to experience poor staff retention at global, regional and national levels due to inappropriate leadership, poor governance practices, low staff engagement and lack of staff loyalty (Odunayo, 2019). Dechawatanapaisal (2018) further observes that globalization has led to increased workforce mobility and consequently the challenge of retaining desired and well trained staff. In Kenya, Gathondu et al. (2018a) noted a turnover rate of 25% to 30% in the context of microfinance institutions, attributing it to low staff commitment. This affects negatively the success of these microfinance institutions, hence slowing down the achievement of Kenya's Vision 2030 (AMFI-K, 2020), and global sustainable development goals (SDGs) (Javeed et al., 2021), particularly poverty reduction. This compounds the need to improve staff retention in the MFIs.

The study addresses two conceptual gaps observed from the previous studies. First, most studies have investigated the undesired aspect of staff turnover, leaving out the desired aspect of staff retention (Gan & Yusof, 2019), yet the two are not equivalent. Nyasunda and Atambo (2020) allude to the fact that there is scarcity of empirical investigation on staff retention in the context of microfinance institutions in Kenya. The second conceptual gap is traced in the conceptualization of transformational leadership construct, where Odumeru and Ifeanyi (2013) notes ambiguity of the roles of each of its four dimensions. Most studies have considered the effect of transformational leadership as a unidimensional construct, leaving out the effect of the individual dimensions of idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Afshari, 2021). This study investigates the effect of each of the four dimensions on staff retention in addition to the unidimensional construct of transformational leadership.

There exists a contextual gap that has not been exhaustively investigated. With regard to this gap, Gathondu et al. (2018b) remarks that empirical studies that relate transformational leadership and staff retention in microfinance institutions are scanty. Most studies conducted in this sector are theoretical, lacking empirical support (Nuo & Hee, 2020). There is, thus, a dire need to fill the outlined knowledge, conceptual and contextual gaps in order to enhance more staff retention in the microfinance institutions sector.

2. Literature Review

2.1. Theoretical Review

This study was underpinned by four theories namely Transformational Leadership Theory (TLT), Leader-Member Exchange (LMX) Theory, Social Exchange Theory (SET), and Resource-Based View (RBV) Theory.

2.1.1. Transformational Leadership Theory

Transformational Leadership Theory was coined by James Burns in 1978 where it was used in political context by leaders to influence their followers, and later extended to organizational context by Bernard Bass in 1985 (Lussier & Achua, 2010). The theory states that a leader has the ability to influence his followers to achieve more than what they earlier imagined possible, by changing their attitudes, values, and beliefs (Mwesigwa et al., 2020). This is achieved through the four dimensions of transformational leadership, that is idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass & Riggio, 2006). Idealized influence has two sub-dimensions of idealized influence behaviour and idealized influence attributed and makes leaders to be admired and respected by their followers. Inspirational motivation enables a leader to optimistically and enthusiastically share their envisioned future. Intellectual stimulation enables the followers to solve problems in innovative and creative ways, by questioning their long-held status quo. Through individual consideration, a leader acts as a coach and mentor, recognizes the diverse needs of the followers, and creates a conducive environment for the followers to thrive.

Critiques of this theory aver that it is partisan in that it only emphasises the positive organizational outcomes and not its negative outcomes such as stress and burnout of the followers (Odumeru & Ifeanyi, 2013). Berkovich

(2016) identifies conceptual weaknesses in the theory, arguing that it leads to a logical deductive loop by defining transformational leadership as effective yet it is prone to followers' judgement through its idealized influence attributed dimension. Further, the theory does not clearly explain how the four dimensions play their roles. Additionally, the theory is not empirically distinctive since it is often used together with other forms of leadership such as participative leadership (Berkovich, 2016).

Edirisooriya (2020) used the Transformational Leadership Theory to establish the effect of transformational leadership on retention of talent in the ICT industry in Sri Lanka, noting that all its four dimensions had positive significance on talent retention in the industry. In Uganda, Mugizi et al. (2019) used the theory to examine the relationship between leadership style and teachers' retention, noting a positive significant correlation between the two variables which implies that a transformational leader can achieve the desired organizational outcomes such as staff retention. Locally, the theory was used by Okoth (2018) to establish how transformational practices were implemented in the curriculum in Siaya County in Kenya. The study revealed that head teachers used idealized influence to empower teachers to work for the general good of the school, inspirational motivation to build trust that teachers have the ability to handle challenges, intellectual stimulation to make right decisions, and individualized consideration to motivate both students and teachers to work hard in school.

Transformational Leadership Theory was used in this study because it empirically relates to desired outcomes such as work-related attitudes (Walumbwa et al., 2008). Emphasis was laid on the four I's of the Transformational Leadership Theory, namely idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. These sub-constructs were used to guide the study on the effect of transformational leadership on staff retention in microfinance institutions.

2.1.2. Leader-Member Exchange Theory

The leader-member exchange (LMX) Theory explains the nature of the relationship that develops with time between the leader and each follower (Yukl, 2010). The main proponents of this theory are Graen and Cashman in 1975 who opined that such relationships depend on compatibility and dependability of the parties, and Dansereau, Graen, and Haga in 1975 who added personality factors to the relationship (Yukl, 2010). Walumbwa et al. (2005) argue that the LMX relationship results from personal understanding between the leader and the follower, such that the employees respect the leaders.

The theory was used by Nandedkar and Brown (2017) to investigate the relationship between organizational citizenship behaviour and employees' turnover. The results showed that employees who possessed high LMX with their supervisors felt valued and got satisfied to the extent that they were more inclined to remain in their organization. On the other hand, employees who possessed a low LMX with their supervisors felt less valued and were more inclined to quit the organization. Kanake and Kemboi (2020) used the theory to carry out a study investigating the relationship between employee empowerment and innovative work behaviour. The study revealed that the kind of exchange between the leaders and staff is positively moderated by the nature of the relationship between them.

The current study used LMX Theory to establish the kind of relationship that transformational leaders form with their staff in such a way that the staff trust and respect them. Once the leaders have won such trust, they can then use the four dimensions of transformational leadership to influence the staff to achieve higher performance than they would ordinarily achieve.

2.1.3. Social Exchange Theory

The Social Exchange Theory was proposed by Blau in 1964, Homans in 1958, Thibaut and Kelley in 1959, Hollander in 1958 and Jacobs in 1970. The theory avers that followers are obliged to give back according to what they get from their leaders (Pattnaik & Sahoo, 2021). If followers perceive their leaders as supportive and caring, they become more committed to the leadership and organization (Bouraoui et al., 2019). In this manner, the

follower is seen to exchange trust for admirable behaviour by the leader. Followers who are psychologically empowered by their leaders exhibit job satisfaction and commitment (Minai et al., 2020).

The Social Exchange Theory has been criticized on the basis of self-interest, being seen as self-centred than altruistic (Muldoon et al., 2018). Leaders are perceived to be influencing followers for their selfish gain rather than mutual benefits, hence creating dependence of followers on them.

Saira et al. (2021) conducted their study in Pakistan anchoring it on this theory to explore the relationship between transformational leadership and employee outcomes, with psychological empowerment as the mediator. The study established that there was a positive and significant influence of transformational leadership on psychological empowerment. In Nigeria, Liman et al. (2020) underpinned their study on this theory by investigating the moderating effect of job satisfaction on the relationship between multi-level marketing and distributors retention. A study by Nkatha (2017) in microfinance institutions used this theory to investigate the antecedents of employee engagement, noting that employees carry out a cost-benefit analysis to decide whether to remain in a relationship or to leave.

The current study used this theory to support the staff retention variable by explaining how the staff decides to remain in their organization because they perceive certain benefits and psychological empowerment from their leaders. The theory was preferred for explaining how the idealized influence attributed dimension makes the leader be perceived as a role model to the employees.

2.1.4. Resource-Based View (RBV) Theory

Resource-based view (RBV) theory states that the survival of a company is dependent on its tangible and intangible resources (Lu et al., 2021). It has been mostly used in establishing how organizations create and sustain competitive advantage (Gaya & Struwig, 2016). It was authored by Barney (1991) who posited that organizations ought to have value-adding resources. The resources should be imperfectly imitable, so that other organizations do not duplicate them. The theory was enriched by Penrose in 1959 who averred that a firm is an administrative organ that comprises productive resources that have potential services, and Wernerfelt in 1984 and Rumelt in 1984 who proposed the strategy of utilizing the existing resources and developing new ones (Armstrong, 2014). The staff in the MFIs being considered in this study are the resources that should be retained.

The theory has been criticized for lack of clarity on what qualifies to be categorized as resource based view and what does not qualify (Gaya & Struwig, 2016), thus being ambiguous. As observed by Lu et al. (2021), the theory is silent on which tangible and intangible resources should be considered more important for the success of an institution, although most studies have focused on the importance of intangible resources in the modern world of globalization and employees' mobility across organizations (Butt et al., 2020).

Tayal et al. (2021) carried out a study on the effect of transformational leadership on the effectiveness of banks in India, underpinning the study on the RBV theory. The study noted that organizations should combine resources and skills such as leadership to be uniquely competent. Gitahi and K'Obonyo (2018) explored the relationship between organizational resources and performance of firms in Nairobi Stock Exchange, anchoring the study on The Resource-Based View Theory. The study considered both tangible and intangible resources such as financial resources, employees' skills, etcetera. The study concluded that heterogeneity and immobility of resources in organizations contributes to existence of their competitive advantage.

In this study, The Resource-Based View (RBV) Theory was used to explore the importance of staff retention being the dependent variable in the current study. This is in line with the observation by Luna-Arocas et al. (2020) that staff who are committed and talented are a resource for an organization's sustainable competitive advantage. The well trained and experienced staff are regarded in the current study as resources that are rare, inimitable, value-adding, and difficult to substitutable.

2.2. Conceptual and Empirical Review

2.2.1. Transformational Leadership and Staff Retention

Staff do not quit organizations, they quit their leaders (Ronald et al., 2016). This assertion is emphasized by Parveen and Adeinat (2019) who argue that staff may leave due to excessive pressure resulting from unachievable targets set for them by their leaders. However, reviewed literature has showed that there is strong correlation between transformational leadership and staff retention, although there is scarcity of studies investigating the effect of the individual dimensions of transformational leadership on staff retention (Nuo & Hee, 2020). This informs the need to investigate the effect of the four dimensions of transformational leadership namely idealized influence, inspirational motivation, intellectual stimulation and individualized consideration on staff retention.

Judeh and Abou-moghli (2019) investigated the effect of transformational leadership on employees' intent to stay, mediated by self-efficacy in the textile industry context. The study found a positive significant effect of transformational leadership on both the employees' intention to stay and self-efficacy. Self-efficacy was found to partially and significantly mediate this relationship. The study by Almas et al. (2020) on the relationship between transformational leadership and retention of volunteering employees in non-profit organizations in Spain yielded similar results to the study by Judeh and Abou-moghli (2019), revealing a positive significant relationship between the two variables. Satisfaction was found to partially mediate this relationship through organizational commitment and role loyalty. This study exhibited a methodological gap where the response rate was a low of 28%, which was remedied by use of a high response rate of 70.5% in the current study.

In Uganda, Mugizi et al. (2019) explored the effect of transformational leadership on teachers' retention in Bushenyi-Ishaka, revealing a positive significant relationship between the two variables. The current study determined the percentage change in the dependent variable per unit change in the independent variable which lacked in this study. Within the microfinance context, the study by Muriuki and Ombaba (2018) found a positive and significant relationship between transformational leadership and staff performance. The current study extended the investigation to staff retention.

2.2.2. Idealized Influence and Staff Retention

The impact of the respective dimensions of transformational leadership on staff retention has not been sufficiently investigated (Edirisooriya, 2020). Afshari (2021) investigated the effect of idealized influence on organizational commitment, which in the current study was conceptualized as a measure of staff retention. The study was conducted in two different contexts: Iranian context where both idealized influence attributed and idealized influence behavior had significant influence on organizational commitment and Australian context where only idealized influence behavior had significant effect on organizational commitment. This implies that the effect of idealized influence dimension of transformational leadership is context-based. The current study encompassed all the four dimensions of transformational leadership and focused on microfinance context, thus addressing both the conceptual and contextual gaps in this study.

Njiraini et al. (2018) explored the effect of idealized influence and inspirational motivation on job satisfaction in the context of commercial banks in Kenya. The findings revealed a positive and significant effect of both idealized influence and inspirational motivation on employees' job satisfaction. The current study included all the four dimensions of transformational leadership and based the investigation within the microfinance context. A similar study was conducted by Otieno et al. (2019) to explore the effect of idealized influence on staff engagement in Kenyan parastatals. The study revealed a statistically significant effect of idealized influence on staff engagement. The current study considered staff engagement as an indicator of staff retention.

2.2.3. Inspirational Motivation and Staff Retention

An examination of studies investigating the effect of inspirational motivation on organizational outcomes shows that microfinance context has been left out by researchers. For instance, Hasija et al. (2019) explored the relationship between inspirational motivation and staff engagement in the educational context in India, yielding a positive and significant correlation between the two variables. The study was limited only to one measure of staff retention namely staff engagement. The current study extended the scope to include other staff retention measures namely perceived organizational justice, staff satisfaction, organizational commitment and intention to stay. In Uganda, Komakech et al. (2021) investigated the influence of inspirational motivation on performance by public health workers. The findings revealed a positive and significant effect of inspirational motivation on performance, and therefore confirmed the results of the study by Chebon et al. (2019) which investigated the effect of inspirational motivation and idealized influence on employees' performance in a hospital set up.

2.2.4. Intellectual Stimulation and Staff Retention

Hassi (2019) did not find significant relationship between intellectual stimulation and employee commitment, particularly calculative commitment. On the other hand, Thuan, (2020) found a significant relationship between intellectual stimulation and follower creativity. Komakech et al. (2021b) based their study on the health sector and established that there was a significant and positive relationship between intellectual stimulation and employee performance, although Kebede (2019) found the relationship to be moderately positive and significant. Since these studies were confined to only one dimension of transformational leadership, the current study investigated the effect of all the four dimensions on staff retention.

2.2.5. Individualized Consideration and Staff Retention

From a global perspective, Ding and Li (2020) conducted a study whose results showed that individualized consideration has a positive correlation with employee strengths use. In Tanzania, Golyama et al. (2018) focused on the effect of individualized consideration on public sector performance and found it to be positive and significant. The study was replicated in Kenya within SMEs by Ogola et al. (2017) and the results revealed a strong correlation between individualized consideration and employee performance. The current study extended the scope of these studies to include all the four dimensions of transformational leadership and anchored it in the microfinance context, considering staff retention as the desired organizational outcome.

2.3. Conceptual Framework and Hypothesis Formulation

A conceptual framework presents the key concepts being investigated and their proposed interrelationships so as to provide the researcher with a clear roadmap to follow during the investigation (Miles et al., 2014). In the current study, transformational leadership was the independent variable while staff retention was the dependent variable. Deriving from the reviewed literature, the indicators for transformational leadership were idealized influence (II), inspirational motivation (IM), intellectual stimulation (IS), and individualized consideration (IC). Similarly, the key emerging measures of staff retention for this study were intention to stay, staff satisfaction, perceived organizational justice, organizational commitment, and staff engagement. The study was based on the microfinance context. Figure 2.1 shows the directionality of the relationships among the variables.

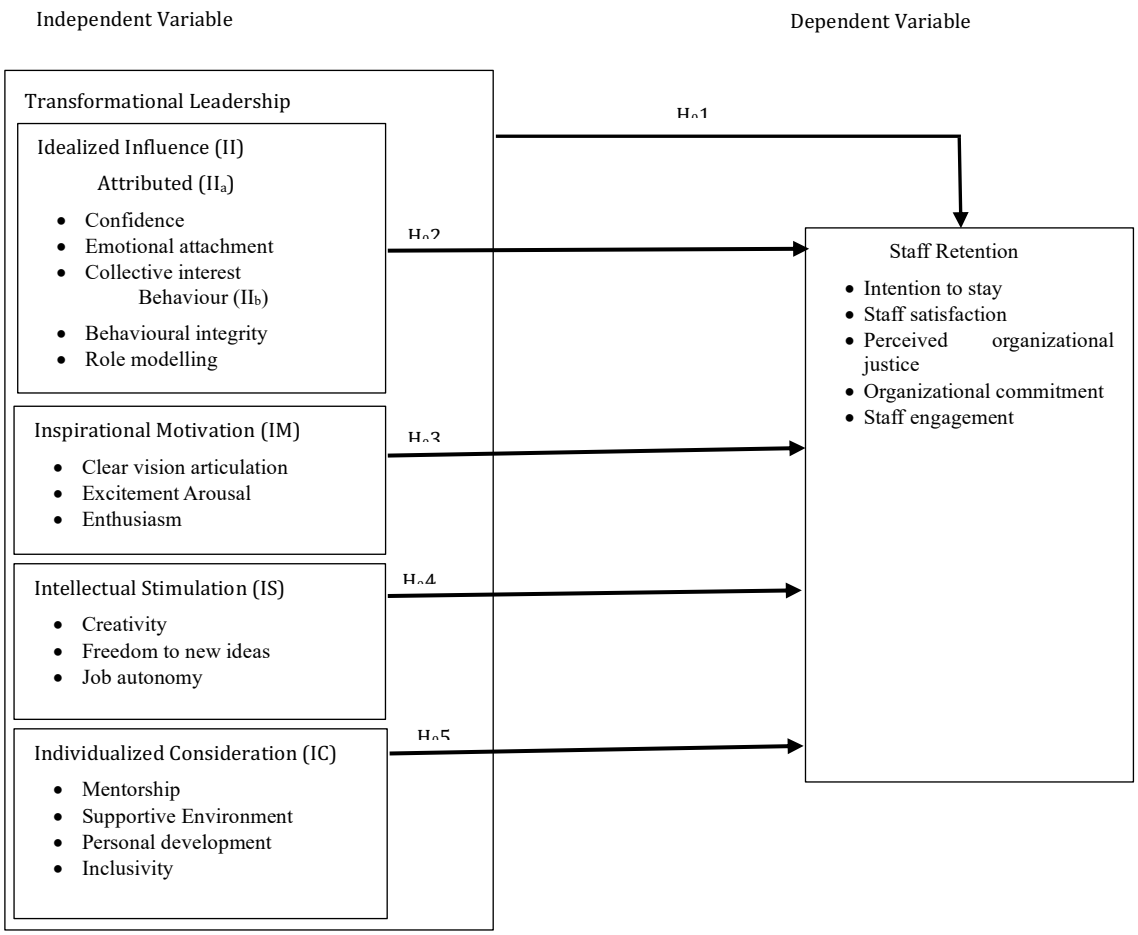

Figure 2.1: Conceptual Framework

The null hypotheses that were used to test the relationship between the study's variables were:

Hypothesis one: *Transformational leadership has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya.*

Hypothesis two: *Idealized influence has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya.*

Hypothesis three: *Inspirational motivation has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya.*

Hypothesis four: *Intellectual stimulation has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya.*

Hypothesis five: *Individualized consideration has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya.*

3. Research Methodology

3.1. Research Philosophy

In the current study, objectivism was opted for since the phenomenon being observed was considered to be external to the researcher. Objectivism is defined as the position adopted by the research in order to explain why an occurrence takes place as it does (Saunders et al., 2007), as is the situation in the current study. In line with Bryman's (2012) opinion of objectivist approach of viewing entities as separate from social actors, the MFIs were viewed as independent social entities from the respondents. The study used quantitative research and deductive

approach, and thus was anchored on the positivism paradigm. Further, positivist approach was preferred so as to generate results that were generalizable to the entire population.

3.2. Research Design

According to Creswell (2012), an explanatory research design is recommended if a study seeks establish the effect of an independent variable on a dependent variable. The current study, therefore, adopted a descriptive and explanatory research design to describe the characteristics of the population being investigated and to explore the effect of transformational leadership on staff retention in microfinance institutions in Nairobi City County, Kenya respectively.

3.3. Target Population

Population refers to all individuals that have similar characteristics (Mugenda & Mugenda, 2019). It is the sum total of all people that the researcher wishes to investigate and make inferences from (Sekaran & Bougie, 2016). There were 12 accessible MFIs licenced by the Central Bank of Kenya within Nairobi City County at the time of this study, which formed the unit of analysis for the study. The unit of observation comprised employees at the senior management level, middle-management level, and the lower level management staff in the head offices of the 12 MFIs. The Census method was used for sampling as recommended by Bryman (2012) for a small population, a similar method used in the study by Sammut et al. (2021) in the investigation of the relationship between distributed leadership and staff satisfaction. Table 3.1 shows the target population

Table 3.1: Target Population

Strata	Total number of staff	Percentage
Senior management staff	26	8.72%
Middle management staff	48	16.11%
Lower-level management staff	224	75.17%
Total	298	100%

Source: Field data

A structured questionnaire was used to collect primary data since it is suitable for a descriptive study in order to obtain objective data (Saunders et al., 2007). The instrument was pretested and piloted before the actual data collection to improve its reliability and validity.

3.4. Data Analysis

Data analysis refers to the analysis of numerical data to enable description of a phenomenon (Teddlie & Tashkkori, 2009), including testing of the hypothesis for the purpose of drawing statistical inferences from the data (Kothari, 2004). In this study, descriptive and inferential statistics were conducted for the data collected. Descriptive statistics are relevant for ensuring replication of a study and interpretation of other statistical data analysis (Whittemore & Melkus, 2008). Measures of central tendency, standard deviation and frequency of distribution were used in this study to interrogate how the scores were distributed. Inferential statistics were used to draw inferences regarding the larger population (Ruscio, 2017).

The current study utilized correlation analysis and linear regression analysis to explore the relationship between the variables and to test the study's hypothesis respectively. F-test and p-values were computed to test the statistical significance of the relationships as guided by Saunders et al. (2007). Regression analysis was used to predict and explain the variation in staff retention due to a unit change in transformational leadership.

Diagnostic tests were conducted to ascertain that regression analysis was not violated. The results were summarized in Table 3.2

Table 3.2: Summary of Diagnostic Tests

Diagnostic test	Test	Observation	Conclusion
Normality test	Skewness Kurtosis	-.871 and 1.118 respectively. (Values within ±3)	Normal distribution
Heteroscedasticity	Levene test	p>0.05	No heteroscedasticity
Multicollinearity	Variance Inflation Factor (VIF)	VIF < 10	No multicollinearity
Linearity test	Scatter Plots	Normal PP line	Presence of linearity

4. Research Findings

4.1. Response Rate

The response rate obtained from the distributed questionnaires is summarized in Table 4.1

Table 4.1: Response Rate

	Frequency		Percentage
Response	210		70.5%
Non response	88		29.5%
Total	298		100.0
Strata	Targeted Response	Actual Response	Percentage
Senior management staff	26	9	34.6%
Middle management staff	48	17	35.4%
Lower-level management staff	224	184	82.1%
Total	298	210	70.5%

The response rate was 70.5%, which was considered sufficient for analysis in accordance with the recommendation by Babbie (2010) that response rate should be 70% or more for a reliable analysis and presentation of the results.

4.2. Respondents Characteristics

The study considered the following characteristics of respondents as important attributes that would influence their responses: Gender, age, the highest level of academic qualification, their rank as per the position held in the institution, and the number of years the respondent had worked in their current institution. The results were summarized in Table 4.2

Table 4.2: Respondents Characteristics

Gender of the Respondent

		Frequency	Percent
Valid	Male	94	44.8
	Female	116	55.2
	Total	**210**	**100.0**

Age of the Respondent

		Frequency	Percent
Valid	Below 24	28	13.3
	25-34	99	47.1
	35-44	64	30.5
	45-54	19	9
	55 and above	0	0

	Total	**210**	**100.0**
		Frequency	Percent
Highest Academic Qualification			
		Frequency	**Percent**
Valid	Other	3	1.4
	Diploma certificate	39	18.6
	Bachelor's Degree	145	69.0
	Master's degree	22	10.5
	Doctoral Degree	1	.5
	Total	**210**	**100.0**
Position held in the Institution			
		Frequency	Percent
Valid	Lower-level management staff	142	67.6
	Head of Department	42	20.0
	Branch Manager	17	8.1
	General Manager	7	3.3
	Chief Executive Officer	2	1.0
	Total	**210**	**100.0**
Number of Years Worked in the Institution			
		Frequency	Percent
Valid	Less than 1 year	49	23.3
	1 - 5 years	100	47.6
	6 - 10 years	49	23.3
	Over 10 years	12	5.7
	Total	**210**	**100.0**

From Table 4.2, there were more females (55.2 %) than males (44.8%), indicating high inclusion of females in MFIs leadership. The analysis also show that majority of the staff are middle aged (between 24 and 44 years). In terms of academic qualification, over 80% of the respondents had a Bachelor's degree and above, implying that they comprehended the phenomenon investigated in their responses. Most of the respondents (67.6%) were in the lower level management staff, thus their views regarding the institutions' leadership were well represented without self-reported bias of the data. 76.6% of the respondents had worked in their institutions for over 1 year, hence the results were seen as credible. On the other hand, only 5.7% of the respondents had worked for over 10years, which can be attributed to the emergent of many new MFIs in the last 10years thus high workforce mobility.

4.3. Descriptive Statistics

The characteristics of the study's variables were summarized in Table 4.3, comprising of the aggregate mean and standard deviation for each variable.

Table 4.3: Descriptive Characteristics

Variable	Reliability (Cronbach Alpha)	Mean	Std. Dev
Idealized Influence	.930	4.32	.695
Inspirational Motivation	.884	4.30	.762
Intellectual Stimulation	.904	4.19	.877
Individualized Consideration	.864	3.99	.979
Staff Retention	.926	3.68	.970

All the variables had a Cronbach Alpha above 0.7 which is recommended by Hair et al. (2019), with idealized influence 0.930, inspirational motivation 0.884, intellectual stimulation 0.904, individualized consideration 0.864 and staff retention 0.926. This confirms the instrument's reliability for data collection.

The aggregate mean of 4.32 for idealized influence and standard deviation of 0.695 showed that respondents were in consensus that idealized influence was deployed in the institutions studied. This confirms findings from the studies conducted by Edirisooriya (2020) and Otieno et al. (2019a). Similarly, the high mean of 4.30 and low standard deviation of 0.762 for inspirational motivation implies that respondents were in agreement that inspirational motivation was practiced in the microfinance institutions. This is in line with the findings of the study carried out by Komakech et al. (2021a). Intellectual stimulation was also emphasized in the microfinance institutions as revealed by the mean score of 4.19, with convergence of views by the respondents as indicated by the low standard deviation. The results are consistent with the findings by Thuan (2020). Although individualized consideration was also emphasized (mean = 3.99) in microfinance institutions, there was a relatively higher dispersion of responses as indicated by the standard deviation of 0.979. Finally, the overall mean score for staff retention was 3.68 with a standard deviation of 0.970, which shows that there was agreement among respondents on retention of employees in the MFIs investigated. Therefore, there is average retention of employees among MFIs in Nairobi City County. The standard deviation of 0.970 reflects relative agreement among respondents on the level of retention these institutions.

4.4. Test of Hypotheses

The study's hypotheses were tested using both simple linear regression analysis and multiple linear regression and results interpreted at 0.05 significance level to decide on acceptance or rejection of the hypotheses.

Multiple regression analysis was done to examine the effect of transformational leadership on staff retention. Table 4.4 presents the regression model summary.

Table 4.4: Model summary linking Transformational Leadership and Staff Retention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.845[a]	.714	.709	.26938

The results in Table 4.4 shows that there is a strong and positive correlation between transformational leadership and staff retention in the MFIs in Nairobi City County, Kenya, as represented by the coefficient of 0.845. The adjusted R Square (R^2) was 0.709 suggesting that transformational leadership predicted 70.9% of the variation in staff retention. The other 19.1% of the variation was explained by other factors than transformational leadership. The significance of the regression model was determined from the ANOVA analysis in Table 4.5.

Table 4.5: ANOVA Linking Transformational Leadership and Staff Retention

	Sum of Squares	df	Mean Square	F	Sig.
Regression	37.75	4	9.4375	128.176	0.000[b]
Residual	15.094	205	0.074		
Total	52.844	209			

The P-value was 0.000, lower than the significance level of 0.05 and therefore the model was found to be fit for predicting the dependent variable.
The significance of beta coefficients for the model was conducted and represented in Table 4.6.

Table 4.6: Table of Regression Coefficients[a] 1

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.518	.248		6.128	.000
Idealized Influence	.149	.071	.168	2.082	.039
Inspirational Motivation	.034	.076	.041	.444	.657
Intellectual Stimulation	.121	.054	.173	2.251	.025
Individualized Consideration	.183	.051	.278	3.564	.000

The regression model was summarized in a regression equation as shown below:
SR = 1.518+ 0.168II+ 0.041IM+ 0.173IS+ 0.278IC+ ε

The fitted regression equation shows that if all the four indicators of transformational leadership were kept constant, the value of staff retention would be 1.518. The values of standardized coefficients show that if all other factors were held constant, a unit change in idealized influence would account for 0.168 increase in staff retention, while a unit change in inspirational motivation would increase it by 0.041, a unit change in intellectual stimulation by 0.173, and individualized consideration by 0.278.

The results revealed that all the variables (idealized influence p = 0.039 < 0.05, intellectual stimulation p = 0.025< 0.05 and individualized consideration p = 0.000 < 0.05) were significant at 0.05 except inspirational motivation which was not significant (p = 0.657 > 0.05). The study therefore rejected the null hypothesis one that transformational leadership has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya and thus concluded that the transformational leadership has a significant effect on staff retention among microfinance institutions in Nairobi City County, Kenya

Hypothesis two, hypothesis three, hypothesis four and hypothesis five were tested using simple linear regression and the results represented as follows.

Table 4.7: Model Summary Linking Idealized Influence and Staff Retention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.882[a]	.778	.777	.23767

Table 4.8: Table of Regression Coefficients[a] 2

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.081	.246		8.445	.000
Idealized Influence	.338	.057	.383	5.978	.000

Table 4.7 shows a strong and positive correlation of 0.882 between idealized influence and staff retention, while Table 4.8 reveals that a unit change in idealized influence results to a 38.3% change in staff retention. The model is significant at 0.05 (p = 0.000 < 0.05) and thus the null hypothesis two rejected, implying that idealized influence has a significant effect on staff retention.

Table 4.9: Model Summary Linking Inspirational Motivation and Staff Retention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.740[a]	0.547	0.545	0.33921

Table 4.10: Table of Regression Coefficients[a] 3

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.080	.227		9.152	.000
Inspirational Motivation	.340	.052	.411	6.495	.000

The results in Table 4.9 show a strong and positive relationship between inspirational motivation and staff retention. In contrast to the observation that inspirational motivation was not significant when regressed on staff retention jointly with idealized influence, intellectual stimulation and individualized consideration, the results in Table 4.10 denote that it was significant when regressed on staff retention alone (inspirational motivation, p =

0.000 < 0.05). Hypothesis three was thus rejected, implying that inspirational motivation has a significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya.

Table 4.11: Model Summary Relating Intellectual Stimulation on Staff Retention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.833[a]	0.694	0.692	0.27885

Table 4.12: Table of Regression Coefficients[a] 4

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.294	.186		12.360	.000
Intellectual Stimulation	.298	.044	.428	6.826	.000

From the results in Table 4.11, there is a strong positive and direct relationship between intellectual stimulation and staff retention. Table 4.12 shows that the regression model is significant at 0.05 (intellectual stimulation, p = 0.000 < 0.05), thus rejecting hypothesis four that intellectual stimulation has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya

Table 4.13: Model Summary Linking Individualized Consideration on Staff Retention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.839[a]	.705	.703	.27397

Table 4.14: Table of Regression Coefficients[a] 5

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.306	.164		14.046	.000
Individualized Consideration	.310	.040	.469	7.667	.000

Table 4.13 indicates a strong correlation between individualized consideration and staff retention, while Table 4.14 shows that the regression model was significant. The study therefore rejected the hypothesis that individualized consideration has no significant effect on staff retention in microfinances in Nairobi City County.

5. Discussions and Implications for Theory

The first objective of the study sought to investigate the effect of transformational leadership on staff retention in microfinance institutions in Nairobi City County, Kenya. The corresponding null hypothesis was that transformational leadership has no significant effect on staff retention in microfinance institutions in Nairobi City County in Kenya. The study rejected the null hypothesis and concluded that the transformational leadership has a significant effect on staff retention among microfinance institutions in Nairobi City County in Kenya. With regard to the theoretical underpinning, the results of this study supported the tenets of transformational leadership that a transformational leader is capable of influencing the followers to perform more than they thought they would. The results were consistent with the demographic, descriptive, empirical and theoretical literature, thus could be generalised in other sectors and studies.

The study also tested the hypothesis that idealized influence has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya. Results revealed a positive but moderate correlation between idealized influence and staff retention. Idealized influence was found to have a significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya, thus rejecting the null hypothesis that idealized influence has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya. The results supported the postulation of the study that leaders are change agents that can change organizational outcomes such as staff retention. Further, the results supported Leader-Member Exchange (LMX)

theory which asserts that leadership is a situation where leaders endeavour to create high-quality exchanges with all followers as a valuable tool that transformational leaders can use to influence followers to increase their loyalty to them and to the organization. The results were congruent with other empirical studies thus confirming that they are generalizable to other contexts and studies.

Hypothesis three, which stated that inspirational motivation has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya, was rejected since the results showed that inspirational motivation had a moderately significant and positive relationship with staff retention. The results of the study supported the transformational leadership theory which postulates that inspirational motivation empowers a leader to articulate their envisioned better future clearly, instill team spirit, and to operate with optimism and enthusiasm. Since similar studies were conducted in different sectors other than microfinance institutions, the results of the current study are generalizable to other contexts.

Another objective of the study was to establish the effect of intellectual stimulation on staff retention in microfinance institutions in Nairobi City County, Kenya. The corresponding hypothesis was that intellectual stimulation has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya. The results indicated a moderate and positive correlation between the two variables, and that intellectual stimulation had a significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya. The study therefore rejected the null hypothesis. The results supported the tenets of Transformational Leadership Theory that a leader can inspire followers to achieve more than they thought they could by changing their long held beliefs and status quo. The results are also consistent with other empirical studies thus confirming their generalizability to other contexts.

The last objective of the study was to establish the effect of individualized consideration on staff retention in microfinance institutions in Nairobi City County, Kenya. The corresponding hypothesis was that individualized consideration has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya. The study found a positive correlation between the variables. Individualized consideration was found to have a significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya, thus rejecting the hypothesis. The results supported the tenets of transformational leadership theory that a leader acts as a mentor and coach, and values the individual needs of each follower as well as providing a conducive environment for followers to thrive. Since empirical studies in other contexts showed similar results that individualized consideration has a significant effect on staff retention, the results of the study can be generalized in other sectors and institutions.

6. Conclusions and Recommendations

The study concluded that transformational leadership is a significant predictor of staff retention. The four indicators of transformational leadership namely idealized influence, inspirational motivation, intellectual stimulation and individualized consideration were significant predictors of staff retention when regressed in isolation, but only idealized influence, intellectual stimulation and individualized consideration were significant predictors when regressed jointly.

The study recommends that policy makers at the Central Bank and in the microfinance institutions in Nairobi City County should align the transformational leadership practices with staff retention strategies for a sound and stable operation in these microfinance institutions.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 70-75
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.414

The Macroeconomic-Based Systemic Risks and Bad Loans of Commercial Banks Listed in the Indonesian Capital Market

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Abstract
The risk is the probability of uncertain situations with the changes. In banks, this circumstance happens when they distribute credits to the parties needing the cash. In performing this intermediary function, the systemic risks related to macroeconomics are available: inflation and exchange rate (ER) of IDR/USD. Hence, this research objective is to investigate and analyze the impact of these systemic risks on non-performing loans. The population originates from the commercial banks in the capital market in Indonesia from 2009 until 2017. We apply the Slovin formula and a simple random sampling method to calculate and acquire the total representative samples. After the archival technique collects the data, we use the regression with pooled data to analyze them. This study demonstrates that systemic risk from the inflation rate positively affects non-performing loans; however, the ER of IDR/USD shows no effect.

Keywords: Commercial Banks, Loan Risk, Systemic Macroeconomic Factors

1. Introduction

To perform the functional financial intermediary institution, the commercial banks are responsible for collecting the funds from society and distributing them back (Taswan, 2010). Furthermore, this collection and distribution of funds become the indicator of development for these banks (Kasmir, 2014). The fund distribution function of commercial banks contains credit risk coming from the incompetence of borrowers to pay the money on time to the banks. Hence, the banks have to consider their credit quality to minimize their default risk (Veithzal, Sudarto, Basir, & Rivai, 2013).

The previous study shows that uncollectible credit is becoming a bank issue. At a minimum, it is affected by two sources of macroeconomic factors, i.e., inflation and exchange rate. As a factor affecting NPL, inflation can depict a positive impact, as displayed by Farhan, Sattar, Chaudhry, and Khalil (2012), Ahmad and Bashir (2013), Benazic

and Radin (2015), or a negative effect, as demonstrated by Festic and Beko (2008) and Firmansyah (2014). Meanwhile, Warue (2013) and Wairimu and Gitundu (2017) do not prove the effect.

As the triggering factor of NPL, Festic and Beko (2008), Farhan et al. (2012), Benazic & Radin (2015), and Kamaludin et al. (2015) prove that the foreign exchange rate owns a positive influence. Conversely, Yam (2016) and Hernando, Miranda, Theodora, Kadarusman, and Ariyan (2020) confirm a negative effect. Meanwhile, Valahzaghard et al. (2012), Ahmad and Bashir (2013), as well as Wairimu and Gitundu (2017) cannot provide the influence.

By considering this heterogeneous evidence of the effect of inflation and exchange rate on bad loans, this research appears with the uniqueness, i.e., utilizing the systemic risk source as the non-performing loan determinant factor. According to DeBant et al. (2000) in Nabella, Maski, and Wahyudi (2020), the shock in the macroeconomy level becomes this risk source in a broad context. Because the risk is always connected with the terrible situation, we apply this framework when explaining the effect of systemic risk from macroeconomic factors, measured by the standard deviation of inflation and exchange rate, on bad loans. Also, to support this purpose, we utilize the listed banks in the Indonesian capital market between 2009 and 2017 as population and samples.

2. Literature Review and Hypothesis Development

2.1. The systematic risk from inflation and bad loans

Inflation demonstrates the commonly increasing price in society. It weakens public purchasing power to consume the products (Sukirno, 2016) and cuts company revenue (Sunariyah, 2011). This situation makes the companies unable to pay the banks for the debt principal and interest (Odusanya, Yinusa, & Ilo, 2018). Then, the banks will have a problem related to their distributed loans (Linda, Megawati, & Deflinawati, 2015). This illumination is confirmed by Farhan et al. (2012) and Ahmad and Bashir (2013) after investigating the banks in Pakistan by stating the higher inflation, the higher the loan risk. Likewise, Benazic and Radin (2015) support this positive tendency after studying and testing the Croatian banks and economy-related data. Therefore, the first hypothesis can be framed below.
H_1. The systemic risk from inflation affects bad loans positively.

2.1. The systematic risk from the exchange rate and bad loans

The supply and demand between the US dollars and the Indonesian rupiahs determine the exchange rate position. If the dollar request for global transactions is high, the IDR/USD position will be weak (Sukirno, 2016). Therefore, the Indonesian economy will be worse. In this situation, the companies cannot pay the debt to the banks; hence, the bank loans will be at risk (Kusmayadi, Firmansyah, & Badruzaman, 2017). This explanation gets supported by Festic and Beko (2008), Farhan et al. (2012), Benazic & Radin (2015), and Kamaludin et al. (2015), declaring a positive impact of the country-related exchange rate on the non-performing loan. Therefore, the second hypothesis can be framed below.
H_2. The systemic risk from the exchange rate of IDR/USD affects bad loans positively.

3. Research Method

The variables utilized are dependent and independent. The non-performing loan performs as the dependent variable. Meanwhile, the systemic macroeconomic risks of inflation and exchange rates become independent variables. Moreover, their definition and measurement are in Table 1.

Table 1: The variable definition and measurement

Variable	Definition	Indicator	Scale
The loan risk	The inability of debtors to pay for their liabilities to the bank	The relative change in annual non-performing loan	Ratio
The systemic risk from inflation	The increase in general price in the economy of the country	The standard deviation of quarterly inflation in a year	Ratio
The systemic risk of exchange rate	The change in the currency exchange rate	The standard deviation of the quarterly IDR/USD in a year	Ratio

The population of this study contains the commercial banks continually available in the Indonesian capital market between 2009 and 2017, and their total (TP) is 26. This information was obtained after tracing IDX Fact Books from 2008 to 2018. Furthermore, to determine the sample size (SS), we utilize the Slovin formula by employing a 5% border of fault (bf) (see equation one).

$$SS = \frac{TP}{1 + TP.bf} \quad \text{.....} \quad (1)$$

Based on this equation, the sample size (SS) = $\frac{26}{1+26(10\%)(10\%)} = \frac{26}{1.26} = 20.63 \approx 21$ banks. Then, these 21 banks are taken by the random sampling method from the population. Furthermore, their name is in this way.

1. AGRO: Bank Rakyat Indonesia Agroniaga Tbk.
2. BABP: Bank MNC Internasional Tbk.
3. BBCA: Bank Central Asia Tbk.
4. BBKP: Bank Bukopin Tbk.
5. BBNI: Bank Negara Indonesia (Persero) Tbk.
6. BBNP: Bank Nusantara Parahyangan Tbk.
7. BBRI: Bank Rakyat Indonesia (Persero) Tbk.
8. BCIC: Bank J-Trust Indonesia Tbk.
9. BDMN: Bank Danamon Indonesia Tbk.
10. BEKS: Bank Pembangunan Daerah Banten Tbk.
11. BMRI: Bank Mandiri (Persero) Tbk.
12. BBNA: Bank Bumi Arta Tbk.
13. BNGA: Bank CIMB Niaga Tbk.
14. BNII: Maybank Indonesia Tbk.
15. BVIC: Bank Victoria International Tbk.
16. INPC: Bank Artha Graha Internasional Tbk.
17. MAYA: Bank Mayapada Internasional Tbk.
18. MCOR: China Construction Bank Indonesia Tbk.
19. NISP: Bank OCBC NISP Tbk.
20. PNBN: Bank Pan Indonesia Tbk.
21. SDRA: Bank Woori Saudara Indonesia 1906 Tbk.

By indicating the variable scale in Table 1, we utilize the regression model with the pooling data and the t-statistics to investigate three hypotheses. Furthermore, this model is noticeable in equation two.

$$\Delta NPL_{it} = \beta_0 + \beta_1.SR\_INF_t + \beta_2 SR\_IDR/USD_t + \varepsilon_{it} \quad \text{.....} (2)$$

In the regression model, the technique to estimate coefficients is based on an ordinary least square. Therefore, the classical assumptions: the normality of residuals, homoskedasticity, no multicollinearity, and no autocorrelation, must be proven to result in the best, most linear, and unbiased estimators. To confirm them, by denoting Ghozali (2016), we use the Kolmogorov-Smirnov Z-statistical test, White examination, variance inflation factor detection, and runs test, respectively.

4. Results and Discussion

4.1. Result

Table 2 exhibits the statistics, covering total observation (N), minimum, maximum, average, and standard deviation to describe the data. The data are associated with the measurement of the loan risk: the relative change in annual NPL; the systemic risk from inflation and exchange rate measured by the standard deviation of quarterly inflation and exchange rate of IDR/USD in a year, one to one.

Table 2: The statistics to describe the investigated variables

Variable	N	Minimum	Maximum	Average	Standard Deviation
ΔNPL	189	0.2512	5.0286	1.121021	0.6019640
The systemic risk (SR) from INF	189	0.0877	0.5579	0.284211	0.1571639
The systemic risk (SR) from IDR/USD	189	4.64	6.83	5.6509	0.75553

Source: The data processed by IBM SPSS 19.

The regression will be an excellent empirical model if several tests related to classical assumptions are achieved (Ghozali, 2016), where the results are in Table 3:

A. For the normality test, the asymptotic significance of the Z-statistic based on Kolmogorov-Smirnov is 0.000. This value goes under the 0.05 significance level (α). Consequently, the residual of the regression model does not follow the normal distribution. According to Bowerman and O'Connel (2003), denoting the central limit theorem, this situation can be allowed as long as this study involves the samples with numerous observations.
B. For the homoskedasticity test, the probability of the Chi-Square statistic for observed R-squared is 0.2822. Because this value overdoes α of 0.05, the residual is not influenced by the squared SR_GDP, SR_INF, and SR_IDR/USD: Heteroskedasticity does not appear in this model.
C. For multicollinearity detection, the variance inflation factor of SR_INF and SR_IDR/USD is the same, i.e., 1.507. This value is below ten as the cut-off point. Thus, multicollinearity is not present in this model.
D. For the autocorrelation test, the asymptotic significance of the Z-statistic based on the average value of runs is 0.168. This value surpasses α of 0.05; hence, the residual of the regression model is random. This circumstance indicates no autocorrelation in this model.

Table 3: The result of the classical assumption tests

Classical assumption test	Statistical result	Meaning
Normality: Kolmogorov-Smirnov test	Asymptotic significance of Z-statistic = 0.000[a)]	The residual of the regression model does not follow the normal distribution.
Heteroskedasticity: White test RESID^2 = f (SR_INF^2, SR_IDR/USD^2)	Probability of Chi-Square statistic for Observed R-squared = 0.2570[b)]	Homoskedasticity exists in the regression model.
Multicollinearity detection	The variance inflation factor of SR_INF and SR_IDR/USD is 1.507[a)]	The regression model is without a multicollinearity issue.
Autocorrelation: Runs test based on the average residual	Asymptotic significance of Z-statistic = 0.772[a)]	The autocorrelation does not occur in the regression model.

Source: The output of IBM SPSS 19[a)] and E-Views 6[b)]

The fourth table displays the estimation result of the regression model with the probability of t-statistic for the explaining variables of non-performing loans:

a. The probability of the t-statistic for SR_INF is 0.0940 with a positive coefficient of 0.4572818. Because this probability is still below the relaxed significance level of 10%, the positive effect of SR_INF still exists.
b. The probability of the t-statistic for SR_IDR/USD is 0.424 with a negative coefficient of 0.045622. Because this probability is above the loosen significance level of 10%, this effect of SR_IDR/USD does not happen.

Table 4: The estimation result of the regression model:
The affecting factors of the non-performing loans

The explaining variable	Coefficient	Std. Error	t-Statistic	Probability
C	0.298161	0.288112	1.034880	0.3021^{ns}
SR_INF	0.472818	0.280859	1.683472	0.0940**
SR_IDR/USD	-0.076112	0.058424	-1.302768	0.1943^{ns}

Note:
** =significant at 10%, ns = not significant

Source: The data processed by E-Views 6

4.2. Discussion

This study points out some vital evidence related to inflation and IDR/USD exchange rate as the source of the macroeconomic systemic risk and their influence on the non-performing loans. Firstly, this study confirms that inflation positively affects uncollectible loans. By having a positive impact, this study affirms Farhan et al. (2012), Ahmad and Bashir (2013), and Benazic and Radin (2015). Inflation is the increase in prices of products because the aggregate demands are above its supplies. In this case, the government must control these prices by fiscal policy, such as adding subsidies for electricity and gasoline to enable the companies, especially for small and medium business scale, to create goods and services with affordable prices for society. If the goods and services are low-cost, these companies will be able to market them to obtain revenue and profits; hence, they can pay the debt, including principles and interest, to banks regularly.

Secondly, this study proves that the IDR/USD position does not affect the non-performing loans. It means that the banks can handle the IDR/USD fluctuation as one of the market risk parts by continuously measuring, monitoring, and controlling it without waiting for the lousy transmission from the business sector. Besides, the banks anticipate this risk by obeying the minimum capital adequacy rule set by the associated Indonesian central bank regulation. By having this evidence, this study supports Valahzaghard et al. (2012), Ahmad and Bashir (2013), as well as Wairimu and Gitundu (2017).

5. Conclusion

This investigation aims to prove and analyze the influence of systemic risk from inflation and the exchange rate of IDR/USD on the non-performing loan in commercial banks in the Indonesia stock exchange. After testing the hypotheses with the associated data between 2009 and 2017, this research shows that inflation positively induces uncollectible loans, but the exchange rate does not contribute to it.

This investigation is still weak, especially in the determinant numbers of bad loans and the bank scope. To overcome this first weakness, the subsequent scholars can combine two explaining variables in this study with macroeconomic determinants: economic growth, export, unemployment, interest rate, tax rate, foreign direct investment, and money supply. Then, to handle the second one, the following researchers are expected to unite the Indonesian listed and non-listed banks in their research model.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 76-82
ISSN 2621-5799

DOI: 10.31014/aior.1992.05.02.415

Perceived Ease of Utilization, Usefulness, Security, and Trust in Mobile Banking

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Abstract
Mobile banking is an internet-based application of banks to serve their customers. With this application, the customers can check their balance on their banking account and transact online with the other parties. Therefore, growing trust in mobile banking becomes essential. Moreover, to reach it, banks need to focus on the determinants. According to previous studies, at least three factors are available: perceived ease of utilization, usefulness, and security. By answering this challenging topic, this study aims to test these determinants of trust statistically. After employing the 106 respondents in Bandung using the mobile banking application as the sample taken by the snowball sampling technique and examining three hypotheses by structural equation model based on partial least square, this research concludes a positive sign exists in these causal associations.

Keywords: Effortless, Mobile Banking, Practicality, Protection, Trust

1. Introduction

Trust is a basic for banks to operate, especially to build a relationship with the customers to guarantee the safety of the funds placed in saving deposit accounts and purchased non-financial products from banks, such as insurance policies and mortgages. Customers with high trust in banks believe that the banks serve them and meet their transactional needs well. After that, they will have a positive personal experience (Van Esterik-Plasmeijer & Van Raaij, 2017).

Furthermore, to achieve the transactional needs of their customers, the banks must adopt technological advancements, enabling them to provide many service features based on the internet (Laukkanen, 2007), for example, mobile banking (Mutahar, Daud, Ramayah, Isaac, & Aldholay, 2018). With this application, the consumers can easily access the related features anytime and anywhere through smartphones (Suryasa, Prayoga, & Werdistira, 2018).

One of the well-known frameworks associated with technological utilization in the banking industry is the technology acceptance model [see the study of Gu, Lee, and Suh (2009) in South Korea, Dash, Mohanty, Pattnaik,

Mohapatra, and Sahoo (2011) in India, and Al-Sharafi, Arsha, Abu-Shanab, and Elayah (2016) in Jordan, as well as Ismail and Purwani (2021) in Indonesia, for example]. This model was firstly introduced by Davis (1989), presenting perceived ease of utilization (PEOU) and perceived usefulness (PU) as attitudes determining the intention to use.

Furthermore, many researchers modify the technological utilization model by adding customer trust as influenced factor by PEU (Roca, García, & de la Vega, 2009; Aghdaie, Piraman, & Fath, 2011; Primananda, Setyaning, Hidayat, & Ekasari, 2020; Wilson, Keni, & Tan, 2021) and PU (Roca et al., 2009; Revels, Tojib, and Tsarenko, 2010; Gu et al., 2009; Aghdaie et al., 2011; Amin, Rezaei, & Abolghasemi, 2014; Al-Sharafi, Arsha, Abu-Shanab & Elayah, 2016; Primananda et al., 2020; Wilson et al., 2021). Also, Flavián & Guinalíu (2006), Roca et al. (2009), Damghanian, Zarei, and Kojuri (2016), Al-Sharafi et al. (2016), Ismail, Roslan, Fauzi, and Husin (2017), add perceived security as the trust determinant.

Inspired by this previous evidence, this study's objective is to check and analyze the effect of perceived ease of utilization, usefulness, and security on customer trust in mobile banking in Bandung. Additionally, customers in this city are classified based on several types of banks: (1) state-owned banks: BNI46, Bank Rakyat Indonesia, Bank Mandiri, Bank Tabungan Negara, Bank Syariah Indonesia, (2) regional government banks: Bank Jawa Barat, (3) private commercial banks, and (4) private rural banks.

2. Literature Review and Hypothesis Development

2.1. Perceived ease of utilization and customer trust

Davis (1989) describes perceived ease of utilization as how simple technology is for somebody: If it is easily applied, it does not require the significant effort. Using 180 students as the clients of the online trading system, Roca et al. (2009) confirm a positive association between ease of application and trust. Based on Aghdaie et al. (2011), investigating 275 Iranian purchasers, perceived ease of application positively influences trust in the commercial websites. According to the study by Primananda et al. (2020), this perceived ease positively affects the confidence of online shopping platform users in Yogyakarta. This fact is also supported by Wilson et al. (2021) after employing 346 Chinese laptop users from five cities: Beijing, Shanghai, Shenzhen, Guangzhou, and Hangzhou. Denoting this evidence, we declare the first hypothesis:
$H_{1:}$ Perceived ease of utilization positively affects customer trust.

2.2. Perceived usefulness and customer trust

Davis (1989) defines perceived usefulness as how helpful technology is for someone. Meanwhile, Revels et al. (2010) explain that this usefulness is one of the primary determinants of innovational utilization related to the consumer value when applying technology on mobile phones. Employing 910 mobile banking users, Gu et al. (2009) prove a positive effect of perceived usefulness on trust. This positive association is obtained by Roca et al. (2009) after investigating 180 students as the clients of the online trading system. Studying 275 Iranian shoppers on the commercial websites, Aghdaie et al. (2011) demonstrate the same evidence.

Furthermore, in their study on 302 Malaysians as mobile website users, Amin et al. (2014) declare that perceived usefulness positively influences trust. Additionally, Al-Sharafi et al. (2016) demonstrate that the conviction of 198 Jordanian consumers in a mobile banking application is determined by perceived usefulness. Surveying the students as the virtual shopping platform users in Yogyakarta, Primananda et al. (2020) provide the same evidence. This fact is also supported by Wilson et al. (2021) after employing 346 Chinese laptop users from five cities: Beijing, Shanghai, Shenzhen, Guangzhou, and Hangzhou. Denoting this evidence, we state the second hypothesis:
H_2: Perceived usefulness positively affects customer trust.

2.3. Perceived security and customer trust

Perceived security ensures that customers' personal and financial data are not observed, kept, and falsified by irresponsible parties (Kolsaker & Payne, 2002). If the organization can guarantee it, trust in the internet from their

customers will exist, as demonstrated by Flavián & Guinalíu (2006), with Spanish website users as the samples and Roca et al. (2009) investigating 180 students as the clients of the online trading system. Based on investigating 395 customers using internet banking of Bank Saderat Iran in Semnan, Damghanian et al. (2016) state that perceived security positively affects trust.

Moreover, through their study, Al-Sharafi et al. (2016) demonstrate that the trust of 198 Jordanian consumers in a mobile banking application is positively determined by perceived security. Also, this positive effect is confirmed by Ismail et al. (2017) when investigating three of five aspects of perceived security: confidentiality, authentication, and privacy, by employing the 200 higher education students in Muadzam Shah, Pahang, Malaysia. Additionally, non-repudiation has no impact, but authorization has a negative influence. Denoting this evidence, we declare the third hypothesis:
H_3: Perceived security positively affects customer trust.

3. Research Method

3.1. Variable Operationalization

This study uses three determinants: perceived ease of utilization (PEU), usefulness (PU), security (PS), and one dependent variable: trust. Moreover, we adopt and modify the items used by Gu et al. (2009) and Roca et al. (2009) to measure perceived ease of utilization, usefulness, and security. Meanwhile, we mention Gu et al. (2009) and Malaquias and Hwang (2016) to quantify customer trust. Furthermore, these related items are presented in Table 1.

Table 1: The items of perceived ease of utilization, usefulness, and security

Variable	Items	Source
Perceived ease of utilization	I can learn the way to transact through mobile banking (PEU1). I am quickly skilled when transacting through mobile banking (PEU2). My interactions with the mobile banking systems are rational (PEU3).	Gu et al. (2009) and Roca et al. (2009)
Perceived usefulness	This internet banking application is beneficial for me during transactions (PU1). This internet banking makes my transactions easy (PU2). This internet banking makes my transaction rapid (PU3).	Gu et al. (2009) and Roca et al. (2009)
Perceived security	My transaction through this internet banking cannot be changed by a third party (PS1). This internet banking system protects my personal and financial information (PS2). My transaction through this internet banking cannot be detected by a third party (PS3).	Gu et al. (2009) and Roca et al. (2009)
Trust	This mobile banking is reliable for me (T1). The bank holds and fulfills its promises when I use its mobile banking (T2). The bank prioritizes me as the customer (T3).	Gu et al. (2009), Malaquias and Hwang (2016)

3.2. Population, sample, sampling technique, and data collecting method

The population in this research is the customers of banks utilizing a mobile banking application in Bandung. The banks intended are classified into (1) state-owned banks, (2) regional government banks, (3) private commercial banks, and (4) private rural banks. Because the sample number is unknown, we utilize the snowball sampling technique, as Pandjaitan, MS, and Hadianto (2021) employ, by counting on the admirable relationship with respondents.

Fortunately, we successfully collected 106 mobile banking users in Bandung as the number of samples based on this technique during the survey between June 1 and July 31, 2021. This survey is executed by distributing the questionnaire, as Hartono (2012) explains. Following Sugiyono (2010), we use the Likert scale for assessing respondents' answers, ranging from 1 to 5 for absolutely disagree to agree with responses.

3.3. Method for analyzing data

This study employs the structural equation model based on partial least squares. It is due to the sample size near 100, i.e., 106 internet banking users, and the utilization of unobservable variables, as Ghozali (2008) explains. Also, this model can be seen in the first equation.

$$TRUST = \beta_1.PEUi + \beta_2.PUi + \beta_3.TRUST + \zeta i \quad (1)$$

Because of the items, the loading factor as the confirmatory factor analysis, Cronbach Alpha, and composite reliability coefficients must be detected to assess the validity and reliability of responses. After that, their judgment is formulated by referring to Ghozali (2008) as follows:

- If the loading factor exceeds 0.5, the respondent's answer to the item is accurate. The related indicators should be removed if this value cannot pass this cut-off point.
- If the Cronbach Alpha or composite reliability coefficients exceed 0.7, the respondent's answer to the items is reliable.

4. Result and Discussion

4.1. Result

Based on the online survey between June 1 and July 31, 2021, we present the data of 106 mobile banking users on the demographic and bank-related features (see Table 2), the result of validity and reliability examinations (see Table 3), and model estimation (see Table 4).

4.1.1. The result of demographical and bank-related features

Table 2 presents the demographic characteristics: gender and age, and the bank-related characteristic: the origin of the bank type. In this survey, females participate more than males by 61.32%. The respondents aged between 23 and 27 have the most prominent position based on age at 47.17%. Besides, the respondents as the commercial bank mobile users are the dominant, reflected by 66.04%.

Table 2: The result of demographical and bank-related features of the respondents

Feature		Description	Total	%
Demographic characteristic	Gender	Males	41	38.68%
		Females	65	61.32%
	Age	17-22	35	33.02%
		23-27	50	47.17%
		28-32	16	15.09%
		Above 32	5	4.72%
Bank related characteristic	The origin of the bank type	State-owned banks	33	31.13%
		Regional government banks	2	1.89%
		Commercial banks	70	66.04%
		Rural banks	1	0.94%

Source: Processed survey data

4.1.2. The result of validity and reliability tests

Panel A in Table 3 demonstrates the loading factor of indicators, as validity testing result of perceived ease of utilization (PEU): 0.869, 0.840, 0.896, usefulness (PU): 0.614, 0.894, 0.863, security (PS): 0.899, 0.930, 0.923, and trust: 0.815, 0.875, 0.878. Because these values are above 0.5, the answer of respondents is accurate. Moreover, in Panel B, the Cronbach Alpha coefficient for PEU, PU, PS, and trust is 0.837, 0.707, 0.909, and 0.818, and each composite reliability coefficient is 0.902, 0.839, 0.943, and 0.892. These values are higher than 0.7; therefore, respondents' answer to each item of PEU, PU, PS, and trust is consistent.

Table 3: The result of validity and reliability tests

Panel A. Confirmatory factor analysis result as the validity detection				
Indicators	Loading factors			
	PEU	PU	PS	TRUST
PEU1	0.869			
PEU2	0.840			
PEU3	0.896			
PU1		0.614		
PU2		0.894		
PU3		0.863		
PS1			0.899	
PS2			0.939	
PS3			0.923	
T1				0.815
T2				0.875
T3				0.878
Panel B. Cronbach Alpha dan Composite reliability coefficient as the reliability detection result				
Research Variable	PEU	PU	PS	TRUST
Cronbach Alpha coefficient	0.837	0.707	0.909	0.818
Composite reliability coefficient	0.902	0.839	0.943	0.892

Source: Adjusted output of Warp PLS 7.

4.1.2. The result of the model estimation

Table 4 demonstrates the model estimation result covering the path coefficients, their standard error of estimation, t-statistic, and probability with additional features, such as the size effect, R-square, and Q-square, to assess the model fit. The size effect for PEU, PU, and PS is reflected by f-square of 0.087, 0.107, and 0.292. Referring to Ghozali (2008), we interpret that PEU and PU have a low impact, but PS has a medium effect. The R-square for this model is 0.486. Denoting Ghozali (2008), we infer that the contribution of three determinants of trust is at a moderate level. The Q-square for this model is 0.493. Mentioning Ghozali (2008), we deduce that this research model has predictive relevancy.

Table 4: The structural equation model result: The determinant of customer trust in mobile banking

Determinant	Path coefficient	Standard error of estimation	t-statistic	Probability	f-square
PEU	0.201	0.092	2.18478261	0.016	0.087
PU	0.234	0.091	2.57142857	0.006	0.107
PS	0.481	0.086	5.59302326	<0.001	0.292
R-square	0.486		Q-square	0.493	

Source: Adjusted output Warp PLS 7

After displaying the model estimation result, the next step is testing three research hypotheses in section two. Furthermore, each statement is statistically examined by comparing the probability value of the t-statistic with the

5% significance level. Each research hypothesis is acceptable if this value is below the 5% significance level. In Table 4, these intended values for a positive path coefficient for PEU, PU, and PS are 0.016, 0.006, and <0.001, respectively. Because of this circumstance, we accept the first, second, and third hypotheses declaring a positive effect of perceived ease of utilization, usefulness, and security on consumer trust in mobile banking.

4.2. Discussion

This research reveals that, firstly, perceived ease of utilization positively influences trust in mobile banking. This situation exists because banks equip their mobile banking application with user interface and experience. With these features, the users can easily understand to operate mobile banking. Also, this positive influence happens because the dominant respondents are the young users aged 23 to 27 (47.17%) (see Table 2), who are still enthusiastic about technology. By considering this fact, this study confirms Roca et al. (2009), Aghdaie et al. (2011), Primananda et al. (2020), and Wilson et al. (2021).

Secondly, this research demonstrates that perceived usefulness positively influences trust in mobile banking. This situation happens because many benefits exist in mobile banking, such as checking balances, transferring money, buying mutual funds, paying insurance policies, monthly electricity, credit card bills, etc. With this fact, this study confirms Gu et al. (2009), Roca et al. (2009), Aghdaie et al. (2011), Amin et al. (2014), Al-Sharafi et al. (2016), Primananda et al. (2020), and Wilson et al. (2021).

Finally, this study shows that perceived security positively affects trust in mobile banking. Additionally, this effect is the largest (see f-square of PS: 0.292 in Table 4). This situation is essential because many crackers attempt to break into mobile banking and take money from the customer's bank account. Therefore, banks need to provide a system protecting the identity of mobile banking users. With this fact, this study confirms Flavián & Guinalíu (2006), Roca et al. (2009), Damghanian et al. (2016), Al-Sharafi et al. (2016), and Ismail et al. (2017).

5. Conclusion

This study intends to prove and analyze the effect of perceived ease of utilization (PEU), usefulness (PE), and security (PS) on trust in mobile banking of the users in Bandung. Furthermore, to attain this purpose, we surveyed the related customers between June 1 and July 31, 2021, and got 106 responses. After statistically testing these three effects, we summarize the positive impact of PEU, PE, and PS on trust in mobile banking. It means the customers' conviction in mobile banking can be increased when the banks amplify ease, usefulness, and protection in its utilization.

This study has some limitations. Firstly, it only uses three determinants of trust in mobile banking, i.e., perceived ease of utilization, usefulness, and security. Furthermore, the subsequent scholars can add perceived privacy, risk, gender, and ages, for example, into their model to handle this situation. As the second limitation, this study utilizes snowball sampling because of the unknown population size. Moreover, the following scholars should use the population with the identified number to improve it. Hence, the size of samples representing the population can be calculated by a specific formula, for example, Slovin or Isaac and Michael.

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ASIAN INSTITUTE OF RESEARCH
Connecting Scholars Worldwide

The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 83-93
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.416

The Effect of Intellectual, Emotional, and Spiritual Intelligence on the Ethical Behavior of Accounting Students

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Abstract
This research aims to analyze and prove the factors that influence the Ethical Behavior of Accounting Students, namely Intellectual Intelligence, Emotional Intelligence, and Spiritual Intelligence. We collect data using a questionnaire with the purposive sampling method. The population in this study were accounting students from three universities, including Dr. University. Soetomo, Bhayangkara University, Narotama University. The data analysis used in this study is a multiple linear regression model. The results show that: (1) Intellectual Intelligence has a significant positive effect on the Ethical Behavior of Accounting Students; (2) Emotional Intelligence has significant a positive effect on the Ethical Behavior of Accounting Students; (3) Spiritual Intelligence has a significant adverse effect on the Ethical Behavior of Accounting Students.

Keywords: Intellectual Intelligence, Emotional Intelligence, Spiritual Intelligence, Ethical Behavior

1. Introduction

The National Higher Education Standards state that the Research Standards are the minimum criteria for the Research system in Higher Education that apply in all jurisdictions of the Unitary State of the Republic of Indonesia. And the Community Service Standards are the minimum criteria regarding the community service system at universities that apply in all jurisdictions of the Unitary State of the Republic of Indonesia. (Permendikbud, 2020). Accounting education, significantly higher accounting education held in universities, aims to educate students to study accounting in detail, especially auditing, to work as a professional accountant who knows to account. To produce quality graduates, universities must continue to improve the quality of their education system. There will be ambiguity in the accounting industry generated by higher accounting education because many universities still have many educational programs centered on intellectual intelligence. The measure of intellectual intelligence is report cards and achievement index, making students master knowledge and life skills well. Higher education has not included many ethical aspects in the curriculum

Ethical behavior is behavior that conforms to generally accepted social norms. Behavior is judged to be good, fair, right, and honorable, and will be based on principles or guidelines from specific ethical theories. Student ethical behavior includes those who provide their services to the community requiring the trust of the community they serve. Public confidence in the quality of public accounting services will be higher if the profession applies

high-quality standards to the implementation of professional work by members of the profession. The Code of Ethics for the Public Accountant Compartment is a professional ethic for accountants who practice as Indonesian public accountants. The Ethical Principles established by the Indonesian Institute of Accountants are source The Code of Ethics for the Public Accountant Compartment.

The phenomenon in accounting ethics concerns public trust in the accounting profession in carrying out their duties as accountants. The main ethical problems that often arise in the lecture environment are: 1) cheating on exams, 2) copying assignments or cases done by other students, 3) not making an adequate contribution to group assignments Edy Supriadi (2004). This behavior will be changed so that they can behave ethically in work, especially since these accounting students will have the potential to work as accountants.

The phenomenon of audit quality has emerged in the past few years. The auditor could not find fraud in the financial statements in several cases. The auditor discovered the fraud but did not disclose it in Bank Maluku's case involving the Public Appraisal Service Office of Firman Suryanto Sugeng Suzy Hartomo and colleagues in 2015. The Appraisal office conducted an appraisal on April 12, 2015, on buildings and land at JL. Raya Darmo No. 51 Surabaya with the results of assessing the basic value of the building and land amounting to Rp. 46,392,000,000, -. Because the Board of Directors of Bank Maluku had already paid on November 17, 2014, Rp. 54 billion, the results of the KJPP FAST appraisal were changed or falsified from Rp. 46,392,000,000, - to Rp. 54,808,5000, -. Then the time of the survey, which should have been in April 2015, was changed to October 2014. For the falsification, the public accountant violated one of the audit quality indicators in the Outcome Oriented dimension: The level of auditor compliance with SPAP (Savira et al., 2017).

Because students are subjects or actors in the renewal movement that will become the nation's next generations, students as the nation's next generation should act to build the government in a better direction. However, students' actions are often faced with attitude problems that can lead to ethical violations. The research results from Nasution (2018) show that individuals with high Machiavelin traits tend to take advantage of situations for personal gain and are more willing to disobey rules. Another researcher, Sayidah et al., (2020) studied academic cheating and the characteristics of accounting students. The results show that students who have good academic performance, study hard, and pray diligently tend not to do academic cheating.

The difference between this study and previous research is that this study uses independent variables, namely Intellectual Intelligence, Emotional Intelligence, Spiritual Intelligence, and Dependent Variables. The effect of ethical behavior on accounting students. In contrast, Oemar & Okto Fani (2018) research used the Independent Variables of Emotional Intelligence, Spiritual Intelligence, And Learning Behavior Against the Level of Accounting Understanding. And there is also research by Rahmasari (2012), namely the Effect of Intellectual Intelligence, Emotional Intelligence, and Spiritual Intelligence on Employee Performance. This study indicates that if a dangerous situation comes to students, these students will not give up unethical behavior. If the students feel dangerous, they will not give up on unethical behavior, and students' ethical behavior will continue when they work. Individual factors that have a significant influence consist of intellectual intelligence, emotional intelligence, and spiritual intelligence. Intellectual intelligence is the fluid intelligence and crystallized intelligence possessed by accounting students, emphasizing cognitive abilities.

Intellectual Intelligence is a general term used to describe the nature of the mind, including several abilities, such as reasoning, planning, solving problems, thinking abstractly, understanding ideas, using language, capturing, and learning. Based on the above definition, it can be concluded that intellectual intelligence is related to spatial awareness, awareness of something that is visible and mastery of responding quickly to situations and conditions. Intellectual intelligence can work to measure speed, measure new things, and store and recall objective information that has been previously stored. Intellectual intelligence can highlight the ability of logical thinking to find accurate facts and predict risks. Emotional intelligence is the ability to recognize one's feelings and the feelings of others, motivate oneself, and manage emotions well in oneself and in relationships with others (Goleman, 2003). Emotional intelligence is the ability to sense, understand, and effectively apply the power and sensitivity of emotions as a human source of energy, information, connection, and influence. Emotional intelligence requires a person to learn to recognize and respect the feelings of oneself and

others and respond appropriately and effectively to apply emotional energy in everyday life (Fatimah, 2016). possibility to use positive values. KS is a facility that helps someone overcome problems and make peace with the situation. Spiritual intelligence is the human ability to interpret the meaning of life and understand the value of every action taken. Spiritual intelligence allows a person to know better to do good and right actions based on conscience.

Previous research found different results on the influence of intellectual, emotional, and spiritual intelligence on accounting understanding. Pasek's study (2017) states that intellectual intelligence affects accounting understanding. The results are inconsistent with Artana researchers et al. (2014). Meanwhile, emotional intelligence that affects accounting understanding is found in Pasek, (2017) different results the research of Wardani1 & Ni Made Dwi Ratnadi2 (2017). They state that spiritual intelligence affects accounting understanding, but the results of this study contradict the results of research conducted by Parauba (2014).

2. Research methods

2.1. Population and Sample

The population is a generalization area consisting of objects/subjects with specific qualities and characteristics determined by the researcher to be studied and then concluded Imron (, 2019). The population in this study were students of S1 Accounting in Surabaya, a private university, namely Dr. University. Soetomo, Bhayangkara University, Narotama University. The sample is part of the number and characteristics possessed by the population. Suppose the population is large, and the researcher can't study everything, for example, due to limited funds, human resources, and time. In that case, the researcher can use samples taken from that population. Suwanto (2013) The sampling technique used in this study is purposive sampling. Mechanical purposive sampling is a technique with a specific consideration (Sugiyono 2007: 85). The criteria used in this study are: (1) active student of Accounting Study Program at Private University in Surabaya, (2) currently taking or have taken courses in Business & Professional Ethics, and (3) currently taking or have taken Auditing 1 and Auditing 2 courses.

2.2. Research Variables

The dependent variable in this study is ethical behavior. Ethical behavior is behavior that conforms to generally accepted social norms. Behavior is judged to be good, fair, right, and honorable and will be based on principles or guidelines from specific ethical theories. According to Handayani (2016), ethical attitude indicators are eight incident items that contain a dilemmatic situation based on the ethical principles of the accountant's code of ethics. But in 2017, the eight items of the moral tenets of the accountant's code of ethics have turned into five things of the ethical principles of the accountant's code of ethics. The independent variables in this study are Intellectual Intelligence, Emotional Intelligence, Spiritual Intelligence. Intellectual Intelligence is the ability to understand, analyze in human relations to regarding abstract concepts of the relationship between objects and ideas, and apply knowledge appropriately (Pasek, 2017). Emotional intelligence is the ability to recognize one's feelings and the feelings of others, motivate oneself, and manage emotions well in oneself and in relationships with others (Goleman, 2005). Spiritual Intelligence is Agustian (2005) defines spiritual intelligence as the ability to give meaning to worship to every behavior and activity through steps and thoughts that are natural, towards a complete human being and have an intergalactic thought pattern, and are principled only because of Allah.

2.3. Data

The data collection technique in this research is primary data. Primary data collection was carried out through questionnaires to respondents containing questions related to Intellectual Intelligence, Emotional Intelligence and Spiritual Intelligence on Student Ethical Behavior. By collecting data obtained from distributing questionnaires through a google form. The questionnaire was sent using a google form link and sent via WhatsApp to students from Bhayangkara University Surabaya, Dr. Soetomo University Surabaya, and Narotama University Surabaya.

2.4. Analysis Techniques

The data analysis technique used is multiple linear regression using SPSS. The regression equation in this study is:

$Y = a + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + e$

Description:
Y = Independent Variable
a = Intercept value (constant)
β 1, β 2, β 3, β 4 = regression coefficient of each independent variable
X1 = Intellectual Intelligence
X2 = Emotional Intelligence
X3 = Spiritual Intelligence
e = Error term

3. Results and Discussion

3.1. Description of Research Subjects

The research subjects are respondents who are active accounting students at Dr. University. Soetomo, Bhayangkara University Surabaya, Narotama University. The data source of this research is primary data, namely collecting data obtained from distributing questionnaires through a google form. The questionnaire was sent using a google form link and sent via WhatsApp to students from Bhayangkara University Surabaya, Dr. Soetomo University Surabaya, and Narotama University Surabaya.

Table 1: Questionnaire Return Rate

Description	**Amount**
Number of questionnaires distributed	90
Number of Unfilled Questionnaires	(10)
Number of Questionnaires filled	80
Rate of return (Questionnaire filled : Questionnaire distributed) × 100 % = 80 : 90 = 0.889 × 100 % = 88.9 %	
Number of Questionnaires that do not meet the criteria	(4)
Number of Questionnaires that can be processed	76
Analyzeable Percentage Rate (Questionnaire processed : Questionnaire distributed) × 100 % = 76 : 90 = 0.884 × 100 % = 88.4%	

3.2. Validity Test

According to Ghozali (2018: 51), the validity test is used to measure the validity or validity. A questionnaire can be declared valid if the questions on the questionnaire can reveal something that is measured by the questionnaire. The significance test was carried out using the Pearson product-moment correlation, namely r count (Pearson correlation). If the value of r is significant at the 0.05 level, then the questions or indicators being tested are declared valid. The test results show that all indicators of each variable are declared valid.

3.3. Reliability Test

A reliable instrument is an instrument that will produce the same data when used several times to measure the same object. The reliability of the variable is determined based on the cronbach's alpha value , if the cronbach's alpha value is greater than r table, then the variable is said to be reliable or reliable.

Table 2: Reliability Test Results

Variable	*Alpha Cronbach*	Description
Ethical Behavior (Y)	0.804	Reliable
Intellectual Intelligence (X1)	0.781	Reliable
Emotional Intelligence (X2)	0.754	Reliable
Spiritual Intelligence (X3)	0.861	Reliable

3.4. Classic assumption test

3.4.1. Normality Test

The normality test in this study was carried out using a statistical approach using the Kolmogorov-Smirnov (KS) value, with the hypothesis H0: residual data were normally distributed and Ha: residual data was not normally distributed. The conditions for the normality test are as follows: if the probability is 0.05, then H0 is accepted, and if the likelihood is $\leq$0.05, then H0 is rejected.

Table 3: Data Normality

		Unstandardized Residual
N		76
Normal Parameters [a,b]	mean	.0000000
	Std. Deviation	3.06742529
Most Extreme Differences	Absolute	.093
	Positive	.046
	negative	-.093
Test Statistics		.093
asymp. Sig. (2-tailed)		.168

a. Test distribution is Normal.
b. Calculated from data.

The table above shows that the probability level for the Kolmogorov-Smirnov (KS) value is 0.168 or greater than 0.05, which means that the data used in this study are normally distributed.

3.4.2. Multicollinearity Test

The multicollinearity test aims to test whether there is a correlation between the independent variables in the regression model. A good regression model should not correlate with the independent variables. The following describes how to detect multicollinearity by analyzing the correlation matrix between variables.

Table 4: Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	TOTAL_X1	.711	1.406
	TOTAL_X2	.764	1.309
	TOTAL_X3	.627	1.595

a. Dependent Variable: TOTAL_Y

Based on the table above, the VIF value of the independent variable, namely Student Ethical Behavior is below 10 (VIF < 10), this means that there is no multicollinearity between the independent variables in the regression model. *Tolerance* value of the independent variable Intellectual Intelligence (X1) has a Tolerance value of 0.711 > 0.1 and a VIF value of 1.406 < 10 so that it is free from multicollinearity. Emotional Intelligence (X2) has a Tolerance value of 0.764 > 0.1 and a VIF value of 1.309 < 10. While Spiritual Intelligence (X3) has a Tolerance value of 0.627 > 0.1 and a VIF value of 1.595 < 10 so that it is free from Multicolonearity.

3.4.3. Test of Heteroscedasticity

We use a scatterplot image pattern to determine the prediction of the presence or absence of heteroscedasticity in a model. The results of the scatterplot prediction are in the following image.

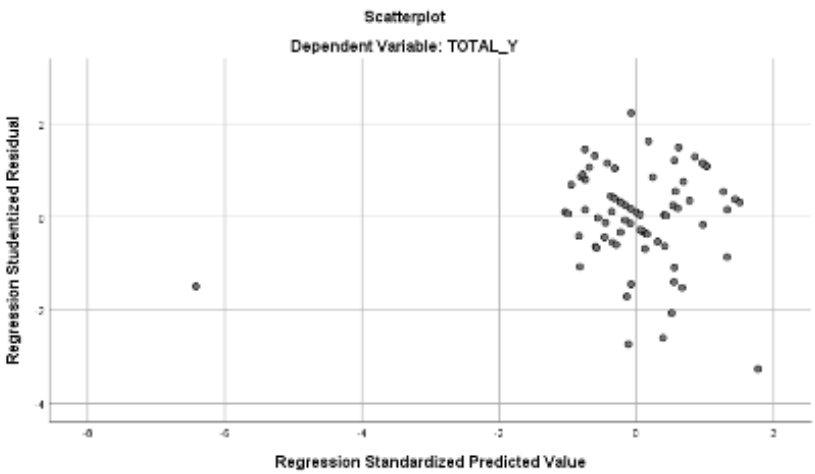

Figure 1: Scatterplot test

Based on the picture above, the scatterplot graph shows that the data spreads randomly, both above and below the number 0 (zero) on the Y axis and does not form a clear pattern. There is no heteroscedasticity in the regression model, so this regression model is feasible to use to predict the Ethical Behavior variable based on Intellectual Intelligence, Spiritual Intelligence, Emotional Intelligence.

3.4.4. Testing Hypothesis

The F test was conducted to determine whether the equation model was a fit or unfit model and whether all independent variables influenced the dependent variable. Based on the results of the F Test between Intellectual Intelligence (X1), Emotional Intelligence (X2), Spiritual Intelligence (X3) on Ethical Behavior (Y) at Bhayangkara University Surabaya, Dr. University. Soetomo, Narotama University obtained the following results.

Table 4: F . Test Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	630,357	3	210.119	21,438	0.000
Residual	705.682	72	5,760		
Total	1336,309	75			

The results of the F test show that the significant level is 0.001 < 0.05, so that the decision results show that Intellectual Intelligence (X1), Emotional Intelligence (X2), Spiritual Intelligence (X3) simultaneously have a significant effect on Ethical Behavior (Y).

Next, This t-test was conducted to see whether the independent or independent variables consisting of Intellectual Intelligence (X1), Emotional Intelligence (X2), Spiritual Intelligence (X3) had a significant effect on Ethical Behavior (Y). The results of the t-test are as follows:

Table 5: t-test results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3,611	3.156		1.144	.256		
	TOTAL_X1	.200	.080	.256	2,515	.014	.711	1.406
	TOTAL_X2	.213	.073	.287	2,928	.005	.764	1.309
	TOTAL_X3	.233	.079	.319	2,945	.004	.627	1.595

The results of the t-test show that all independent variables, namely Intellectual Intelligence (X1), Emotional Intelligence (X2), Spiritual Intelligence (X3), significantly affect the Ethical Behavior of Accounting Students.

3.5. Influence of Intellectual Intelligence on Ethical Behavior of Accounting Students

The Intellectual Intelligence regression coefficient value is 0.2 at the 0.014 level. This value indicates that if the Intellectual Intelligence variable increases one hundred percent, there will be an increase in the Student Ethical Behavior variable by 0.2 or 20.0%. Meanwhile, if the value of Intellectual Intelligence decreases by 20.0%, there will be a decrease in the Student Ethical Behavior variable, assuming that other variables are in a constant state. These results are in line with Parauba (2014) research, which states that intellectual intelligence has a significant and positive effect on the accounting understanding of students of the Faculty of Economics and Business, Sam Ratulangi University, Manado. Understanding accounting requires the role of intellectual intelligence, namely intelligence related to reasoning on accounting cases so that they can get good grades, which are used as benchmarks for understanding accounting. So it can be concluded that the results of these studies explain that intellectual intelligence significantly influences the occurrence of Ethical Behavior of Accounting Students.

Ethical behavior is behavior that conforms to generally accepted social norms. Behavior is judged to be good, fair, right, and honorable, will be based on principles or guidelines from certain ethical theories. Student ethical behavior includes those who provide their services to the community requiring the trust of the community they serve. Public confidence in the quality of public accounting services will be higher if the profession applies high-quality standards to the implementation of professional work carried out by members of the profession. Intellectual Intelligence is the ability to understand, analyze human relations to regarding abstract concepts of the relationship between objects and ideas, and apply knowledge appropriately (Pasek, 2017). So that Intellectual Intelligence (X1) affects the Ethical Behavior of Accounting Students.

3.6. Effect of Emotional Intelligence on Ethical Behavior of Accounting Students

The Emotional Intelligence regression coefficient value is 0.213 at a significance level of 0.005. This value indicates that the influence of Emotional Intelligence on Student Ethical Behavior. Suppose the Emotional Intelligence variable is increased one hundred percent. In that case, there will be an increase in the Student Ethical Behavior variable by 0.213 or 21.3%. Every time the Opportunity Emotional Intelligence is decreased by 21.3%; there will be a decrease in the Student Ethical Behavior variable, assuming that other variables in a constant state. This finding supports the research results of Artana et al. (2014), which state that Based on the results of data analysis, it is known that emotional intelligence has a significant positive effect on the level of accounting understanding. by finding the results that Emotional intelligence is very influential on what feelings we will face at that time, where we are required to control our emotions.

Emotional intelligence is the ability to recognize one's feelings and the feelings of others, motivate oneself, and manage emotions well in oneself and in relationships with others. Goleman (2005). Emotional intelligence is the

ability to sense, understand, and effectively apply the power and sensitivity of emotions as a human source of energy, information, connection, and influence. Emotional intelligence requires a person to learn to recognize, respect the feelings of oneself and others and respond appropriately and effectively apply emotional energy in everyday life (Risabella, 2014). Therefore, everything that humans do by managing feelings both for themselves and for others, of course, that ability will affect the Ethical Behavior of Accounting Students. Students are subjects or actors in the renewal movement that will become the nation's next generations, so Emotional Intelligence affects Accounting Students' Ethical Behavior.

3.7. Influence of Spiritual Intelligence on Ethical Behavior of Accounting Students

Spiritual Intelligence regression coefficient of 0.235 which is positive, indicates a unidirectional relationship between Intellectual Intelligence, Emotional Intelligence, and student ethical behavior variables. Suppose the Spiritual Intelligence variable is increased one hundred percent. In that case, there will be a decrease in the Student Ethical Behavior variable by 0.235 or 23.5% and every time the Spiritual Intelligence value is decreased by 23.5%, there will be an increase in the Student Ethical Behavior variable, assuming that other variables in a constant state. This result is consistent with Agustini and Herawati (2013) research, which states that spiritual intelligence significantly influences ethical attitudes. A person who has spiritual intelligence will interpret everything he does as worship, and he will be able to control himself not to do negative things.

Spiritual intelligence teaches people to express and give meaning to their every action, so spiritual intelligence is needed to show good performance. If someone has faith, of course, that person will be more careful to act (Mukhoyyaroh, 2011). Spiritual intelligence is the human ability to interpret the meaning of the life and understand the value contained in every action taken. Spiritual intelligence allows someone to know better to do good and right actions based on conscience, so Spiritual Intelligence affects the Ethical Behavior of Accounting Students.

3.8. Results of the Coefficient of Determination (R2)

The purpose of the coefficient of determination is to determine the percentage change in the dependent variable (Y) caused by the independent variable (X) Sujarweni, (2015:164). This change can be seen from the magnitude of the coefficient of determination (R2), zero to one. If R2 = zero, then the data shows that there is no influence between the independent variable and the dependent variable. If the value of R2 is close to zero, then there is a small influence between the independent variable and the dependent variable. The more the value of R2 close to one, then the influence of the independent variable on the dependent increasingly. The result of R^2 can be seen in the following table.

Table 6: Coefficient of Determination Test (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.687 [a]	.472	.450	3.131	1,727

a. Predictors: (Constant), TOTAL_X3, TOTAL_X2, TOTAL_X1

b. Dependent Variable: TOTAL_Y

Source: data processed by SPSS 25

Based on Table 6 shows the magnitude of the coefficient of determination *adjusted* R^2 of 0.450. This table indicates that 45.0% of accounting students' ethical behavior variables can be explained by Intellectual Intelligence, Emotional Intelligence, Spiritual Intelligence, while other factors explain 55.0% outside of this research variable.

4. Conclusion

Based on the results of data processing analysis and multiple linear regression calculations carried out in this study, we conclude that the variables of Intellectual Intelligence, Emotional Intelligence, Spiritual Intelligence simultaneously have a significant effect on the Ethical Behavior of Accounting Students. The Intellectual Intelligence and The Spiritual Intelligence variable partially have a positive and significant impact on the Ethical Behavior of Accounting Students. The Emotional Intelligence variable partially has a negative and significant effect on the Ethical Behavior of Accounting Students. The limitation of this study is to use four independent variables: Intellectual Intelligence, Emotional Intelligence, Spiritual Intelligence; namely, the coefficient of determination is low enough to explain. This limitation causes the dependent variable to be defined more by other factors than the independent variables in this study. Based on this study, the population used was only accounting students at Dr. University. Soetomo, Bhayangkara University and Narotama University Class of 2017. Further research is expected to increase the number of samples used closer to the actual conditions. For further research can use other variables such as Social Intelligence, Physical Health, Independence, and so on outside the variables used in the modeling of this study.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 94-104
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.417

Enterprise Risk Management and Bank Performance: A Study of the Indonesian Banking Industry

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Abstract
This investigation wants to prove the impact of enterprise risk management on bank performance. The population comes from employees with a working tenure above three years and working in specific departments in the bank in Indonesia. For the unknown population, we utilize snowball sampling based on the excellent relationship with the limited size of the recognized employees. Fortuitously, we can obtain 198 employees as the samples; hence, this study employs the structural equation model with the covariance basis. Moreover, to estimate the path coefficient and its properties and verify the virtuousness of the fit model, the analysis moment structures (AMOS) program is used. Finally, this study concludes that enterprise risk management affects bank performance positively. Finally, this study implies that through the correct risk management, managers can take the opportunity suitable for their strategy and identify the potential risk to be evaluated by the standard process to make the decision correctly.

Keywords: Banks, SEM Based on Covariance, Risk Management, Performance

1. Introduction

Banking is one of the sectors in Indonesia indirectly influenced by the COVID-19 pandemic in 2020. During this pandemic, numerous companies in real sectors did not operate well; consequently, they could not pay for their interests and principles to the banks. This situation increased non-performing loans in December 2019 and 2020, and September 2021 by 2.53%, 3.06%, and 3.22% (see Figure 1). If this NPL movement is not managed well, it will harm bank performance. Therefore, its accomplishment needs to be evaluated by a holistic model to sustain the bank (Wu, Tzeng, & Chen, 2009).

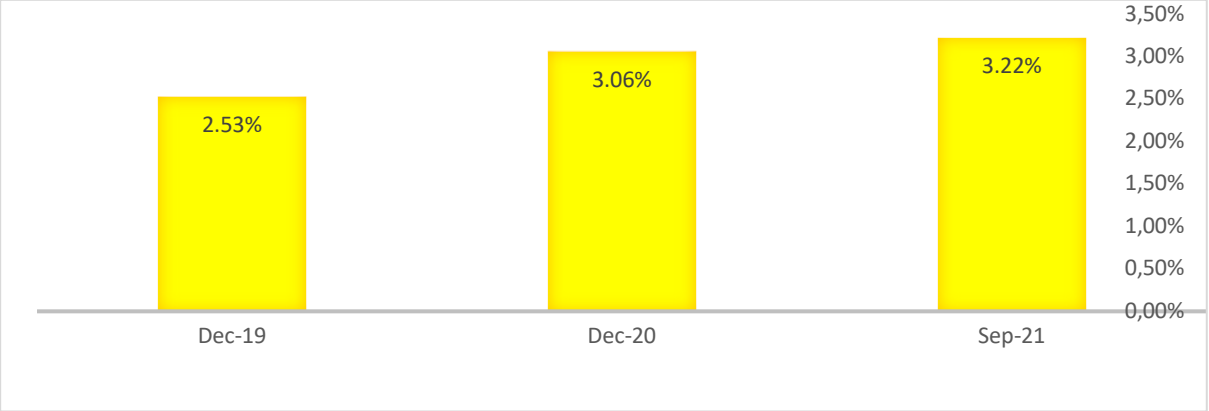

Figure 1: Non-Performing Loans in December 2019 and 2020, and September 2021

One of the assessment methods of performance used in this research is the balanced scorecard (BSC) (Kaplan & Norton, 1992), which can also be applied to banks [see Davis and Albright (2004), Kim and Davidson (2004), Balkovskaya and Filneva (2016), Wu et al. (2019)]. According to Davis and Albright (2004) and Lawrie and Cobbold (2004), BSC is an evaluating tool for extensive and universal performance to plan and control an organization to achieve its goals. Meanwhile, Gershun and Nefedeva (2005) define BSC as a strategic and working governance device to connect its objectives with internal business processes and employee activities. Besides, the BSC functions to monitor strategy execution. Moreover, Kaplan and Norton (1992) explain that BSC divides performance into four perspectives: (1) finance, (2) consumers, (3) internal business process, and (4) learning and growth.

One of the bank performance-related factors is risk management. This risk has to be organized by banks in their governance, as required by the Indonesian Financial Service Authority Regulation No.18/POJK.03/2016 for commercial banks (Olivia et al., 2020) and No. 13/POJK.03/2015 for rural banks (Tjahjono et al., 2022). Furthermore, to measure it, some studies utilize the indicators referring to ISO 31000:2018 (Tjahjono et al., 2022) and the Committee of Sponsoring Organizations of the Treadway Commission (COSO)-enterprise risk management (ERM) (Candy, 2021).

This research uses the COSO-ERM framework (2017) to measure banking risk. This decision exists because the COSO-ERM formulated in 2004 is the primary source for developing ISO31000 clauses for the 2009 first version. Because of the dynamic situations, the COSO-ERM framework has also changed: the latest is version 2017, which adopts five features: (1) governance and culture, (2) strategy and goal setting, (3) risks-related achievement, (4) review and revision, and (5) information, idea exchange, and report.

Additionally, related to this issue, many studies investigate how ERM is associated with its attainment, especially for the non-banking industry (Sofia & Augustine, 2019; González, Santomil, & Herrera, 2020), small-medium companies (Suttipun, Siripong, Sattayarak, Wichianrak, & Limroscharoen, 2018), financial institutions (Rasid, Isa, & Ismail, 2004), and the banking and financial industries (Olayinka, Emoarehi, Jonah, Ame, 2017; Soliman & Adam, 2017; Alawattegama, 2018; Candy, 2021; Sleimi, 2020), all companies, both in the financial and non-financial industry (Damayanti & Augustine, 2019). However, their result is unsatisfying.

- Investigating the firms in the consumer goods industry, Sofia and Augustine (2019) cannot find any association between ERM and performance. Similarly, after researching non-financial firms, González et al. (2000) display no relationship. Conversely, the study by Suttipun et al. (2018) exhibits that ERM positively the company achievement measured by the balanced scorecard indicators.
- Through the research utilizing banks and financial firms, Alawattegama (2018) show no association between ERM and performance. On the other hand, Soliman and Adam (2017) confirm a positive impact of ERM on bank performance. Similarly, this positive indication is affirmed by Olayinka et al. (2017) after studying the financial firms in Nigeria.
- After utilizing two types of bank performance, Rasid et al. (2014) declare ERM affects the non-financial achievement but does not influence the financial achievement. Meanwhile, Candy (2021) proves that ERM

can positively control both. Unlike Rasid et al. (2014) and Candy (2021), Al-Nimer, Abbadi, Al-Omush, and Ahmad (2021) apply three measures of performance and get two positive relationships, i.e., between (1) ERM and the non-financial (2) ERM and the environmental. Unfortunately, they find no relationship between ERM and the financial.

- By utilizing the banking business performance, Sleimi (2020) confirms that risk management practice positively affects it. Similarly, this positive sign is approved by Damayanti & Augustine (2019) in the financial and non-financial industries.

This study intends to examine this relationship again in the Indonesian banking industry by considering this contrary evidence. Unlike the studies using secondary data (Rasid et al., 2014; Soliman & Adam, 2017; Alawattegama, 2018; Sofia & Augustine, 2019; González et al., 2020; Candy, 2021), this study investigates this association by surveying the perception of workforces in the banks in Indonesia.

2. Literature Review and Hypothesis Development

A stakeholder theory explains that the group interested in the company is the government, Greenpeace, customers, the local communities, stockholders, and creditors. As the company owners, shareholders will pressure the managers to work well (Whellen & Hunger, 2012) by proxy fight, leading to getting replaced and fired (Gitman & Zutter, 2012). According to Gitman and Zutter (2012), if managers achieve their demands, they will still be in their position.

In the banking industry, managers can organize the risk to create the banks with superiority, competitiveness, and sustainability (Suttipun et al., 2018). As a result, the banks can increase their performance financially (see Candy, 2021) and non-financially (see Rasid et al., 2014; Candy, 2021). After using Jakarta's non-financial and financial firms, Damayanti and Augustine's (2019) study informs a positive relationship between ERM and firm performance. Moreover, Sleimi (2020) declares that risk management practice positively influences Jordanian bank performance. With the value at risk (VAR) to measure ERM, the study of Olayinka et al. (2017) shows that ERM positively affects the accomplishment of financial companies in Nigeria. Also, in their research, Soliman and Adam (2017) confirm a positive influence of ERM on the Nigerian bank attainment, measured by the return on assets and the stock price, respectively. Through the investigation of the financial industry in Jordan, Al-Nimer et al. (2021) document a positive impact of ERM on non-financial and environmental attainment in the Jordanian financial companies. Based on these facts, we display the first hypothesis:
H_1: The enterprise risk management affects the bank's performance positively.

3. RESEARCH METHOD

3.1. Research Variable

In this investigation, two latent variables exist, i.e., bank performance and enterprise risk management, acting as the dependent and independent variables, respectively. Moreover, we measure the bank performance based on the indicators of the balanced scorecard dimensions as Information Systems Audit and Control Association (ISACA) (2012), Upadhaya, Munir, and Blount (2014), Rostami, Goudarzi, & Zaj (2015), Abofaied (2017), and Gupta et al. (2018) state, where the description is in Table 1.

Table 1: The dimensions of the balanced scorecard and their indicators to measure bank performance

Dimensions	Indicators	Source
Financial perspective	I work at a bank that can manage the equity well to produce profits (FP1).	Abofaied (2017)
	I work in a bank that can manage the assets well to produce profits (FP2).	Gupta et al. (2018)
	I work in a bank that can manage capital adequacy well to cover the credit risk (FP3).	

Table 1: The dimensions of the balanced scorecard and their indicators to measure bank performance

Dimensions	Indicators	Source
	I work in a bank that can handle non-performing loans (FP4)	Rostami et al. (2015)
	I work in a bank that can meet the short-term debt already in maturity (FP5).	Abofaied (2017)
Customer perspective	The loyalty of depositors is the primary focus of the bank where I work (CP1).	Rostami et al. (2015)
	The bank where I work focuses on satisfying the depositor (CP2).	Abofaied (2017)
	The growth of depositors becomes the bank's attention where I work (CP3).	
	The bank I work for can quickly handle customer complaints (CP4).	Gupta et al. (2018)
Internal business process perspective	The bank where I work develops products and services as one form of innovation (IBPP1)	Abofaied (2017)
	The bank attempts to elevate quality-based products and services (IBPP2).	
	The bank where I work can keep its data, information, and business process (IBPP3).	ISACA (2012)
	The bank where I work can protect the identity of the depositors (IBPP4)	
Learning and growth perspective	The bank increases skill and competency in information technology (LGP1).	Abofaied (2017)
	Because of technology usage, the bank where I work can increase employee productivity (LGP2).	
	Because of technology applications, the bank can decrease employee turnover (LGP3).	
	Based on my experience, the employees never complained to the bank (LGP4).	Upadhaya et al. (2014)

Next, we measure enterprise risk management based on the indicators derived from the Committee of Sponsoring Organizations of the Treadway Commission (COSO) (2017) in Table 2.

Table 2: The dimensions of the enterprise risk management and their indicators

Dimensions	Indicators
Bank governance and culture	The bank I work for has a board monitoring and managing risk (BGC1).
	The bank I work for sets the organizational structure with a clear job description and responsibility (BGC2).
	The bank I work for has a working culture suitable for the objective (BGC3).
	The bank I work for commits to principal shared value (BGC4).
	The bank I work for can recruit, develop, and keep employees with excellent abilities and contributions (BGC5).
Strategy and goal setting	The bank where I work can analyze the business environment to achieve its goals (SGS1)
	The bank where I work has a system to receive the risk (SGS2)
	The bank where I work can identify and evaluate the alternative strategies to attain its goals (SGS3)
	The bank where I work can formulate business goals by considering the available risks (SGS4)
Risk-related to performance	The bank where I work can identify risks affecting performance (RRP1).
	The bank where I work can minimize risks (RRP2).
	The bank where I work can set several steps to reduce risks (RRP3).
	The bank where I work can respond to the risk becoming the priority (RRP4).

Table 2: The dimensions of the enterprise risk management and their indicators

Dimensions	Indicators
	The bank where I work can develop a system for monitoring the risk (RRP5).
Review and improvement	The bank where I work can observe and measure substantial changes in risk that must be anticipated immediately (RI1).
	The bank where I work can review performance and its risks to implement strategies to achieve goals (RI2).
	The bank where I work can improve the risk management system (RI3).
Information, communication, and reporting	The bank where I work can utilize and develop technology and information systems (ICR1)
	The bank where I work can intensify the utilization of communication channels (ICR2)
	The bank where I work can improve the reporting on performance, risk, and culture at all levels (ICR3)

Source: Adopted from COSO (2017)

3.2. Population and Sampling Method

The population in this study comes from the employees working at the banks in Indonesia. They must have a working tenure above three years in various departments, such as (1) finance, (2) information technology, (3) digital, (4) human resources, (5) research and development, (6) risk management, (7) strategy, (8) marketing, (9) operation, (10) credit analysis, (11) legal banking.

Because their number is unidentified, we utilize snowball sampling based on the excellent relationship with some recognized employees. Furthermore, they are asked to forward this survey to their colleagues in the same and different workplaces. Therefore, more respondents can be accumulated (Pandjaitan, MS, and Hadianto, 2021). Finally, this questionnaire is filled out by 198 employees; consequently, they become the sample for this study.

3.3. Data Collection

We employ the survey to obtain the data from the samples. This survey involves questionnaire distribution (Hartono, 2012). Additionally, the respondents' answer is measured by the six-Likert scales, ranging between one and six, reflecting extreme disagreement and agreement, as Sugiyono (2010) exhibits. Because the variable measurement consists of dimensions and indicators (see Tables 1 and 2), their loading factor should be available. Therefore, the validity is examined by comparing the loading factor with 0.5. If it is above 0.5, the answer will be valid, and vice versa. Moreover, we apply the Cronbach Alpha analysis to examine the reliability. A reliable response exists when the Cronbach Alpha exceeds 0.7 (Ghozali, 2011).

3.4. Method to analyze the data

This study successfully receives responses from 198 employees. According to Ghozali (2008), the sample size of almost 200 respondents and the presence of latent variables need the structural equation model (SEM) with a covariance basis to investigate data. To display the intended model, we formulate the first equation as follows.

$$BP_i = \beta_1.ERM_i + \zeta_i \qquad \text{(Equation 1)}$$

Before examining the hypothesis in this investigation ($\beta_1 > 0$), this SEM needs to be evaluated based on the goodness of fit measurements, such as the Chi-Square divided by degree of freedom (Ghozali, 2014), parsimony ratio, the parsimony normed, and comparative fit indexes with the specific cut-off value (Latan, 2013).

4. Result and Discussion

4.1. Results

4.1.1. Respondent profiles

This survey was conducted from December 2021 to January 2022. It resulted in the employee profile, as shown in Table 3, classified by gender, the city, and the bank's name where they work. Based on gender, females dominantly participated in this survey (59.09%). Denoting city, the employees from Bandung take the top position (35.86%), followed by Jakarta (25.25%) and Surabaya (11.62%). The bottommost is 0.51% from Bekasi, Cirebon, Depok, Jombang, Malang, Pacitan, Pangkalpinang, Rembang, Tebing Tinggi, Wonogiri, and Yogyakarta. Referring to the bank name, the employees from Bank Central Asia take the highest domination (35.86%), whereas the employees from Bank Capital Indonesia, Bank Commonwealth, Bank CTBC Indonesia, Bank DBS Indonesia, Bank Fama Internasional, Bank Ina Perdana, Bank Index Selindo, Bank Maspion Indonesia, Bank Mayapada, BPD Banten, Bank QNB Indonesia, Bank Sampoerna, BPR Amanat Kesejahteraan Indonesia, Bank Tabungan Pembangunan Negara, Bank Keb Hana Indonesia, and Bank KB Bukopin take the lowest participation: 0.51%.

Table 3: Employee Profile

Feature	Sub-Feature	Total	Percentage
Gender	Male	81	40.91%
	Female	117	59.09%
The city where the respondents work	Bandung	71	35.86%
	Bekasi	1	0.51%
	Bogor	7	3.54%
	Cilegon	2	1.01%
	Cirebon	1	0.51%
	Depok	1	0.51%
	Jakarta	50	25.25%
	Jombang	1	0.51%
	Kupang	12	6.06%
	Malang	1	0.51%
	Medan	3	1.52%
	Pacitan	1	0.51%
	Palangkaraya	2	1.01%
	Pangkalpinang	1	0.51%
	Purwokerto	4	2.02%
	Rembang	1	0.51%
	Semarang	3	1.52%
	Surakarta	6	3.03%
	Surabaya	23	11.62%
	Tangerang	4	1.52%
	Tebing Tinggi	1	0.51%
	Wonogiri	1	0.51%
	Yogyakarta	1	0.51%
The name of the bank where the respondents work	Bank Bisnis Internasional	2	1.01%
	Bank Capital Indonesia	1	0.51%
	Bank Central Asia	71	35.86%
	Bank Commonwealth	1	0.51%
	Bank CTBC Indonesia	1	0.51%
	Bank Danamon Indonesia	12	6.06%
	Bank DBS Indonesia	1	0.51%

Table 3: Employee Profile

Feature	Sub-Feature	Total	Percentage
	Bank Fama Internasional	1	0.51%
	Bank Ina Perdana	1	0.51%
	Bank Index Selindo	1	0.51%
	BPD Jabar & Banten	4	2.02%
	Bank Kalteng	2	1.01%
	Bank Mandiri (Persero)	3	1.52%
	Bank Maspion Indonesia	1	0.51%
	Bank Mayapada	1	0.51%
	Bank Mayora	2	1.01%
	Bank Mega	2	1.01%
	Bank Nationalnobu	7	3.54%
	Bank Negara Indonesia (Persero)	8	4.04%
	Bank Pan Indonesia	11	5.56%
	BPD Banten	1	0.51%
	BPD NTT	11	5.56%
	Bank Permata	4	2.02%
	Bank QNB Indonesia	1	0.51%
	Bank Rakyat Indonesia (Persero)	4	2.02%
	Bank Sampoerna	1	0.51%
	Bank Sinarmas	3	1.52%
	Bank Syariah Indonesia	3	1.52%
	Bank Tabungan Negara (Persero)	5	3.03%
	Bank UOB Indonesia	6	1.01%
	BPR Amanat Kesejahteraan Indonesia	1	0.51%
	Bank Tabungan Pembangunan Negara	1	0.51%
	Bank CIMB Niaga	6	3.03%
	Bank Keb Hana Indonesia	1	0.51%
	Bank KB Bukopin	1	0.51%
	Bank Maybank Indonesia	9	4.55%
	Bank OCBC NISP	7	3.54%

Source: Researcher Database

4.1.2. The validity and reliability results of the answer of the employees to the indicators of bank performance and enterprise risk management

In the beginning step, we find the invalid response to indicator LGP3, reflected by the loading factor 0.391 by the confirmatory factor analysis (CFA). Because of this situation, this indicator is removed. After that, we rerun the CFA, and the final result can be seen in Table 4:

a. The loading factor of FP: FP1-FP5, CP: CP1-CP4, IBPP: IBPP1-IBPP4, and LGP: LGP1, LGP2, LGP4 is above 0.5: 0.923, 0.923, 0.916, 0.871, 0.770, 0.851, 0.938, 0.931, 0.879, 0.908, 0.920, 0.946, 0.946, 0.804, 0.814, and 0.571. Thus, the answer to all indicators is valid. Besides, the loading factor of all dimensions are higher than 0.5: 0.899 for FP, 0.976 for CP, 0.950 for IBPP, 0.880 for LGP. It means that all FP, CP, IBPP, and LGP can reflect bank performance.

b. The Cronbach Alpha for valid indicators is also higher than 0.7: 0.943 for FP, 0.943 for CP, 0.962 for IBPP, and 0.761 for LGP. This situation means all FP, CP, IBPP, and LGP items are consistent.

Table 4: The validity and reliability test result of the answers to indicators of bank performance measured by the balanced scorecard

Indicators	Loading factor for indicators		Loading factor for dimension		Cronbach Alpha for valid indicators	
	Value	Meaning	Value	Meaning	Value	Meaning
FP1	0.923	The answer to all indicators for the BGC is valid because all the LF exceeds 0.5.	0.899	The FP dimension is valid because the LF exceeds 0.5.	0.943	The answer to all items of FP is consistent because the CA exceeds 0.7.
FP2	0.923					
FP3	0.916					
FP4	0.871					
FP5	0.770					
CP1	0.851	The answer to all indicators for the CP is valid because all the LF exceeds 0.5.	0.976	The CP dimension is valid because the LF exceeds 0.5.	0.943	The answer to all items of CP is consistent because the CA exceeds 0.7
CP2	0.938					
CP3	0.931					
CP4	0.879					
IBPP1	0.908	The answer to all indicators for the IBPP is valid because all the LF exceeds 0.5.	0.950	The IBPP dimension is valid because the LF exceeds 0.5.	0.962	The answer to all items of IBPP is consistent because the CA exceeds 0.7
IBPP2	0.920					
IBPP3	0.946					
IBPP4	0.946					
LGP1	0.804	The answer to all indicators for the LGP is valid because all the LF exceeds 0.5.	0.880	The LGP dimension is valid because the LF exceeds 0.5.	0.761	The answer to all items of LGP is consistent because the CA exceeds 0.7
LGP2	0.814					
LGP4	0.571					

Table 5 presents the validity and reliability results of the answers to indicators of enterprise risk management:

a. The loading factor of BCG: BGC1-BGC5, SGS: SGS1 -SGS5, RRP: RRP1-RRP5, RI: RI1-RI3, and ICR: ICR1-ICR3 is above 0.5: 0.741, 0.872, 0.849, 0.905, 0.698, 0.808, 0.702, 0.890, 0.889, 0.859, 0.880, 0.875, 0.869, 0.864, 0.880, 0.893, 0.890, 0.848, 0.878, 0.931. Thus, the answer to all indicators is valid. Besides, the loading factor of all dimensions are higher than 0.5: 0.941 for BG, 0.957 for SGS, 0.991 for RRP, 0.979 for RI, and 0.963 for ICR. It means that all BGC, SGS, RRP, RI and ICR can reflect ERM.

b. The Cronbach Alpha for valid indicators is also higher than 0.7: 0.900 for BGC, 0.890 for SGS, 0.938 for RRP, 0.918 for RI, and 0.915 for ICR. This situation means that all BGC, SGS, RRP, RI, and ICR items are consistent.

Table 5: The validity and reliability test result of the answers to indicators of enterprise risk management

Indicators	Loading factor for indicators		Loading factor for dimension		Cronbach Alpha for valid indicators	
	Value	Meaning	Value	Meaning	Value	Meaning
BGC1	0.741	The answer to all indicators for BGC is valid because the LF exceeds 0.5.	0.941	The BGC dimension is valid because the LF exceeds 0.5.	0.900	The answer to all items of BGC is consistent because the CA exceeds 0.7.
BGC2	0.872					
BGC3	0.849					
BGC4	0.905					
BGC5	0.698					
SGS1	0.808	The answer to all indicators for SGS is valid because the LF exceeds 0.5.	0.957	The SGS dimension is valid because the LF exceeds 0.5.	0.890	The answer to all items of SGS is consistent because the CA exceeds 0.7.
SGS2	0.702					
SGS3	0.890					
SGS4	0.889					
RRP1	0.859	The answer to all indicators for RRP is valid because the LF exceeds 0.5.	0.991	The RRP dimension is valid because the LF exceeds 0.5.	0.938	The answer to all items of RRP is consistent because the CA exceeds 0.7.
RRP2	0.880					
RRP3	0.875					
RRP4	0.869					
RRP5	0.864					
RI1	0.880	The answer to all indicators for RI is valid because the LF exceeds 0.5.	0.979	The RI dimension is valid because the LF exceeds 0.5.	0.918	The answer to all items of RI is consistent because the CA exceeds 0.7.
RI2	0.893					
RI3	0.890					

Table 5: The validity and reliability test result of the answers to indicators of enterprise risk management

Indicators	Loading factor for indicators		Loading factor for dimension		Cronbach Alpha for valid indicators	
	Value	Meaning	Value	Meaning	Value	Meaning
ICR1	0.848	The answer to all indicators for ICR is valid because the LF exceeds 0.5.	0.963	The ICR dimension is valid because the LF exceeds 0.5.	0.915	The answer to all items of ICR is consistent because the CA exceeds 0.7.
ICR2	0.878					
ICR3	0.931					

4.1.3. The detection result of the goodness of the model fits

Table 6 exhibits some measures of the goodness of model fits, like Chi-Square divided by the degree of freedom (Chi-Square/DF) of 2.587, P-RATIO of 0.927, PNFI of 0.779, and PCFI of 0.830. Related to the first measure, because the Chi-Square/DF lies between 2 and 5, the data suits the model. Also, the empirical evidence still matches the model because the value associated with the second, third, and fourth measures exceeds 0.6.

Table 6: The goodness of the model fits

Measures	Value	Expected value	Interpretation
Chi-Square/DF	2.587	Between 2 and 5 (Ghozali, 2014)	Data are suitable for model.
Parsimony ratio (PRATIO)	0.927	More significant than 0.6 (Latan, 2013)	
Parsimony normed fit index (PNFI)	0.779	More significant than 0.6 (Latan, 2013)	
Parsimony comparative fit index (PCFI)	0.830	More significant than 0.6 (Latan, 2013)	

4.1.4. The estimation result of the path coefficient model

After getting the confidence that the data utilized match the model, the next step is the estimation result of the path coefficient and its related statistical features, as seen in Table 7. In this table, the unstandardized coefficient is positive with the probability of 0.000. It also means the first hypothesis is not refused. Thus, enterprise risk management positively affects bank performance.

Table 7: The estimation result of the path coefficient

Path direction	Unstandardized Path Coefficient	Standard error of estimation	Critical ratio	Probability
ERM → BP	$\beta_1 = 1.170$	0.109	10.694	***

4.2. Discussion

The test result of the first hypothesis depicts that enterprise risk management positively affects bank performance. This condition happens because of the stakeholders supporting the bank to survive. The primary actors are the controlling shareholders and top managers, and they have to override their self-interest and focus on serving society to borrow and save funds. According to Malik, Zaman, and Buckby (2020), the precise application of risk management helps the managers to capture the opportunities matching their strategic goals and identify potential risks to be evaluated through the standard process to make the correct decision. Therefore, this research supports the work of Suttipun et al. (2018), Damayanti and Augustine (2019), Sleimi (2020), Olayinka et al. (2017), Soliman and Adam (2017), as well as Al-Nimer et al. (2021). With this positive impact of ERM on bank performance, this study suggests that banks should focus on the governance and culture supporting the attainment, the strategy and goal settings, the review of the performance-based risk, the information, communication, and report related to sustainable risk management.

5. Conclusion

This study intends to test and analyze the influence of enterprise risk management on bank attainment based on the perspective of workforces in Indonesia. Furthermore, this study effectively proves the positive impact by employing the survey from December 2021 to January 2022 and 198 employees as the samples taken by the snowball sampling technique. Practically, this study demonstrates through the correct risk management, managers can take the opportunity suitable for their strategy and identify the potential risk to be evaluated by the standard process to make the decision correctly.

Although ERM positively affects bank performance, this investigation faces several limitations. Firstly, this investigation only uses one determinant of bank performance. This circumstance opens an opportunity for the subsequent scholars to add several factors, such as human capital, business innovation, bank size, and management accounting system. Secondly, because of the limited time and access, this study does not cover the bank employees from the eastern areas of Indonesia, such as Papua, West Papua, and Maluku islands. Based on this issue, the subsequent researchers can seek the employees from these areas to be the respondents in their survey.

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ASIAN INSTITUTE OF RESEARCH
Connecting Scholars Worldwide

The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 105-123
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.418

The Mediating Effect of Psychological Empowerment on the Relationship between Transformational Leadership and Staff Retention in Microfinance Institutions in Kenya

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Abstract
Retention of the desired staff in microfinance institutions has remained a major challenge as depicted from extant literature. It is often associated with inappropriate leadership deployed in these institutions among other antecedents. The current study, therefore, set out to establish the effect of transformational leadership on staff retention in microfinance institutions in Nairobi City County, Kenya, as well as the mediating effect psychological empowerment on the relationship between transformational leadership and staff retention in microfinance institutions in Nairobi City County, Kenya. The study was guided by Transformational Leadership Theory, Leader-Member Exchange Theory, Social Exchange Theory, and Resource-Based View Theory and founded on the positivism philosophy. Descriptive and explanatory research designs were adopted to guide the study. A sample of 298 respondents was obtained from 12 microfinance institutions in the Nairobi City County, Kenya, through census method for data collection. The unit of analysis was the head offices of the 12 microfinance institutions, while the unit of observation was the senior management level, middle management level and lower management level. Data was collected using structured questionnaires and analysed using descriptive and inferential statistics. The hypotheses were tested at the 5% significance level. The study established that transformational leadership was a significant predictor of staff retention, and that this relationship was partially mediated by the psychological empowerment. The study recommends that the microfinance institutions management should align transformational leadership practices with the strategic goals set for staff retention and emphasize on psychologically empowering strategies for their staff.

Keywords: Transformational Leadership, Psychological Empowerment, Staff Retention, Microfinance

1. Introduction

The conceptual and empirical literature reviewed in this study show that staff retention is a function of transformational leadership deployed in an institution, psychological empowerment developed in staff by the leaders, staff satisfaction level and organizational commitment of staff towards the organization among other

antecedents. There are many studies that have explored the influence of transformational leadership on psychological empowerment (AlKindy & Magd, 2021; Giang & Dung, 2021; Saira et al., 2021), while others have examined the relationship between transformational leadership and staff retention (Judeh & Abou-moghli, 2019; Tian et al., 2020), as well as psychological empowerment and staff retention (Panda & Sahoo, 2021), but these constructs have been studied disjointedly.

There is, therefore, limited studies researching on the linkage between the three constructs particularly in the microfinance context in a non-segmented form. This study filled this gap by investigating the mediating effect of psychological empowerment on the relationship between transformational leadership and staff retention in microfinance institutions.

Transformational leadership, as conceptualized by Burns (1978) and furthered by Bass in 1985, has widely been conceived as the ability of a leader to move followers from self-aggrandizing interests to others' interests, limited belief to performing better than they thought they could, and low morale to increased morale and motivation (Kasımoğlu & Ammari, 2020; Ma et al., 2020). In spite of the fact that transformational leadership has received a lot of praises for its positive outcomes in organizations such as potential to increase staff retention, it has received an equal measure of criticisms. For instance, the high expectations by leaders for followers to perform better than they thought possible often leads to staff's burnout and stress. This study considers transformational leadership as a function of the four dimensions outlined by Bass in 1985 (Yukl, 2010), namely idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration.

The relationship between transformational leadership and staff retention is conceptualized in this study as a mediated than direct one. A mediating variable, defined as the causal link between independent and dependent variables (Khalid et al., 2012; Sekaran & Bougie, 2016), increases the strength of the relationship such that a change in independent variable significantly affects the mediator and a change in the mediator affects the dependent variable (Baron & Kenny, 1986). Extant literature shows that psychological empowerment is linked to transformational leadership (AlKindy & Magd, 2021; Saira et al., 2021). Psychological empowerment has been conceived as the perception held by staff towards their job and tasks, and is composed of four dimensions namely meaning, competence, self-determination and impact (Minai et al., 2020; Saira et al., 2021). The meaning element of psychological empowerment refers to how meaningful the staff find their job roles to be from their values and standards perspective (Bharadwaja & Tripathi, 2021). Competence refers to staff's belief in their proficiency in performing tasks (Shah et al., 2019), and can therefore be perceived as their self-efficacy (Bharadwaja & Tripathi, 2021). On the other hand, self-determination is the feeling of autonomy in initiating and sustaining tasks by the staff (AlKindy & Magd, 2021), while impact refers to the conviction the staff have regarding their ability to influence operations of their institutions (Panda & Sahoo, 2021). For overall effectiveness of psychological empowerment in the institutions it is deployed, Turnipseed and VandeWaa (2020) recommend a combination of all the four cognitions of meaning, competence, self-determination, and impact. As such, this study adopted a combination of all the four cognitions. Since psychological empowerment is seen as a potential predictor of staff retention (Ambad et al., 2021; Safari et al., 2020), the current study investigated its mediating effect on the relationship between transformational leadership and staff retention.

Staff retention is the deliberate effort to attract and retain desired staff to continue working in their institutions for the longest period of time, by creating a conducive environment for them (Devi, 2020; Fahim, 2018; Vu & Nwachukwu, 2020; Wambede & Bisaso, 2020). However, studies have revealed that staff retention is a major challenge in most organizations including microfinance institutions particularly due to globalization and increased workforce mobility (Wakabi, 2016; Whatmore & Wiklef, 2020). Since the challenge of staff retention results to disruption in the organizations' operations, increased costs of recruiting and training new staff and reduced morale to the remaining staff among other undesired effects, this study sought to establish how transformational leadership could remedy the challenge through mediation of psychological empowerment.

The study was anchored in the microfinance context, a construct that was coined by Professor Yunus Muhammad in 1970s in order to alleviate poverty by providing access of finances to the poor who cannot access mainstream banking (Kumar & Divya, 2021; Rasel & Win, 2020). A significant number of women is able to access finances

from the MFIs, thus reducing the feminization of poverty where women were seen as poorer than men. Unfortunately, staff retention in these institutions has continued to be a challenge due to ineffective leadership and governance among other factors (Kayembe et al., 2021; Nyasunda & Atambo, 2020), which slows achievement of these goals.

1.1. Statement of the problem

There is a global concern on the challenge of staff retention in MFIs emanating from inappropriate leadership and stiff competition from mainstream banking due to globalization (Gathondu et al., 2018a; Javeed et al., 2021). This threatens the sustainability of the MFIs as well as achievement of their goal of reducing poverty and its feminization.

While numerous studies have investigated the relationship between transformational leadership and staff retention (Kariuki et al., 2022), the mediation of this relationship has not been sufficiently explored (Stanescu et al., 2020). Other studies consider psychological empowerment as a dependent variable predicted by transformational leadership (Al Harbi et al., 2019), but the current study investigates the mediating effect that psychological empowerment has on the relationship between transformational leadership and staff retention.

Gathondu et al., (2018) observe that there are scanty empirical studies on the constructs of transformational leadership and staff retention, and that most studies in these constructs are theoretical in nature. Similar concerns are presented by Nuo and Hee (2020), as well as (Odumeru & Ifeanyi, 2013). The current empirical investigation on the three constructs of transformational leadership, psychological empowerment and staff retention is timely in filling in this knowledge gap.

There emerges a conceptual gap from the existing studies where more attention has been paid on staff turnover as an outcome of transformational leadership than staff retention which is the desired outcome (Gan & Yusof, 2019). The current study presents a more concise conceptual framework linking transformational leadership to staff retention through psychological empowerment as the mediator.

2. Literature Review

2.1. Theoretical Review

A theoretical framework is described as a set of theories or interrelated concepts that explains how a given phenomenon occurs, supported by verified data (Sikawa et al., 2018; Owuor et al., 2020). The current study was guided by The Transformational Leadership Theory, Leader-Member Exchange Theory, Social Exchange Theory, and Resource-Based Theory to explore the relationship between transformational leadership, psychological empowerment and staff retention as outlined in this section.

2.1.1. Transformational Leadership Theory

The Transformational Leadership Theory was proposed by James Burns in 1978 and further developed by Bernard Bass in 1985. The theory opined that a leader can act as a change agent by motivating his followers into achieving more than what they could have conceived as possible by changing their status quo (Mwesigwa et al., 2020). However, the theory is criticized of masking its negative outcomes in organizations such as staff's burnout and stress due to high targets set for them by the leaders, and only focus on its positive outcomes (Odumeru & Ifeanyi, 2013).

Mugizi et al. (2019) used the theory to examine the relationship between transformational leadership and teachers' retention, and found a positive significant correlation between the two variables. Similarly, Okoth (2018) used the theory to investigate how transformational leadership was implemented in the curriculum in Siaya County in Kenya. The current study opted for this theory because of its ability to yield desired organizational outcomes such as staff retention and positive attitude among others when deployed in organizations (Walumbwa et al., 2008).

2.1.2. Leader-Member Exchange Theory

The Leader-Member Exchange (LMX) Theory postulates that a certain informal relationship develops over the time as the leader interacts with each subordinate (Yukl, 2010). Such a relationship results to a form of exchange between the leader and subordinates such that the subordinates respect and follow the leader willingly when they perceive a high-quality dyad (Adero & Odiyo, 2020; Kariuki, 2020; Northouse, 2016). The key proponents of this theory were Graen and Cashman in 1975, and Dansereau, Graen, and Haga in 1975.

Kanake and Kemboi (2020) utilized this theory in their investigation of the relationship between employee empowerment and innovative work behaviour. The study revealed that the kind of relationship that exists between the leader and followers influence the nature of exchanges between the two parties. Based on this argument, the current study used the Leader-Member Exchange Theory to explain the nature of the relationship that forms between a leader and staff so that the staff respects the leader and consequently the leader effectively influences the staff to perform more that they initially thought they would perform.

2.1.3. Social Exchange Theory

The theory postulates that followers feel morally obliged to reciprocate the good behaviours they perceive from their leaders, and they do so by being more loyal and committed to the leaders and organization (Bouraoui et al., 2019; Chiu et al., 2020; Pattnaik & Sahoo, 2021). The main contributors to the theory are Blau in 1964, Homans in 1958, Thibaut and Kelley in 1959, Hollander in 1958 and Jacobs in 1970. Although the reviewed literature show that followers who feel psychologically empowered become more committed and satisfied with their leaders (Minai et al., 2020; Stanescu et al., 2020), those who have critiqued the theory have argued that leaders do good to followers to lure them for self-aggrandizing interests than altruistic interests of the followers and organization (Muldoon et al., 2018).

Saira et al. (2021) anchored their study on the social exchange theory in establishing the influence of transformational leadership on employee outcomes, mediated by psychological empowerment. The study revealed a positive significant influence of transformational leadership on psychological empowerment, which leads to reciprocation by followers with desire to stay in their organizations. The current study, therefore, adopts this theory to explain how the staff decides to remain in their organizations when they perceive their leaders as psychologically empowering.

2.1.4. Resource-Based View (RBV) Theory

Resource-based view (RBV) theory states that the survival of a company depends on both its tangible and intangible resources (Lu et al., 2021; Shahzad et al., 2020). The theory was authored by Barney (1991) who argued that an organization ought to have resources that add value to it. It was furthered by Penrose in 1959, Wernerfelt in 1984, and Rumelt in 1984 (Armstrong, 2014; Zubac et al., 2010). While Enriquez de la O (2015) recommends that resources should be combined to yield competitive advantage for the organization, critiques of the theory have pointed out that the theory is ambiguous on which resources should be combined to achieve this purpose (Burvill et al., 2018).

Tayal et al. (2021) anchored their study on The Resource-Based View Theory in exploring the effect of transformational leadership on the effectiveness of banks in India. The study observed that there is need to combine resources with leadership skills to increase the organization's competitiveness. The current study used the theory to illustrate that committed and talented staff are a great resource to the organization as asserted by Luna-Arocas et al. (2020).

2.2. Conceptual and Empirical Review

This section interrogates previous empirical studies and identifies conceptual, contextual, methodological and knowledge gaps that warrant for more research. It also compares and contrasts the studies to determine replicability of the current study in other studies and contexts.

2.2.1. Transformational Leadership and Staff Retention

There has been an ongoing discourse among scholars that staff do not leave organizations, but rather quit their leaders (Ronald et al., 2016). This suggests that the solution to staff retention challenge lies in the kind of leadership deployed in the organizations. On one hand, transformational leadership can result to stress and burnout when leaders expect higher performance from the followers than they can manage (Parveen & Adeinat, 2019), but on the other hand, transformational leadership is seen to correlate positively with organizational outcomes such as staff retention (Nuo & Hee, 2020).

The study by Judeh and Abou-moghli (2019) found a positive significant correlation between transformational leadership and staff's intention to stay in the organization. Similar results were obtained by Almas et al. (2020) in their investigation of the effect of transformational leadership on retention of volunteering employees in Spain, as well as the study by Tian et al. (2020) who investigated the effect of transformational leadership on employee retention in SMEs.

2.2.2. Transformational Leadership, Psychological Empowerment and Staff Retention

Saira et al. (2021) investigated the mediating role of psychological empowerment in the relationship between transformational leadership and organizational citizenship behaviour and turnover intention, confirming a strong relationship between transformational leadership and psychological empowerment. Psychological empowerment partially mediated the relationship. A similar study was conducted by Samuel and Engelbrecht (2021) who sought to assess the impact of transformational leadership on employee's intention to quit an organization, considering psychological empowerment as one of the mediators. There was a negatively significant relationship between the variables.

In their investigation of psychological empowerment effect on staff satisfaction, Kivuva et al. (2019) considered only one cognition of psychological empowerment, namely meaning, leaving out competence, self-determination and impact. Since this would alter the overall impact of psychological empowerment on organizational outcomes (Pradhan et al., 2017; Turnipseed & VandeWaa, 2020), the current study conceptualized psychological empowerment as constituted of all the four cognitions.

Based in Nigerian context, Owan et al. (2020) considered psychological empowerment as a mediator between employee's work-life policies and job commitment, establishing that psychological empowerment had a significant effect on all the three dimensions of commitment. In the current study, staff commitment is considered as one of the measures of staff retention which is the dependent variable, while transformational leadership is conceptualized as the independent variable. The current study also extended the context from educational to microfinance context.

2.3. Conceptual Framework and Hypothesis Formulation

A conceptual framework aids research by providing a researcher with a clear roadmap and logical propositions upon which the study is anchored (Miles et al., 2014; Ravitch & Riggan, 2017). The current study conceptualized transformational leadership as the independent variable, staff retention as the dependent variable, and psychological empowerment as the mediating variable comprised of meaning, competence, self-determination and impact as conceptualized by Spreitzer (1995).

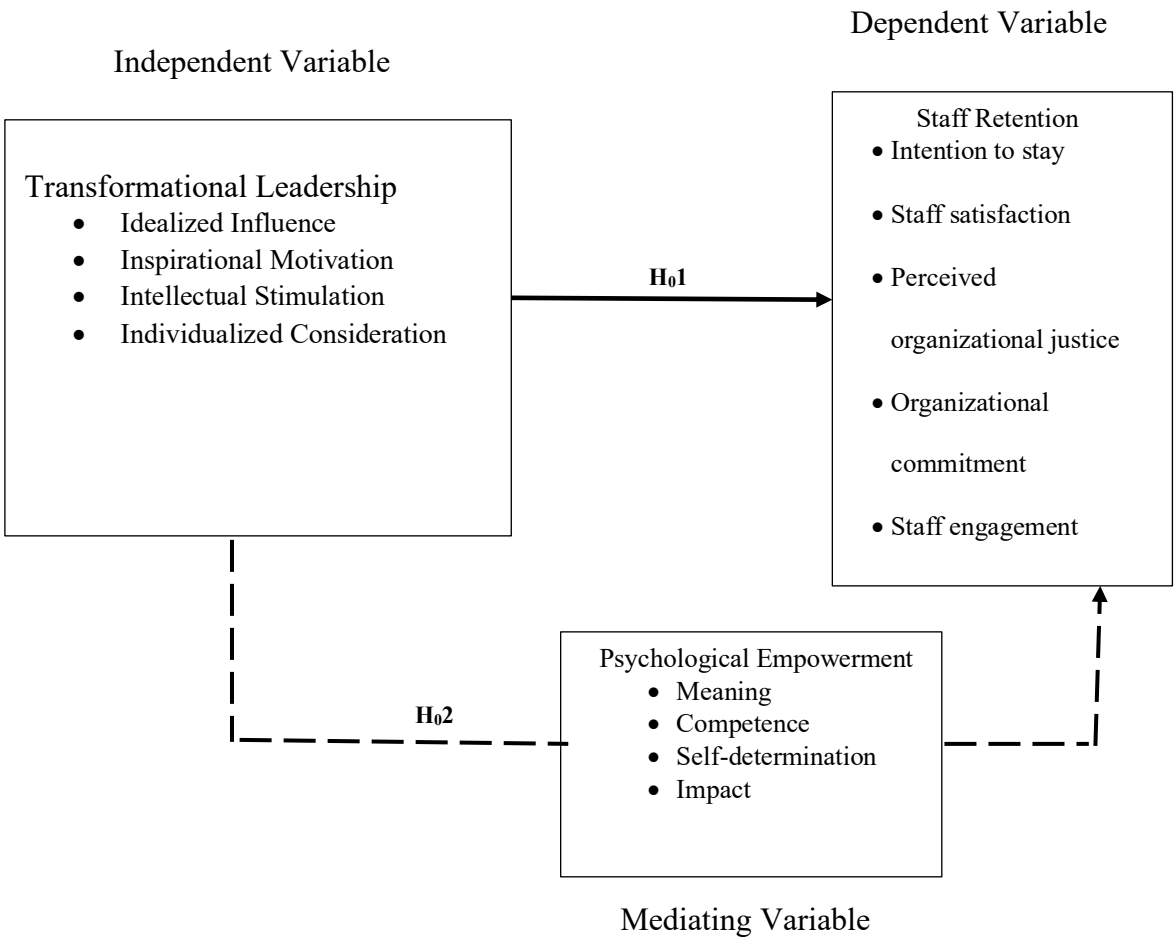

Figure 2.1: Conceptual Framework

The null hypotheses that were used to test the relationship between the study's variables were:

> ***Hypothesis one:*** *Transformational leadership has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya.*
> ***Hypothesis two:*** *Psychological empowerment has no significant mediating effect on the relationship between transformational leadership and staff retention in microfinance institutions in Nairobi City County, Kenya.*

3. Research Methodology

3.1. Research Philosophy

Since the study seeks to explore the phenomenon as it happens without researcher's interference as recommended by Saunders et al. (2007), the objectivist approach was used where structured questionnaire was physically administered for data collection. Such a positivist approach allows for generalizability of results to the entire population (Lan, 2018). Additionally, positivist epistemology was adopted for the study, justified by the fact that the study was quantitative in nature and deductive as guided by theoretical framework.

3.2. Research Design

The current study adopts descriptive and explanatory research designs which are recommended for an investigation that seeks to ascertain characteristics of the study's variables and to explain the effect of an independent variable

on the dependent variable respectively (Amjad et al., 2020; Creswell, 2012; Kothari, 2004; Sekaran, 2003). The study described the phenomenon between transformational leadership, psychological empowerment and staff retention as it is without interfering with the setting and respondents, and established the relationship among the variables.

3.3. Target Population

A total of 12 MFIs constituted the unit of analysis for the study (Central Bank of Kenya, 2020). This comprised of the MFIs licenced by the Central Bank of Kenya and have headquarters in the Nairobi City County and were accessible for data collection. Census was used as the sampling method as required of a small population (Bryman, 2012). Sammut et al. (2021) used this sampling method to collect data from 350 nurses. Table 3.1 summarizes the target population.

Table 3.1: Target Population

Strata	Total number of staff	Percentage
Senior management staff	26	8.72%
Middle management staff	48	16.11%
Lower-level management staff	224	75.17%
Total	298	100%

Source: Field data

3.4. Data Analysis

The collected data was analysed using descriptive and inferential statistics. Specifically, the descriptive statistics used were measures of central tendency and standard deviation. This enables replication of the study (Zadrozny et al., 2016) and interpretation of other statistical data analysis (Whittemore & Melkus, 2008). The inferential statistics used were the correlation analysis for establishing the relationship between the variables and regression analysis to test the study's hypothesis (Mugenda & Mugenda, 2019). To verify that the data did not violate statistical assumptions, diagnostic tests were conducted as presented in Table 3.2

Table 3.2: Summary of Diagnostic Tests

Diagnostic test	Test	Observation	Conclusion
Normality	Skewness and Kurtosis	-.871 and 1.118 respectively.	Data was normally distributed since the values were within ±3
Heteroscedasticity	Levene test	$p>0.05$	No heteroscedasticity
Multicollinearity	Variance Inflation Factor (VIF)	VIF < 10 (VIF = 1.865)	No multicollinearity
Linearity test	Scatter Plots	Normal PP line	Data was linearly distributed

4. Research Findings

4.1. Response Rate

Table 4.1 shows the response rate by the respondents at different strata.

Table 4.1: Response Rate

	Frequency	Percentage
Response	210	70.5%
Non response	88	29.5%
Total	298	100.0

Strata	Targeted Response	Actual Response	Percentage
Senior management staff	26	9	34.6%
Middle management staff	48	17	35.4%
Lower-level management staff	224	184	82.1%
Total	298	210	70.5%

A response rate of 70.5% was obtained. Babbie (2010) avers that a response rate above 70% is sufficient for a reliable results analysis and presentation.

4.2. Respondents Characteristics

The characteristics of respondents that were regarded as important attributes in influencing their responses were summarized in Table 4.2

Table 4.2: Respondents' Characteristics

Respondent's Gender

		Frequency	Percent
Valid	Male	94	44.8
	Female	116	55.2
	Total	**210**	**100.0**

Respondent's Age

		Frequency	Percent
Valid	Below 24	28	13.3
	25-34	99	47.1
	35-44	64	30.5
	45-54	19	9
	55 and above	0	0
	Total	**210**	**100.0**

Academic Qualification

		Frequency	Percent
Valid	Other	3	1.4
	Diploma certificate	39	18.6
	Bachelor's Degree	145	69.0
	Master's degree	22	10.5
	Doctoral Degree	1	.5
	Total	**210**	**100.0**

Position held in the Institution

		Frequency	Percent
Valid	Lower-level management staff	142	67.6
	Head of Department	42	20.0
	Branch Manager	17	8.1
	General Manager	7	3.3
	Chief Executive Officer	2	1.0
	Total	**210**	**100.0**

Number of Years Worked in the Institution

		Frequency	Percent
Valid	Less than 1 year	49	23.3
	1 - 5 years	100	47.6
	6 - 10 years	49	23.3

Over 10 years	12	5.7
Total	**210**	**100.0**

From Table 4.2, it can be deduced that there is gender balance in leadership, with females being 55.2 % and males 44.8%. The majority of the staff were middle aged, ranging between 24 to 44 years. 80% and above of the respondents had a Bachelor's degree or higher, suggesting that they were well informed about the phenomenon being studied. The responses were seen to be free of self-reported data bias since most of the respondents, 67.6%, came from the lower level management staff. Also, most of the respondents (76.6%) had over 1year experience of working in the same institution, suggesting that their responses were credible. The observation that only 5.7% of the respondents had worked for over 10years can be attributed to the fact that many new MFIs have come into the market thus increasing workforce mobility.

4.3. Descriptive Statistics

The characteristics of the study's variables were summarized in Table 4.3.

Table 4.3: Descriptive Characteristics

Variable	Reliability (Cronbach Alpha)	Mean	Std. Dev
Idealized Influence	.930	4.32	.695
Inspirational Motivation	.884	4.30	.762
Intellectual Stimulation	.904	4.19	.877
Individualized Consideration	.864	3.99	.979
Staff Retention	.926	3.68	.970

From Table 4.3, it is noted that all the variables had a Cronbach Alpha above 0.7. The values fall within the acceptable range (Hair et al., 2019). This implies that the instrument used for data collection was reliable.
The respondents were in consensus that idealized influence was practiced in the MFIs studied as shown by the mean of 4.32 and standard deviation of 0.695, similar to findings from the studies conducted by Edirisooriya (2020) and Otieno et al. (2019a). Inspirational motivation was also practiced (mean = 4.30; standard deviation of 0.762), which confirms the findings obtained from the study conducted by Komakech et al. (2021a). The mean score of 4.19 for intellectual stimulation variable implied that intellectual stimulation was deployed in the microfinance institutions. Thuan (2020) obtained similar results. Individualized consideration was also practiced (mean = 3.99) in microfinance institutions, but the high standard deviation of 0.979 shows that respondents varied in their view regarding this construct. There was average retention of employees among MFIs in Nairobi City County as shown by the mean score of 3.68 and the standard deviation of 0.970.

4.4. Test of Hypotheses

The hypotheses of the current study were tested using linear regression. The results were interpreted at 0.05 significance level such that the null hypotheses were rejected if $p < 0.05$ and accepted if $p \geq 0.05$.

Hypothesis one stated that transformational leadership has no significant effect on staff retention. This was determined by use of multiple linear regression. Table 4.4 presents the regression model summary.

Table 4.4: Model summary linking Transformational Leadership and Staff Retention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.845[a]	.714	.709	.26938

The value of coefficient (R = 0.845) in Table 4.4 reveals a strong and positive correlation between transformational leadership and staff retention. The adjusted R Square (R^2) value of 0.709 suggested that 70.9% of variation in staff retention was predicted by transformational leadership while the remaining 19.1% of the variation was as a result of other factors than transformational leadership.

Table 4.5 shows the ANOVA results for the regression model.

Table 4.5: ANOVA Linking Transformational Leadership and Staff Retention

	Sum of Squares	df	Mean Square	F	Sig.
Regression	37.75	4	9.4375	128.176	0.000[b]
Residual	15.094	205	0.074		
Total	52.844	209			

Since the P-value (p = 0.000) was less than the significance level of 0.05, the model was found to be fit for predicting staff retention.

The significance of beta coefficients for the model was established and the results determined and summarized as shown in Table 4.6.

Table 4.6: Table of Regression Coefficients[a] 1

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.518	.248		6.128	.000
Idealized Influence	.149	.071	.168	2.082	.039
Inspirational Motivation	.034	.076	.041	.444	.657
Intellectual Stimulation	.121	.054	.173	2.251	.025
Individualized Consideration	.183	.051	.278	3.564	.000

The results of the regression model in Table 4.6 were represented in the regression equation:
$SR = 1.518 + 0.168II + 0.041IM + 0.173IS + 0.278IC + \varepsilon$

These findings reveal that when all other factors are constant, a unit increase in idealized influence would increase staff retention by 16.8%, while inspirational motivation would increase it by 4.1%, intellectual stimulation by 17.3%, and individualized consideration by 27.8% among microfinance institutions in Nairobi City County. Since idealized influence (p=0.039<0.05), intellectual stimulation (p=0.025<0.05) and individualized consideration (p=000<0.05) were significant at 0.05 significance level, and only inspirational motivation was not significant at the 0.05 significance level (p=0.657>0.05), it was deduced that the model was fit for predicting staff retention.

Hypothesis two investigated the mediating effect of psychological empowerment on the relationship between transformational leadership and staff retention in microfinance institutions in Nairobi City County, Kenya. The hypothesis stated that psychological empowerment has no significant mediating effect on the relationship between transformational leadership and staff retention in microfinance institutions in Nairobi City County, Kenya. The four steps suggested by Baron and Kenny (1986) and illustrated in figure 4.1 were used to test the mediation as follows.

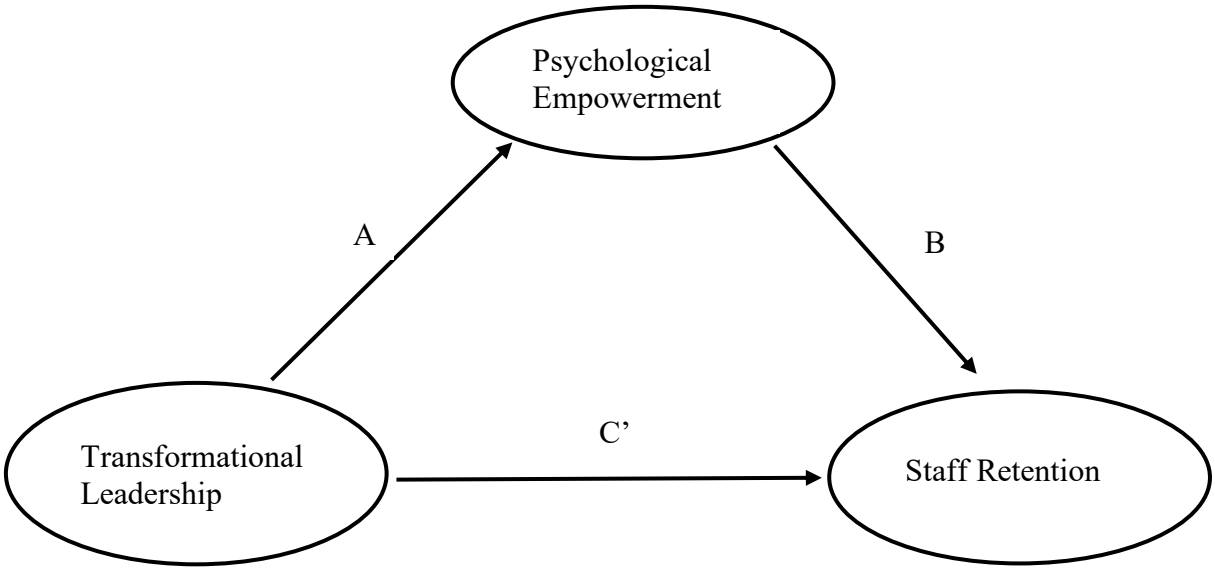

Figure 4.1: Mediation of psychological empowerment on the effect of transformational leadership on staff retention

Step 1: Relationship between transformational leadership and staff retention

Step 1, denoted as C' in Figure 4.1, estimated the relationship between transformational leadership and staff retention using linear regression model. The results were summarized in Table 4.7

Table 4.7: Model Summary for step one of Mediation Testing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.851[a]	0.723	0.722	0.26506

The results in Table 4.7 shows a correlation coefficient of 0.851 which indicates a strong positive correlation between transformational leadership and staff retention. The adjusted R Square (R^2) of 0.722 implied that transformational leadership predicted 72.2% of the variation in staff retention among the MFIs studied. The remaining 27.8% of the variation in staff retention was explained by other factors than transformational leadership. Table 4.8 summarizes the ANOVA results for testing the fitness of the model.

Table 4.8: ANOVA results for Step One of Mediation Testing

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	38.231	1	38.231	544.176	0.000[b]
Residual	14.613	208	0.070		
Total	52.844	209			

Since the F statistic for the model (544.176) was greater than the F critical value (3.887), and the P-value (p = 0.000) was lower than the significance level of 0.05, the model was found to be a good fit to predict staff retention in microfinance institutions in Nairobi City County.

The study further tested the significance of the beta coefficients for transformational leadership and results were as summarised in Table 4.9.

Table 4.9: Table of Regression Coefficients[a] 2

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.440	.238		6.059	.000
Transformational Leadership	.500	.056	.526	8.917	.000

The simple linear regression equation in Table 4.9 becomes:
SR= 1.44+ 0.526TL+ ε

The results indicate that if all other factors were held constant, a unit change in transformational leadership leads to a change in staff retention by 0.526. The significance level for transformational leadership coefficient was 0.000< 0.05 meaning the variable was significant. The null hypothesis that transformational leadership has no significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya was rejected, concluding that transformational leadership has a significant effect on staff retention in microfinance institutions in Nairobi City County, Kenya.

These results confirm the findings obtained by Almas et al. (2020) who found a positive significant effect of transformational leadership on volunteer's intention to stay in the organization. Similarly, the study by Sharanya and Himabindu (2017) found a significant positive relationship between transformational leadership and employee retention.

Step 2: Psychological empowerment and transformational leadership
In this step, denoted as A in Figure 4.1, psychological empowerment was regressed on transformational leadership through in order to establish the amount of change in psychological empowerment due to transformational leadership. Table 4.10 summarizes the results.

Table 4.10: Model summary in Step Two of Mediation Testing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.761[a]	0.579	0.577	0.41528

Table 4.10 shows that the correlation coefficient was 0.761, which indicates a strong positive correlation between psychological empowerment and transformational leadership. The adjusted R-squared value 0.577 informs that 57.7% of all change in psychological empowerment was predicted by transformational leadership while 42.3% was predicted by other variables. The ANOVA results are summarized in Table 4.11.

Table 4.11: ANOVA of Step Two of Mediation Testing

	Sum of Squares	df	Mean Square	F	Sig.
Regression	49.324	1	49.324	286.000	0.000[b]
Residual	35.872	208	0.172		
Total	85.196	209			

From Table 4.11, the regression model used in step two of mediation testing was found to be significant (F=286.000> 3.887, P=000<0.05). The beta coefficients and significance level were computed as shown in Table 4.12.

Table 4.12: Table of Regression Coefficients[a] 3

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.549	.312		4.967	.000
Transformational Leadership	.574	.074	.476	7.811	.000

The regression equation from the regression results becomes:
PE= 1.549+ 0.476TL+ ε

The results show a standardized beta coefficient of 0.476 for transformational leadership, which implies that if all other factors were held constant, a unit increase in transformational leadership would result to a 0.476 increase in psychological empowerment among microfinance institutions in Nairobi City County, Kenya. The P-value for transformational leadership was found to be 0.000, which was less than the significance level of 0.05. The study

concludes that transformational leadership was significant. The null hypothesis that transformational leadership has no significant effect on psychological empowerment in microfinance institutions in Nairobi City County, Kenya was rejected, concluding that transformational leadership has a significant effect on psychological empowerment in microfinance institutions in Nairobi City County, Kenya. The results were consistent with the findings by Saira et al. (2021) who found a strong relationship between transformational leadership and psychological empowerment.

Step 3: Staff retention and psychological empowerment

In this step, denoted as B in Figure 4.1, staff retention was regressed on psychological empowerment in order to establish the amount of change in staff retention accounted for by psychological empowerment. Table 4.13 is a summary of the regression model.

Table 4.13: Model Summary of Step Three of Mediation Testing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.467[a]	.218	.214	.44583

The Adjusted R-squared value of 0.214 implies that 21.4% of variation in staff retention was explained by psychological empowerment. The ANOVA results were established and presented in Table 4.14.

Table 4.14: ANOVA results of Step Three of Mediation Testing

	Sum of Squares	df	Mean Square	F	Sig.
Regression	11.501	1	11.501	57.863	.000[b]
Residual	41.343	208	.199		
Total	52.844	209			

From Table 4.14, it can be deduced that the model used in testing for mediation in this study was statistically significant ($F=57.863$, $p<0.05$).

Table 4.15: Table of Regression Coefficients[a] 4

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.084	.194		10.742	.000
Psychological Empowerment	.367	.048	.467	7.607	.000

The regression equation for staff retention regressed on psychological empowerment is as follows:

$SR= 2.084+ 0.467PE+ \varepsilon$

This implies that a unit change in psychological empowerment yields a 46.7% increase in staff retention.

From Table 4.15, the p-value for psychological empowerment was 0.000 which means it was significant. It can therefore be concluded that psychological empowerment has a significant effect on staff retention, and this confirms the finding by Owan et al. (2020) who established a significant effect of psychological empowerment on organizational commitment.

Step 4: Staff retention regressed on transformational leadership and psychological empowerment

In step 4, staff retention was regressed against transformational leadership and psychological empowerment to establish the significance of this indirect relationship. Table 4.16 presents the model summary.

Table 4.16: Model Summary of Step 4 of Mediation Testing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.580[a]	.337	.331	.41143

From Table 4.16, the adjusted R Square (R^2) value was 0.331, which signifies that 33.1% change in staff retention was explained by transformational leadership and psychological empowerment. The ANOVA results are presented in Table 4.17.

Table 4.17: ANOVA Results for Step 4 of Mediation Testing

	Sum of Squares	df	Mean Square	F	Sig.
Regression	17.804	2	8.902	52.590	.000[b]
Residual	35.040	207	.169		
Total	52.844	209			

Table 4.17 shows that the regression model used in step 4 of mediation testing was statistically significant ($F=52.590$, $p<0.05$). The beta coefficients and significance level are presented in Table 4.18.

Table 4.18: Beta Coefficients and Significance of Step 4 of Mediation Testing

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.099	.241		4.555	.000
Transformational Leadership	.373	.061	.393	6.102	.000
Psychological Empowerment	.220	.051	.279	4.342	.000

The equation when staff retention is regressed on both transformational leadership and psychological empowerment becomes:

$SR= 1.099+ 0.393TL + 0.279PE + \varepsilon$

Since the p-values of transformational leadership ($p=0.000$) and psychological empowerment ($p=0.000$) were all less than 0.05 ($p<0.05$), the study rejected hypothesis H_02 and deduced that psychological empowerment has significant partial mediating effect on the relationship between transformational leadership and staff retention. A similar study by Saira et al. (2021) found a partial mediation of psychological empowerment on the effect of transformational leadership on turnover intention.

5. Discussions and Implications for Theory

The study rejected the null hypothesis that transformational leadership has no significant effect on staff retention in microfinance institutions in Nairobi City County in Kenya. It therefore concluded that the transformational leadership has a significant effect on staff retention among microfinance institutions in Nairobi City County in Kenya. The demographic characteristics showed that majority of the respondents were middle-aged and therefore the leadership endeavoured to retain young staff, had at least a bachelor's degree implying that they were able to comprehend the phenomenon being investigated, and were within the lower-level management staff thus provided unbiased information regarding the leadership in their institutions. Further, descriptive statistics informed that transformational leadership was positively correlated with staff retention, while the theoretical underpinning of the study was supported by the study's results which showed that transformational leaders are capable of influencing their staff to develop positive attitudes to stay in their institutions. Finally, the results were consistent with the existing literature that show that transformational leadership has a positive significant effect on staff's intention to stay in their current institutions. These aspects lead to the conclusion that the results of the study are generalizable to the general population and different contexts.

The second hypothesis was that psychological empowerment has no significant mediating effect on the relationship between transformational leadership and staff retention in microfinance institutions in Nairobi City County, Kenya. The results showed that psychological empowerment has significant partial mediating effect on

the relationship between transformational leadership and staff retention, leading to the rejection of the hypothesis. The results supported the tenets of the Social Exchange Theory that followers who perceive their leaders as supportive reciprocate the good behaviours by committing to stay in their organizations. The results are also consistent with previous studies that showed that transformational leadership has a significant positive effect on psychological empowerment, which in turn cultivates positive attitudes such as satisfaction and desire to stay in their institutions. These observations render the results generalizable to other contexts and studies.

6. Conclusions and Recommendations

The study concluded that transformational leadership was emphasized in MFIs in the Nairobi City County, Kenya. Notably, a leader cannot to a large extent influence staff to remain in their institutions without developing in them a feeling of psychological empowerment, deducing from the findings that psychological empowerment partially mediates the relationship between transformational leadership and staff retention. Psychological empowerment creates a conducive environment where staff create meaning out of their work, become self-determined, feel competent and consider their job as impactful in the organization thus increasing their desire to remain in the organization.

The study recommends that policy makers at the Central Bank of Kenya and the MFIs in Nairobi City County should align transformational leadership practices with the strategies designed to retain their desired staff. Further, since the study found that psychological empowerment had a significant partial mediating effect on the relationship between transformational leadership and staff retention, it recommends that the management of MFIs should make every effort to ensure their employees understand the meaning of their job to them, emphasise on the need for them to be competent, show them the significance of their job to the organization and cultivate self-determination in them.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 124-132
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.419

Relationship between Socio-Economic Factors and Participation in Decision Making in Tourism Industry among Women in Zanzibar

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Abstract
This study determined the relationship between socio-economic factors and participation in decision-making among women community in Zanzibar. Data was collected from 387 respondents using structured questionnaire distributed to nine wards of Zanzibar and analyzed using Smart PLS. The descriptive analysis revealed that there is a high level of participation in decision-making among women community in Zanzibar whereby the mean is equal to 3.8519, and standard deviation is 0.75238. The Smart PLS analysis results indicated that there are significant negative relationships between level of education, nature of tourism activities and participation in decision making. Hence, this result indicates that the less educated the women are the less they participate in the decision-making. Further, the nature of tourism activities is also negatively affecting the decision to participate in the decision-making process.

Keywords: Participation in Decision Making, Community Development, Tourism Industry, Socio-Economic Factors

1. Introduction

A considerable amount of literature have been published on the women empowerment through tourism activities as essential global agenda. In the United Nation's Millennium Development Goals (MDGs), for example, five of the eight goals are openly and implicitly connected to women empowerment (Jucan & Jucan, 2013). In the SDGs, achieving equality and women's empowerment through their seventeen goals is essential (UN Women, 2015). Similarly, the United Nations World Tourism Organization (UNWTO) had Action Plan related to women empowerment in 2006 (Ampumuza, et al. 2008). This Action Plan has considered and set women participation in tourism development as vital political agenda for research and work (Ampumuza, et al. 2008). This observation suggests women participation in tourism is consistent, to gender equality (Honey & Gilpin, 2009), women's empowerment policies and overall development (Ferguson, 2007). Based on this understanding, many developing countries in particular seem to capitalise on tourism, to expand internal and external investment to increase job

opportunities (Bayissa et al., 2018) and address local community development (Magigi & Ramadhani, 2013; Nita, 2019). This observation is crucial as it supports the assertion that connects women empowerment with tourism.

Another observation to establish a link between women empowerment and tourism is made by Connell and Rugendyeke (2008), and Deepak and Tek (2010). The authors maintain that tourism is labour intensive and can transform women into formal and respected employment opportunities, contribute to improve household wellbeing, and remove traditional views against them. These benefits are then correlated with statistics of UNWTO (2010) that the women representation in tourism in Latin America, Mali and Lesotho in Africa is about 85, 81.1 and 79.5 percent respectively. Based on these statistical correlations, it is obvious that women participation in tourism sector has potentials to their empowerment. Discussed in the context of practicality, however, and UNWTO's generalizability on relationship of women empowerment and participation in tourism is problematic. What is not yet clear is the lack of direct explanation of relationship of demographic background of women participating in tourism activities and their empowerment. For instance, the Connell's and Rugendyeke's suggestion does not take account of education level nor does it address the kind of participation and marital status of women in question. Globally women participation in tourism industry as a total work force is around up 70 percent, only 40 percent work in hospitality section (Baum, 2013).

In addition, there has been little quantitative analysis of link between level of education, and nature of tourism activities to dimensions of participation in tourism industry (World Bank, 2015). The study chooses level of education and nature of tourism industry because, most of women engaging in tourism activities their level of education is very low due to the nature of activities they do informally and some of the works need high level of education that lead to making good decision. For example in managerial activities that need high skills and knowledge, so increasing in education, knowledge and skills could increase their participation in decision making, implementation and sharing benefits. In addition, the study is interested to know if the nature of tourism activities influences the women to participate in tourism decision-making. Previous studies argued that the level of education and nature of tourism both influence women participation in this sector. With regards to these argument, the study aims to examine the relationship between socio- economic factors (education and nature of tourism activities) and participation in decision making in Tourism industry among women in Zanzibar.

2. Literature Review

Participation has a widely contribution to community wellbeing. Different literatures recommended that participation as a concept is commonly applicable in community development (Narayan & Katrinka, 2002; Ginige & Ritchards, 2012; Saidu, Abu Samah, Redzuan & Ahmad, 2013, Adeleke, 2020;

Jayswal & Jaiswal, 2015). The meaning of participation varies according to its application and the context in which it occurs. Cohen & Uphoff (1977:6) defined participation as "people's involvement in decision making process about what would be done and how it is done; their involvement in implementing programs and decisions by contributing various resources and cooperating in specific organizations or activities; their sharing in benefits of development programs; and their involvement efforts to evaluate such programs." Escobar (1995). Narayan and Katrinka (2002), Ginige and Ritchards (2012), Abu Samah and Aref (2009), Nikkah & Redzuan (2009), and Cohen and Uphoff (1980) define participation as a means of involving people in action that influence social wellbeing such as increasing income, self-efficacy, esteem and security while collecting their efforts, setting goals, combining resources and try to take collective action for the purpose of improving their welfare.

Participation has been conceptualised as a bottom-up approach in its representation of partnership and ownership (Cohen & Uphoff, 1980; Singh, 2006, Saidu at el, 2014). In these sense people were involved in decision making, implementing in various programs, sharing benefits and involving in evaluation process (Cohen & Uphoff, 1980). The idea of participation recognized in community development project and programs since 1970s and 1980s due to the reason of failure of stakeholders to participate in community development projects (Escobar, 1995). This situation establishes the need of the members or individuals to participate in tourism activities around the community from the early stage of designing up to the end process of implementation of tourism activities to influence efficiency and community power (Narayan & Katrinka, 2002; Ginige & Ritchards, 2012). More

interesting, these participation may help the members (women) in the community to have local control and greater influence over their community resources (Cohen & Uphoff, 1980; Saidu et , 2014). Consequently, community development program prospered when people contributed to decision making, planning, implementation and evaluation (Cohen & Uphoff, 1980). Wondira and Ewnetu (2019), and Laura et al. (2018) indicated that community participation is an engine to development activities which enhances decision making, implementation and improve socio-economic well-being to the people. In line with this arguments, involvement of people in community development is very important because it helps to know where the people are, what they know, what they have, and what they expect to be, initiate the distribution of other programs and introduction of new activities or project (Chowdhury, 1996; Saidu et al., 2014). The involvement of community in development projects assures people's commitment and sustainability of developmental projects (Abu Samah, Ahmad, & Ndaeji, 2013; Barati, Samah, & Ahmad, 2012) and improves social performance (Brammer et al., 2012; Zainoddin, Amran & Shaharudin, 2020).

Socio-economic factors influence participation in any community development activities (Apipoonyanon, Kuwornu, Szabo, 2020). It determines the behaviour of the people to increase power of making decision, project implementation share the benefits obtained from developmental project. Various literature also indicates that education and nature of tourism activities influence participation in decision making in rural development projects in different areas such as microfinance and tourism industry (Khan, Sajjad, Hameed, Khan and Jan, 2012; Abira & Sireeranhan, 2012; Nwoye & Ndaeji, 2019; Person, 2015; Hyounggon et al. 2007; Tovad & Oystein, 2013; Lingling et al. 2013). These studies show direct relationship between education and the nature of tourism activities and participation in decision making. However, there are few studies that consider women tourism activities.
Hence, the conceptual framework of the study was developed as shown in the figure 1. The relationship between nature of tourism activities, education and participation of women in decision making were observed. According to the conceptual framework, this study hypothesizes that:

1. H_{0_1} : There is no significant relationship between education and participation in decision making.
2. H_{0_2} : There is no significant relationship between nature of tourism activities and participation in decision making.

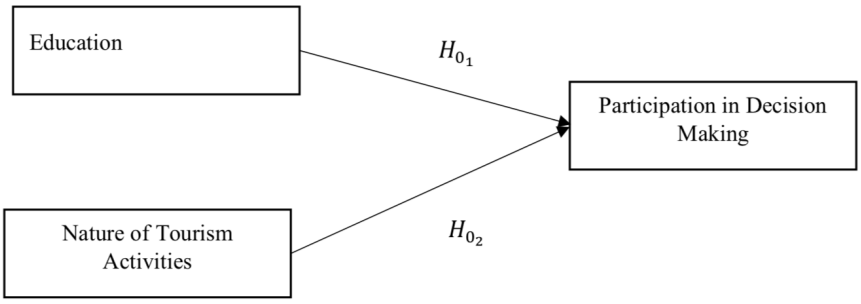

Figure 1: Conceptual Framework

3. Materials and Methods

In this quantitative study, Krejcie and Morgan (1970) table were used to determine a sample size with a population of 14378 participants in tourism industry in Zanzibar. The estimated sample size was 375 at alpha 0.05 level of significance (95% level of confidence). The researcher adds 10% of sample size of the respondents to avoid drop out. Therefore, the required sample size was 412 in order to reduce a sampling error and ensuring more representativeness (Singh a& Masuka, 2013). The multistage cluster sampling technique was used to select the respondents from nine wards in Zanzibar. The Wards include Mkoani Mjini, Makombeni, Wambaa, Madungu, Wesha, Utaani, Limbani, Fundo and Makangale.

The structured questionnaire was used as an instrument for data collection because it is the most affordable way to gather quantitative data and practical way to gather data on the spot (Debois, 2016). Also, large number of participants can be reached within a limited time frame and produce data which cannot be gathered by any other means. Additionally, it is suitable for addressing research issues which affect the society. The data were collected within two months from August to the first week of October, 2019 from 387 respondents (women). The questionnaire was adopted and modified from Sambagi, 2009; Moyle, Dollard and Biswas, 2006, Ndaeji, 2014. Ten items of participation in decision making with five-point Likert scale of 1 = strongly disagree to 5 = strongly agree were used. Smart PLS was used for testing the hypotheses to determine the influence of education and nature of tourism activities to participation in decision making because it is the one of the best techniques used to find the fundamental relationships between two or more variables**.** Education and nature of tourism activities were measured by the observed variable based on the nature of the study. The level of education has eight options from 1= primary, 2 = secondary, 3 = vocational training, 4 = certificate, 6 = diploma, 7 = degree, 8 = no education) while nature of tourism industry has nine options from 1 = accommodation, 2 = snorkelling, 3 = restaurant, 4 = tourist guide, 5 = selling vegetables, 6 = making souvenir products, 7 = selling food, 8 = sea food farming, 9 = vegetable farming. The level of participation in decision-making was analyzed by using descriptive statistics analysed using SPSS version 23 software.

4. Results and discussion

Based on the social scientific researches some demographic features of the respondents should be considered to strengthen the conclusion drawn from the data collected on the basis of relevance and capability of the source of the data. Table 1 below consists of the demographic profiles of the respondents.

It is observed from the table 1 that there is a proportion of the women in every age range. The majority of the respondents (50.1%) belong to the economically most active age group range between 35 and 40 years. Majority of women participated in tourism activities were married (76.2%) while 12.7% were single and only 11.1% were divorced**.** The household with 6 to 10 members for women participating in tourism activities was higher (50.1%), followed with 1 to 5 members which represent moderate level (35.1%) while the family with 11 to 15 members their participation is low (14.7%). By district, the study shows that 40.6% of the total respondents are from Mkoani district followed by Wete district, ChakeChake district and Micheweni district which represent 24.8%, 20.4% and 14.2% respectively.

Table 1: Demographic characteristics (N=387)

Variables	Frequency	Percent
Age		
35-40	194	50.1
41-45	66	17.1
46-50	56	14.5
51-55	23	5.9
56 and above	48	12.4
Total	387	100
Marital status		
Single	49	12.7
Married	295	76.2
Divorced	43	11.1
Total	387	100
Household income after participation in tourism activities		
0-500,000	65	16.8
501,000-1,000,000	114	29.5
1,001,000-1,500,000	66	17.1
1501,000-2,000,000	58	15
2,001,000-2,500,000	28	7.2
2,501,000-3,000,000	19	4.9
3,001,000-above	37	9.6
Total	387	100
Districts		
Mkoani	157	40.6
Chakechake	79	20.4
Wete	96	24.8
Micheweni	55	14.2
Nature of Tourism Activities		
Accommodation	16	4.1
Snorkeling	17	4.4
Restaurant	28	7.2
Tourist guide	22	5.7
Selling vegetables	79	20.4
Ms-product	129	33.3
Selling food	81	20.9
Sea food farming	10	2.6
vegetable farming	5	1.3
Education		
Primary	95	24.5
Secondary	166	42.9
Vocational training	23	5.9
Certificate	26	6.7
Diploma	14	3.6
Degree	6	1.6
No education	57	14.7

5. Relationship between socio-economic factors and decision making

The principal goal of this study was to examine the relationship between socio- economic factors and participation in decision making in tourism industry among women in Zanzibar. The table 2 below shows the findings of this study.

Table 2: Relationship between socio-economic factors (education and nature of tourism activities) and decision-making

Relationship	Std.Beta	t- values	p- values
Education -> participation in decision making	-0.180	3.085	0.002
Nature of tourism industry -> participation in decision making	-0.115	1.989	0.047

The PLS output presented in the table 2 shows that, there are negative significant relationship between education and participation in decisions in tourism industry among women in Zanzibar. The result indicated that education has negative significant impact on participation in decision making in tourism industry (β = -0.180, t = 3.085, p =0.002), meaning that the less educated they are in the community the less they participate in decision making in tourism activities in Zanzibar. Thus the null hypothesis (H_{0_1}) is failed to be accepted. To connect this result with the real situation in Zanzibar is that to participate in making decisions in tourism industry in Zanzibar, their low level of education (mostly secondary school) make them less participatory in the tourism activities related decision making. This result also is consistent with the study of Iqbal (2010) which shows that there is negative significant relationship between human capital (education, skills and knowledge) of the respondents and participation in decision making. The outcome of this is similar to the study conducted by Saidu, Asnarulkhadi, Ma'arof and Ahmad (2014) which indicated that there was significant negative relationship between level of education and participation in decision making (r =-0.372, p =0.000). This study is also in line with Emerole et al. (2008) and Meinzen-Dick et al. (2011) which showed that participation in decision making is influenced by knowledge. In contrast, Doss et al. (2014); Doss and Meinzen-Dick, (2015); Mutenje et al. (2016); Hyounggon et al. (2007); Torvald and Oystein (2013); Deepak and Tek (2010); MingMing and Geogffrey (2012); Ishamael (2016) revealed that there is significant positive relation in tourism activities, education and participation in decision making.

Similarly, the Partial Least Square analysis (PLS), analysis of the nature of tourism activities showed there is significantly negative relationship between the nature of tourism activities and participation in decision making in tourism industry (β = -0.115, t = 1.989, p = 0.047). The null hypothesis (H_{0_2}) is failed to be accepted. This is very interesting result, whereby the finding implied that the more women participate in several tourism activities the less participated in decision making in tourism industry. The main reason of this finding is that decision of women in Zanzibar to participate in tourism sector is within the hand of their elders in their community. Contrary to the study of Hyounggon et al. (2007); Tovald and Oystein (2013); Lingling et al. (2013) which shows nature of tourism activities like local festival, recreation parks, fresh water fishing, hunting, backcountry hiking and skiing and adventures activities influenced participation.

The possible reason might be people with lower level of education implies that their level of participation must be high and vice versa is true (Palikhe, 2018; Amoah, 2018). These meanings that women who have lower level of education have lower level of participation in tourism activities and vice versa. Based on this study finding majority of women have lower level of education, this implies that women have lower chance to participate in tourism activities and participation in decision making.

6. Conclusion

The study concluded that the women participating in tourism activities have developed the less capacity to decide on how to choose, to market and to decide which product they are going to produce. This capacity enhances their level of decision-making to become less active and high involvement in informal activities. Moreover, education

and nature of tourism activities influence their level of participation in decision making. In Zanzibar, women with low level of education participated actively less in the decision-making process and were actively involved in hand-making souvenir products. This activity is associated with the nature of tourism activities which shows that even the respondents who have secondary level of education have capability of doing it. The author recommends that skills acquisition centres should establish in community level areas for women to learn on how to add value for their products, and also to train them on how to manage their financial position for the sake of improving their economic and social status by increasing their income and social living. Besides, it is suggested that the government should provide financial support to the women to invest in tourism activities.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 133-146
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.420

From Plato to e-Leaders: The Evolution of Leadership Theories and Styles

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Abstract
In this work, we addressed the epistemology of Leadership styles and supporting theories, providing a new perspective on the emerging themes after careful analysis and revision. From examining 37 leadership supporting theories, and 120 leadership styles, themes relating to the nature of Leadership emerged from the analysis, such as "cognitive" or "behavioral;" "situational" or "transformational;" "eye-to-eye" or "remote," and from the literature review, such as "informal or formal," "small groups" or "organizations," and leaders. As a result, we believe it is possible to reduce somehow the confusion that has contaminated leadership research for more than a century, paving the way for future research by understanding complex concepts affecting Leadership over the centuries.

Keywords: Leadership Theories, Leadership Styles

1. Introduction

Leaders exert influence in our lives from a very early age. They also carry out effective human relations activities in virtually all scenarios. From ancient times to COVID-19, diverse leadership theories have emerged to explain the phenomenon examined in this work. We also compared leadership styles and taxonomies to provide an overview of emerging themes. The term was coined from the Old English lædere, "one who leads, one first or most prominent," agent noun from lædan "to guide, conduct," appearing in the literature in the XIX century. Also, from Old Frisian ledera, Dutch leider. This article addressed how leadership evolved from the traditional "eye-to-eye" leadership to the "e-leadership." More recently, the expansion of companies, with increasing global dispersion of departments, and divisions, associated with an explosion of advanced communication technologies gave birth to a new type of leadership, where leaders influence "one-to-one" or "one-to-many" remotely (Zaccaro and Bader, 2003).

Moreover, we focused on themes that eventually emerged, aiming to provide researchers with a review of the main concepts, usually available in sparse publications. One exception, however, lies with the works of Bernard Bass (1990, 2008). In the masterpiece "Handbook of Leadership," he compiled perhaps the most objective and rigorous

approach to Leadership. Unfortunately, Bass had passed away before his fourth edition (1925-2007)[1] and could not appreciate the new paradigms and challenges that leaders faced worldwide, especially after the coronavirus pandemic.

Firstly, Leadership theories and styles has attracted the attention of scholars over the past decades (Bass, 1990; Burns, 1934; Bogardus, 1918; Sanderson and Nafe, 1929; Chapin, 1924; Bartlett, 1926; Weber, 1947; House and Adidas, 1995; Jennings, 1960; Morrow and Stern, 1988; Lippitt, 1999; Maccoby, 1979; Pigors, 1936; Cattel and Stice, 1954; Bales and Slater, 1955; Benne and Sheats, 1948; Levine,1949; Clark, 1951; Getzels and Guba, 1957; Oliverson, 1976; Lieberman, Yalom and Miles, 1973; Redl, 1948; Conway, 1915; Spaulding, 1934; Harding, 1949; Zaccaro and Bader, 2003; Calder, 1977; Yukl, 1971; House, 1977; Fiedler and Garcia, 1987; Fiedler, 1964; Murphy, 1941; Jacobs, 1970; Jennings, 1960; Newell and Simon, 1972; Argyris, 1964; Hollander, 1958; Hallinger and Murphy, 1985; Homans, 1950; Stogdill, 1959; House, 1971; Dansereau, Graen, and Haga, 1975; Homans, 1950; Bass and Valenzi, 1974; Hersey and Blanchard, 1969; Hodgkinson, 1978; House, 1971; Yukl, 1971; Sims, 1977; Hayes, 1995; House, 1971; Pfeffer, 1977; Stogdill and Shartle, 1948; Wolman, 1971; Vroom and Yetton, 1974; Bass, 1960; Stogdill, 1959; Hersey and Blanchard, 1977; Hallinger, 1992; Kerr and Jermier, 1978; Osborn and Hunt, 1975; Smith and Krueger, 1933; Burns, 1978; Giddens, 1984; Venkatesh et al., 2003), among others.

Secondly, the ongoing pandemic of COVID-19[2] has forced governments to impose lockdowns, social isolation, and home-office as part of daily life. Therefore, leaders had to adapt to a new reality that Bass and others could not anticipate. In such a scenario, e-leadership became mandatory, for instance. Some may argue that the coronavirus pandemic was not the first to ravage humans. However, sophisticated digital communication technology was unavailable in virtually all previous pandemics. As a result, we were forced to learn new ways of Leadership without being physically present. The motivation behind this article lies in the investigation of the scope of conceptualizations of Leadership. Finally, we aimed to present a discussion framing similitude that is upheld in the literature. We also figured out another conceptual rundown of Leadership, which is helpful for future researchers/practitioners.

2. Identifying Supporting Leadership Theories and Styles

A snowballing procedure was utilized to distinguish definitions in the literature from critical articles and investigate roads of interest from references. This interaction was not planned as an exhaustive review but intended to catch descriptions across various perspectives. Only English language articles were inspected, as there was no arrangement for interpretation of non-English language sources. Thirty-seven distinct definitions/conceptual leadership supporting theories were identified (see Table 2). Next, we followed Bass (1990) classification of leadership styles as a starting point, totaling 37 leadership styles for small group leaders (see Table 3), as well as 38 leadership styles for organizations and institutions (see Table 4). We also included three crowds and mobs' leadership styles, five student leadership styles, and 21 educational leadership styles (see Table 5). Finally, we identified the e-leader and investigated it separately. In total, 105 leadership styles were explored. This work is limited to theories and styles of leadership. Leadership traits, motivations, values, ethics, and other personal attributes are not in the scope of this research and should be investigated in separate studies.

3. Background

Plato (428 – 347 BC) distinguished three types of leaders in "The Republic:" (i) philosophers/statesmen, or those responsible for political decisions; (ii) business leaders, responsible for providing wealth to the republic; and finally, (iii) military commanders, responsible for protection (Bass, 2008). Centuries later, another Greek philosopher Plutarch (46 to 119 AD), mentioned two types of political leaders in his essay "How to be a leader": (iv) uneducated, or the (political) leaders insecure and scared of the people he represented; on the other hand, (v)educated leaders, "primarily concerned with the welfare of their constituents, even at the expense of their own power of safety." (Plutarch, 2019, p.23).

[11] Work completed by his wife, Ruth Bass
[2] While this article is written, COVID-19 seems to be ending globally unless a new severe and aggressive variant emerges.

In the XVI century, the controversial Italian diplomat and philosopher Niccolò Machiavelli (1469 – 1527) advised Lorenzo di Medici in "The Prince" that the virtues of a good leader should: (i) be feared rather than loved; (ii) have the popular support to be successful; (iii) be clever, intelligent, and hold good virtues. In his words, "as a leader, there is no other way to guard yourself against flattery than by making men understand that telling you the truth will not offend you." (Machiavelli, 1993, p.248). Machiavelli also believed in leading by example: "nothing gives a prince more prestige than undertaking great enterprises and setting a splendid example for his people." (p.250)

In the XIX century, the Victorian essayist Thomas Carlyle (1795-1881) illustrated the representations of great leaders, such as Muhammad, Dante, Luther, and Napoleon, who is celebrated for redirecting world history in his seminal work "On Heroes, Hero-Worship, and The Heroic in History" [Carlyle, 1993 [1840]]. In that work, leaders are portrayed as heroes or great men, highlighting the importance of the personal attributes of Leadership. Later, in 1869, Sir Francis Galton (1822-1911) described (1869). In "Genius Hereditary: An Inquiry into its Laws and Consequences," he described an ethnological study on 400 leaders, "illustrious people," to "establish the theory that genius was hereditary." (p.5). Galton studied the psychological traits of leaders, praised by his cousin, Charles Darwin. It is accredited to Galton the terms "nature vs. nurture." However, for Galton, leadership attributes were inherited, not taught. Mendel's genetic theories were only established four years before, in 1865.

In the first half of the XX century, the study of leadership was primarily concentrated on face-to-face leadership traits (Stogdill, 1948; Cowley, 1928, 1931). To date, psychological traits are still considered good predictors of leadership styles. (Zaccaro and Bader, 2003; Zaccaro, 2007; Zaccaro, Kemp, and Bader, 2004). In 1964, Blake and Mouton portrayed the first two-dimensional view of leadership: the “Managerial Grid,” illustrated in Figure 1, as follows:

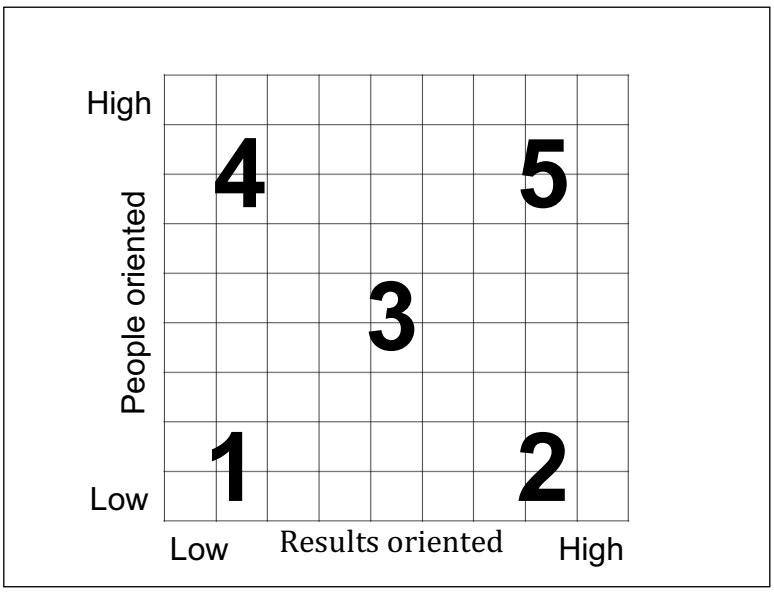

Figure 1: Managerial grid. Source: adapted from Blake and Mouton, 1964

Observe in Figure 1 the following positions of the people vs. results in graphic orientation: (1) low concern for people, low concern for results, the indifferent management, in which leaders elude; (2) low concern for people, high concern for results, the dictatorial management, in which leaders dominate; (3) average concern for people, average concern for results, the *status quo* management, in which leaders compromise; (4) high concern for people, low concern for results, the accommodating management, in which leaders comply and finally (5) high concern for people, high concern for results, the sound management, in which leaders are pro-active and commit.

Also, in the 1960s, the Austrian psychologist, Fred Fiedler, developed the Contingency Theory (see Table 1) and concluded that leadership style, since it is framed through one's valuable life experiences and encounters, is amazingly troublesome if certainly feasible to change (Fiedler, 1964). He argued that leaders’ ability to succeed

relied upon two factors: (i) leadership style (dispositional variable) and (ii) compliance with situational (situational variable). A leader could be effective in one situation and not in another. Fiedler's Contingency Model is depicted in Figure 2 as follows:

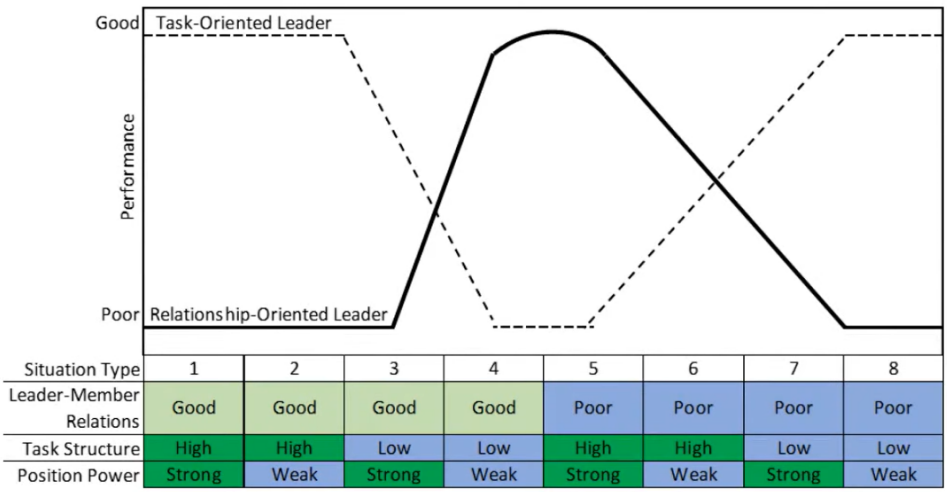

Figure 2: Fiedler's Contingency Theory of Leadership

Source: https://www.mindtools.com/pages/article/newLDR_73.htm February 4, 2021

Note in Figure 2 that a good or poor performance was described in eight situation types (Situation 1 to 8) and three dimensions: (i) leader-member relations (good or poor); (ii) task structure (high or low), and (iii) position power (strong or weak).

A given leadership style (task or relationship-oriented) was assigned for poor and bad performances for each situation. One of the model's limitations was that leaders were set to one behavior assessed through the LPC scale. However, the model is transparent, helpful in assessing situations, and taking conditions into account, that other models did not observe.

In 1969, based on Fiedler's and Blake and Mouton's models, Hersey and Blanchard developed the Situational Leadership Theory, based on two independent variables: (i) task behavior and (ii) relationship behavior. Therefore, both variables contributed to four maturity levels: (iii) M1: low competence and low commitment, ideal for the "telling" leadership style; (iv) M2: low competence, but high commitment, ideal for the "selling" leadership style; (v) M3: high competence, but joint commitment, ideal for the "participating" leadership style; (vi) M4: high competence and high commitment, ideal for the "participating" leadership style (Hersey and Blanchard, 1969, 1977).

In 1978, the North American historian and political scientist James MacGregor Burns (1918-2014) introduced the transforming leadership concept, in which leaders and followers mutually assist and help (Burns, 1978). He devised two concepts: (i) transforming leadership, inspiring and motivating, focused beyond self and immediate interests, and (ii) transactional leadership, which is concerned with performance, supervision, organization, or immediate interests. Both are mutually exclusive styles (Burns, 1978).

In 1985, however, Bernard Bass expanded the concept of Burns (1978). He explained the psychological mechanisms that underlie transforming and transactional leadership. Bass also used the term "transformational" instead of "transforming." He also demonstrated how transformational leadership impacted the performance and motivation of the followers. (Bass, 1985, 1990)

In 2000, the North American Psychologist Daniel Goleman (1946 -) devised six basic styles of leadership based on distinct aspects of emotional intelligence (see Table 3). These include (i) Coercive or the "commanding" leadership; (ii) the Authoritative or "visionary" leadership; (iii) Affiliative or the "relational" leadership; (iv)

Democratic or the “participative” leadership; (v) Pacesetting, or “leading by example” Leadership, and finally, (vi) Coaching, or “personal developer” Leadership Style (Goleman, 1995; 1998a, 1998b; 2000).

Finally, with the ever-increasing communication technologies, such as synchronous virtual meetings, the internet, social network, instant messaging, and other information technologies combined with the globalization of companies, the e-leadership style gained force, especially after the coronavirus pandemic. The Adaptive Structural Theory supports E-leadership (see Table 1), in which leaders adapt to the existing structures and vice-versa (Giddens, 1984), or the User Acceptance of Information Technology (Venkatesh et al., 2003).

With the COVID-19 pandemic, governments were forced to establish quarantine, lockdowns, and social isolation became part of daily life. Therefore, e-leadership gained prominence. E-leaders may never lead face-to-face. One-to-many leadership is virtually boundaryless. The ability to instantly communicate with peers, followers, suppliers, and customers is limited by the device (computer, tablet, and mobile) and the local Wi-Fi signal infrastructure. Talent can be reached wherever it is; multitask teams are assembled; travel and accommodation expenses are drastically reduced. After the pandemic, the home office and virtual meetings became, for many organizations, the only working way.

However, there are also challenges and pitfalls that e-leadership brings: the absence of face-to-face interactions may convey incorrect understandings in communications, especially the asynchronous ones, such as e-mails or instant text messaging. Virtually all e-leaders are dependent on electric power; in its failure, e-leadership does not exist—moreover, e-leadership deals with artificial network environments. Relationships may become superficial as well. E-leaders also face a new paradigm with the home office: there seems to be little respect for commercial daily hours and lots of sources of distraction, such as background noises. Only the future will tell whether or not e-leadership becomes dominant after the coronavirus pandemic is over or under control.

4. Themes on supporting leadership theories

Leadership theories focused on personal traits, abilities, values, and characteristics in the first half of the XX century. As described earlier, in the 1960s, personal leadership styles became research topics. From the 1960s to the 1980s, situations and leadership styles were investigated. In the 1990s, motivational and transformational theories emerged (Bass, 2008). From the 2000s, leadership theories were also influenced by information technology and advanced communication (Zaccaro and Bader, 2003), or remote leadership style. Thus, the following Table 1 displays the emerging themes of the leadership supporting theories.

Table 1: Emerging themes in leadership theories

Themes on supporting theories	Timeline
personal traits	1900-1940s
personal styles	1950-1960s
situation and leadership styles	1970-1980s
motivational and transformational styles	1990-2000s
e-leadership, remote leadership	2000 -

Observe in Table 1 that the supporting leadership theories denote an increase in complexity in the leadership research. The dependence on the "great men" as leaders with impeccable personal traits gradually loses ground to situational and later cognitive approaches. Finally, Table 2 depicts supporting theories of Leadership as follows:

Table 2: Leadership Supporting Theories

#	Supporting Theory	Description	References
1	**Attribution**	These theories focus on the process by which members in a group attribute leadership status to another member, typically the one who exhibits behaviours that are distinct from those of the group	Calder, 1977
2	**Behavioural**	These theories examine a range of behavioural variables in leaders in attempts to determine followers' perceptions of acceptable ways to influence their actions	Yukl, 1971
3	**Charismatic**	These theories focus on leaders with extraordinary qualities who are often responsible for major social change	House, 1977
4	**Cognitive Resources**	This theory examines the conditions under which the cognitive resources of the leader, typically experience and intelligence, are related to group effectiveness	Fiedler and Garcia, 1987
5	**Contingency**	This theory focuses on the relationship between leader effectiveness and a measure of the least preferred coworker (LPC) scale across a range of situational favorability	Fiedler, 1964
6	**Environmental**	These theories view the emergence of leadership as dependent on the problems that the group must solve. Leadership is essentially a function of the occasion	Murphy, 1941
7	**Exchange**	These theories consider the social interaction of groups as a form of exchange, in which group members' contributions come at a cost to themselves, and returns at a cost to other group members	Jacobs, 1970
8	**Great Man**	These theories focus on the identification of unique qualities and characteristics of famous leaders. Early research in the field often viewed these superior qualities as biologically inherited	Jennings, 1960
9	**Human Problem Solving**	This cognitive theory proposes that common tasks for leaders and followers exist in subjectively and hence differently constructed 'problem spaces	Newell and Simon, 1972
10	**Humanistic**	Concerned with organizational effectiveness, these theories focus on leaders' efforts to provide group members with maximum freedom within the organization to realize their motivational potentials	Argyris, 1964
11	**Idiosyncratic Credit**	This theory considers adherence to group norms as increasing one's status, or credit, within the group. Asserting leadership involves deviating from group norms, and hence requires one to accumulate sufficient credit before doing so	Hollander, 1958
12	**Instructional**	Referring typically to the work of principals, this theory considers the leader as the primary source of insight into virtually every aspect of a school's educational program,there by promoting effective instruction and schools	Hallinger and Murphy, 1985
13	**Interaction–Expectation**	These theories address the interactions between group members (with each other, and the leader) and their expectations, often in terms of rewards or punishments. Interaction–expectation theories include leader–role theory, role attainment theory and path–goal theory	Homans, 1950; Stogdill, 1959; House, 1971
14	**Leader Member Exchange (LMX)**	Also known as the vertical dyad linkage theory, this approach examines the reciprocal influence relationship between leaders and individual subordinates. Each exchange relationship is unique, because the role of the subordinate is mutually defined	Dansereau, Graen, and Haga, 1975
15	**Leader–Role**	This theory views leadership as the origination of interaction, in which partaking in mutual activities heightens feelings of mutual liking and increases the clarity of group norms	Homans, 1950
16	**Leadership Styles**	This theory examines patterns of behaviours that constitute action dispositions. Such styles are democratic or autocratic, permissive or restrictive, and participative or nonparticipative	Bass and Valenzi, 1974
17	**Life Cycle**	This theory relates leader behaviour to the experiential and motivational 'maturity' of subordinates, in which leaders gradually decrease emphasis on task structuring as subordinates mature, and subsequently decrease emphasis on consideration	Hersey and Blanchard, 1969
18	**Moral**	These theories consider leadership as a normative phenomenon, and focus on the values and human agency of leaders and followers. Other 'normative oriented' approaches include ethical, servant, and authentic leadership	Hodgkinson, 1978
19	**Motivational**	Closely related to path–goal theory, this theory considers leadership in terms of increasing the worth associated with work–goal attainment, hence reducing role ambiguity, and ultimately motivating followers	House, 1971

#	Supporting Theory	Description	References
20	**Multiple Linkage**	This theory examines the interactive effects of managerial behaviours and situational variables across a range of intervening variables, such as subordinate effort, role clarity, cooperation, and resources	Yukl, 1971
21	**Operant Conditioning**	This theory involves the leader, a potential source of reward, effectively managing reinforcement contingencies in the work environment	Sims, 1977
22	**Participative**	These theories of leadership examine the potential for participation of group members in various organizational processes. Such participation might involve decision making, consultation, or power sharing. In educational contexts, participative leadership was often understood as an impetus for site-based management. The notion of 'shared leadership' has become increasingly popular in recent literature, described in a variety of approaches including cooperative, distributed, and teacher leadership	Hayes, 1995
23	**Path–Goal**	This theory assumes that leaders will motivate subordinates if they satisfy subordinates' needs on condition of good performance, and if they provide supports for subordinates to perform effectively	House, 1971
24	**Perceptual Cognitive**	These theories of leadership concentrate on the mental processes of leaders and followers and typically describe components of leadership (such as the process by which leadership is attributed), rather than leadership in general	Pfeffer, 1977
25	**Personal Situational**	These theories examine the relationship between characteristics of leaders and a range of situational demands	Stogdill and Shartle, 1948
26	**Psychoanalytic**	These theories focus on the leader as fulfilling the psychoanalytic needs of followers. Often, the leader is seen as an embodiment of the superego, to which followers display unconscious Freudian projections of devotion	Wolman, 1971
27	**Rational Decision-Making**	This theory examines the decision-making of leaders, specifically concerned with whether the process should be participative or directive and whether it should involve group members individually or the group in its entirety	Vroom and Yetton, 1974
28	**Reinforced Change**	This theory views leadership as increasing the motivation and effective behaviours of group members by changing their expectation of rewards and punishments	Bass, 1960
29	**Role Attainment**	In this theory, the individual's role in a group is determined by group expectations of consistent behaviour	Stogdill, 1959
30	**Situational**	These theories consider leadership as primarily residing in the variety of situations faced by groups. Similar to contingency theory, inquiry examines the interaction between situational variables and leader behaviour	Hersey and Blanchard, 1977
31	**Strategic Organizational**	These theories examine managerial functions which contribute to organizational effectiveness. Proper management is conflated with leadership, particularly in times of organizational change	Hallinger, 1992
32	**Substitutes**	This theory focuses on two situational variables, substitutes and neutralizers. Substitutes refer to conditions which diminish the need for leader behaviour, while neutralizers refer to conditions which inhibit leader behaviour	Kerr and Jermier, 1978
33	**Systems Analysis**	This theory interprets leadership using systems theory, in which leaders and followers function in open social systems. The cyclical process involves external conditions acting as an input on the system, with products and services as the output	Osborn and Hunt, 1975
34	**Trait**	These theories focus on the identification and analysis of the superior qualities of leaders. Frequently identified traits include intelligence, dominance and self-confidence	Smith and Krueger, 1933
35	**Transformational**	This theory emphasizes two distinct types of exchange leadership: transformational and transactional. Transactional leadership involves rewards as a way of inducing compliance, while transformational leadership involves heightening the consciousness of followers through appeals to higher order values and morals	Burns, 1978
36	**AST**	Adaptive Structured Theory (AST) studies how technology and leadership impact each other	Giddens, 1984
37	**UTAUT**	The unified theory of acceptance and use of technology (UTAUT) is a technology acceptance model and explains to what extent the user intentions to use an information system and subsequent usage behavior.	Venkatesh et al., 2003

Source: adapted from Bass and Bass, 2008

4. Leadership Styles and Themes

A vast number of existing typologies of leadership styles have been described. For example, Bass (1990) themed the leadership styles in (i) small groups, based on the work of Benne and Sheat (1948) (see Table 3), (ii) organizations and institutions (see Table 4), (iii) crowds and mob leaders, (iv) student leaders, and (v) educational leaders (see Table 5). Also, the literature pointed out themes such as Autocratic or Democratic (Lewin & Lippitt, 1938; Spector & Suttel, 1957; Bass, 1990). The types of Leadership and respective themes are illustrated in Tables 3 to 6. In the sequence, we present the themes observed after careful analysis.

Table 2: Types of leadership: small groups

#	Types of Leadership in Small Groups	References
1	Masters; Educators	Pigors, 1936
2	Persistent; Salient; Sociometric; Elected	Cattel and Stice, 1954
3	Productivity; Socioemotional support	Bales and Slater, 1955
4	Group task; Group Maintenance; Individual	Benne and Sheats, 1948
5	Charismatic; Organizational; Intellectual; Informal	Levine,1949
6	Popular; Group; Indigenous	Clark, 1951
7	Nomothetic; Ideographic; Synthetic	Getzels and Guba, 1957
8	Technical; Charismatic; Caring; Peer-oriented	Oliverson, 1976
9	Charismatic energizer; Provider; Social engineer	Lieberman, Yalom and Miles, 1973
10	Patriarch; Tyrant; Ideal; Scapegoat; Organizer; Seducer; Hero; Bad or Good Influence	Redl, 1948

Source: adapted from Bass, 1990; Bass and Bass, 2008

Table 3: Types of leadership: organizations and institutions

#	Types of Leadership in Organizations and Institutions	References
1	Intellectual; Business; Adroit diplomat; Small groups; Mass leader	Burns, 1934
2	Autocratic; Democratic; Executive; Reflective-Intellectual	Bogardus, 1918
3	Static; Executive; Professional; Group leader	Sanderson and Nafe, 1929
4	Political-military; Socialized	Chapin, 1924
5	Institutional; Dominative; Persuasive	Bartlett, 1926
6	Bureaucratic; Patrimonial; Charismatic	Weber, 1947
7	Charismatic; Transformational	Klein and House, 1995
8	Superrmen; Heroes; Princes	Jennings, 1960
9	Stars; Adversaries; Producers and Phantoms	Morrow and Stern, 1988
10	Inventor; Developer; Catalyst; Performer; Protector; Challenger	Lippitt, 1999
11	Craftsman; Jungle fighter; Gamesman	Maccoby, 1979

Source: adapted from Bass, 1990; Bass and Bass, 2008

Table 4: types of leadership: crowds and mobs, students, and educators

#	Types of Leadership	References
	Crowds and Mobs	
1	Crowd compeller; Crowd exponent; Crowd representative	Conway, 1915
	Student Leaders	
1	Social climber; Intellectual success; Good fellow; Big Athlete; Leader in student activities	Spaulding, 1934
	Educational Leaders	
1	Autocrat; Cooperator; Elder statesman; Eager beaver; Pontificial type; Muddled person; Loyal staff person; prophet; Scientist; Mystic; Dogmatist; Open-minded person; Philosopher; Business Expert; Benevolent despot; Child protector; Laissez-faire type; Community-minded person; Cynic; Optimist; Democrat	Harding, 1949

Source: adapted from Bass, 1990; Bass and Bass, 2008

Finally, in Table 6, we present the types of leadership themed by (i) Emotional Intelligence (Goleman, 2000); (ii) Advanced Communication Technology (ACT); (iii) leaders' roles, and (iv) based on Situational Theory, as follows:

Table 5: leadership styles based on EI, ACT, and Role

#	Types of Leadership	References
	Based on Emotional Intelligence (EI)	
1	Coercive; Authoritative; Affiliative; Democratic; Pacesetting; Coaching	Goleman, 2000
	Based on Advanced Communication Technology (ACT)	
2	E-leader	Zaccaro and Bader, 2003
	Based on the leader's role	
3	Formal; Informal	Pielstick; 2000
	Based on Situational Theory	
4	delegating; participating; selling; telling	Hersey and Blanchard, 1969

Source: adapted from Goleman, 2000; Zaccaro and Bader, 2003; Pielstick; 2000; Hersey and Blanchard, 1969

4.1. Traits or personality?

Perhaps the most discussed aspect of Leadership in the XX century was whether leaders are influenced by traits or personality. Traits are defined as the "enduring patterns of perceiving, relating to, and thinking about the environment and oneself" (APA, 2010, p.686). Traits are consistent characteristics in individual behavior, such as envy, honesty, shyness, and jealousy. For instance, see Table 3 the following leadership styles: (i) Patriarch; (ii) Tyrant; (iii) Ideal; (iv) Scapegoat; (v) Organizer; (vi) Seducer; (vii) Hero; (viii) Bad or Good Influence (Redl, 1948). Conversely, personality "refers to individual differences in characteristic patterns of thinking, feeling and behaving." (APA, 2010, p. 285). For instance, see Table 4, (i) Charismatic; (ii) Transformational (Klein & House,

1995), or (iii) Inventor; (iv) Developer; (v) Catalyst; (vi) Performer; (vii) Protector; (viii) Challenger (Lippitt, 1999).

4.2. Cognitive or Behavioral?

The previous discussion assumes that a trait is observable. Previous studies considered the observable behavior of leaders influencing the behavior of the followers (Bass, 1990). For example, see in Table 2 the following leadership styles: (i) Autocratic; (ii) Democratic; Executive; Reflective-Intellectual (Bogardus, 1918). However, in the last decades of the XX century, the cognitive approach to Leadership became prominent. For example, see Table 5, (i) Coercive; (ii) Authoritative; (iii) Affiliative; (iv) Democratic; (v) Pacesetting; (vi) Coaching (Goleman, 2000).

4.3. Situational or Transformational?

With the Contingency Theory, Fiedler (1964) stressed the importance of external factors. Leaders should make different decisions, adapting to different circumstances, followed by Hersey and Blanchard's (1969, 1977) Situational Theory. Observe in Table 6 the following leadership styles: (i) delegating; (ii) participating; (iii) selling, and (iv) telling. Finally, burns (1978) considered the contingency approach of Leadership static. They argued that leaders were able to manifest different leadership styles, concerned with the power relationship (transactional Leadership), or concerned with the positive change of the followers (transforming Leadership), later transformational Leadership (Bass, 1985). For instance, note the leadership styles in Table 5 (i) Charismatic; (ii) Transformational (Klein & House, 1995).

4.4. Eye-to-eye or Remote?

The traditional face-to-face Leadership has suffered a drastic impact with the ongoing Covid-19 pandemic. In remote leadership, leaders and followers are physically distant, connected electronically. However, leaders are forced to deal with virtual teams and face the same leadership dilemmas in artificial scenarios. E-leaders have to overcome some additional challenges in asynchronous communication: the lack of visual cues on body language, replaced by emoticons and emojis, which are not reliable indicators of emotions. Finally, parties may be tempted to lie when not in the presence of others (Dias, 2020). Regarding synchronous communication, the challenges and pitfalls to the virtual communications are not limited to: (a) lack of visual cues due to poor illumination; (b) background noise; (c) poor quality of the video, audio, or both, due to external factors, such as (d) unstable Wi-Fi and (e) interference in the signal from the wireless network; (f) high CPU usage; (g) low video memory; (h) high bandwidth usage; (i) low internet connection speed (j) physical connectivity issues, (k) white noises, (l) malfunctioning devices, (m) power failure, (n) software limitations, among others.

Conversely, e-leaders are provided with a new range of possibilities: (i) the capacity to quickly discuss one-on-one with workers, clients, and providers; (ii) to reduce operational costs with travel and accommodation expenses; (iii) the capacity to utilize talent wherever it is located; (iv) "the opportunity to enhance organizational performance by assembling better multi-functional teams, and to improve better customer satisfaction by using the ―follow the sun‖ methodology; (v) the ability to cut costs; and, the scope for better knowledge management." (DasGupta, 2011, p.1)

In addition, some additional challenges e-leaders may face: (i) the absence of physical contact and how to build trust and convey enthusiasm through virtual communications; (ii) family, friends, and even pet distractions; (iii) the increase in workload, disrespecting work hours. Finally, E-leaders have to devise effective strategies for coping with stress, grief, anxiety, and other mental health issues that somehow affected their followers during and after the COVID-19 pandemic.

5. Summary

The observations from the previous discussions are summarized as follows: there are functional differences between leadership styles, including both cognitive and behavioral aspects; traits are considered predictors of leadership styles; the studies on Leadership evolved from psychological traits to personality styles, including

situational factors and cognitive aspects, throughout time. Finally, remote leaders face additional dilemmas than eye-to-eye Leadership, such as technical issues and the uncharted effects of COVID-19, which somehow affect the mental health and morale of both leaders and followers.

6. Implications and Research limitations

We developed a shared understanding of leadership styles and theories throughout this article. Variations in conceptualizations have led to several issues. For instance, the contingency approach, which is straightforward and provides clear recommendations, considers leaders performing the same leadership style in different situations (Fiedler, 1964). This study is limited, however, to styles and theories of leadership. Other issues, such as personality, traits, and ethics, to name a few, are not part of the present research and should be investigated separately. The article has implications in several fields of research, not limited to: (i) business negotiations (Dias, M, Leitão, R., Batista, R., Medeiros, D. 2022; Cunha, N., and Dias, M., 2021; Dias, 2020b); (ii) COVID-19 and performance (Dias, M., Lopes, R., Teles, A., 2020; Dias, M., Lopes, R., 2020); (iii) companies' internationalization (Silva. G.B., Dias, M., 2022; Dias, M.; Pereira, L; Vieira, P., 2022; Silva. G.B., Melo, R.C, Dias, M., 2022), among others.

7. Conclusion and Future research

New themes emerged from the literature review based on careful consideration of previous conceptualizations, arguments, and theories presented by past researchers in the field, such as the remote leadership style. By understanding Leadership theories and styles through more condensed approaches, we believe it is possible to reduce somehow the confusion that has contaminated leadership research for more than a century, paving the way for future research. Furthermore, both examination and practice will be upgraded as practitioners and analysts will be working with mutual perspectives of these complex concepts. Finally, this article will permit more noteworthy similarities between research findings, advance examination in ignored areas frequently, and improve the theoretical grounding for future interventions and estimation, such as the impact of remote leadership on task performance during and after the pandemic.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 147-152
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.421

Impact of Earnings Per Share on Stock Prices and Price to Earnings Ratio

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Abstract
In this paper, the researchers have made an attempt to examine the impact of Earnings Per Share on the stock prices and Price to Earnings Ratio. In the study, the researchers have taken into consideration sixteen companies which represent four different industries such as Banking, Pharmaceutical, Information Technology and Cement and Cement Products industry. A reference period of eight years has been taken from 2011-2012 to 2018-2019. In order to achieve the objectives of the study, regression analysis and correlation have been employed and the findings put forth by the study affirmed that on the one hand there exists a positive relationship between Earnings per share and market price of shares and on the other hand earnings per share does not statistically, in a significant way, influence price-to-earnings ratio as the relationship between the two variables is statistically quite low. Thus, on the basis of these findings, it can be concluded that earnings per share influences one variable namely market price of stocks but does fail to influence significantly price-to-earnings ratio.

Keywords: Stock Prices, Price to Earnings Ratio, Earnings Per Share

1. Introduction

The market price of a stock depends upon the demand and supply of this stock in the market place which in turn depends upon the financial performance of that particular company. There are so many parameters that determine the financial health and prospects of a company and Earning per Share is one of them. In this study, the researchers have made an attempt to investigate the impact of Earning Per Share on the market price and price to earnings ratio as it has assumed greater significance in the determination of the stock price in the long run. Stock analysts all over the financial world make frequent use of the variable which are taken into consideration in this study. Companies publish their results so as to enable the investors to make use of them and make rational investment decisions that will not only generate good returns for them but also expose them to minimum risk.

Seetharaman and Rudolph (2011) in their study concluded that the impact of earning per share was significant on the volatility and drift in the movement of stock prices, thereby, confirming a significant relationship

between stock prices and earnings per share. Eilifsen et al. (1999) undertook a study and found a significant reduction in stock price volatility in the post-announcement period relative to the pre-announcement period. Panagiotis and Dimitrios (2009) made a study to investigate the relationship between earnings and stock returns and the findings of the study demonstrated a high value relevance confirmed positive relationship between the variables under study. Radim Gottwald (2002) made an investigation regarding the application of profit-to-earnings ratio to stock valuation and the findings put forth confirmed that high-performing companies with high price-to-earnings ratios demonstrate increased earnings.

Dr. Sanjeet Sharma (2011) Undertook a study to examine the impact of book value per share, dividend per share, earning per share, price-to-earnings ratio, dividend yield and dividend payout and the results revealed that there exists significantly positive relation among the variable under consideration in the study. Vaidyanathan and G oswami (1997) examined through their study whether the price-to-earnings ratio was a right criteria on the basis of which investment decision can be made. The results rejected the generalised proposition that low price–to-earnings ratio stocks on an average provide larger returns than higher price-to-earnings ratio stocks. The findings revealed that the average annual return of the portfolio formed on the basis of price-to-earnings ratio was not significantly different from each other, therefore, price-to-earnings ratio is not an appropriate basis for investment decisions.

K. Hemadivya and Dr. V. Rama Devi (2013) undertook a study on the relationship between market price and Earnings per share and the findings of the study established that there exists statistically significant positive relationship between earnings per share and market price of shares. Balkrishnan (1984) Conducted a study in which five variables were taken into consideration and it was found that earnings Per share have least influence on the market price of shares.Talinishi and Mittal P. K. (2001) made a cross sectional analysis by taking into consideration price earnings ratio of 105 companies and the findings affirmed that the earnings per share influences the market price of shares positively in a significant way. Zahir and Khanna (1982) in their study investigated the determinants of stock prices in India. The findings of the study put forth that dividend per share is the most significant determinant which influences the market price of shares in a positive manner. Mohammad Rashid Islam et al. (2014) conducted a study to examine whether earnings per share influences the market price of shares or not and it was established through the findings that share prices does not move as fast as the movement in earnings per share, however, the study also established that the share price movements are highly correlated with the performance of micro and macro-economic variables.

2. Objectives of the Study

1. To study the relationship between earning per share and market price of share.
2. To study the relationship between earning per share and price-to-earnings ratio.

2.1. Hypothesis

H0: Null Hypothesis
Earnings per share does not influence the market price of shares statistically in a significant way.
HI: Alternate Hypothesis
Earnings per share influences the market price of shares statistically in a significant way.
H0: Null Hypothesis
Earnings per share does not influence price-to-earnings ratio statistically in a significant way.
HI: Alternate Hypothesis
Earnings per share influences price-to-earnings ratio statistically in a significant way.

2.2. Data-Base and Methodology

In order to achieve the objectives of the study, the researchers have used exclusively secondary data which were collected from the official website of the sample companies. The study undertaken four

companies each which stand as the representative of four different industries namely, Banking Industry, Pharmaceutical Industries, Information Technology Industry and Cement industry. The researchers have taken a reference period of eight years from financial year 2011-2012 to financial year 2018-2019. In order to find the interrelation among the variables under study, the researchers have employed statistical tools such as regression analysis and correlation.

3. Results and Discussion

The findings that are achieved through the employment of statistical techniques are discussed below in a detailed manner.

Table A1:

Ratios	Companies	Mean Ratio	Standard Deviation	F- value	Significance
Stock Price	Axis Bank	617.3	443.2	2.95	0.05
	J&K Bank	547.1	179.1		
	HDFC Bank	1117.7	635		
	ICICI Bank	666.1	304		
	Ranbaxy	511.2	294.3	4.51	0.011
	Sun Pharma	916.8	413.9		
	Cipla	418.2	335.3		
	Dr. Reddy's	959.3	414.3		
	TCS	1093.3	406.6	18.63	0.012
	Wipro	626.4	357.9		
	Infosys	2592.3	1186.8		
	HCL	354	101.6		
	ACC	801.1	340.5	5.76	0.003
	Ambuja	160.8	74.4		
	Ultra Tech	697.1	300.7		
	Shree Cement	1029.6	735.9		

3.1. Stock Price

The above table A: 1 represents the mean, standard deviation, f test and the significance level of the stock prices of all the 16 sample companies from four different industries for a period of 8 years. The highest mean is maintained by the Infosys Company which is Rs. 2592.3 at the standard deviation of 1186.8 implying that the shares are traded at a highest range among all the sample companies but with a significant fluctuation in its prices over the period of eight years. The least mean is shown by Ambuja Cement which is Rs.160.8 with a standard deviation of 74.4. As revealed by the table, there is significant difference among the sample companies on account of stock prices.

Table A2:

Ratios	Companies	Mean Ratio	Standard Deviation	F- value	Significance
EPS	Axis Bank	36.18	26.11	4.73	0.009
	J&K Bank	74.04	34.27		
	HDFC Bank	46.76	20.45		
	ICICI Bank	33.63	6.08		
	Ranbaxy	9.61	17.01	5.2	0.006
	Sun Pharma	33.31	16.6		
	Cipla	17.26	14.18		
	Dr. Reddy's	38.45	18.85		

	TCS	37.18	15.58	26.9	0.004
	Wipro	23.32	8.49		
	Infosys	100.52	38.34		
	HCL	14.65	3.36		
	ACC	49.1375	31.49987	2.77	0.06
	Ambuja	8.6537	5.5481		
	Ultra Tech	47.8925	35.85396		
	Shree Cement	70.385	73.15237		

3.2. Earnings Per Share

The table A: 2 represents the mean, standard deviation, f test and the significance level of the EPS all the 16 sample companies from four different industries for a period of 8 years. The highest EPS is maintained by the Infosys Company, which is Rs. 100.52 with a standard deviation of 38.34. The least Earning Per Share has been provided by Ranbaxy Company, which is Rs. 9.61 with a standard deviation of 17.01. As revealed by the table, there is significant difference among the sample companies of banking Industry, pharmaceutical Industry and IT Industry on account of EPS as $p < 0.05$. In case of Cement Industry, there is no significant difference among the sample companies as revealed by the F-test at 5% significance level.

Table A3:

Ratios	**Companies**	**Mean Ratio**	**Standard Deviation**	**F- value**	**Significance**
P/E Ratio	Axis Bank	18.08	6.512	9.1	0
	J&K Bank	8.805	4.195		
	HDFC Bank	22.891	4.756		
	ICICI Bank	19.188	6.59		
	Ranbaxy	27.29	23.98	0.33	0.807
	Sun Pharma	28.91	6.45		
	Cipla	24.26	3.43		
	Dr. Reddy's	32.82	24.97		
	TCS	54.15	77.97	1.03	0.394
	Wipro	26.64	9.11		
	Infosys	26	7.04		
	HCL	24.7	6.89		
	ACC	13.2	7.2	1.04	0.392
	Ambuja	19.1	23		
	Ultra Tech	220.1	546.7		
	Shree Cement	38.6	46.6		

3.3. PE Ratio

The table A:3 represents the mean, standard deviation, f test and the significance level of the Price Earnings Ratio of all the 16 sample companies from four different industries for a period of 8 years. The highest P/E Ratio is shown by the Ultra Tech Company, which is 220.1 with a standard deviation of 546.7. The reason of such a high P/E Ratio is that the company had an EPS of Rs 0.23 in the year 2005 with a stock price of Rs 361.38, resulting in the P/E Ratio of 1571.25. The least P/E Ratio is shown by J&K bank which is 8.805 with a standard deviation of 4.195. As revealed by the table that there is significant difference among the sample companies on account of P/E Ratio as $p > 0.05$.

Table A4:

Correlations				
		P/E RATIO VAR00001	EPS VAR00002	Stock price VAR00003
PE RATIO VAR00001	Pearson Correlation	1	-.142	-.040
	Sig. (2-tailed)		.110	.655
EPS VAR00002	N		128	128
	Pearson Correlation		1	.676**
	Sig. (2-tailed)			.000
STOCK PRICE VAR00003	N			128
	Pearson Correlation			1
	Sig. (2-tailed)			
	N			
**. Correlation is significant at the 0.01 level (2-tailed).				

The table A: 4 provides us the Pearson correlation for the variables that were included in the regression models. The result indicates that there does not exist any statistically significant relationship between Earnings per share and Price-to-Earnings Ratio which is also confirmed by the 2-tailed T-test. However, earnings per share influences the stock prices in a positive manner which is also affirmed by the 2-tailed T-test.

4. Conclusion

On the basis of the findings put forth by the study, it can be concluded that earning per share influences the market price of shares in a significant manner as there exists a positive relationship between earnings per share and stock price but on the other hand the findings confirm that earnings per share does not influence price-to-earnings ratio as the relationship between the two variables is statistically quite low. Thus, on the basis of these findings, it can be concluded that earnings per share influences one variable namely market price of stocks but does fail to influence price-to-earnings ratio.

It quite clear that earnings per share influences stock prices statistically in a significant manner From the above analysis, it can be explained that there is a significant relationship among EPS, Stock Prices and Price-to-Earnings Ratio. The study shows that there is significant impact of EPS announcement on stock prices, resulting into considerable impact on the Price-to-Earnings Ratio. This is due to the reason that the investors prefer to invest in the shares having a steady growth in EPS and thus resulting in the increase in demand of the shares having consistent growth. This increases the demand of such shares on the exchange and increases its stock prices on the stock exchange. The changes in the EPS and Stock Prices have a considerable impact on P/E Ratio, as its value is dependent on the values of EPS and Stock Price.

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ASIAN INSTITUTE OF RESEARCH
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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 153-171
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.422

The Role of Financial Structural Factors in Retail Rate Adjustment: Evidence from Sri Lanka

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Abstract
This paper examines the interest rate channel of monetary policy transmission. It assesses the impact of banking structural factors on commercial bank pricing decisions and their pass-through in Sri Lanka. The empirical analysis uses aggregate monthly interest rates data from January 2008 to December 2018, a total of 132 observations. The findings suggest that the interest rate pass-through is significant overall, but incomplete. The credit quality, operational efficiency and excess liquidity play essential roles in explaining the adjustments of the bank lending and deposit rates. Non-performing loans increase the lending rate, and this result is robust to different combinations of the control variables. This suggests that banks with higher proportions of non-performing loans attempt to pass their credit losses on to customers. Further, bank inefficiency is passed on to customers in the form of lower deposit rates and excess liquidity in the banking system, both of which have a negative effect on the interest rate adjustments of both lending and deposit rates. A puzzling negative relationship is observed between the lending rate and operational inefficiency. The findings of this paper support the claim that banks in Sri Lanka take into consideration their structural factors as well as the monetary policy rates when setting the lending and deposit rates.

Keywords: Bank Retail Rates, Financial Structural Factors, Interest Rate Pass-Through, Monetary Policy

1. Introduction

One of the pillars of modern monetary policy decision making is a good understanding of the transmission mechanism; that is, the process by which the monetary policy actions of a central bank impact the price level and aggregate demand of an economy (Gigineishvili 2011). The monetary policy decisions of the central bank influence the economy through various different transmission channels, such as the interest rate channel, the credit channel, the exchange rate channel, and the asset price channel. According to Keynesian theory, the interest rate is the most important channel of monetary transmission, which emphasises that the money demand and supply determine the equilibrium interest rate. This channel of monetary transmission operates under the assumption that changes to the policy rate pass-through to the short-term market interest rates (i.e., the interbank rate and the short-term treasury bill rates), and commercial banks then adjust their lending and deposit rates accordingly (broadly

known as bank retail rates). Like advanced economies, emerging economies rely on the policy interest rate as their primary monetary policy tool, and employ the interbank rate as an intermediate target (Mishkin 1995).

In the above framework, a proper knowledge of the interest rate pass-through process is of paramount importance for the successful conduct of monetary policy operations, as it affects both the cost and the availability of credit in the economy. This was emphasised by (Borio & Fritz 1995, p. 3), who claimed that "bank lending rates are a key, if not the best, indicator of the marginal cost of short-term external funding in an economy." The central bank starts out by setting policy rates. It then exerts influence on the money market through open market operations in order to steer toward its operating target, generally keeping the overnight money market rates close to the monetary policy rates. Finally, the money market rates feed through to influence the economy's bank lending and deposit rates (commonly known as retail interest rates) and to affect target the variables, output and inflation. However, as was pointed out by Bernanke & Gertler (1995), the extent and timing of monetary transmission depend on other factors which are generally outside the direct control of the monetary authority. Such factors could be related to the external financing premium of banks, as is accounted for in the balance sheet and bank lending channels of monetary policy. Hence, if financial intermediaries fail to adjust their retail interest rates promptly in response to changes in the policy rates, the changes may not achieve the results that monetary authorities expect (Hofmann & Mizen 2004). Therefore, the responses of financial intermediaries, especially banks, are more important in developing countries than in developed countries, as direct financing between lenders and borrowers is limited (Cottarelli & Kourelis 1994, p. 588).

The interest rate pass-through process is essential to monetary policy for both the economic and financial stability of an economy (De Bondt 2005). A policy-induced change in interest rates affects market interest rates based on the term structure of interest rates, including retail bank interest rates, albeit to varying degrees. Notably, a quick and full pass-through of the policy rates to retail bank interest rates reinforces the effectiveness of monetary policy transmission and price stability. Banks' decisions on the lending rates charged their borrowers and the deposit rates paid to their depositors affect the expenditure and investment behaviour of economic agents, and thus real economic activities. Moreover, commercial bank lending and deposit rates influence their interest margin and profitability, which in turn affect a country's financial stability and the soundness of its banking system.

Similarly, a stickiness of such retail rates with respect to changes in the short-term market rates severely impairs the smooth transmission of monetary policy (Cottarelli & Kourelis 1994). Hence, the strength of the interest rate pass-through from the monetary policy rates to retail rates reflects the extent to which monetary policy can assist in managing economic activities and stabilising prices, i.e., the effectiveness of the monetary policy. Thus, an understanding of the effectiveness of monetary policy and the factors that affect this transmission is of primary interest to central bankers in many countries.

The theoretical and empirical literature discusses several factors that ultimately influence the adjustment of bank retail interest rates. These can be summarised into two broad categories: (i) macroeconomic conditions such as inflation, capital mobility and exchange rate flexibility, excess liquidity, and financial sector developments; and (ii) financial structural factors such as bank competition, capital, liquidity, non-performing loans, and non-interest income. As the adjustments in retail interest rates depend on several factors, a rich understanding of such factors can assist in the formulation of appropriate policies and the necessary measures for improving the effectiveness of monetary policy. However, while substantial empirical work has been conducted on a variety of markets and products, some issues in the transmission mechanism still remain, especially in emerging economies.

Despite its importance, the effectiveness of the interest rate pass-through in the Sri Lankan context has not been examined extensively to date. As the prevailing empirical literature has shown, the degree and speed of interest rate pass-through can vary significantly across countries, markets, financial products and financial institutions, as well as over time (See Cottarelli & Kourelis 1994; Gigineishvili 2011). It is of pivotal importance for monetary policy decisions that developments in interest rate pass-through in Sri Lanka be monitored, given the leading role that the banking sector plays in financing the non-finance private sector of the economy.

The discussion above, together with the commonly-observed fact of price stickiness in retail rates, show that it is important to determine which financial structural factors influence or prevent the complete adjustment of retail rates following a monetary policy change in the Sri Lankan context. Accordingly, this paper estimates a model that can describe the way in which monetary policy is transmitted to commercial bank retail rates when controlling for financial structural factors that could affect the retail rates mark-up and the degree of pass-through. This paper contributes to the empirical literature as, to the best of my knowledge, this is the first study to examine the effect of financial structural factors on the retail rates mark-up and the strength of interest rate pass-through in the Sri Lankan context. A lack of availability of published data on banking sector performances (either aggregate or bank-level) could be the reason for the absence of empirical analyses in this area to date. This paper uses critical financial structure variables, such as credit risk, bank competition, excess liquidity, bank operational diversification and cost efficiency, to uncover the structural impact of pass-through in the Sri Lankan context.

Using the baseline linear ARDL model without any controlling financial structural factors, this study finds overall significant but incomplete interest rate pass-through from the monetary policy rates to the lending and deposit rates, over the period 2008–2018. In general, the credit quality, the operational efficiency of the bank and the excess liquidity play important roles in explaining the adjustments of the retail rates. In particular, non-performing loans increase the lending rate, a result that is robust across all specifications. Further, the estimated results support the notion that bank inefficiency is passed on to customers in the form of lower deposit rates. However, contrary to the theory, the results show a negative relationship between the lending rate and operational inefficiency. This puzzling relationship requires further examination and confirmation in future research. Moreover, our results show that an abundance of liquidity in the banking system could have a negative effect on interest rate adjustments for both the lending and deposit rates.

The rest of the paper is organised as follows. Section 2 describes the data and the econometric methodology. Section 3 then discusses the empirical results, after which Section 4 provides the summary and conclusion, including the empirical implications of the empirical findings.

2. Empirical strategy

2.1. Data

I investigate the effects of financial structural factors on the interest rate pass-through using aggregate monthly interest rate data from January 2008 to December 2018, a total of 132 observations, which is generally considered to be a reasonable sample size for standard time series regression. The key variables used in the analyses are the central bank's policy rate and bank retail rates. Empirical studies typically rely on a proxy rate for the central bank policy rate, and the standard proxy is either the interbank call money market rate or the short-term treasury bill rate. The interbank call money market rate (MMR) is not used for our baseline model due to its high volatility, the result of frequent liquidity fluctuations in the interbank market.[1] Following the literature, for instance Cottarelli & Kourelis (1994) and Gigineishvili (2011), this study employs the three-month treasury bill rate (TBR) as the primary exogenous variable for representing policy rates in the economy. This paper examines the impact of structural factors on the lending and deposit rates and the interest rate margin. The average weighted lending rate (LR) is calculated from the retail lending rates of all outstanding rupee-denominated loans and advances extended by commercial banks to the private sector. The average weighted deposit rate (DR) is calculated from the retail deposit rates of all outstanding interest-bearing deposits held with commercial banks. Finally, the difference between these two rates represents the banks' interest rate margin. The data are obtained mainly from the Central Bank of Sri Lanka (CBSL) statistical publications. In addition, I employ several control variables as potential

[1] The interbank market is the most important market in the financial system, as commercial banks use it to hedge the liquidity shock, and it is the focus of the central bank's implementation of monetary policy. When liquidity shock heading opportunities are limited, the interbank market may exhibit excessive price volatility. Central banks fix interest rate volatility through the appropriate use of open market operations (Allen et al. 2009). As a developing economy, Sri Lanka experiences higher volatility in the interbank market, mainly due to commercial banks' involvement in foreign exchange operations and fiscal financing through state commercial banks. Hence, the interbank money market rate may not be the best proxy for the policy rate in this case (Perera 2016). Furthermore, Fuertes & Heffernan (2009) argue that the money market rate is not a good proxy for the policy rate because it is driven largely by the demand and supply of the interbank fund.

determinants of the interest rate pass-through.[2] The data series used or calculated are listed in Table 1, along with their sources.

A bank's asset quality is the first explanatory variable representing financial structural factors. I use the Non-Performing Loan ratio (NPL) as an indicator of bank assets' quality/credit risk. As has been suggested by the market discipline literature, a higher credit risk is associated with higher returns in terms of retail rates (Bikker & Gerritsen 2018; Demirgüç-Kunt & Huizinga 2010). Moreover, some scholars argue that banks with higher levels of bad assets on their balance sheet are expected to capture increases in interest rates in order to compensate for higher bank losses (Gregor & Melecký 2018; Grigoli & Mota 2017). It is known that credit risk has a negative impact on interest rate pass-through. Riskier loan portfolios are typically associated with higher loan yields (Gambacorta 2008). Similarly, banks with riskier loan portfolios may have to offer depositors higher deposit rates in order to attract funds and cover the credit risk to providers of bank finance (Bikker & Gerritsen 2018). In contrast, Maudos & De Guevara (2004) show that credit risk can have a positive impact on the deposit rate and the interest margin.

The degree of competition in loans and the deposit market is another prominent determinant of bank pricing behaviour. I test whether market power affects the pass-through in Sri Lanka using commercial bank concentration. The level of concentration of commercial banks indicates the extent to which they contribute to the output of an industry. The relative market power hypothesis (also known as structure–conduct performance), put forward by Berger (1995), states that banks with large market shares are able to set less competitive interest rates. Existing empirical findings suggest that the interest rate pass-through tends to be higher in a more competitive banking system (See Leroy et al. 2015; Sørensen & Werner 2006; Van Leuvensteijn et al. 2013). In the literature, banking sector competition is commonly measured using either the Hirschman Herfindahl Index (HHI) or the Lerner index. However, neither of these measures can be used here due to the lack of availability of individual bank-level data. Hence, I calculate the ratio of commercial bank assets to financial system assets in Sri Lanka (Com) as a proxy of the market power. Based on the literature (Berger 1995; De Graeve et al. 2007), I hypothesise a positive (negative) relationship between the lending (deposit) rate and the banking sector concentration, while I anticipate a negative effect on the interest rate pass-through.[3]

As was suggested by Mojon (2000), a more highly diversified portfolio of bank activities, reflected through a higher non-interest income as banks rely less on traditional banking activities, will have a positive impact on monetary policy adjustments. The rationale is that banks which generate higher fee-based incomes from other services tend to set their retail rates closer to the market interest rates. However, this may not be the case in less competitive environments where banks are less sensitive to movements in the market rate. Accordingly, I examine the impact of banks' pricing efficiency by including a proxy variable of non-interest related activities as a percentage of total income (NII). The hypothesis is that having banks engaged in non-interest generating banking activities will tend to improve the interest rate pass-through.

The next explanatory variable that is likely to influence the extent of the interest rate pass-through is related to banks' cost-efficiency. The hypothesis is that a bank's pricing decisions are driven by its degree of operational efficiency (De Graeve et al. 2007). If banks set their retail rates by adding a margin on top of their cost of funds as per the mark-up theory, efficient banks should have an incentive to use their cost-effectiveness to price their lending rate below average and their deposit rate above average. This paper measures the cost efficiency as the ratio of operational cost to gross income (OPC) when investigating whether more inefficient bank pass their inefficiency on to customers (Horváth et al. 2004). Thus, it is expected to have a positive (negative) relationship with the estimated lending (deposit) rate. The same argument applies to the long-term pass-through.

Excess liquidity in the banking system is the last variable representing the bank structural factor in this paper. Highly liquid banks can insulate interest rate shocks (Gigineishvili (2011). For instance, banks that do not hold excess liquidity in their asset portfolios will be forced to reduce their lending in times of monetary contraction,

[2] The bank structural variables are available only at a quarterly frequency, and are then interpolated linearly to a monthly frequency.
[3] As suggested by Cottarelli & Kourelis (1994), Mojon (2000), Sørensen & Werner (2006), and (Gigineishvili 2011).

while banks with an excess of liquidity assets buffer the impact of the monetary shock, as they can make use of their excess liquidity to finance loans and advances. Accordingly, the interest rate pass-through is less effective in a financial system where banks maintain excess liquidity without investing in loans or alternative financial securities. As a result, changes in policy rates are unlikely to cause changes in retail rates, implying a negative effect on pass-through for both loans and deposits. In this sense, excess liquidity acts as a buffer against monetary shocks and market fluctuations (see De Graeve et al. (2007); Kashyap & Stein (2000). Further, as was suggested by Gambacorta (2008), less liquid banks have less capacity to issue bonds, and therefore need to encourage more deposits by offering relatively high deposit rates. Hence, banks with excess liquidity have less demand for deposits, which is expected to have a negative effect on the deposit rate. Similarly, since the more liquid banks find it easier to fund loans on their margin, excess liquidity (ExL) is expected to have a negative effect on loan pricing. Excess liquidity is measured as the difference between the prevailing liquidity ratio in each period and the statutory liquid asset ratio.[4]

2.2. Econometric Approach

I employ a single equation Error Correction Model (ECM) derived from the ARDL model, introduced by Pesaran & Shin (1999) and Pesaran et al. (2001), to identify the expected cointegration relationships among the variables in the model.5 This model does not require all variables to be integrated in the same order (Sam et al. 2019). Thus, the main advantage of the Auto-Regressive Distributed Lag (ARDL) model is that it allows me to employ both regressors that are stationary in level and time series that are integrated of order one in the model setup simultaneously. When the variables are cointegrated, it means that there exists a long-run equilibrium relationship. Thus, I could differentiate between the short- and long-run reactions of bank retail rates to changes in monetary policy rates.6 It further determines the speed of adjustment of retail rates toward their long-run equilibrium.

Based on the mark-up equation, the difference between the exogenous treasury bill rate (a proxy for the central bank policy rate) and the endogenous retail interest rate is:

$$i_t^r = \left(\alpha_1 + \alpha_{2,t}\right) + \beta i_t^m + e. \qquad (1)$$

The interest rate spread/mark-up consists of two components: the constant α_1 and the time-varying component $\alpha_{2,t}$. The time-varying component includes the possible bank conditions and financial structural factors, which in turn determine the mark-up.[7] As per the existing literature, $\alpha_{2,t}$ is determined by a vector of financial structural factors X_t, and their relationship can be expressed as:

$$\alpha_{2,t} = \varphi X_t + u_t. \qquad (2)$$

Based on equations (1) and (2), I first model the long-run cointegration relationship as:

$$i_t^r = \alpha_0 + \beta i_t^m + \varphi \boldsymbol{X}_t + v_t, \qquad (3)$$

where i_t^r is the endogenous bank retail rate (lending or deposit rate) and α_0 is a constant that represents the long-run mark-up/markdown between the policy rate and the bank retail rates. Further, β is the long-run pass-through coefficient; i_t^m is the exogenous policy rate, proxied by the three-month treasury bill rate; φ is the estimated vector of the coefficient on the control variables X_t, and $v_t = e_t + u_t$ is the error term. If β is equal to one, there is a

[4] As per Banking Act No. 30 of 1988, Licensed Commercial Banks are required to maintain Statutory Liquid Assets (SLAR) of an amount not less than 20% of total liabilities, less liabilities to the central bank and to their shareholders.

[5] Similar specifications with a set of control variables are used by Leroy & Lucotte (2016), Gambacorta et al. (2015), and Gregor & Melecký (2018).

[6] Series are cointegrated if and only if both the *F*- and *t*-tests reject their null hypothesis and the dependent variable is stationary at I(1). In the Bound test, the *F*-test draws conclusions on the coefficients of lagged levels of all variables used in the model, while the *t*-test examines the lagged level of the dependent variables (See McNown et al. 2018).

[7] There are two basic approaches to examining the role of financial structural factors in interest rate pass-through. The first approach examines how financial structural factors determine the estimated parameter of the interest rate pass-through using the interest rate pass-through regression, i.e., $i_t^r = \alpha_0 + \beta i_t^m + u_t$. The second approach includes the financial structural factors in the pass-through regression (such as Eq. (4)) directly. Even though both of these approaches investigate how financial structural factors matter for interest rate pass-through, they aim to answer two distinct questions. The first approach examines how financial structural factors influence the long term pass-through, while the second examines whether financial structural factors matter for interest rate adjustment (See Horváth et al. 2004). This study opts for the second approach, as I have access to aggregate financial structural data for Sri Lanka.

complete pass-through. In contrast, if β is smaller than one, this indicates incomplete pass-through, and if β is greater than one, this indicates an overshooting of the retail rates. The vector of control variables, X_t, includes five structural factors that influence the retail rates beyond the monetary policy rate: (i) the Non-Performing Loan ratio (NPL), which is the share of gross non-performing loans out of all loans and advances, to represent the credit risk; (ii) banking sector concentration, to represent the bank competition (Com), measured as the share of commercial banking assets out of total assets of the financial system in Sri Lanka; (iii) excess liquidity (ExL), which is the ratio of liquid assets to total liabilities over and above the regulatory requirement; (iv) share of non-interest income in total income (NII), to account for banks' product/operational diversification; and (v) ratio of operational cost to total income (OPC), to represent banks' cost efficiency.[8]

I use the Bound test, proposed by Pesaran et al. (2001), to test for the existence of a cointegration relationship among variables. A cointegration relationship is confirmed by comparing the calculated *F*- and *t*-statistics to the tabulated critical values. If the estimated values are larger than the upper critical value, then there exists a long-run equilibrium relationship between the variables. Conversely, if the estimated statistics are smaller than the lower critical value, the null hypothesis of no cointegration is not rejected. Finally, if the estimated *F*- and *t*-statistics are between the upper and lower critical values, the results are inconclusive without additional information.

The speed of adjustment to long-run equilibrium following a shock to the system is determined by specifying an ECM derived from the ARDL as follows:

$$\Delta i_t^r = \alpha_0 + \rho_k \Delta i_{t-k}^m + \theta_k \, \Delta \boldsymbol{X}_{t-j} + \gamma(i_{t-1}^r - \alpha_1 - \beta i_{t-1}^m - \varphi \boldsymbol{X}_{t-1}) + v_t. \qquad (4)$$

In this equation, Δ denotes the first difference operator. The short-run dynamics are represented by the terms with delta (Δ), and the long-run relationship is represented by the terms in parentheses. In this model, ρ_0 measures the short-run (contemporaneous, impact) pass-through, which is the same-period change in the retail interest rate in response to changes in the money market rate. β represents the long-run relationship between the two interest rates. The coefficient γ represents the speed of adjustment towards the long-run equilibrium, which means that $\gamma \in [-1,1]$ confirms the presence of an equilibrium-restoring relationship. In general, a higher value of γ represents a faster adjustment of retail rates, and thus a more efficient pricing of bank retail rates. v_t is the error term. i_{t-1}^r, i_{t-1}^m and X_{t-1} are lagged variables, and the relevant lag structure is chosen based on the Schwarz Information Criterion (SIC). This empirical analysis follows the empirical approach of Grigoli & Mota (2017) and Gregor & Melecký (2018) closely. Our attention in this paper is on the fractions of monetary policy changes that are reflected in changes in the retail rates (expressed by β) over the long-run. This represents the pass-through parameter, which could be close to zero if the financial structural factors selected above prevent the pass-through from being complete, or greater than one if those factors cause over-pass-through.

Table 1: Variables and Descriptive Statistics

Variable	Variable Code	Description of the Variable	Source	Descriptive Statistics					
				Obs.	Mean	Median	Std. Dev.	Max	Min
Dependent Variables									
Bank lending rates	LR	weighted average lending rates of outstanding loans and advances	CBSL	132	14.91	14.20	2.51	20.13	10.96
Prime lending rates	PLR	weighted average lending rates offered to the prime customers of the banks	CBSL	132	11.67	11.37	3.50	20.79	6.35

[8] It should be acknowledged that there may be several other financial structural factors that influence bank pricing policies in addition to the factors that I have concerned in this paper. This study focuses on observable bank characteristics (supply-side) when determining the bank retail rates and its influence on pass-through.

Deposit rates	DR	weighted average interest rate of outstanding interest bearing deposits	CBSL	132	8.38	8.48	1.75	11.74	5.83
Fixed deposit rates	FDR	weighted average interest rate of outstanding fixed deposits	CBSL	132	10.94	10.81	2.83	16.92	6.87
Explanatory / Control Variable									
Monetary Policy Indicator									
Treasury bill rate	TBR	3-month government treasury bill rate	CBSL	132	9.34	8.56	3.40	19.25	0.05
Money market rate	MMR	weighted average of interbank call money rate	CBSL	132	8.98	8.43	2.47	19.34	5.77
Financial / Banking factors									
Credit risk	NPL	impaired loans / gross loans	CBSL	132	4.50	3.79	1.77	8.57	2.30
Market power	Com	commercial bank assets / financial system total assets	Calculated based on CBSL data	132	0.46	0.46	0.03	0.53	0.39
Product diversification	NII	fee-income / total income	Calculated based on CBSL data	132	0.14	0.14	0.02	0.20	0.12
Cost efficiency	OPC	operational cost / total income	Calculated based on CBSL data	132	0.25	0.24	0.03	0.30	0.19
Excess liquidity	Exl	liquidity assets ratio – statutory liquidity assets ratio	Calculated based on CBSL data	132	6.75	6.25	2.17	11.88	2.90

2.3. Empirical Results and Discussion

2.3.1. Linear Specification: Estimated Results

Before investigating the effect of bank structural factors on the interest rate pass-through, I estimate the long-run model of the interest rate pass-through (by estimating equations (3) and (4) without controlling for financial structural factors). The aim of this is to determine the effect of the interest rate channel of monetary policy transmission by assessing the extent to which the retail rates are adjusted in the long-run through monetary policy tightening without accounting for the other variables that could have an impact on the pass-through. Once the long-run cointegration relationship between the treasury bill rates and retail interest rates has been confirmed, the long-run pass-through and short-run dynamics of the lending and deposit rates are examined, and the estimated results are reported in columns 1 and 3 of Table 2. With regard to the degree of long-run pass-through (β), the estimated results indicate that the pass-through to both the lending and deposit rates is not complete. The results suggest that, in the absence of any bank structural factors, 97 percent of a change in the MMR is passed-through to the lending rate, while only 67 percent of a change in the MMR is passed-through to the DR. This suggests that

if CBSL cuts its policy rate by 100 basis points, commercial banks' loan rates will decrease by 97 basis points, while their deposit rates will decrease by 67 basis points. Thus, a higher long-run pass-through is observed for lending rates than for deposit rates. This may be due to uncompetitive market forces and higher switching costs in the deposit market than in the lending market (Horváth et al. 2004). These pass-through magnitudes for LR and DR are quite similar to those obtained by Perera (2016), who calculated pass-through rates of approximately 98 percent and 63 ppercentrespectively for the 2001–2012 subsample period in the Sri Lankan context.

According to his results, the short-run (contemporaneous) pass-through coefficients (ρ) are positive and significant for both lending and deposit rates. However, he records a low level of short-run pass-through, suggesting that banks only transmit around 6 percent and 5 percent of the changes in the short-term rates to the lending and deposit rates in the following month, respectively. Meanwhile, the speed of adjustments (γ), or the error correction adjustments, are negative and statistically significant for all of the retail rates, indicating a mean reversion of the retail interest rates towards the long-run equilibrium. Under the short-run dynamics, the deposit rate exhibits the weakest pass-through and the weakest speed of adjustment to the long-run equilibrium. The results support price rigidities and incomplete-pass-through, such that the retail rate changes do not reflect the adjustments in policy rates directly. In general, these findings are consistent with prior international (Bennouna 2018; Grigoli & Mota 2017) and local (Amarasekara 2005; Perera 2016) research. Further, column 5 of the table shows that the central bank policy rate does not have an impact on the net interest margin (measured as the difference between the lending and deposit rates) in either the long-run or the short-run.

I extend our pass-through specification by adding selected bank structural variables, to determine which structural factors are associated with the interest rate mark-up (above the cost of funds, represented by the treasury bill rate). The estimated full results of equations (4) and (5) (after confirming the cointegration relationship from the Bound test) are shown in columns 2, 4 and 6 of Table 2. From the ARDL Bound test results, I can confirm a significant co-integration relationship between the explanatory variables and the retail rates, including the net interest margin. With this specification, the pass-through coefficient of the lending rate drops from 97 percent to 63 percent while the pass-through of the deposit rate remains unchanged. The short-term dynamics show a similar picture, with slow adjustments in both the lending and deposit rates. This result suggests that the financial structural factors change the lending rate pass-through, indicating that banks' structural factors hinder the effectiveness of monetary policy transmission in Sri Lanka.

Consistent with our theoretical predictions, a bank's exposure to credit risk, measured by the non-performing loan ratio, increases the lending rates significantly relative to the treasury bill rates, while reducing the deposit rate. Specifically, a one percentage point increase in the non-performing loan ratio increases the lending rate by 0.73 percentage points and decreases the deposit rate by 0.81 percentage points. This means that banks with relatively low credit quality tend to increase their lending rates, reflecting the view that banks tend to push the cost of non-performing loans onto bank customers. This is consistent with the findings of Byrne & Kelly (2019) and Gregor & Melecký (2018). The negative impact of credit risk on the deposit rate means that a part of the credit loss is charged to depositors by reducing the deposit rate. When combining the impacts on the lending and deposit rates, a one percentage point increase in credit risk increases the net interest rate margin by nearly 0.96 ppercent as is shown in the estimated results.

Bank operational costs and excess liquidity turn out to be significant when determining the retail rates. The operational cost provides insights into the operational efficiency of the bank, with a higher cost to income ratio reflecting operational inefficiency. It is observed that both retail rates react negatively to operational efficiency. A one unit increase in bank operational costs reduces the lending rate by nearly 0.2, and the deposit rate by 0.15. Thus, banks that are less operationally efficient are characterised by higher interest rates. However, the estimated results do not support the earlier argument that bank inefficiency will be passed on to borrowers in the form of higher lending rates (De Graeve et al. 2007). This result is puzzling, as it shows the opposite of the hypothesised relationship between the lending rate and operational efficiency. However, operational inefficiency is passed on to depositors in the form of lower deposit rates. As was suggested by Mojon (2000), this influence of a fixed cost (i.e. operational costs) on retail interest rate pricing confirms that the banking industry of Sri Lanka lacked

competition during the period under analysis. Neither the market power nor operational diversification affect any of the retail rates in the baseline model.

Table 2: Linear Specification Estimated Results

	LR		DR		NIM	
	1	2	3	4	5	6
Long-Run Relationship						
TBR (β)	0.9723***	0.6346***	0.6792***	0.6776***	0.5432	0.0317
	(0.1401)	(0.1679)	(0.0825)	(0.1793)	(0.5250)	(0.0404)
NPL		0.7381**		-0.8118*		0.9620***
		(0.2898)		(0.4635)		(0.1118)
Com		-0.0156		-0.2392*		0.0053
		(0.1077)		(0.1385)		(0.0415)
NII		-0.2217		-0.1512		-0.0443
		(0.1921)		(0.1828)		(0.0763)
OPC		-0.2019**		-0.1468*		-0.0213
		(0.0856)		(0.0775)		(0.0281)
ExL		-0.3805**		-0.8195*		-0.1686***
		(0.1565)		(0.2779)		(0.0599)
C	0.0034***	0.0197**	0.0015*	0.0187***	0.0001	0.0087
	(0.0011)	(0.0104)	(0.0657)	(0.0053)	(0.0010)	(0.0109)
Speed of Adjustment (γ)	-0.0664***	-0.0897***	-0.0781***	-0.1535***	-0.0200	-0.2044***
	(0.0078)	(0.0096)	(0.0103)	(0.0103)	(0.0110)	(0.0333)
Short-Run Dynamics						
Short-Run Pass-through (ρ)	0.0660***	0.0569***	0.0531***	0.0375***	0.0108	0.0065
	(0.0079)	(0.0116)	(0.0071)	(0.0072)	(0.0072)	(0.0117)
No. of Observations (After Adjustments)	131	129	131	128	131	129
Adj. R-squared	0.3509	0.4016	0.3044	0.7296	0.0172	0.2187
ARDL Bounds Test (F-statistic)	35.3556	11.8281	46.4756	29.7895	1.8670	5.1267
	[4.94-5.73]	[2.45-3.61]	[2.45-3.61]	[2.45-3.61]	[4.94-5.73]	[2.45-3.61]
Covariance Matrix	White	HAC				HAC

Notes: ***, ** and * indicate statistical significance at the 1%, 5%, and 10% levels. Standard errors are shown in parentheses, and critical values of the ARDL Bound test are given in square brackets. White (HAC) represents the White covariance matrix (the Newey-West HAC covariance matrix), used to handle the observed heteroscedasticity (autocorrelation and heteroscedasticity) in the residuals of the estimated model. The model covers the sample from January 2008 to December 2018. The lag structure is chosen based on the Schwarz Information Criterion (SIC), allowing a maximum lag length of three.

As per the study by Agénor & El Aynaoui (2010), our results show that an abundance of liquidity in the banking system could have negative effects on the interest rate adjustments for both the lending and deposit rates, decreasing them by nearly 0.38 and 0.82 percentage points, respectively. This result is consistent with the observations of De Graeve et al. (2007) and (Gambacorta & Mistrulli 2014). Furthermore, improvement has been noticed in the short-run speed of adjustment in both the lending (from 0.06 to 0.08) and deposit (from 0.7 to 0.15) rates, once the financial structural factors are included in the model. All in all, the results show that the financial structure of banks affects both the lending and deposit rates.

2.3.2. Testing for possible structural breaks

Over the last decade, Sri Lanka has undergone significant economic and financial changes, especially in May 2009 at the end of its 30-year civil war. Therefore, I apply the Bai-Perron test (Bai & Perron 1998) in order to identify unknown structural breaks in our estimated baseline model, and the results are given in Table 3. As was suggested by Gregor & Melecký (2018), the Bai-Perron test with globally determined breaks is selected as the preferable test, because its expectation of multiple structural breaks during the sample period makes it more suitable.

The test detects one breakpoint for the lending rate (LR) model, two for the deposit rate (DR) model, and one for the net interest margin (NIM) model. The identified break date for LR is August 2013, which may represent the reaction of the lending rate to the expansionary monetary policy of reducing the statutory reserve requirement from 8 percent to 6 percent with effect from 1st July 2013. The two structural break dates that have been identified for DR are November 2009 and September 2014. The structural break in November 2009 may represent a delayed reaction to the civil war that ended in May 2009, and September 2014 may represent the Sri Lankan economy's historically low interest rates. This was due to the country's relaxed monetary policy stance and the excess liquidity in the money market in mid-2014. Finally, the unknown break of November 2011 in the net interest margin may represent the monetary policy contraction that started toward the end of 2011 and resulted in a domestic money market liquidity deficit by the end of 2011. These structural break dates are robust to the use of the Quandt-Andrews (Andrews 1993; Andrews 2003) unknown breakpoint test.

Table 3: Structural Break Test for the Baseline Model

	LR		DR		NIM	
	No. of Breaks	Estimated Break Dates	No. of Breaks	Estimated Break Dates	No. of Breaks	Estimated Break Dates
Break Type: Bai-Perron tests of 1 to *M* globally determined breaks						
Sequential F-statistic determined breaks:	1	2013M08	2	2009M11 2014M09	1	2011M11
Significant F-statistic largest breaks:	1	2013M08	2	2009M11 2014M09	1	2011M11
UDmax determined breaks:	1	2013M08	2	2009M11 2014M09	1	2011M11
WDmax determined breaks:	1	2013M08	2	2009M11 2014M09	1	2011M11
Quandt-Andrews unknown breakpoint test	1	2013M08	1	2014M09	1	2011M11

I control for structural changes that have taken place in the economy and the financial market by extending our baseline mode to include a shift dummy:

$$i_t^r = \alpha_0 + \beta i_t^m + \varphi X_t + \sigma_1 Dum_t + v_t, \qquad (5)$$

where the dummy variables are specified for each retail rate and impose a value of 0 before the structural break and 1 thereafter. I re-estimate the model incorporating the unknown structural breaks using the ARDL approach, and the results are presented in Table 4.

Table 4: Results of the Model with Dummy Variables

	LR	DR	IM
	1	2	4
Long-Run Relationship			
TBR (β)	0.5418***	0.5646***	0.0202
	(0.1357)	(0.2136)	(0.0306)
NPL	0.6009**	-0.9830*	0.7213***
	(0.2366)	(0.5551)	(0.0984)
Com	0.0504	-0.3493*	-0.0343
	(0.0912)	(0.1987)	(0.0274)
NII	-0.2885**	-0.1729	-0.0009
	(0.1272)	(0.2140)	(0.0571)
OPC	-0.1540**	-0.2380**	-0.0427**
	(0.0700)	(0.0920)	(0.0194)
ExL	-0.1503	-0.9812**	-0.1241**
	(0.1754)	(0.4291)	(0.0607)
Dum 1	-0.0127*	-0.0182	-0.0078***
	(0.0067)	(0.0158)	(0.0026)
Dum 2	-	-0.0012	-
		(0.0101)	
C	0.0202**	0.0232***	0.0342***
	(0.0103)	(0.0065)	(0.0129)
Speed of Adjustment (γ)	-0.1147***	-0.0471***	-0.4118***
	(0.0121)	(0.0023)	(0.0601)
Short-Run Dynamics			
Short-Run Pass-through (ρ)	0.0621***	0.0266***	0.0083
	(0.0122)	(0.0076)	(0.0125)
No. of Observations (After Adjustments)	129	128	127
Adj. R-squared	0.4109	0.8232	0.2811
ARDL Bounds Test (F-statistic)	10.6624	34.1220	5.5286
	[2.32-3.5]	[2.22-3.39]	[2.32-3.5]
Covariance Matrix	HAC		

Notes: ***, ** and * indicate statistical significance at the 1%, 5%, and 10% levels. Standard errors are shown in parentheses, and critical values of the ARDL Bound test are given in square brackets. The term HAC represents the Newey-West HAC covariance matrix, used to handle the observed heteroscedasticity and autocorrelation in the residuals of the estimated model. The model covers the sample from January 2008 to December 2018. The lag structure is chosen based on the Schwarz Information Criterion (SIC), allowing a maximum lag length of three.

The results show that the pass-through to the lending rate drops further when the structural break is incorporated, possibly as a result of the reduced reserve requirement. Decreasing the reserve requirement increases the amount of money that banks have available to lend. In other words, the supply of money is relatively high under the reduced reserve requirement. Thus, banks do not charge higher interest for lending, which might be a cause of the lower pass-through to the lending rate. When the central bank follows a tight monetary policy, banks cut down on credit. Low credit growth and low deposit funding lead to banks with lower profits (See Borio et al. 2017).

Turning to the financial structural factors, I find only minor differences in the estimated results relative to the baseline model estimation, except for the NII. All other control variables show statistical significance in

determining the retail rates, although with different magnitudes. However, the results show that NII is significant on lending rates once structural break dummies are included in the model.

2.3.3. Non-Linear Specification with Interactions

Next, I modify the initial specification to include interaction terms for testing how the financial structural variables in the X_t vector affect the pass-through of the monetary policy rate:

$$i_t^r = \alpha_0 + \beta i_t^m + \varphi X_t + \delta(X_t * i_t^m) + v_t \,, \qquad (6)$$

where $X_t * i_t^m$ represents the interactions of the variable in a vector X_t with the monetary policy rate. I test the significance of the interaction terms one by one and include each term in the final specification only if it is jointly significant with the corresponding financial structural variable.[9] Accordingly, the interactions of the non-performing loan ratio, operational cost and excess liquidity variables with the TBR are added into all three models. The results of the models with the interaction terms are shown in Table 5.

Consistent with the findings of Gigineishvili (2011) and Sander & Kleimeier (2004), I find the interaction between the monetary policy rate (TBR) and the non-performing loan (NPL) ratio to have a significant negative effect on the lending rate. Furthermore, consistent with Egert et al. (2007) findings, our results confirm that NPL brings negative marginal effect on interest rate pass-through, confirming the dampening effect of a higher NPL ratio on the interest rate pass-through.

As was argued by Gigineishvili (2011), NPL reflects the degree of credit risk in the banking sector. Thus, lending rates will be higher for economies with higher levels of NPL, as banks demand higher risk premiums. However, increasing lending rates means that banks attract riskier projects and borrowers, which also increases the probability of default on existing credit facilities. Hence, profit-maximising banks might be less responsive to monetary policy changes when the credit risk is already high, in order to reduce the likelihood of incurring additional losses. Hence, when the credit risk is high, a large portion of the increase in the cost of funds (short-term interest rate) is absorbed by the risk premium. A weaker interest rate pass-through is reflected by the positive coefficient of NPL and the negative coefficient on the interaction term. Accordingly, our results support the argument that banks with higher credit risk insulate their customers from monetary policy shocks (Schlüter et al. 2012).

Moreover, similarly to Gigineishvili (2011) and Sørensen & Werner (2006), the interaction between the excess liquidity and TBR indicates that large excess liquidity held in commercial banks reduces the impact of monetary policy changes on the lending rate. This suggests that the effectiveness of monetary policy in the banking environment is limited when there is excess liquidity, as excess liquidity is expected to act as a buffer against market fluctuation, resulting in a negative effect on the deposit rate pass-through.

Table 5: Non-Linear Specification with Interaction Terms

	LR	DR	IM
	1	2	3
Long-Run Relationship			
TBR (β)	0.7662***	6.0221	0.2202
	(0.1738)	(4.5588)	(0.4842)
NPL	1.0053***	-4.8989*	1.1931***
	(0.2561)	(2.6839)	(0.2255)
Com	0.0793	-0.6533	0.0594**
	(0.0550)	(0.4229)	(0.0282)
NII	-0.0300	0.1506	0.1084**

[9] When performing this exercise, we closely follow the recent study of Gregor & Melecký (2018).

	(0.0825)	(0.4924)	(0.0525)
OPC	-0.0696	0.8750	-0.0638
	(0.0472)	(0.8327)	(0.0867)
ExL	-0.4217**	-2.9102	0.2966***
	(0.2297)	(1.9050)	(0.1079)
Dum 1	-0.0061**	0.0053	-0.0185***
	(0.0037)	(0.0320)	(0.0024)
Dum 2	-	-0.0025	-
		(0.0173)	
NPL*TBR	-6.5099**	27.5174	-7.1358***
	(2.8787)	(17.9626)	(2.4395)
OPC*TBR	0.1873	-14.4015	0.6902
	(0.2939)	(10.0571)	(1.0329)
ExL*TBR	-5.1123**	24.3616	-4.2181***
	(2.6306)	(17.0025)	(1.3343)
C	0.0100	0.0069	-0.0037
	(0.0111)	(0.0111)	(0.0208)
Speed of Adjustment (γ)	-0.2720**	-0.0291***	-0.3491***
	(0.0216)	(0.0014)	(0.0431)
Short-Run Dynamics			
Short-Run Pass-through (ρ)	0.1561***	0.1751*	0.0769
	(0.0469)	(0.1019)	(0.2123)
No. of Observations (After Adjustments)	127	129	129
Adj. R-squared	0.5737	0.8249	0.3349
ARDL Bounds Test (F-statistic)	12.4874	32.8378	5.4821
	[2.06-3.24]	[2.06-3.24]	[2.06-3.24]
Covariance Matrix	HAC		HAC

Notes: ***, ** and * indicate statistical significance at the 1%, 5%, and 10% levels. Standard errors are shown in parentheses, and critical values of the ARDL Bound test are given in square brackets. Term HAC represents the Newey-West HAC covariance matrix, used to handle the observed heteroscedasticity and autocorrelation in the residuals of the estimated model. The model covers the sample from January 2008 to December 2018. The lag structure is chosen based on the Schwarz Information Criterion (SIC), allowing a maximum lag length of three.

In addition to the coefficients of interest, I also performed a series of diagnostic tests on the residuals: the Breusche-Godfrey serial correlation test, and the Breusch-Pagan-Godfrey and ARCH LM tests for homoscedasticity. The White covariance matrix is used when only heteroscedasticity is present in the residuals, while the Newey-West HAC covariance matrix is used when both autocorrelation and heteroscedasticity are present. The covariance matrix used in each model is indicated in the respective table.

2.3.4. Robustness Test

The robustness of the cointegration relationships identified using the Pesaran et al. (2001) test has been cross-validated using the augmented ARDL Bound test (bootstrap ARDL test) introduced by McNown et al. (2018) and Sam et al. (2019).[10] The robustness of the results was then further confirmed by using alternative measures of the lending and deposit rates to re-estimate the models using the ARDL approach. The prime lending rate (PLR) is the interest rate that is applicable to the short-term loans and advances granted by commercial banks to their prime customers, while the fixed deposit rate (FDR) is the interest rate based on all outstanding time deposits held with

[10] This model, introduced by McNown et al. (2018), removes the risk of drawing incorrect conclusions on cointegration relationships due to degenerated lagged dependent or independent variables. Hence, we validate the results of the cointegration relationship obtained during our estimation procedure using the third *F*-test on the lagged level of the independent variable (except for the overall *F*-test on the lagged level variables and the *t*-test on the lagged level of the dependent variable).

commercial banks. IM-1 represents the interest rate difference between PLR and FDR. The estimated results of the non-linear specification with interactions using the PLR and the FDR are given in Table 6.

Table 6: Robustness Tests with Alternative Measures

	PLR	FDR	IM-1
	2	4	6
Long-Run Relationship			
Long-Run Pass-Through (β)	1.1344***	0.4064	0.7778
	(0.1427)	(0.3552)	(0.5014)
NPL	0.5296**	-1.8319*	1.2343**
	(0.2645)	(1.0135)	(0.6468)
Com	0.0886	-0.2912*	0.3872**
	(0.0601)	(0.1730)	(0.1937)
NII	0.2279*	-0.0084	0.1210
	(0.1333)	(0.2796)	(0.2751)
OPC	0.0210	-0.4217	0.0134
	(0.0521)	(0.4670)	(0.0947)
ExL	-0.7116***	-0.2793*	0.8021
	(0.2598)	(0.1269)	(0.5182)
Dum 1	0.0120***	0.0316	-0.0215**
	(0.0042)	(0.0245)	(0.0104)
Dum 2		0.0036	
		(0.0129)	
NPL*TBR	-6.9108**	8.4820	-16.4499**
	(3.0494)	(9.0296)	(8.3918)
OPC*TBR	0.9714	1.0779	6.2159
	(0.7491)	(1.1451)	(3.0841)
ExL*TBR	-6.5682*	1.7997	-3.9284**
	(3.6273)	(6.3460)	(1.9172)
C	-0.0225	0.0285***	-0.0794***
	(0.0159)	(0.0120)	(0.0294)
Speed of Adjustment (γ)	-0.2565***	-0.0802***	-0.2211***
	(0.0176)	(0.0048)	(0.0288)
Short-Run Dynamics			
Short-Run Pass-Through (ρ)	0.2910***	0.0326	0.1720
	(0.0370)	(0.0312)	(0.1351)
No. of Observations (After Adjustments)	127	127	127
Adj. R-squared	0.7832	0.8335	0.4575
ARDL Bounds Test (F-statistic)	17.6904	20.9723	4.8853
	[2.06-3.24]	[2.06-3.24]	[2.06-3.24]
Covariance Matrix	HAC		HAC

Notes: ***, ** and * indicate statistical significance at the 1%, 5%, and 10% levels. Standard errors are shown in parentheses, and critical values of the ARDL Bound test are given in square brackets. Term HAC represents the Newey-West HAC covariance matrix, used to handle the observed heteroscedasticity and autocorrelation in the residuals of the estimated model. The model covers the sample from January 2008 to December 2018. The lag structure is chosen based on the Schwarz Information Criterion (SIC), allowing a maximum lag length of three.

As the table shows, the estimated results using alternative measures of the lending and deposit rates reinforce most of the previous findings. Most importantly, the NPL has a negative and significant impact on the mark-up of the PLR, but a positive impact on the FDR, although with a different magnitude. The interactions of NPL and Exl with TBR turn out to be negative and significant for both PLR and IM-1, as with our main estimated results. These findings are consistent with the prior literature, as discussed above.

2.3.5. Stability Tests

Next, I perform stability tests of the estimated non-linear specifications with interaction terms using the CUSUM tests. These models are the best-fitting models of this study, with the highest explanatory power (Adj. R-squared). The results of the CUSUM and CUSUM square tests are given in Figure A1 in the Appendix. The results of both tests confirm that the parameters of our estimated models are stable overall.

2.4. Conclusion

This paper has examined how changes in the monetary policy rate affected retail interest rates in Sri Lanka from 2008 to 2018. In particular, the paper has focused on the impacts of financial structural factors on bank retail rate adjustments, with the aim of filling that literature gap in the Sri Lankan context. To this end, an empirical analysis was undertaken to examine the responses of the lending and deposit rates after controlling for financial structural factors that could affect the retail rate mark-up. This uncovered the effects of selected financial structural factors on the pricing of the interest rates above their variable cost. In addition to the lending and deposit rates, I also modelled the relationship with the net interest margin, represented by the difference between the lending and deposit rates.

Using the ARDL model, I found significant and incomplete interest rate pass-through prior to the incorporation of financial structural factors in the model. A higher long-run pass-through is observed for the lending rate than for the deposit rate, indicating that commercial banks prioritise the adjustment of their loan rate over their deposit rate. Interestingly, commercial banks also consider other bank-specific structural factors when making pricing decisions. The most important determinant of the mark-up across all specifications is the bank's exposure to credit risk, measured by the non-performing loan ratio. It increases the lending rate significantly relative to the treasury bill rate, while reducing the deposit rate, a result that is robust across different specifications. In addition, operational efficiency and excess liquidity also influence bank retail rates significantly. It is observed that both retail rates react negatively to operational efficiency, meaning that the estimated results do not support the earlier argument that bank inefficiency is passed to the borrowers in the form of a higher lending rate. This puzzling relationship remains to be solved in future empirical research. Based on these findings, it seems that the effectiveness of monetary policy can be limited in a banking environment with excess liquidity. Overall, the results suggest that banks in Sri Lanka consider structural factors as well as the monetary policy rate when setting their lending and deposit rates.

As banks have a unique role in the financing of economic activities, their pricing behaviour is of particular importance to policymakers when making effective monetary policy decisions. Accordingly, this research work attempts to bridge the gaps in the existing academic literature on the interest rate pass-through, especially in an emerging country context, while also having important policy implications for policymakers in Sri Lanka. Incomplete and slow pass-through is a possible market imperfection that constrains the effectiveness of monetary policy for steering the economy while taming inflation to the desired extent. Furthermore, the findings in this paper provide monetary policymakers and the banking regulator with insights about how well the process of financial intermediation works and the extent to which financial structural factors influence a bank's retail rate adjustments when coupled with changes to market rates. Furthermore, the CBSL plans to move to an inflation targeting framework from 2021 (Central Bank of Sri Lanka 2016). One of the key necessary conditions for effective inflation targeting is the controllability of monetary instruments, with the interest rate as the primary operating target

(Gerlach & Svensson 2003). Thus, it is crucial to guarantee that retail rates will reflect the changes in policy rates quickly and fully.

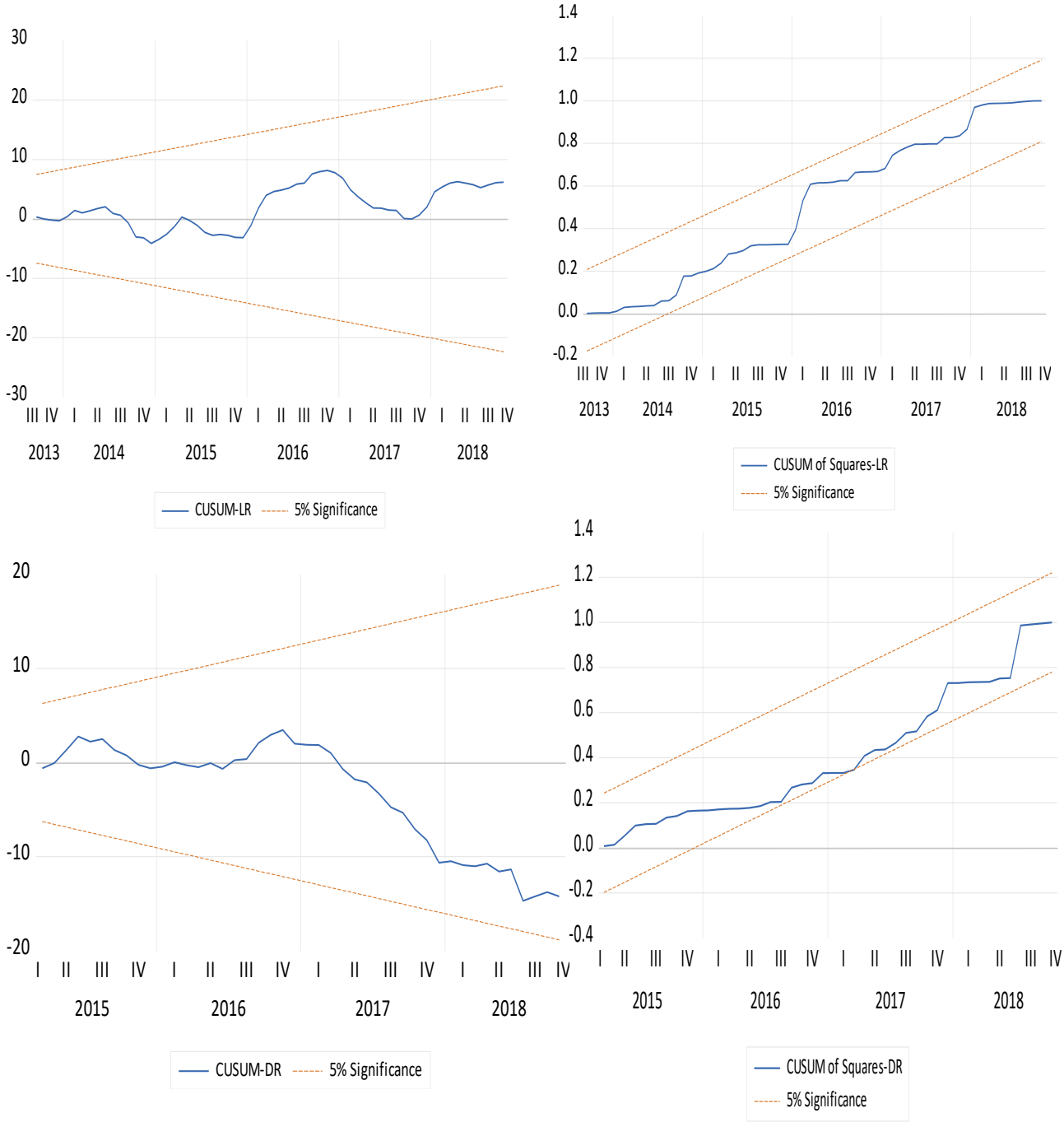

Figure A1: CUSUM for best fit models

Declarations

Availability of data and materials

The data that support the findings of this study are available on request from the corresponding author at antonette.sfernando@yahoo.com or antonette@cbsl.lk

Competing interests

The author declares no competing interests.

Funding
There is no funding for this work.

Contributions
The work is solely the contribution of the corresponding author.

Acknowledgements
I thank Prof. Debdulal Mallick for helpful suggestions. All errors are my own.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 172-180
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.423

Adaptation Level of Small Enterprises to the Covid-19 Pandemic in Lebak Regency, Banten Province, Indonesia

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Abstract
The Covid-19 pandemic required changes in the norms of life that communities have long embraced. The government of Indonesia also pursued intervention to limit social interaction. As a result, small entrepreneurs have suffered a significant slump in turnover and lost customers or business partners. They have to be adaptive to the Covid-19 pandemic to sustain their business. This article described the adaptation of small entrepreneurs in Lebak Regency, Banten Province, Indonesia to the Covid-19 pandemic. This study was survey research. Data were analyzed using the Chi-square test. The study showed that gender, access to the information, and business capital of the small enterprise owner had a relationship to their capacity to adapt to the Covid-19 pandemic which is related to their level of adaptation. This finding emphasizes the importance of broadening the access of small business owners to the required resources to adapt to the Covid-19 pandemic.

Keywords: Adaptation, Covid-19, Sustainability, Pandemic, Small Enterprise

1. Introduction

The Covid-19 pandemic that has spread to almost all regions in Indonesia has wreaked an impact on various sectors of life. Particularly, the economic sectors that are in direct contact with the people's livelihoods (Olivia et al., 2020). This condition ultimately led to a dramatic loss of opportunities, income levels, and even the business sustainability of small entrepreneurs. Although, history has proven that the form of small and medium enterprises (SMEs), especially the local SMEs, had succeeded in demonstrating their ability to support the national economy from the hit of the monetary crisis of Indonesia in 1999 (Tambunan, 2019).

The Covid-19 pandemic also became an economic crisis (Irawan & Alamsyah, 2021). It is mainly because the virus is invisible and threatens human safety, so its emergence requires changing the norms of life that lead to restrictions on social interactions, including interactions in economic activities. Various changes occur during the Covid-19 pandemic, such as production patterns (Uğur & Buruklar, 2022) and consumer behavior (Zwanka & Buff, 2020) that will shift or reform as well. This condition obliges small entrepreneurs to adopt these changes, as

they are shown that SMEs could still run, make profits, and have a better cash flow amid the pandemic (Zhang et al.,2022). Innovation and creativity to create new and profitable business opportunities are the keys to adapting, for example, innovation in production and marketing (Akpan et al., 2022).

Adaptation is required for small enterprises in Lebak Regency, Banten Province, Indonesia. Lebak regency strictly implements health protocols because it is geographically connected to Jakarta, the capital city of Indonesia, and West Java Province where both provinces were the epicenter of the covid-19 spread in Indonesia. Thus, many Lebak people are engaged in economic activities in both regions. This article has a goal to describe the capacity of adaptation of the small entrepreneurs to the Covid-19 pandemic in Lebak District, Banten Province. It also analyzes the relationship between the capacity of adaptation and its adaptation level. This research is crucial to formulae strategies for the small business development in the new-normal era.

2. Method

The study was survey research. There were 151 small entrepreneurs in five sub-districts in the developing Lebak Regency in January 2021. The samples were drawn by simple random sampling. The data were collected via a structured questionnaire. Not only was the relationship between the characteristics of respondents and their adaptive capacity to the Covid-19 pandemic, but also the relationship between their capacity and adaptation level was analyzed.

The capacity of adaptation was measured by the total score of the entrepreneurs' efforts in both human capital (Sima et al., 2020) and marketing strategies (Mavondo, 2000) such as reducing workers, total production, selling price, and salary, increasing capital and technology, changing the shape and size of the product, promoting a product via an online system, cooperating with other entrepreneurs, and completely changing the selling product. Meanwhile, the level of adaptation was abilities to obtain three aspects of internal, market, and institutional (Sarta, 2021) which are defined as acquiring capital, main resources, proper training to upscale the business, information on business innovation during the covid outbreak, and online devices to market the product, to establish cooperation and opportunity in the business, to recruit workers, to increase customers. The capacity and level of adaptation were analyzed by the chi-square test. It has a formula:

$$\chi^2 = \sum_{i,j=1}^{r,k} \frac{(o_{ij}-e_{ij})^2}{e_{ij}} \quad (1)$$

where χ^2 is the chi-squared distribution value at a degree of freedom *(r-1)(k-1)*, *k* is the number of columns, *r* is the number of rows, o_{ij} is the frequency of observation row *i*, column *j*, and e_{ij} is expected frequency of row *i*, column *j*.

3. Results and discussion

We carried out this research in five sub-districts in the northern part of the development area of Lebak Regency consisting of Rangkasbitung, Cibadak, Maja, Kalanganyar, and Warunggunung (Figure 1). These areas are closely connected to the capital city of Indonesia, Jakarta.

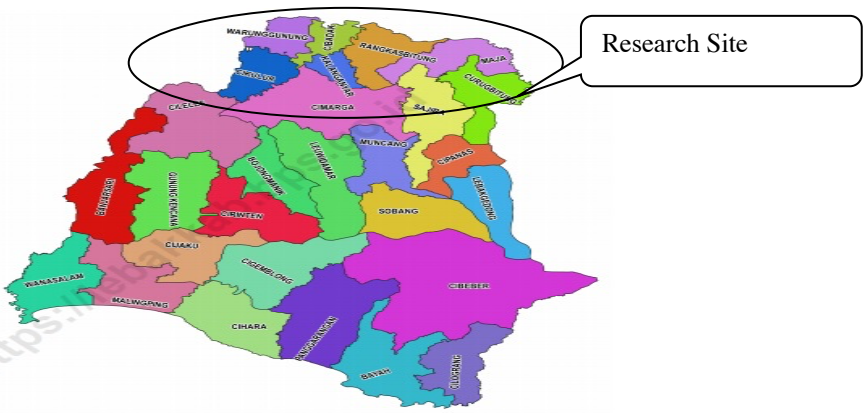

Figure 1: Map of the research site.

3.1 Characteristics of respondents

The average age of the respondents is 45.34 years with an age range of 23 to 68 years and is dominated by male small entrepreneurs. Most of the respondents are of productive age. Hence, they still could develop their business, although most of them have relatively low formal education. It is following the results of research by Ardiana, et al. (2010) and Seran (2016) stated that generally, workers in the micro, small and medium enterprises (SMEs) sector have a low education background.

The average number of dependents in the respondent's family is three people ranging from one to seven people. Most respondents have a family with three to four dependents (Table 1). Respondents have run their businesses for nine years on average. In general, they use personal savings for financing the business. Several respondents rely on both personal savings and loans from individuals and institutions. It is because most of the respondents have joined economic institutions by becoming members of cooperatives, bank customers, or associations of business actors such as associations of women entrepreneurs. We can conclude that many respondents have realized the essential role of economic institutions in business development. It is mainly related to access to capital, information, technology, mentoring, and marketing.

The Covid-19 impact on respondents' small businesses reduced profits by 47.42% in the range of 6.67 to 97%. Most of the respondents are agricultural product processing industry. Since the government implemented a policy of limiting community activities, many community members are also afraid of being exposed to Covid-19 if they leave the house, so they prefer to make their food. This condition is following the explanation of the Ministry of Cooperatives that around 163,713 SME actors were affected by the Covid-19 pandemic and the SMEs most affected were food and beverage businesses.

Table 1: Characteristics of respondents

Variable	Category	Number (People)	Percentage (%)
Age (year)	< 41 year	47	31.13
	41-50 year	64	42.38
	> 50 year	40	26.49
Gender	Male	94	62.25
	Female	57	37.75
Education level	≤ Junior high school	90	59.60
	≥ Junior high school	61	40.40
Number of dependent (people)	< 3	43	28.48
	3-4	83	54.97
	> 4	25	16.55
Length of business (years)	< 7	62	41.06
	7-12	58	38.41
	> 12	31	20.53
Sources of capital	Personal saving	92	60.93
	Personal savings and loans	59	39.07
Economic institutions	Joined	97	64.24
	Not joined	54	35.76
Exposure levels to the Covid-19 pandemic	Low	38	27.94
	Moderate	59	43.38
	High	40	29.41
Diversity of information sources	< 2 types	86	56.95
	2 types	48	31.79
	>2 types	17	11.26

Respondents' small business information sources are low diverse because most respondents only use one of four information source types commonly used to obtain information on small business development. The most widely used are personal or individual information sources, such as fellow business owners, raw materials suppliers, and marketers. Meanwhile, the information needed or transferred includes raw materials prices and availability, access to market products, market conditions or selling locations, the Covid-19 pandemic situation, also various adaptation actions to the Covid-19 pandemic.

In addition, Respondents use television and internet-based media to seek knowledge on business development (Table 2). The rapid advancement of information and communication technology has established digital media as an alternative information source that everyone could apply to seek information. This type of media has the characteristics of being easier to use, fast, complete, and without being constrained by space and time. When we need information, we can obtain them immediately because of the ease of search facilities (search engines) available. Andarwati and Sankarto (2005) explained that the internet is considered a sophisticated library with high technology that allows accessing information handily. Internet-based media usually used by respondents as a source of innovation information are WhatsApp and Facebook to find information and market opportunities, level of competition, and innovation. It showed that some respondents are literate in information and communication technology and keep up with the times.

The low proportion of respondents who use marketing institutions as a source of information is due to the lack of knowledge regarding this institution. A search at the research site reveals that the role of marketing institutions in the Rangkasbitung market has not functioned optimally in carrying out marketing functions and meeting consumer needs. Therefore, most respondents are reluctant to seek information from these marketing agencies. Besides, SMEs generally have limited access to productive sources such as technology, markets, and information.

Table 2: The proportion of respondents who use every source of information for business

Source information	The proportion of users (%)
TV	37.09
Internet-based media	34.44
Personal	71.52
Marketing institution	15.89

3.2 Respondents adaptive capacity to the Covid-19 Pandemic

We measured the adaptive capacity of respondents to the Covid-19 pandemic by the respondent's ability to access the resources needed to take action to deal with the Covid-19 pandemic, such as capital assistance, information on innovation and technology, communication, training, and partnerships with other businesses aimed at sustaining the business. The adaptability capacity of most respondents is in the medium category. It means that most respondents afford to access the resources needed to adapt to the Covid-19 pandemic. Meanwhile, although there are fewer, the proportion of respondents with low and high adaptive capacity is almost equal.

Table 3: Number and percentage of respondents based on adaptive capacity to the covid-19 pandemic

Adaptive capacity	Category	Number (people)	Percentage (%)
< 19.97	Low	25	16.56
19.97 - 22.85	Moderate	98	64.90
> 22.85	High	28	18.54
Total		151	100

Table 4 shows that even during the Covid-19 pandemic, most respondents afford to access suppliers of raw materials needed for production. However, almost half of respondents found difficulties accessing consumers which indicated a decline in sales levels, income, and ability to pay labor wages. Therefore, it can be understood

why only a few respondents were able to get business capital assistance because the creditors would refer to the shocking economic conditions amid the pandemic. Meanwhile, the lowest adaptive capacity to the pandemic was accessibility to other business opportunities besides existing businesses and business partnerships with other parties. This finding confirms the strong impact of the Covid-19 pandemic on small entrepreneurs, where most business actors, alternative enterprises that may be occupied, and the availability of resources needed for business development are both under pandemic stress.

Table 4: The proportion of respondents who afford to access resources to adapt to the Covid-19 pandemic

Resources	The proportion of respondents (%)
Business capital assistance	35.09
Raw material supplier	80.79
Consumer	54.30
Labor wages	55.62
Information on business innovation	40.39
Online marketing tools	44.37
Other business opportunities rather than the existing	19.86
Business partner	23.84
Business development training	21.85

Almost half of the respondents indicated that the ease of accessing online marketing tools was sufficient to increase the respondent's adaptive capacity to the Covid-19 pandemic. Internet-based information and communication technology tools are not only useful for marketing products online, but also could be applied to search for business innovation information and overcome the difficulty of accessing offline business development training suffered by most respondents. That difficulty appeared due to the limited frequency and intensity of interaction of community members during the pandemic as a form of implementing social distancing.

3.3 Adaptation level of respondents to the covid-19 pandemic

We measured the adaptation level of business owners based on the diversity of actions taken by respondents to adjust their business during the Covid-19 pandemic. Most of the respondents have a high level of business adaptation (Table 5). This finding shows that respondents are making various efforts so that their businesses can survive during the covid-19 pandemic.

Table 5: Number and percentage of respondents based on the level of adaptation to the covid-19 pandemic

Adaptation level	Category	Number (people)	Percentage (%)
< 1.73	Low	44	29.14
1.73 - 3.00	Moderate	49	32.45
> 3.00	High	58	38.41
Total		151	100

Table 6 shows that most of the respondents have adapted to the Covid-19 pandemic by reducing production volumes and reducing the workforce. These actions were interrelated because the volume of production is largely determined by the number of workers. These strategies were quite realistic to implement considering that during the Covid-19 pandemic, community movements were restricted through large-scale social restrictions (PSBB) by the government, so community mobility was reduced, especially in the tourism sector which led to a decrease in demand for SMEs products. This finding is in line with Barisa (2021) found that some SME actors adapted by reducing the supply of goods during the Covid-19 pandemic.

Table 6: The proportion of respondents in each type of business adaptation action during the covid-19 pandemic

Business adaptation actions	The proportion of respondents (%)
Reducing labor	40.40
Reducing production volume	47.68
Marketing products online	26.49
Resizing product	25.83
Increasing business capital	22.52
Join other business owners	18.54
Switching to other business	18.54
Changing the shape of the product	15.89
Decreasing selling price	11.26
Adding production technology	6.62
Decreasing labor wages	2.65
Product diversification	0.66

Many respondents also took other adaptation actions by shifting the way of marketing products from offline to online. It indicated that during the Covid-19 pandemic, since the limited movement of consumers, many business owners have innovated product marketing by utilizing social media such as Facebook, Instagram, and WhatsApp to survive and even develop their businesses. Other studies conducted by Rosi and Makruf (2020), Hardilawati (2020), and Rosmadi (2021) revealed that many SME owners managed to rise during the Covid-19 pandemic by using social media as their online product marketing tools. This condition showed the importance of guidance on using and managing digital media to lead business owners can determine the appropriate kind of digital media for marketing their products and increasing awareness and public interest in the products. Training and guidance give a positive impact on small entrepreneurs to increase their knowledge regarding general digital media, various media that are available to use, and skills to use and manage the digital media for branding (Raharja and Natari 2021).

On the other hand, the Covid-19 pandemic impact has brought the supply of raw materials to be hampered and difficult to gain in the market. The price of raw materials has also been higher than usual. For dealing with this condition, many respondents took adaptation action by increasing their business capital. Some respondents also changed the product size but did not reduce the selling price, hence production continuity, product availability for consumers, and business profits could be maintained.

A few respondents took other adaptation actions such as reducing selling prices or labor wages, adding production technology, and diversifying products. They considered these actions to be challenging to take or pose a risk to their business continuity, including strategies to change the shape of products that are more embedded in consumer perception. Many respondents decided to merge their business with the other businesses (partners), both of the same type or different types. Moreover, some respondents turned to other businesses to prevent losses. This condition indicated the importance to conduct socialization, introduction, training, and mentoring activities for small entrepreneurs, such as those carried out by Kusnandar et al. (2020) by introducing packaging and promotion technology, as well as business innovation training for small entrepreneurs.

3.4 Relationship between respondents' characteristics and adaptive capacity to the covid-19 pandemic

The chi-square (Equation 1) was applied to test the relationship between the characteristics and adaptive capacity of the respondents. The chi-squared test shows that there is a significant difference in the adaptive capacity in running a business during the Covid-19 pandemic based on gender, diversity of sources of capital, and diversity of small business information sources from the respondents, which is indicated by a p-value smaller than 5% (Table 7). In addition, there is no difference in the adaptive capacity of respondents in business during the Covid-19 pandemic based on other characteristics of respondents such as age, education level, number of family dependents, length of entrepreneurship, membership in economic institutions, and exposure to the Covid-19

pandemic on the respondent's business. It can be interpreted that the more diverse sources of information and sources of capital, respondents tend to have more adaptive capacity in doing business during the Covid-19 pandemic.

Table 7: The significance level of the relationship between respondent characteristics and adaptation capacitation to the Covid-19 pandemic

Personal Characteristics	Value	Df	Asymp. Sig. (2-sided)
Age	1.976[a]	4	.740
Gender	6.073[a]	2	**.048**
Level of education	3.006[a]	4	.557
Number of dependents	4.587[a]	4	.332
Long of business	1.989[a]	4	.738
Various sources of capital	8.264a	2	**.016**
Membership in economic institutions	0.947a	2	.623
Exposure to the Covid-19 pandemic on small businesses	0.241a	2	.886
Diversity of information sources	15.497a	4	**.004**
a. 0 cells (.0%) have expected count less than 5			

Table 7. shows the importance of increasing the adaptive capacity of women small entrepreneurs, as well as increasing the access of small entrepreneurs to business information and capital to maintain the business continuity of small entrepreneurs. A study by Ruhyana et al. (2021) also agreed on the importance of increasing access to business information. The study explained that efforts to boost the resilience of SMEs to the Covid-19 pandemic are to increase adaptive capacity, for example through the expansion of internet signal coverage. Meanwhile, various sources of capital are closely related to the adaptive capacity of respondents because the first impact of the Covid-19 pandemic is the decline in the number of product requests from business actors due to the implementation of health protocols during the pandemic. This result is in line with the research of Hartono et al. (2021) who revealed that the provision of a new financing model provides many advantages for SMEs actors during the pandemic, especially in the financial, marketing, and product aspects, such as product development innovation and online marketing, ease of credit application, business assistance and flexible credit returns.

3.5 Relationship between adaptive capacity and adaptation level respondents to the covid-19 pandemic

The p-value that is smaller than 5% in Table 8 shows the differences in the level of adaptation of respondents based on the respondent's capacity to adapt to the Covid-19 pandemic. Respondents with higher adaptive capacity in running their business during the Covid-19 pandemic tend to be more adaptable to the Covid-19 pandemic, compared to respondents with lower adaptive capacity.

Table 8: The significance level of the relationship between adaptive capacity to the covid-19 pandemic and the adaptation level of respondents

	Value	Df	Asymp. Sig. (2-sided)
Adaptive capacity	19.320[a]	4	.001
a. 0 cells (.0%) have expected count less than 5			

This finding shows that small entrepreneurs could adapt to the Covid-19 pandemic as long as they have adaptive capacity. Nelson et al. (2007) confirmed adaptive capacity as the prerequisites needed to adapt, including social and physical elements and the ability to mobilize these elements. This condition is represented by available resources compilation and the capability of the system to respond to disturbances and includes the capacity to design and implement effective adaptation strategies to coexist with current and future events. Thus, the access of

small entrepreneurs to the required resources to adapt has to be improved to guarantee that small entrepreneurs could maintain business continuity.

4. Conclusion and recommendation

Gender characteristics, as well as access to information and business capital, were related to the adaptive capacity of small entrepreneurs in Lebak Regency to the Covid-19 pandemic. On the other hand, adaptive capacity was related to the level of adaptation of small entrepreneurs in the Lebak Regency. We recommend to the Lebak Regency Government maintain the sustainability of small businesses in its area during the Covid-19 pandemic by increasing the adaptive capacity of small entrepreneurs in Lebak Regency through:

1. Training and business assistance during the Covid-19 pandemic for women small entrepreneurs.
2. Increasing access of small entrepreneurs to sources of business development information by establishing a business development information center during the pandemic that provides information services, consultations, and disseminates its media during the Covid-19 pandemic such as brochures, leaflets, posters, and flyers.
3. Increase innovation, technology, and inspirational content related to small business development during the Covid-19 pandemic on local television.
4. Providing internet quota aid to small entrepreneurs during the Covid-19 pandemic.
5. Increasing the role of existing marketing institutions by providing training and service management assistance to small entrepreneurs.
6. Increasing access of small entrepreneurs to financial institutions through a capital loan distribution program for small entrepreneurs affected by Covid-19 by establishing cooperation with cooperatives and banks.
7. Providing capital aid for small entrepreneurs.

Acknowledgments

The authors would like to thank LPPM University of Sultan Ageng Tirtayasa for the financial support for the Penelitian Terapan Internal (PTI) grant.

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ASIAN INSTITUTE OF RESEARCH
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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 181-188
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.424

Application of Theory of Planned Behavior (TPB) in Cryptocurrency Investment Prediction: A Literature Review

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Abstract
This study aims to identify the application of Theory of Planned Behavior to predict people's intentions to invest in cryptocurrencies. Theory of Planned Behavior remains the most prominent theory in behavioral research to predict one's intention or behavior. This research selected and reviewed articles related to the application of Theory of Planned Behavior. Data was collected from journals, papers, books, and websites related to the theory of planned behavior (TPB) and cryptocurrency. This study revealed that Theory of Planned Behavior is valid and reliable to measure cryptocurrency investment intention. Self-efficacy was used to as a proxy for perceived of behavioral control. This study can be used to develop responsive strategies.

Keywords: Theory of Planned Behavior (TPB), Cryptocurrency, Investment

1. Introduction

Industrial revolution 4.0 causes technological disruptions that have an impact on the choice of financial investment products. The technological disruption had an impact on the financial investment revolution, from traditional to more complex investments. In Indonesia, several investment instruments have been used by the public, including stocks, bonds, mutual funds, deposits, and commodities (gold). Currently, there is a new investment with high market interest, namely cryptocurrency.

Cryptocurrency is a series of cryptographic codes that can be stored, transferred or used as a means of payment using a technology called blockchain (Departemen Hukum Bank Indonesia, 2019). Cryptography is a password with a specific meaning that is added to the programming language (coding) on the blockchain system every time there is a change in data (Bank Indonesia, 2021). Blockchain is a distributed ledger that is used to record every transaction and store data continuously (Schueffel et al., 2019). Blockchain technology allows transactions in cryptocurrencies to be decentralized and provides transaction security in cryptocurrencies due to the complex history of transactions and is available for free (Härdle et al., 2020).

Cryptocurrency has become an investment with high demand by people in various countries in the world even

though it is classified as an investment with high risk. Cryptocurrencies are classified as very risky and volatile investments due to extreme fluctuations (Anser et al., 2020). Based on data on coinmarketcap, on April 15, 2022, the Total Cryptocurrency Market Cap was $1,872,068,948,686 while on April 21, 2022 it increased to be $1,958,108,225,927. Within a month, on May 15, 2022, the Total Cryptocurrency Market Cap decreased to $ 1,270,751,270,242. Despite the decline, the current Total Cryptocurrency Market Cap is still much higher when compared to the previous few years such as on May 15 2013 only $1,403,069,952 (CoinMarketCap, 2022).

The high public interest in cryptocurrency investment can be predicted using the Theory of Planned Behavior (TPB). The Theory of Planned Behavior is a theory used to predict individual behavior in making rational decisions. The Theory of Planned Behavior also states that individual behavior is influenced by intentions. This can be seen through three factors, there are Attitude Towards Behavior, Subjective Norm and Self-Efficacy.

Investment intentions in cryptocurrencies that are predicted using the Theory of Planned Behavior (TPB) have different research results. The researchs results that the Theory of Planned Behavior (TPB) has an effect on investment intentions in cryptocurrencies but some researchs said that the Theory of Planned Behavior (TPB) is not related to investment intentions in cryptocurrencies. The existence of these differences makes researchers want to research conduct a literature study on cryptocurrency investment intentions using the Theory of Planned Behavior (TPB). Therefore, a researchs was carried out with the title "**Application of Theory of Planned Behavior (TPB) in Cryptocurrency Investment Prediction: A Literature Review**."

1.1. Investment

Investment is the use of resources to increase income or production output in the future through profits. Investment is also defined as the purchase of a financial product or valuable item with the expectation that a positive return will be received in the future. Investments can be made in savings through delayed consumption (University of Delhi, 2020). Investment is different from speculation. The investment aims to achieve a return on investment through long-term profits whereas speculation is carried out when speculators want to take advantage of short-term profits (Capital Market Authority, n.d.). In investing, profit and risk are two things that will continue to be embedded in it, where every profit obtained there will be a risk that must be faced.

1.2. Cryptocurrency

Cryptocurrency is a digital asset that uses a series of cryptographic codes to be stored, transferred, or used as a means of payment through blockchain technology. Cryptography is a password with a specific meaning that is added to the programming language (coding) on the blockchain system every time there is a change in data (Bank Indonesia, 2021). The cryptographic process aims to protect information by using codes so cryptocurrency transactions cannot be counterfeited. Cryptocurrencies have a unique mode of exchange via the internet so they do not have a physical form and have the potential to bring about a revolution in the social structure of the world financial system (Anser et al., 2020). Cryptocurrencies are supported by blockchain technology allow transactions on cryptocurrencies to be decentralized so the transaction is open because everyone can see every transaction. Blockchain also provides certainty of transaction security in cryptocurrencies because the complex transaction history of cryptocurrencies has detailed data and is freely available (Härdle et al., 2020). The characteristics of the blockchain system are also being anonymous in every transaction, everyone can control it but no one has power except the party concerned (Milutinović, 2018).
Cryptocurrency is not regulated or controlled by any party including central authorities. The government does not have the authority to produce new units, influence, or regulate transactions in cryptocurrencies because everything is controlled by blockchain technology (Milutinović, 2018). The government can only determine whether or not cryptocurrency is used as a means of payment in its country. In some countries, cryptocurrency can be used as a payment and also as an investment. But in some countries cryptocurrency can only be used as an investment.

- Types of Cryptocurrencies

Currently there are thousands of cryptocurrencies that can be purchased. Each type of cryptocurrency has its own

set of rules as well as advantages and disadvantages. Cryptocurrencies traded 24/7 can be accessed through WorldCoinIndex, CoinMarketCap, CryptoCompare, CryptoCurrencyIndex30, or the CME CF Cryptocurrency Index. Bonded with several popular types of cryptocurrencies:

a. Bitcoin
   Bitcoin is a type of currency in cryptocurrency that allows users to transfer digital money to other parties (Almarashdeh, 2018). Bitcoin appeared in 2008 which was represented by a person, or group of people who called himself Satoshi Nakamoto in his scientific study namely Bitcoin: Peer-to-Peer Electronic Money System. The paper describes a revolutionary technology to create a decentralized peer-to-peer monetary system that allows online payments to be sent directly from one party to another without going through financial institutions or third parties (Oliva et al., 2019). Bitcoin is a cryptocurrency that is considered to be the top of the bunch because it is the most recognized, most powerful and revolutionary cryptocurrency in the world's virtual financial market (Anser et al., 2020). In seeing the potential of Bitcoin, it can be seen through the Bitcoin Market Potential Index (BMPI) which is a composite indicator that evaluates the potential of Bitcoin in 178 countries.
b. Ethereum
   Ethereum is a type of cryptocurrency that emerged in mid-2015 created by Vitalik Buterin, a young crypto-genius. Ethereum is not only used as a digital asset transfer tool but also creates smart contract technology. The existence of this technology allows developers to develop applications such as crypto asset exchange applications to borrow crypto assets. Ethereum is an open software platform based on blockchain technology that allows developers to build several decentralized applications or programs called Decentralized Applications (DAPPS) (worldcoinindex.co, 2022).

1.3. Theory of Planned Behaviour

The Theory of Planned Behavior is a theory used to predict individual behavior in making rational decisions. The Theory of Planned Behavior developed by Ajzen is a development of The Theory of Reasoned Action (Ajzen, 1991) where there is an additional factor in influencing individual behavior, namely perceived behavioral control (Culos-Reed, 2000). The Theory of Planned Behavior states that individual behavior is influenced by intentions. Intention is a factor that motivates individuals to behave through effort in trying something and how much planning effort has been made. The higher the intention to engage in a behavior, the higher the individual's performance.
Intention to perform a behavior can be predicted through attitudes toward behavior, subjective norms or perceptions of social norms, and perceived behavioral control or self-efficacy (Ajzen, 1991):

- Attitude towards behavior
  Attitude towards behavior refers to the views or perspectives of individuals in viewing behavior as positive or negative. Based on the social psychology literature, it is stated that attitude is the most important construction in social psychology (Schaupp & Festa, 2018). Individuals will have a stronger intention to engage in a behavior when they have a strong positive attitude (Wang et al., 2018). When an individual has an attitude of refusing (negative) it will have an impact on reducing intention or until he has no intention. Strong behavioral intentions occur when there are no resouches and do not require high skills (Kim, 2021). If implemented with the intention to invest in cryptocurrencies, it can be said that individuals who have the belief that transacting in cryptocurrencies do not have a high risk, then the intention to invest will be great. On the other hand, if individuals believe that investing in cryptocurrencies will have a high risk, they are likely to have a lower intention to make transactions (Schaupp & Festa, 2018). Previous research has stated that the main weakness of Attitude towards behavior as a predictor of behavioral intention is they do not predict intentional human behavior. Even though it is known that attitudes can change in terms of time and situation, TPB is static (Mazambani & Mutambara, 2020).

- Subjective Norm
  Subjective norms relate to the individual's assumptions about something that is considered common in his social group so it affects the individual's behavior. This indicates that, the higher the subjective norm perceived by individuals, the greater their intention to perform the behavior (Wang et al., 2018). Norms can

be divided into two, namely descriptive and prescriptive norms about what is usually done and approved by a person's social group. Individuals will have intentions when people in their environment agree with what they are doing, so social disapproval can inhibit intentions to carry out behaviors such as investing in cryptocurrencies (Mazambani & Mutambara, 2020). Explicitly the influence of the social environment can be through direct discussion or through observed behavior that becomes a habit in that environment. Therefore, the expectations and behavior of others can serve as a motivating factor for a person's behavior (Kim, 2021).

- Self-efficacy
  Self-efficacy refers to the self-agency of individuals who have the belief that the individual can complete and overcome the tasks and challenges of life given (Kusairi et al., 2019). Self-efficacy will also affect individual decisions on the activities being carried out, the efforts being carried out, persistence when in difficult times, and the mindset and emotions that are practiced (Faison, 2019). Self-efficacy can also be understood through individual behavior to survive on difficulties, stress, or other problems both external and internal with the abilities possessed (Kusairi et al., 2019). Self-efficacy will also affect how you think and can motivate you to get results (Noor et al., 2020). Individuals will have self-confidence, motivation, and optimism for success in overcoming problems. This belief arises as a result of individuals taking advantage of opportunities and is proven by concrete actions to achieve optimal performance. Wood and Bandura state that individuals who have high self-efficacy will tend to be diligent in carrying out activities and be confident so they do not hesitate in making decisions and prefer new challenges (Kusairi et al., 2019). Ramdhani (2011) also states in his research that individuals will have confidence in their abilities and skills in completing tasks if they individual has the availability of resources such as equipment, compatibility, competence, and opportunities that support and realize these behaviors (Ramdhani, 2011).

2. Research Methods

The research method was carried out using desk research by collecting data through library research. The literature review provides a framework for establishing the importance of the study as well as a benchmark for comparing results with other findings (Creswell & Creswell, 2018). In the process researchers identify relevant literature through journals, papers, books, and websites related to cryptocurrency. Literature is obtained through Google Scholar, ProQuest, Springer Link, Emerald the official government website, and Website crypto exchange. Researchers conducted a complete text search related to cryptocurrencies and Theory Theory of Planned Behavior.

3. Discussion

Technological innovations have an impact on increasing the efficiency of the financial system as well as supporting new financial products and services to invest in. One example is cryptocurrency. Cryptocurrency is a digital asset that uses cryptographic code so that it can be stored, transferred, or used as a means of payment through blockchain technology. Technological innovations related to cryptocurrencies offer many promised possibilities like the potential to build capital services and increase access to finance. until now, there have been cryptocurrencies both in the form of coins and tokens with different focuses and features (Zhao & Zhang, 2021).

Although cryptocurrencies are classified as investments that have high risk, the public's interest in investing in cryptocurrencies is still high. The public's enthusiasm for cryptocurrencies can be seen through the Total Cryptocurrency Market Cap. it can be seen that on May 15, 2022 the Total Cryptocurrency Market Cap reached $1,270,751,270,242 USD. One significant development is the global push towards the Internet of Things. This is because cryptocurrency has various advantages compared to existing investments lsuch us cheaper transaction fees, and fast transaction times without any minimum-maximum decentralized transactions and systems. Increasing the Total Cryptocurrency Market Cap has an impact on increasing public choice in investing and at the same time increasing the new economy, other example is the growth of e-commerce (Mazambani & Mutambara, 2020).

Investments in cryptocurrencies can be studied more deeply through scientific studies. Previous research has stated

that increased investment will be in vain if there is no research related to predicting consumer intentions to adopt cryptocurrencies. This is because cryptocurrency investment is dependent on wider market adoption (Polasik et al., 2015). Previous research has mostly focused on the design and features of technology and the factors that influence technology adoption (Risius and Spohrer, 2017). Therefore, it is necessary to further study the factors that determine the intention to use cryptocurrencies.

The theory of planned behavior can be used as an approach that predicts an individual's intention to invest in cryptocurrencies. In the theory of planned behavior, three factors are used as factors that influence individual intentions to invest in cryptocurrencies, namely Attitudes towards Behavior, Subjective Norms, and Self-efficacy. Based on previous research, self-efficacy, subjective norms, and attitudes towards certain behaviors result in the formation of individual behavioral intentions, which lead to actual behavior. The theory of planned behavior has demonstrated its validity as a model for the study of technology acceptance in many fields. However, there are several different research results related to the application of TPB in cryptocurrency intention (Mazambani & Mutambara, 2020). The figure below is a depiction of the research model on the effect of indicators from the theory of planned behavior on cryptocurrency investment intentions. Furthermore, it will be explained how the results of previous research on the effect of indicators from the theory of planned behavior on cryptocurrency investment intentions using a literature review.

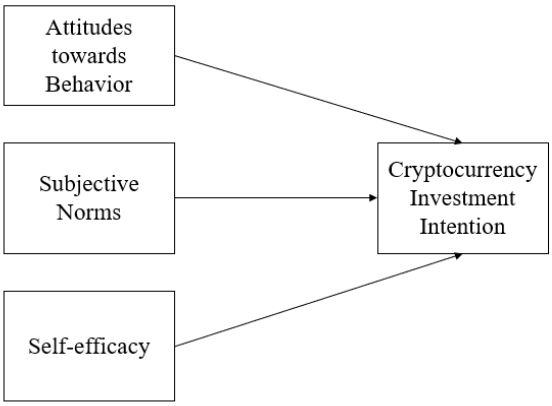

Figure 1: Research Model
Source: Researcher (2022)

In the previous study, Attitude towards behavior was the most significant and strongest factor influencing the behavioral intention to be followed (Mazambani & Mutambara, 2020). The research was supported by Soomro et.al (2022) who stated that there was a relationship between attitude and intention to adopt cryptocurrency (Soomro et al., 2022). Individuals who have a better attitude towards cryptocurrencies will show a higher intention to use them (Schaupp & Festa, 2018). Maria gagania's research states that only a quarter of survey participants (26%) believe that cryptocurrencies will be issued by the state and replace money in the next 10 years, and only 28% believe most of the stores they shop at will accept payments in Bitcoin in the next 5 years. Individuals who are afraid can increase the uncertainty of their financial position, shift responsibility for their economic well-being to external guarantors, and are likely to experience concerns about the introduction of cryptocurrencies into everyday life (Gagarina et al., 2019).

Individuals who have higher subjective norms are more likely to adopt the use of cryptocurrencies (Schaupp & Festa, 2018). Soomro et al. (2022) results state that subjective norms have a significant effect on intentions to invest in cryptocurrencies. For investors, the opinions of people affiliated with them and close to them are very important to support of the use of cryptocurrencies (Soomro et al., 2022). The results of the research by Mazambani & Mutambara (2020) have different results, they state that subjective norms have an insignificant relationship with the intention to adopt cryptocurrency. This is because individuals treat financial matters with confidentiality and privacy, so there is no dependence on others to influence their behavioral intentions. Another factor is that there is

general skepticism about financial transactions and information that does not come from traditional financial institutions or government agencies in closed societies and countries that are prone to electronic fraud (Mazambani & Mutambara, 2020). Mazambani & Mutambara (2020) research is supported by Ayedh et al. (2021) research which states that subjective norms do not have a significant impact on Malaysian Muslim intentions to invest in the Bitcoin market. This is because cryptocurrencies are relatively new, so most investors do experience not too much it make a fewer suggestions and recommendations to others (Ayedh et al., 2021).

Almarashdeh's research (2018) states that self-efficacy can influence individuals to use new services such as investing in cryptocurrencies (Almarashdeh, 2018). This is also supported research by Mazambani & Mutambara (2020) which states that self-efficacy has a positive and significant influence on behavioral intentions to adopt cryptocurrency (Mazambani & Mutambara, 2020). Other research also states that self-efficacy affects several financial-related contexts such as investment ownership in general (Montford & Goldsmith, 2016) (Farrell et al., 2016). Self-efficacy affects the level of risky investment (Czaja & Roder, 2021) both in stocks, property, mortgages, and insurance savings (Farrell et al., 2016) as well as being ability to accept and adopt new technologies. This happens because, from a psychological point of view, individuals who have a high level of financial self-efficacy perceive all difficulties as challenges, not threats that can be solved with confidence in their abilities. There are differences in the results of research conducted by Widjaja and Sembel (2020) which state that financial self-efficacy has no significant effect on investment intentions (Widjaja & Sembel, 2020).

Table 1: Application of TPB on Predicting Cryptocurrency Investment Intention

Application of TPB	Finding
Mazambani & Mutambara (2020)	Attitude and Perceived behavioural control positively impact the intention to adopt cryptocurrency, but Subjective norms showed a negative non-significant influence
Soomro et al. (2022)	A young people who seek financial autonomy and do not trust social institutions are ready to use cryptocurrency
Schaupp & Festa (2018)	Attitude, subjective norms, and perceived behavioral control are all positively associated with intention to adopt the use of cryptocurrency
Ayedh et al. (2021)	Compatibility, awareness and facilitating conditions have a significant impact on the Malaysian Muslims' decision to invest in Bitcoin. Perceived ease of use, profitability, Subjective Norm and trust have no significant impact.
Almarashdeh (2018)	Transaction processing, Perceived Trust and Self-efficacy has a significant impact on user behavioural intention to use Bitcoins, but security and control did not have. Transaction processing, Security and control and Perceived Trust have a significant impact on user self-efficacy to use Bitcoins.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 189-200
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.425

Effects of Covid-19 Pandemic on Online Shopping Behavior in Iran

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Abstract
Purpose - the main purpose of this study is to investigate the impact of Covid-19 pandemic on online shopping behavior in Iran. Design/methodology/approach - 484 customers of Digi Kala were selected by simple random sampling. The present study is applied objectively. The present study is a descriptive research in terms of how to collect data and it is a field research in terms of data collection. Structural equation modeling and SPSS 23 and SMARTPLS3 software were used to analyze the data. Findings - our results indicated that Covid-19 pandemic had a positive and significant effect on online shopping behavior in Iran. The level of health and economic fears during Covid-19 pandemic had a positive and significant effect on online shopping behavior in Iran. According to the moderating role of generational differences, Covid-19 pandemic and the level of health fears during the pandemic had a positive and significant effect on online shopping behavior in Iran. Nevertheless, the level of economic fears during Covid-19 pandemic had no significant effect on online shopping behavior in Iran according to the moderating role of generational differences. Originality/value - this work provides a guidance for the researchers and academicians in the field of marketing. Correspondingly, retailers and marketers should train themselves to survive during the global pandemics, and learn innovative approaches to supply the needs according to the changes in customers shopping behavior.

Keywords: Covid-19 Pandemic; Economic Fear; Online Shopping Behavior

1. Introduction

Covid-19 global pandemic has seriously affected societies and economies around the world and it has influenced different sections of society in different ways. This unprecedented situation has numerous consequences for the daily life of consumers and it has significantly changed the way of activity of businesses and consumer behavior (Donto and Gustafson, 2020; Pantano et al. 2020). Surveys after the first wave showed that consumers around the world are looking for products and brands with a newer perspective (Asentor, 2020; MC Kinsey, 2020). The study

examines the history and dynamics of motivational buying patterns in the rise of Covid-19 and evaluates the effect of customers' motivational buying behavior during this situation on the basis of fear (Ahmad et al., 2020).

The current situation after the first wave and at the beginning of the second wave of the Covid-19 pandemic in Europe caused many consumers to reconsider their established shopping habits or even learn a new one (Shet, 2020). For example, some consumers have been forced to do online shopping, door-to-door delivery, or cashless payment that they have never thought before due to severe restraint measures (Pantano et al., 2020). There is a need for managers and retailers to examine changes in consumer shopping behavior and habits to understand what changes they need to adapt to (Verma and Gustafson, 2020).

An essential component to understanding purchasing behavior is marketing segmentation (MC Kinsey et al., 2004). According to Parment (2013), a useful segmentation method is that it is based on generational cohort and homogeneity among generations at the same time due to relative homogeneity between generations. As it was stated by Marjanen et al. (2019), generational cohort membership shares similar values that influence attitudes, priorities, as well as buying habits and behavior. Similarly, Chani et al. (2017) argued that the experiences, beliefs, core values, attitudes, and priorities of generational cohorts shape their behaviors. Thus, in contrast to previous studies, this study uses generational cohort theory as a framework for examining changes in consumer shopping behavior and needs.

The purpose of this study is to investigate the effect of Covid-19 pandemic on consumer behavior and online shopping behavior in Iran. Understanding consumer shopping behavior in facing with this pandemic and beyond is vital for retailers and marketers, as well as business and public policymakers, to be able to apply strategies and tactics to retain existing consumers and attract new ones. This study tends to participate in the analysis of consumer behavior in the situation that the fourth wave of Covid-19 pandemic has begun in the Islamic Republic of Iran.

2. Theoretical framework

Recent studies have shown that perceived shortage of products can significantly affect consumer choices (Pantano et al. 2020). Since the onset of the Covid-19 outbreak (early 2020), consumers have revealed mass behaviors that it has been deviated significantly from their usual shopping behavior. A further consequence of less access to store space, along with greater concerns about consumer health, was the immediate increase in demand for alternative distribution channels. Unexpected regulations that impose social distancing also have a wide impact on consumers' preferred channel for purchase. For example, while online food shopping has been limited over the past decade (Harris et al., 2017), it has increased significantly during the Covid-19 pandemic crisis (Pantano et al., 2020). Also, older consumers with less digital intelligence (see section below baby boomers) began to discover and enjoy online shopping and welcomed the security provided by technology.

Other distribution options that require no human physical activity can be available in the population in addition to the rapid increase of online retail (Crick and Rifkin, 2020). Anti-epidemic measures and calls to stay at home, unless in essential cases, created a large number of orders that need to be delivered to the final consumers and the business development by tens of percent.

Pantano et al. (2020) noted that consumers have reviewed their shopping habits and, at the same time, discovered service benefits that they have never used before. For example, some consumers tended to online shopping, discovered the security and benefits of door-to-door delivery, store selection, and cashless payments. In addition, the authors noted that unexpected regulations by government imposed social distancing and it had a wide effect on consumers' previous preferred channels for purchasing. Lato et al. (2020) emphasized that the government prepared the quarantine situation by closing schools, restaurants, some shopping malls, and public services, which may cause fear of future disruptions and provoke behavioral responses in individuals.

In this context, the consumers may change their shopping habits in the long term. For example, Seth (2020) stated that there are four main areas that control or disrupt consumer habits. These habits include the social context (e.g., changes in the workplace and interactions with neighbors and friends), the implementation of new technology

(including online shopping and delivery), the effect of consumption habits due to new rules (Covid-19 pandemic regulations), and the less predictable context. (Development of the Covid-19 global pandemic).

Of course, there are generally three factors that create new consumer habits. These factors include public policy (European Commission, 2020) and the national level in the selected country, digital technology and its development, and change in demographics statistics that are very important in some European countries (European Commission, b2020).

All consuming and consumer behavior is connected to time and place (Seth, 2020). Crick and Rifkin (2020) argued that history has shown that times of crisis often lead to fundamental changes in society in whole society, and recommended paying attention to consumer behaviors in each of these three phases: reactive behaviors, coping, and dependence on individual then, long-term compromise.

Previous research was conducted by Asentor (2020) and MC Kinsey (2020) in the spring of 2020. Asentor (2020) stated that consumers are deeply concerned about the impact of Covid-19, both in terms of health and economics. The findings show that shopping focuses on more basic needs, people buy more consciously, buy from local stores, and accept digital commerce. In order to manage isolation, consumers have used ICT to communicate, learn, and play, and they continue this method possibly.

As consumers begin to cope with this pandemic crisis, they respond differently to brand activity. According to psychological contract theory, consumers make psychological contract based on implicit promises that they believe a brand will meet, support it with brands (Crick et al., 2013). It is possible that positioning brands with high social responsibility (Crick and Rifkin, 2020) may be punished by consumers if they do not meet their promises during this pandemic. For example, in a special survey of the Edelman Trust Scale (2020) on 12,000 consumers worldwide, two-thirds of consumers reported that their future purchasing decisions would be strongly influenced by brands' responses to the pandemic.

This study was conducted in March during the first wave of the pandemic crisis. Findings show that one-third of respondents neglect actively a brand based on what they consider to be inappropriate for the crisis. In addition, MC-Kinsey Survey (2020) reported that consumers around the world are changing shopping loyalty differently. Retailers and local services are aware that their responses to a crisis situation will significantly affect their business, but because they have very little time to react, they strive to adapt. On the other hand, Pantano et al. (2020) argued that consumers who stopped buying from brands during the first wave of the pandemic crisis tend more to buy again to end up after the pandemic if they felt that brands or shops were empathetic and have done their duty to help.

The current situation has affected businesses around the world. Companies have been previously worried about online store competition, the pandemic crisis will be the last limitation, and they will either go out of business or permanently close a large share of physical stores, it means that consumers will not be able to return to their previous shopping habits.

The recent concept has shown that conscious (planned) or subconscious (impulsive) buying patterns originate mainly through hedonistic (emotional) and utilitarian (practical) stimuli (Ahmad et al., 2020). Numerous studies (Ado et al., 2020) reported that in the context of fear induced by the Covid-19 phenomenon, motivational shopping behavior has been increased significantly worldwide. Therefore, in this research, he also uses the theory of appeal. According to Ahmad et al. (2020), this is an almost forgotten theory.

Appeal theory has not been used frequently in academic research in recent years. It has been used in the marketing and advertising of campaigns, especially in health insurance, life insurance and product security features. According to Ado et al. (2020), fear is emerging as a means of protection against situations in which life is exposing at risk. Lai et al. (2016) stated that appeals include three important concepts: perceived effect, threat, and fear. According to Wagman et al. (2017), appeal can be divided into two groups: fear control and risk control, in which fear control revolves around emotional reactions caused by risk, and risk control guides a compromising behavior

that consumers should avoid. (Asentor, 2020; Ado et al., 2020). Similarly, Ado et al. (2020) argued that risk control guides adaptive behavior to cope with or avoid risk, while fear control directs emotional responses derived from risk. Numerous studies have shown that appeal is an important mediating variable during motivational buying behavior (Ahmad et al., 2020; Ado et al., 2020).

The development of Covid-19 epidemic in the world is currently investigated. The findings of a meta-analysis conducted by Levin et al. (2020) show an exponential relationship between age and mortality rate of Covid-19 infection. Studies show that Covid-19 and its consequences led to fear and anxiety and have become one of the main factors influencing the health and good mood of people around the world (Ahorso et al., 2020). In addition, some studies argue that the onset of fear symptoms among the population is related to age (Chen, 2020).

In general, consumer shopping decisions and choices are the result of careful investigation of the pros and cons and are also influenced by the emotional and sensitive aspects of the products selected. Products that are perceived as overcoming a particular risk or hazard form the fear and can be succeeded in reducing risk perceptions and attract more purchases (Ado et al., 2020). Similar to the view of Ado et al. (2020), this study is also based on the above hypothesis, and as the Covid-19 continues, it predicts that appeal will have a positive relationship with the purchase of selected products.

Research conducted focuses on a purchase evaluation of essential items such as purchase caused by utilitarian and hedonistic stimuli (fear) (Ahmad et al., 2020). There are many different factors that affect the way you shop, but consumer needs can be considered as the first step in processing consumer behavior (Solio, 2002). According to Maslow's hierarchy of needs, the first physiological need usually appears at the time of fear, distress, or deprivation, in this case of Covid-19 pandemic. Basic human needs act as motivation for consumers to react, including shopping activity (Sally, 1992). Basic human needs led to a large increase in demand, which is accompanied by the finish of essential products in many stores and forgetting of unnecessary products during the pandemic shopping behavior (Deloitte, 2020).

According to the theory of generational cohort, each generational cohort is different from the others in several ways and due to different experiences that occur at different times (Ignatius and Hechanova, 2014). The theory further states that generational differences are not determined by an individual's age, but they can be determined by shared effects and the experiences of a particular generation (Jones et al., 2018). Thus, individual groups born during the same time period and grown through the same experiences will share the same values, attitudes, beliefs, and expectations that are constant in lifelong and form a generational identity. In the context of consumer, generational identity significantly influences shopping patterns and shopping behavior (Lisitsa and Cole, 2016).

3. Research Hypotheses

H1: Covid-19 pandemic has a significant effect on online shopping behavior in Iran.
H2: The level of health fears during the Covid-19 pandemic has a significant effect on online shopping behavior in Iran.
H3: The level of economic fears during the Covid-19 pandemic has a significant effect on online shopping behavior in Iran.

4. Materials and methods

4. 1. Theoretical model of research

4. 2. Statistical population and research sample

The statistical population is from other communities. The statistical population of the research includes the customers of Digi Kala brand.

The sampling method is simple according to the wide and unlimited size of the random statistical population. In this way, the customers of Digi Kala brand in Tehran are asked to complete the questionnaire. The following formula is used to select the sample size due to the infinity of the statistical population.

$$n = \frac{Z^2 {S_x}^2}{d^2}$$

Z= The value of the standard normal variable, which is 1.96 at the 95% confidence level.
SX= Standard deviation of primary sample
d= considered accuracy for sampling
The sample size is approximately 484 people

Table 1: Structure of the questionnaire

Variable	Questions	Source
Covid-19 pandemic	10-1	(Agre, 2021)
Online shopping behavior in Iran	15-11	(Agre, 2021)
Generational differences	20-15	(Agre, 2021)

4.3. Research methodology

The authors have used different criteria to classify research methods, and as a result, different classifications have been created. According to these classifications, the method of the present research can be expressed as follows: This research is a descriptive research in terms of data collection: because it studies what is. Descriptive research describes and interprets what is and focuses on existing conditions or events, common beliefs, current processes, tangible effects, or expanding trends. It focuses primarily on the present, although it often examines past events and works that are relevant to the current situation. The research method is applied objectively, because we proceed for having the results to solve the problems in the organization.

Measuring perspectives and attitudes are qualitative issues that require special tools in the context of nominal scales to measure variables. Researchers in the social sciences and humanities have tried to design and invent tools that are known as spectrum to measure desires, tendencies, and aspirations. The Likert spectrum consists of five equal parts, and the researcher responds to a number of options with the subject of research in order to determine his tendency about it. The spectrum is composed of a "completely agree" with the "completely disagree" tendency.

4.4. Statistical analysis

4.4.1. Description of demographic characteristics of sample members

In order to better understand the nature of the population studied in the study and familiarity with the research variables before analyzing the statistical data, it is necessary to describe this data as well as the general description of the data is in order to identify the pattern governing them and the basis to explain the relationships between the variables. According to the results of the second part of the questionnaire (demographic characteristics), the following information is briefly provided the characteristics of the statistical sample.

Table 2: Description of demographic characteristics of sample members

Gender	Frequency	Percent of frequency
Male	279	59.6
Female	205	40.4
Age	frequency	Percent of frequency
Less than 30 years	154	32
30 to 35 years	106	22
36 to 40 years	85	18
41 to 45 years	97	20

More than 46 years	42	8
Educations	Frequency	Percent of frequency
Diploma	65	13.4
Associate degree	89	18.4
BA	147	30.4
MA	132	27
Ph.D	51	10.8
History of using Digi	frequency	Percent of frequency
Below 5 years	192	39.6
5 to 10 years	131	27
11 to 15 years	109	22.5
More than 16 years	52	10.9

4.4.2. Descriptive characteristics of research variables

Descriptive statistics includes a set of methods used to collect, summarize, classify, and describe numerical facts. In fact, these statistics describe the data and information of the research and provide a general plan or pattern of data for faster and better use of them. In a summary, the characteristics of a group of information can be expressed using the appropriate use of descriptive statistics. Central and dispersion parameters are used for this purpose. The function of these criteria is that the main characteristics of a set of data can be expressed as a number, and thus, in addition to helping to better understand the results of a test, it facilitates the comparison of the results of that test with the tests and other observations.

Table 3: Descriptive characteristics of research variables

Generational differences	Online shopping behavior in Iran	Covid-19 pandemic	
2.746	3.117	3.408	Mean
2.5	3	3.5	Medium
1	1	1	Minimum
5	5	5	Maximum

4.4.3. Determining the reliability of questionnaire

The reliability of an instrument which is interpreted as reliability, accuracy, and reliability, is that if a measuring instrument made for measuring a variable and industrial is used in similar conditions at another time or place, similar results are obtained. In other words, a reliable tool is a tool that has the property of reproducibility and measuring the same results. In this study, Cronbach's alpha test was used to assess the reliability of the questionnaire.

Table 4: Validity analysis or reliability of items related to the main research variables

Reliability static of items of main variables of research				
Reliability status	Cronbach's alpha	Items	Number of items	Main variables of research
Reliability	0.953	10-1	10	Covid-19 pandemic
Reliability	0.775	15-11	5	Online shopping behavior in Iran
Reliability	0.749	20-15	5	Generational differences

4.5. Research models

4.5.1. Structural model in significant mode (t-value)

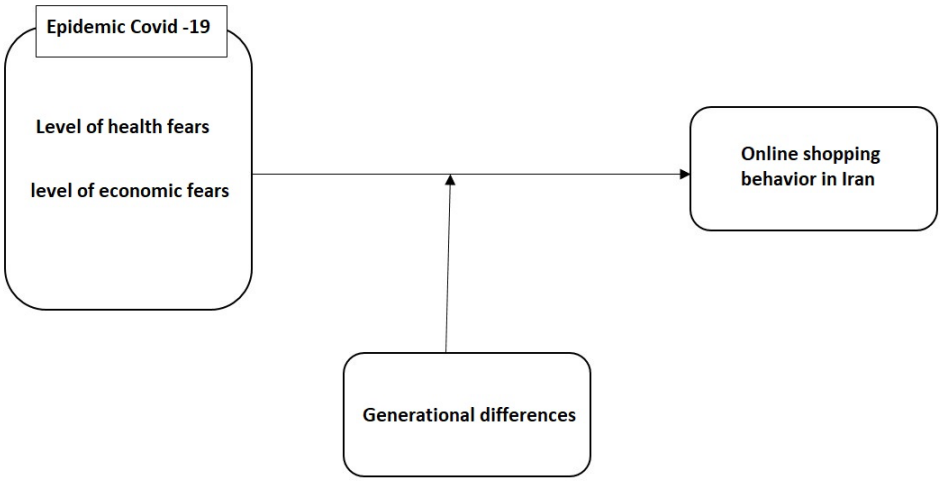

Figure 1: Conceptual model

4.5.2. Structural model output in standard mode (path analysis)

Path coefficients are in standard mode and their values vary between +1 to -1. The more the value of the path coefficient is close to one or negative one, influencing that path is more. The standard coefficients of the external models (factor loads) in a way indicate the validity of the structure. The path coefficients of the external models vary between 0 and 1. The maximum value in this model belongs to the effect of blue color to enjoy. Coefficient of determination is calculated for endogenous conceptual variables and shown inside a variable ellipse.

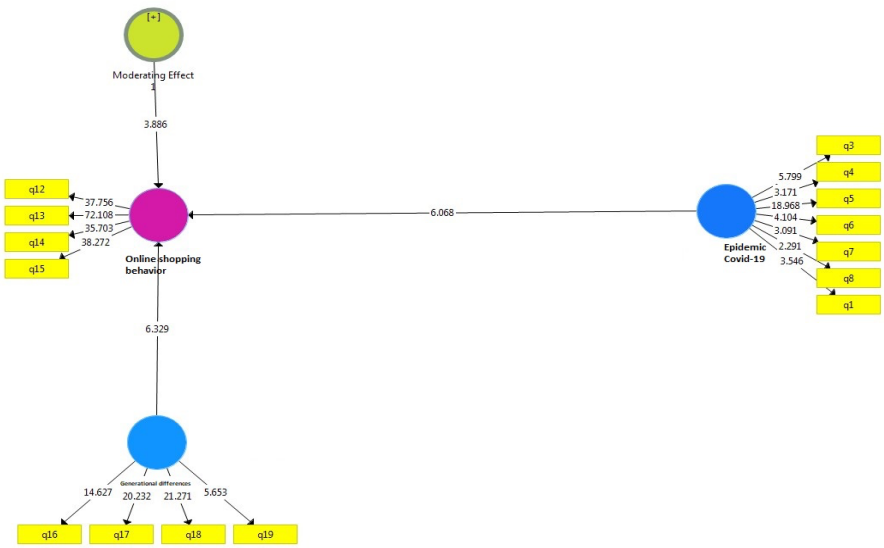

Figure 2: Output of the main structural model in a significant mode (t-value)

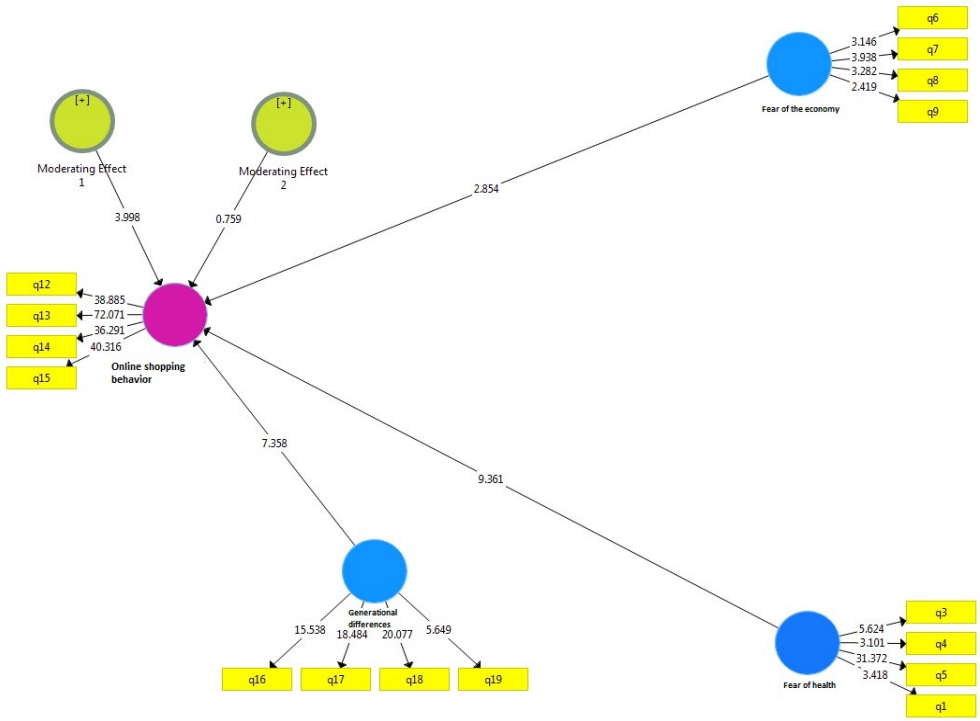

Figure 3: Output of structural sub-model in t-value mode

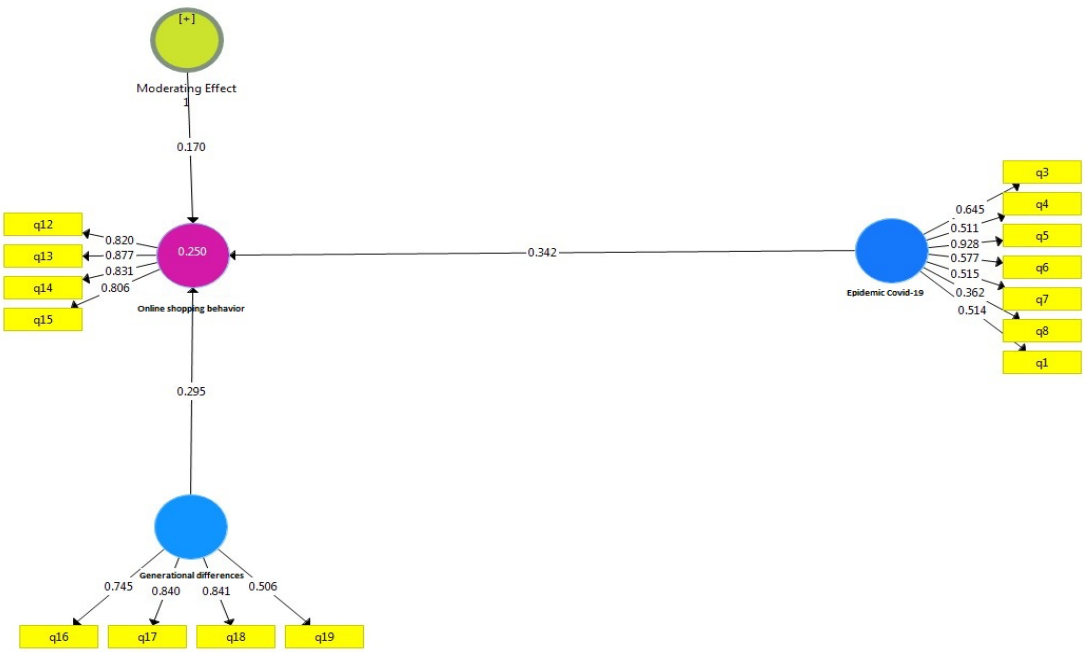

Figure 4: Main structural model output in standard mode (path analysis)

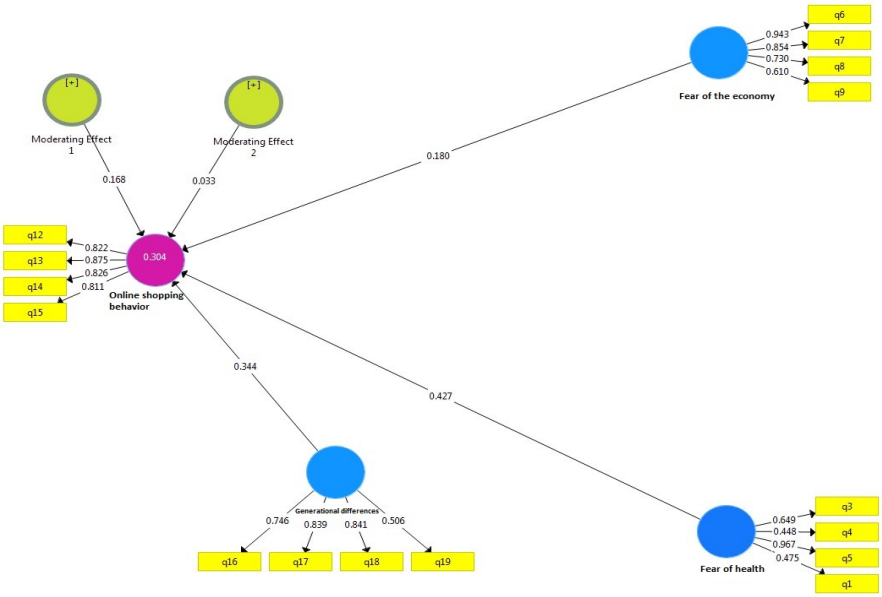

Figure 5: Structural sub-model output in standard mode (path analysis)

5. Results

Previous experience with the internet is very important for both early buyers and shopping repeaters. Users under these circumstances will be able to be more confident during their interaction in the electronic market. However, the impact of these factors increases as individuals gain more e-shopping experience. Users who believe their capabilities have a better capacity and understanding about e-commerce, which ultimately leads to more online shopping. Self-efficacy acts as a precursor and it has an indirect effect on final behavior. In addition, self-efficacy is becoming increasingly important after adapting to e-commerce. The e-shopping experience reinforces this perception, so the e-customer who needs more products on the Internet will feel more comfortable and capable.

The Covid 19 borderless virus has been affected economic conditions, increasing and decreasing price of goods and merchandise, relations between countries and their governments, and the opinions of experts and economists around the world, as well as exports and imports of these countries in various fields. The spread of coronavirus in Iran will also have a great impact on the domestic economy; According to economic experts in Iran, the story is a bit more complicated; On the supply side, the economy is facing downward pressure. By the disruption of international trade and even domestic transportation, the value chain of a wide range of products is disrupted and the production capacity of units is reduced due to lack of access to inputs. The levels of fear caused by the outbreak of this virus affect businesses and economic activities in the country from various dimensions. Online stores are the only industry that has been faced fewer economic problems. Therefore, companies that want to compete in the e-marketplace need to understand the type of customers they are looking for and develop their strategy based on whether they want to capture new customers or retain existing customers. Policies should be targeted based on encouraging e-shopping for all e-customers and influencing different perceptions. E-commerce providers will not be able to control e-customer experience levels, but they will be able to develop locations that have choices for customization and then guide e-customers through a trusted shopping experience. E-commerce should provide information about e-commerce specifications, benefits and facilities to potential e-customers. It can be concluded that the Covid-19 pandemic has a positive and significant effect on online shopping behavior in Iran. The level of health and economic fears during the Covid-19 pandemic has a positive and significant effect on online shopping behavior in Iran.

Each generation is associated with brands differently, and they have different goals when shopping. But despite their differences, each generation seeks payment security, easy brand confrontation, and transparent advertising. Of course, great customer service is always the most important thing for all consumers. Consumers of all generations are starting to make more online shopping using smartphones. Each generation welcomes loyalty and reward programs. It is not new that every generation is consisting of people who share major events in history that influence personality behavior, including consumer behavior. Comparisons with Jindrova and Lobudova (2020) using European statistics on income and living conditions showed that some socio-economic determinants between old and new members were not very high; But variable age had the most fundamental effect on self-perceived health. Therefore, it can be concluded that Covid-19 pandemic has a positive and significant effect on online shopping behavior in Iran according to the moderating role of generational differences. The level of health fears during the Covid-19 pandemic has a positive and significant effect on online shopping behavior in Iran according to the moderating role of generational differences. The level of economic fears during the Covid-19 pandemic has no significant effect on online shopping behavior in Iran according to the moderating role of generational differences.

Table 5: Summary of research results

Line	Hypotheses	T Static	Probability	Path Coefficient	Result
1	The Covid-19 pandemic has significant effect of online shopping behavior in Iran	6.068	0.000	0.342	Confirmed
1-1	The level of health fears during the Covid-19 pandemic has a significant effect of online shopping behavior in Iran	9.361	0.000	0.427	Confirmed
1-2	The level of economic fears during the Covid-19 epidemic has a significant effect on online shopping behavior in Iran	2.854	0.002	0.180	Non-Confirmed
2	Covid-19 Epidemic has significant effect on online shopping behavior in Iran according to the moderating role of generational differences	3.886	0.000	0.170	Confirmed
2-1	The level of health fears during the Covid-19 pandemic has a significant effect of online shopping behavior in Iran according to the moderating role of generational differences	3.998	0.000	0.168	Confirmed
2-2	The level of economic fears during the Covid-19 Epidemic has significant effect on online shopping behavior in Iran according to the moderating role of generational differences	0.759	0.461	0.033	Non-Confirmed

6. Discussion and suggestions

Our results suggested that fear is an important determinant of consumer shopping's behavior during Covid-19 pandemic. As expected, health fear was statistically significant for individuals. The reasons for online shopping for us are different examples of different respondents. Our findings also indicated that the performance of online stores was significantly related to the fear of people's health, and among these, the purchase of sanitary ware, medical supplies, electronics, home, and entertainment had the highest frequency consumers. Lifestyle and social environment affect online shopping. Altogether, this work open the doors for a better understanding of the Covid-19 pandemic. In accordance, fear was the most important success factor in controlling the Covid-19 disease epidemic that can affect consumer buying behavior. Of interviewed individuals, the middle-aged and elder people

had a higher level of fears than the young ones, indicating the role of generational differences in controlling the Covid-19 pandemic.

Overall, this work provides a guidance for the researchers and academicians in the field of marketing. Correspondingly, retailers and marketers should train themselves to survive during the global pandemics, and learn innovative approaches to supply the needs according to the changes in customers shopping behavior. For instance, suppliers should implement new communicational skills to better present their goods. In particular, they should how to deal with the fears of consumers, an important factor affecting shopping behavior during the pandemics. To do so, improvements should be applied in online shopping through facilitating and ensuring the delivery and the quality of the goods, respectively. In addition, after-sale services should be guaranteed, including changes, refunds, and withdrawals. However, this study suffers from some limitations that should be addressed in future works. These include: (1) a detailed and deeper documentation of the changes in customers' behavior during the global pandemics, particularly Covid-19, and (2) new conceptual models should be adopted to train the marketers and retailers based on the changes happen in customers shopping behavior.

7. Conclusion

Overall, Covid-19 pandemic caused significant impact on the domestic economy in Iran. This phenomenon adversely affected the suppliers through the disruption of international trade and even domestic transportation. In addition, outbreak driven fear was a major determinant affecting businesses and economic activities in the country. Unlike, online stores have faced the least economic problems. In other words, the level of health and economic fears during the Covid-19 pandemic had a positive and significant impact on online shopping behavior in Iran. Future works should provide a detailed documentation of the changes in customers' behavior and train the marketers and retailers based on the changes happen in customers shopping behavior during the global pandemics.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 201-213
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.426

Corruption and Demography during the COVID-19 Pandemic in Indonesia

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Abstract
COVID-19 pandemic dramatically changed the face of the world, including Indonesia. With more economic relief packages injected into public spending, corruption opportunities have risen, especially under the weakening corruption monitoring system. This article presents significant findings from the survey on the practice of corruption during the pandemic that can paint an understanding of corruption in Indonesia. Two survey rounds were conducted with respondents around Indonesia starting mid-to-end 2020, gathering 2,093 responses. The ordinary least-square (OLS) regression unveils that people who live in rural areas or spend less than the common people tend to commit or be involved in the practice of corruption. People who live in the rural areas or receive less income tend to perform corruption to close the income gap. It is also found that people with higher education levels tend to perform corruption. Higher corruption rents and broad opportunities for power abuse promote corruption in a well-educated society.

Keywords: Corruption, Demography, COVID-19, Indonesia

1. Introduction

The practice of corruption has attracted the interest of academia due to its richness and complexity. While there are still limited studies in Indonesia to comprehend the nature of corruption, many scholars around the world have tried to answer the origin of corruption and its impacts on every segment of life. The practice of corruption can happen both at the national and local level impacting the current socio-economic institutions. Most of the time, the practice of corruption can be treated as a crime, even extraordinary crime in some cases, and may bring severe consequences to society. The phenomenon is not merely a transfer of income from one group of people to another but also a problem based on legality, injustice, and inequality (Monteverde, 2020). Explain using institutional economics paradigm where the corruption is purely rational act to maximize the economic benefits is facing challenges and critics (Hellmann, 2017). Richard Thaler, 2017 Nobel Laureate, unveils another side of behaviour economics where decision making in economy is not purely logical (Barberis, 2018). In his recent work, Zimelis

(2020) suggests using an integrated approach between micro- and macro-level perspectives to understand corruption, rather than a traditional single model.

Corruption behaviour is a global phenomenon and traditionally rooted in the culture of each country. In Greece, the wording of fakelaki translated into a small envelope can refer to the giving of insignificant amount of money, while the same practice is known as pot-de-vin in France that is literally translated as a cup of wine (Alfikala, Sofia, & Henderowati, 2019). From the anthropology viewpoint, Torsello and Venard (2015) suggest that the practice of corruption is not always destructive due to its dependency on morality. For some societies, the practice of corruption is acceptable and socially cohesive. They further argue that moral judgements are culture-dependent, while cultures are diverse and plural. Placing this discourse in a broader context of globalization and neoclassical economics is very challenging for scholars. Legal, ethical, and practical ambiguities are common in understanding the source of corruption (Magyari, 2018).

Albeit very limited studies with the case of corruption in Indonesia, there are notable findings to understand the practice of corruption in the country (Alfikala, Sofia, & Henderowati, 2019; Hamdani, Kumalahadi, & Urumsah, 2017; Ibrahim, Yusoff, & Koling, 2018; Prihanto and Gunawan, 2020; Setyaningrum, Wardhani, & Syakhroza, 2017; Sudibyo & Jiangfu, 2015). Setyaningrum, Wardhani, and Syakhroza (2017) conclude that improving public governance, enforcing transparency, and promoting accountability iareessential to combat the practice of corruption in Indonesia. They suggest that increasing public welfare may increase wealth misallocation and inefficiency in the absence of effective corruption strategies. Sudibyo and Jiangfu (2015) find that the task environment (information and international resources) and institution environment (transparency, fairness, and rules complexity) statistically affects the trend of corruption in Indonesia public sector. Their results confirm the underlying institutional theory that has been widely used in many studies where dysfunction institution would more likely allow individuals to act corruptly. Prihanto and Gunawan (2020) also find almost a similar conclusion that public institutions' quality is a determinant factor for Indonesia's corruption level.

On the other hand, Simonović (2018) also suggests that it is not possible to exclusively observe the practice of corruption in developing countries with deep historical, social, and economic roots (i.e., Indonesia) using the lens of institutional dysfunction. The interactions and interrelations between principal and agent normally found in traditional societies should be used to understand the origin of corruption. Ibrahim, Yusoff, and Koling (2018) observe that the "forgiving" and "forgetful" character in Indonesia culture may impede the eradication efforts for corruption. Communities tend to ignore the track record of their leaders.

This research paper will reveal significant findings from the national survey for corruption conducted in 2020. This survey is the first corruption survey conducted in the time of COVID-19 in Indonesia. The number of respondents for this survey is 2,093, with almost equally distributed around Indonesia. The paper will provide new insights into the practice of corruption during the outbreak in Indonesia and how demographic/economic parameters affect the tendency towards corruption act. Despite of the given definition of corruption in the following section, it should be noted that the respondents will define it very differently. To answer this research's objective, this paper will start by providing a comprehensive literature review outlining the recent studies related to the practice of corruption during the pandemic. It is followed by the hypothesis for this study. Section 2 will show the study methodology, along with the model and its estimation technique. Section 3 will present and discuss the results. And Section 4 will discuss and address some possible research ideas for future works.

1.1 Literature Review

Corruption has several definitions. In classical definition explained by Senturia (1931) who notes that corruption is the misuse of public power for private profit. Same with Senturia, another definition of corruption is the practice of using the power of office for making private gain in breach of laws and regulations nominally in force (Andreski, 1968). Another definition argues that corruption is behavior of public officials which deviates from accepted norms in order to serve private ends (Huntington, 1968). On the other hand, Nye (1978) defines that corruption is behavior which deviates from the formal duties of a public role because of private-regarding (i.e., personal, close family,

and private clique) pecuniary or status gains; or violates rules against the exercise of certain types of private-regarding influence.

In current definition, corruption is the breaking of a rule by a bureaucrat or an elected official for private gain (Banerjee et al, 2012). Based on Indonesia Law No. 31 of 1999 on Corruption Eradication, Corruption is defined as anyone who is categorized as against the law, doing self-enriching, profitable deeds of self or another person or a corporation, abusing the authority or opportunity or means available to him because of the position that can cause financial loss for the country or the country's economy (UU 31/1999, Sec. II).

According to Transparency International, Indonesia's Corruption Perception Index (CPI) plunged from 40 in 2019 to 37 in 2020. Systematic corruptions amid the growing health and economic crisis from COVID-19 pandemic have brought damages to essential public services and inefficient resource allocation (Vrushi & Kukutschka, 2021). Mietzner (2020) observes that COVID-19 crisis in Indonesia has shredded the democracy level leading to poor leadership handling the crisis at the national level. The practice of corruption had injured the public health sector before the crisis and continued to harm the sector during the breakout. Slow and fragmented crisis responses cost Indonesia people their lives. He further argues that deteriorated institutions and weakening controls allow persistent practice of corruption in Indonesia especially for the country's economic relief package for the COVID-19 crisis. The role of monitoring procurement systems for health infrastructure and budget spending is essential to avoid the use of people in power to take advantage of the crisis for their private benefits (Steingrüber et al., 2020). Anti-corruption policies should be designed using specific sector-based intervention so that unpleasant experiences from the Ebola outbreak will not be recurring during the COVID-19 crisis in the low-income countries.

With a total of 695 trillion IDR or 46 billion USD reserved for handling COVID-19 in the country in 2020, 60% were allocated for social assistance, business assistance, and public healthcare (Tempo, 2021). Transparency International observed that monitoring the procurement process was compulsory amid the relaxation of the government's procurement requirements for the public sector during the pandemic. The fact that KPK issued a circular letter No.8/2020 regarding the use of state budget for implementing the procurement process to accelerate the handling of COVID-19 related to the prevention of corruption did not halt the corruption acts completely in the public sector. As early as mid-2020, Indonesia Police had investigated 92 corruption cases on COVID-19 assistances and aids across the countries (Jakarta Post, 2020A). Initial investigation suggested that the main motive was to earn economic benefits from government budgets embezzlement.

Is it a purely economic motive? Hellman (2017) explains that the neo-institutionalist paradigm is best used to describe individuals' preference for corruption in developing and newly industrialized countries in East Asia. Degree of organization, risk profile, and key actors are among the independent variables in institutionalizing corruption acts. Indonesia, his argument, is a playground for "official moguls" corruption. Abuse of power draining public resources and excessive private assets extortion are typical behaviours of corruption behaviour in Indonesia. In 2020, Juliari Batubara, Social Affairs Minister, was alleged the suspect in the corruption of social assistance for COVID-19. The corruption involved his subordinates and costscostnd 12 billion IDR or 0.8 million USD (Jakarta Post, 2020B). Due the fact that Julian Batubara was a member of a political party, journalists alleged that the profits from the corruption flew to other members of the party (Tempo, 2020; Tempo, 2021). Mietzner (2020) observes that Indonesia's vulnerability in handling COVID-19 situation is worsened by the elite's manipulations allowing institutionalized leakage of public expenditure under the weakening controls from the government.

Leadership in Indonesia governmental institutions has not yet been able to prevent and suppress the rate of corruption (Prihanto & Gunawan, 2020). Leaders and government officials are prone to abuse of power leading them to act corruptly for their own benefit. Hamdani, Kumalahadi, and Urumsah (2017) interviewed suspects in corruption. They observed that some suspects performed more than one type of corruption acts. The acts include conflict of interests, bribery, illegal gratuities, and economic extortions. There is no evidence that governmental officials tend to be more corrupt than people working in private sectors. There is not yet a body of research in Indonesia to comprehend the individual motivation for practicing corruption. At the same time, it is evident that macro- or institutional-level perspective shapes the magnitude of corruption in Indonesia.

1.2 Hypothesis

Drawing upon background and theoretically discussed previously, this study tries to understand how demographic/economic parameters, especially for domicile, education, and spending; affect the tendency towards corruption act. Therefore, the following hypotheses are assumed. First, people who live in the urban area are more likely to commit to involving in a corruption. Second, people who have higher education level tend to involve in corruption. Higher corruption rents and more opportunities for power abuse promote the corruption of higher-class society. Third, when it comes to the level of spending, people who spend less are more likely to commit and involved in the practice of corruption. The poverty gap is getting wider during this crisis, especially in lower-class society in Indonesia.

2. Method

This study uses questionnaire data distributed around Indonesia, starting mid- to end of 2020. The data consists of two survey rounds, gathering a total of 2,093 responses. There is no questionnaire received without incomplete information as such that this study used all 2,093 questionnaires for further analysis. The first round gathers 1,560 responses with the respondent's name as one of the variables. Out of 1,560 received responses, 66 questionnaires (4.23%) responds that the respondent has ever committed or been involved in the corruption act during the pandemic. The mean score is 1.95 with a standard deviation of 0.20. Due to the low response rate of committing or being involved in the corruption act, the study conducts the second round and was able to collect 533 anonymous responses. Out of 533 respondents, 41 people (7.69%) confirm committing or being involved in the corruption act during COVID-19. The mean score is 1.92 with standard deviation of 0.27. There is a slight increase in response rate committing or being involved in the corruption rate between these groups – around 3.46%. The result for descriptive statistics is shown by Table 4 for non-anonymous survey and Table 5 for anonymous survey. This suggests that people tend to reveal more of the information if the questionnaire is anonymous. This finding confirms the study of Kasakowskij et al. (2018), that observes that anonymity may provide respondents with an avenue to express themselves without being afraid of social judgment or legal suppression. In most countries, corruption can be regarded as a breach of the rule of law.

2.1 Data

Non-anonymous questionnaires were distributed using surveyors covering all 34 provinces in Indonesia, while anonymous questionnaires were distributed using social media (i.e., WhatsApp Group or Twitter). Therefore, there is an apparent difference in the geographical coverage of the respondents. The percentage of non-anonymous respondents in most provinces is 2.6%, except for Sumatera Utara (5.1%), Jawa Barat (7.7%), Jawa Tengah (5.1%), and Jawa Timur (5.1%). On the other side, there is no anonymous respondent from Maluku Utara. Most anonymous respondents reside in Jawa Barat (14.6%), DKI Jakarta (12.6%), and Riau (10.3%). The survey is designed to target any individual irrespective of their rural or urban domicile, age, education, marital status, or spending yet sufficient to represent each province in Indonesia. That said, this article aims to seek any empirical evidence that can reveal which demographic parameter from an individual that can motivate a corruption act.

Table 1: Distribution of respondents based on the geographic location (province) for both non-anonymous and anonymous survey

Province	Non-anonymous	Anonymous
Aceh	2.6%	2.1%
Sumatera Utara	5.1%	1.9%
Sumatera Barat	2.6%	3.6%
Riau	2.6%	10.3%
Jambi	2.6%	1.7%
Sumatera Selatan	2.6%	0.6%
Bengkulu	2.6%	0.4%
Lampung	2.6%	0.2%

Kep. Banga Belitung	2.6%	0.2%
Kep. Riau	2.6%	3.0%
DKI Jakarta	2.6%	12.6%
Jawa Barat	7.7%	14.6%
Jawa Tengah	5.1%	0.9%
DI Yogyakarta	2.6%	2.4%
Jawa Timur	5.1%	9.9%
Banten	2.6%	2.3%
Bali	2.6%	0.6%
NTB	2.6%	1.7%
NTT	2.6%	2.1%
Kalimantan Barat	2.6%	0.2%
Kalimantan Tengah	2.6%	2.3%
Kalimantan Selatan	2.6%	1.3%
Kalimantan Timur	2.6%	8.1%
Kalimantan Utara	2.6%	0.8%
Sulawesi Utara	2.6%	0.2%
Sulawesi Tengah	2.6%	1.7%
Sulawesi Selatan	2.6%	9.9%
Gorontalo	2.6%	0.2%

Both surveys use the same questions. The difference is the media where the questions are published. The written responses from non-anonymous question were collected. Consequently, the responses gathered the names of the respondent. The remaining eight questions are the same as those for the second survey, but without the respondents' name. Table 2 presents the questions to understand the relation between the practice of corruption and demographic parameters of the respondent.

Table 2: Survey questions for both non-anonymous and anonymous survey

No	Questions	Answers	Variable (Label)
1	Where do you stay?	1 = Urban 2 = Rural	Domicile (DOM)
2	How old are you?	Number	Age (AGE)
3	What is your gender	1 = Male 2 = Female	Gender (GDR)
4	What is the highest degree you have completed?	1 = Never attended formal school 2 = Elementary school 3 = Junior high school 4 = Senior high school 5 = D1/D2/D3 (college) 6 = D4/S1 (bachelor's degree) 7 = S2/S3 (Master's/Doctoral degree)	Education (EDU)
5	What is your marital status?	1 = Single 2 = Married 3 = Divorce 4 = Widow/widower	Marital status (MAR)
6	How much money do you spend monthly?	1 = More than 10 million IDR 2 = 9 – 10 million IDR	Spending (SPD)

		3 = 9 – 8 million IDR 4 = 8 – 7 million IDR 5 = 7 – 6 million IDR 6 = 6 – 5 million IDR 7 = 5 – 4 million IDR 8 = 4 – 3 million IDR 9 = 3 – 2 million IDR 10 = less than 2 million IDR	
7	Have you committed or been involved in the practice of corruption during COVID-19?	1 = Yes 2 = No	Corruption (CORR)

2.2 Unpaired Student's Test

To evaluate whether both data sets can be combined, this research used the unpaired Student's t-test to find the t-value (the difference between the group and population means) of the two data sets (Niroumand, Zain, & Jamil, 2013). It is assumed that there is no dependency between the first and the second surveys - the respondents involved in the first survey did not participate in the second survey. The t-value is statistically calculated using the following formula (Stata, 2015),

$$t = \frac{\underline{x} - \underline{y}}{\left(\frac{s_x^2}{n_x} + \frac{s_y^2}{n_y}\right)^{1/2}} \qquad (1)$$

The null hypothesis (H_0) is that there is no difference between the two data sets. Our alternative hypotheses show that the difference is less than zero (Ha_1), not zero (Ha_2), and more than zero (Ha_3). The result given in Table 3 shows that we can reject the null hypothesis and accept the alternative hypothesis that the difference is not zero ($p<0.001$) and more than zero ($p<0.001$). The first survey data is not a statistically identical data set as the data from the second survey. From this point forward, the study uses two data sets with the non-anonymous data called the non-anonymous survey, and the anonymous data called the anonymous survey.

Table 3: Result of t-test for non-anonymous and anonymous survey

Data set	N	Mean	Std. Err.	Std. Dev.
1 = non-anonymous	1,560	1.95	0.01	0.20
2 = anonymous	533	1.92	0.01	0.27
Difference (diff)		0.03	0.01	
H_0: diff = 0				
Ha_1: diff < 0		Pr (T<t) = 0.9991		
Ha_2: diff != 0		Pr (|T| > |t|) = 0.0017		
Ha_3: diff > 0		Pr (T>t) = 0.0009		

2.3 Model Specification

Corruption in this study is modelled as a relation between demographic parameters of the respondent. The independent variables of our interest include the domicile, age, gender, education, marital status, and level of spending. The linear model is specified as follows:

$$CORR_i = \beta_0 + \beta_1 DOM_i + \beta_2 AGE_i + \beta_3 GDR_i + \beta_4 EDU_i + \beta_5 MAR_i + \beta_6 SPD_i \qquad (2)$$

where $CORR_i$ is the dependent variable measuring the count of individual i who commits or is involved in corruption act, DOM_i is the location where the individual i stays, AGE_i is the age of the individual i, GDR_i is the gender of individual i, EDU is the education level of individual i, MAR_i is the marital status of individual i, and SPD_i is the spending level of individual i.

The regression model using Ordinary Least Square (OLS) regression using two data sets (non-anonymous and anonymous) will be evaluated. Many studies for corruption have used linear model because the results are easy to conclude, and the model allows to evaluate important statistical features such as autocorrelation or causality (Dridi, 2014; Farzanegan & Witthuhn, 2014; Prihanto & Gunawan, 2020; Setyaningrum, Wardhani, & Syakhroza, 2017; Sulemana & Kpienbaareh, 2018).

3. Results

3.1 Descriptive Analysis

Table 4 and Table 5 summarize the descriptive statistics of variables in the study. For the non-anonymous questionnaires, there are more female respondents than male respondents. The mean score is 1.54 with a standard deviation of 0.49. As much as 50.43% of the respondents are female. However, 3.35% of the female respondents have committed or been involved in the practice of corruption during the pandemic. This number is higher (5.25%) for male respondents. For the anonymous questionnaires, as much as 50.47% of the respondents are male. The mean score is 1.49 with standard deviation of 0.50. Although the participation number of female respondents is lower in the anonymous survey than in the non-anonymous survey, this study finds that the percentage of female respondents who commit or are involved in the practice of corruption is lower than male respondent for both surveys.

Table 4: Descriptive statistics for non-anonymous survey

Variable	Value	N	Mean	Std. Dev.	Min.	Max
Domicile	1 if urban, 2 if rural	1,560	1.13	0.33	1	2
Age (in years)	According to the respondent's age	1,560	38.99	13.26	17	81
Gender	1 if male, 2 if female	1,560	1.54	0.49	1	2
Education	1 if less educated, 7 if more educated	1,560	4.24	1.17	1	7
Marital status	1 if single, 2 if married, 3 if divorce, 4 if death divorce	1,560	1.91	0.65	1	4
Spending	1 if more spending, 10 is less spending	1,560	8.27	1.83	1	10
Corruption	1 if yes, 2 if no	1,560	1.95	0.20	1	2

Table 5: Descriptive statistics for anonymous survey

Variable	Value	N	Mean	Std. Dev.	Min.	Max
Domicile	1 if urban, 2 if rural	533	1.22	0.41	1	2
Age (in years)	According to the respondent's age	533	32.08	11.63	17	81
Gender	1 if male, 2 if female	533	1.49	0.50	1	2
Education	1 if less educated, 7 if more educated	533	5.56	1.09	1	7
Marital status	1 if single, 2 if married, 3 if divorce, 4 if death divorce	533	1.53	0.62	1	4
Spending	1 if more spending, 10 is less spending	533	6.83	3.05	1	10
Corruption	1 if yes, 2 if no	533	1.92	0.27	1	2

The survey also finds that the participation of respondents in urban area is higher than in rural area both for non-anonymous and anonymous survey. 87.24% of non-anonymous respondents reside in urban area such as the capital of the province or large city of municipality (kotamadya) or regency (kabupaten). The mean score is 1.13 with a standard deviation of 0.33. The participation of urban respondents is slightly lower for anonymous survey, 78.42%. The mean score is 1.22 with a standard deviation of 0.41. As a matter of fact, this trend is likely to be the same

with the statistics reported by Worldometers that urban population in Indonesia will be 56.37% of total population of Indonesia in 2020 (Worldometers, 2020).

3.2 Correlation Matrix

Table 6 summarizes the correlation matrix for non-anonymous survey while Table 7 for anonymous survey. The matrix includes all demographic variables (domicile, age, gender, level of education, marital status, and level of spending) and the practice of corruption during COVID-19 pandemic. The table for non-anonymous survey shows the level of education is negatively correlated (β=-0.13, $p<0.001$) with the domicile of respondents in both surveys. That said, urban respondents are more likely to be more educated than rural respondents. Due to the fact that economic activities are mostly concentrated in urban areas, it is legitimate to conclude that people with education mostly work in the urban areas. Such identical trend of urban-rural divide is also found in Africa, where the difference determines education inequality (Shan & Stifel, 2003). The domicile of the respondent is positively correlated (β=-0.22, $p<0.001$) with the level of spending (low is more spending, high is less spending) in table for anonymous survey. It means that higher class-society is associated with people living in the urban areas while lower class society with people living in rural areas. Disparity income and spending between urban and rural areas is also found in many studies (Dominik et al. 2017; Nguyen et al. 2020; Ma et al. 2018; Megbowon 2018; Sicular et al. 2008). Various factors ranging from public policy to international trading affect the magnitude of income inequality between urban and rural inhabitants.

Also, this study observes that the level of spending (low is more spending, high is less spending) is negatively correlated with the level of education (low is less education, high is more educated), either both for the non-anonymous survey (β=-0.35, $p<0.001$) and anonymous survey (β=-0.36, $p<0.001$). It means that the more educated the respondents are, the more spending they have. This finding somehow satisfies the classical economic theory of the distribution of earnings by considering that the level of earning is proportional with the level of spending (Becker & Chiswick, 1966). More recent studies considering biases and intertwined between demographic parameters suggest that better education yields a positive impact on the level of earning (Checci & van de Werfhorst, 2018; Heckman, Humphries, & Veramendi, 2019; Wiborg & Hansen, 2018). Thus, it incurs more spending.

Table 6: Correlation of non-anonymous survey

	Domicile	Age	Gender	Education	Marital Status	Spending	Corruption
Domicile	1.0000						
Age	-0.03 0.21	1.0000					
Gender	-0.02 0.2450	-0.12 0.0000	1.0000				
Education	-0.13 0.0000	-0.08 0.0020	-0.05 0.0000	1.0000			
Marital status	0.04 0.1048	0.51 0.0000	0.15 0.0000	-0.08 0.0000	1.0000		
Spending	0.06 0.0102	-0.03 0.1916	0.01 0.6319	-0.35 0.0000	0.0161 0.5255	1.0000	
Corruption	-0.14 0.0000	0.02 0.3587	0.04 0.0631	-0.02 0.3414	-0.01 0.6133	-0.07 0.0031	1.0000

Note: p-values in second row

Table 7: Correlation of anonymous survey

	Domicile	Age	Gender	Education	Marital Status	Spending	Corruption
Domicile	1.0000						
Age	-0.19 0.0000	1.0000					
Gender	0.05 0.2041	-0.08 0.0494	1.0000				
Education	-0.23 0.0000	0.47 0.0000	-0.04 0.5978	1.0000 0.0000			
Marital status	-0.11 0.0094	0.74 0.0000	0.02 0.5978	0.34 0.0000	1.0000		
Spending	0.21 0.0000	-0.55 0.0000	0.08 0.0556	-0.36 0.0000	-0.45 0.0000	1.0000	
Corruption	-0.01 0.9516	0.05 0.2113	0.03 0.4540	-0.01 0.7755	0.07 0.0737	-0.04 0.3191	1.0000

Note: p-values in second row

3.3 Regression Result

The regression results using Ordinary Least Square (OLS) are shown in Table 8 for non-anonymous survey with r-squared value of 3.44%. Independent variables in the model are domicile, age, gender, level of education, status of marriage, and level of spending. The location where respondents stay has an influence on the practice of corruption for the non-anonymous group. The null hypothesis that people who live in the urban area are more likely to commit to involve in a corruption can be rejected. Regression result shows that respondents in the rural area tend to commit or be involved in the practice of corruption during pandemic (β=-0.09, $p<0.001$). This study observes that economic motive can be held accountable to such behaviour especially during COVID-19 pandemic. Their source of income may be reduced or even halted due to lower economic activities.

Table 8: Ordinary Least-Square Regressions of non-anonymous survey

Independent variable	Coefficient	Standard Deviation	p-values
Domicile	-0.09	0.01	0.000
Age	0.01	0.01	0.239
Gender	0.02	0.01	0.055
Education	-0.01	0.01	0.006
Marital status	-0.01	0.01	0.208
Spending	-0.01	0.01	0.001
Constant	2.16	0.04	0.000
No. of observation	1,560		
Prob > F	0.0000		
R-squared	0.0344		
Adj. R-squared	0.0306		

The result of the non-anonymous survey also shows that people with a higher level of education tend to practice corruptions (β=-0.01, $p<0.001$). The null hypothesis that the coefficient that people with high level of education will be likely to practice corruption cannot be rejected. This study cannot, however, find such observation in the correlation matrix as shown in Table 6. It is suggested that well educated people tend to have more access to economic activities as such that the opportunity of doing corruptions is higher. A good quality of education cannot reduce the practice of corruption in Indonesia. Eicher, García-Peñalosa, and van Ypersele (2009) argue that education has twofold impacts on the practice of corruption. An increase in the level of wealth due to a better education can increase corruption rents. On the other side, a better education leads to better efficacy of political participation. It will reduce the tendency of people to re-elect corrupt parties in the government. This sounds

obvious in the resource-rich countries with higher corruption rents. Another study concludes a contrary finding in Thailand. People with higher education attainments are more likely to think that routine corruption is unacceptable (Punyaratabandhu, 2008). Sociocultural aspects can paint this difference despite one can conclude that both Indonesia and Thailand are resource-rich countries.

Another interesting finding is that there is a negative association between the practice of corruption and the level of spending (β=-0.01 $p<0.005$). Corrupt respondents are associated with lower spending. Therefore, the null hypothesis for the coefficient of spending level cannot be rejected. It is observed that the motivation to engage in corruption is purely due to economic reason – to fulfill the respondent's needs because of his lower earned level of income. This study argues that it leads to income inequality. Such income inequality trap is also found in an empirical study for Asian countries (Dwiputri, Arysad, & Pradiptyo, 2018). Higher-income inequality significantly affects the practice of corruption as being observed in the previous studies.

Table 9: Ordinary Least-Square Regressions of anonymous survey

Independent variable	Coefficient	Standard Deviation	p-values
Domicile	-0.01	0.03	0.894
Age	0.01	0.01	0.853
Gender	0.02	0.02	0.470
Education	-0.01	0.01	0.300
Marital status	0.03	0.03	0.256
Spending	-0.01	0.01	0.677
Constant	1.93	0.10	0.000
No. of observation	533		
Prob > F	0.5691		
R-squared	0.0092		
Adj. R-squared	-0.0021		

Surprisingly, no conclusion can be drawn from the anonymous survey (see Table 9). The null hypotheses for the independent variables of domicile, education and spending can be tested. Neither do other independent variables show the same association. The regression result has the r-squared value of 0.92%, lower than the r-squared value for non-anonymous survey. Thus, it is expected to have less association between dependent variable and its independent variables for anonymous survey. However, the association of the coefficient for significance demographic variables identical with the non-anonymous survey. The survey shows negative coefficients for domicile, level of education (low is less education, high is more educated), and level of spending (low is more spending, high is less spending). Despite the respondents have disclosed their identity, the null hypothesis of this study cannot be tested. It is expected that the respondents will be likely to give unbiased feedback as the survey gives them a sense of trust and respect.

4. Discussion

COVID-19 outbreak has worsened the trend of corruption in Indonesia. The study is the first survey to analyse the practice of corruption in the country during the pandemic. Even though it is impossible to reveal the differences before and after the pandemic, this study sheds light on the relationship between demographic parameters and corruption. It is expected that the findings can offer insights and comparisons for future Indonesian corruption studies.

The distortion from response bias in this study is reduced by conducting an anonymous survey. Even though so, this study cannot ensure that the same respondent of one survey does not participate in another survey. The responses from the respondents are higher in the anonymous survey than the non-anonymous survey, 7.69% compared to 4.23%, accordingly. Using Ordinary Least Square (OLS) regression, this study shows three main findings from the survey using the regression model with independent demographic variables. The first finding is that rural respondents tend to commit or be involved in the act of corruption. Secondly, respondents with a higher

level of education are most likely to corrupt. The last finding suggests that a lower level of spending tends to promote the practice of corruption.

Income inequality between rural and urban remains the main force for corruption. Regardless of negative association between education and spending in both surveys (β=-0.35, $p<0.001$ and β=-0.36, $p<0.001$, accordingly), people living in rural areas or with lower spending might commit corruption to close their income gap. Many households might have lost their income during the pandemic. They need to be able to survive through the pandemic. It seems that the effect of government's support to resolve multi-dimensional problems due to COVID-19 pandemic is not yet effective enough by the time this survey is conducted. As concluded by Mietzner (2020), practice corruption cannot be slowed down. There might be a greater interest from the corrupted elites to benefit from the economic relief packages making Indonesia more vulnerable during the time of pandemics. The farther the location is from urban areas where the government is sitting, the weaker the corruption monitoring will be.

This article argues that more educated Indonesians have more access to economic activities that involved high corruption rents. Corrupt officials, either public or private, misuse their power for private gains and perform corruption. There is no doubt that those officials are not well-educated. Hellmann (2017) mentions that those corrupt officials (official moguls) regime makes the corruption in the country more institutionalized. Even though they have with different political views, they share the same strength which comes from their close connection and access from the former 1966-1988's regime to the parliament and government. The practice of corruption is not easy to be eradicated even in such fragmented political landscape like in Indonesia.

It is unexpected that the anticipated response bias in the non-anonymous survey does not provide significant finding. The anonymous survey is expected to eliminate response bias in the non-anonymous survey. The regression result for anonymous survey has weaker strength of association than for non-anonymous survey. Considering that the number of respondents is higher in the non-anonymous survey than in the anonymous survey, it is expected that higher responses in any future studies can effectively resolve such response bias. Respondent participation needs also to be controlled. This research cannot inspect the respondent participation as such that a respondent may participate in both surveys, non-anonymous and anonymous. For further research, it is recommended adjusting model specification with more grounding approaches to describe the origin of corruption and eliminate the distortion of the biases' results. Due to the complex nature of corruption, interdisciplinary studies need to be conducted to understand the intertwined relationship between social, economic, and cultural aspects of corruption in Indonesia.

Acknowledgments

This research funding by the Ministry of Education, Culture, Research and Technology of Republic Indonesia through the program of Merdeka Belajar Kampus Merdeka (MBKM)-Universitas Paramadina.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 214-221
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.427

The Role of Organizational Commitment as a Mediator of Burnout Syndrome and Turnover Intention

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Abstract
Turnover intention is the tendency or intention of employees to stop working from their jobs voluntarily or move from one workplace to another according to their own choice. The purpose of this study is to investigate the effect of burnout on turnover intentions, the organizational commitment to turnover intentions, and the indirect relationship between burnout and turnover intentions through organizational commitment. This type of research is a quantitative study. The sampling in this study used probabilistic sampling using cluster sampling and simple random sampling. The study population consisted of healthcare professionals from five hospitals in Surabaya as referrals for Covid19 patients. The sample contains 100 respondents. Route analysis by the Smart PLS 2.0 program is used as a data analysis method. The results show that burnout affects turnover intentions. Burnout adversely affects an organization's commitment, which in turn adversely affects the intent of leaving a job. In addition, the results of indirect impact tests show that organizational commitment can mediate the relationship between burnout and willingness to leave.

Keywords: Job Insecurity, Burnout, Turnover Intention, Organizational Commitment

1. Introduction

Healthcare professionals are the hospital's most important asset, as hospital activities are impossible to be done without them. The 2019 Coronavirus (COVID-19) epidemic threatens health worldwide. as COVID19 is already prevalent in Indonesia, the government is taking proactive and efficient steps to combat the COVID-19. (Laily et al., 2020). According to World Health Organization (WHO) data on January 26th, 2021, 99,363,697 cases have been identified worldwide. Healthcare professionals who suffer from burnout have a psychological impact on the quality of life and work productivity in the medical sector. Many phenomena occur, one of the burnout effects is the desire to change jobs. According to Wirawan (2015), the intent of leaving a job is the tendency or intention of an employee to voluntarily quit their job based on their own decisions. Robbins & Judge (2013) suggest that if an

employee is happy with the job, it may or may not be completely genuine. Organizations will experience frustration and loss when a talented employee chooses to resign and move to another company.

Burnout continues to be an occupational health and productivity issue by an increasing number of events requiring serious stakeholder attention. Burnout syndrome is one of the stressful conditions related to work. This condition is characterized by physical and emotional fatigue since the expectations and realities of the employee in their position do not work as intended (Rofiqoh, 2021). Maslach and Jackson (Fuente et al., 2015) argue that nurse burnout is a condition that describes the response to chronic work-related stress with three components or dimensions: emotional exhaustion, depersonalization, and personal achievement. Research conducted by Mansour & Tremblay (2018) showed that burnout affects employee turnover intention.

Organizational commitment is a condition where employees are interested in the goals, values, and goals of their organization (Mowday et al., 1982). Research by Meyer & Allen (1990) suggests that commitment to the company is a psychological condition that can be described or expressed by the relationship between employees and the organization which has implications for the employee`s decision to continue or stop being a member of the organization. Reduced employee intention to leave the organization is a result of increased employee engagement . According to Putra & Utama's (2018) research, organizational commitment has a bad effect on employee turnover intention. In addition, the findings of Lestari & Mujiati (2018) show organizational commitment has a significant negative impact on employee turnover intentions.

2. Literature Review and Hypothesis Development

2.1. Turnover Intention

A high turnover rate can have a negative impact on a company. According to Porter (2011), employee turnover can cost a company substantial amount of capital when considering downtime, recruiting, interviewing, orientation, training, and ramp-up time. An entry-level position can cost an organization about 50 to 100 percent of the employee's wage.
Therefore, it is important for businesses to strive to avoid high employee turnover. Additionally, according to Surji (2013), employee turnover is a direct statement of the company, which can be detrimental to customer service and quality. (Bothma & Roodt, 2012) explain that the loss of highly skilled staff will have catastrophic consequences for the organization, such as disruption of organizational functions, service provision, and management.

Turnover intention is the tendency to leave work voluntarily or involuntarily because it is not suitable for the current job. Turnover intention is an early sign of turnover, because there is a significant relationship between turnover intention and employee turnover. Turnover intention can be defined as a deliberate and conscious intention or desire to seek alternative work in other organizations (Tett & Meyer, 1993; Wu, 2012). According to Jacobs & Roodt (2011) turnover intention is a person's intention to leave or quit a job which is a type of withdrawal behavior towards work.

2.2. Burnout Syndrome

Burnout syndrome is caused by prolonged stress. Burnout is a psychological term that describes a state of fatigue from work. This condition is characterized by physical and emotional exhaustion since the expectations and reality of the employee in his position do not work as expected. Burnout is a form of persistent stress and failure to meet expectations (Kartono, 2017: 37). Rosyid and Farhati (in Syamsu et al., 2019) suggest burnout indications are reflected when individuals experience fatigue, cynicism, boredom, emotional exhaustion, and reduced personal accomplishment. There are several indicators to assess burnout as described by Priansa, (2017) namely physical exhaustion, emotional exhaustion, mental exhaustion, low self-esteem, depersonalization. Weisberg (1994) found there was a positive relationship between burnout and turnover intention. El-Sakka (2016) found the burnout variable had a positive relationship with turnover intention. This relationship is evidenced in Sakka`s statement that turnover intention plays a role as a consequence of the burnout phenomenon. Liu & Lo (2018) found that

burnout had a significant positive effect on turnover intention. Zhang & Feng (2011) show that burnout has a significant positive effect on turnover intentions.

H_1. Burnout syndrome has a significant positive effect on turnover intentions

2.3. Organizational Commitment

Organizational commitment is a state in which employees have a deep interest in the organization's goals, values, and goals. In addition, an organization's commitment is more than just a formal membership, as it involves an attitude of preference for the organization and a willingness to make a high level of commitment to the interests of the organization to achieve its goals (Porter, 2011). Robbins & Judge (2013) suggest that organizational involvement is enthusiastic. An individual who is willing to stay in an organization in identifying contributions to the organization is exemplified by accepting the organization's vision and mission. Luthans (2011) explains that an organization's commitment as an attitude is often defined as a strong desire to remain a member of a particular organization. The willingness to provide a high level of commitment on behalf of the organization and a firm belief and acceptance of the organization's values and goals. Meyer & Allen (1990) develop three aspects of an organization's commitment: emotional commitments and normative commitments first. Luz et al., (2018) Discovered that organizational commitment is the most important determinant of sales intent. Luthans (2011) show that the conclusions of both previous and recent studies have a positive link between organizational involvement and desirable outcomes such as high performance, low turnover, and low absenteeism. It states that it is. According to Mowday et al., (1982), Employees with high organizational commitment have found that they are present in the organization and are more motivated to achieve their organizational goals. High organizational commitment, on the other hand, has a negative impact on employee turnover. The findings of Puangyoykeaw & Nishide (2015) show that organizational involvement influences sales intent.

H_2. Burnout syndrome has a negative effect on organizational commitment
H_3. Organizational commitment has a negative effect on turnover intention
H_4. Organizational Commitment can mediate the relationship between burnout and turnover intention

2.4. Research Model

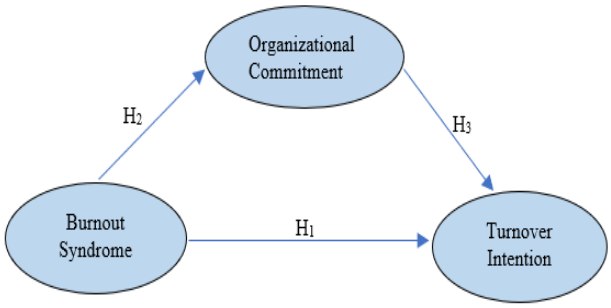

Figure 1: Conceptual Framework

3. Research Method

3.1. Population and samples

This research used a comparative causal research method. Research Population Hospital healthcare professionals in Surabaya who handle COVID-19 referral patients are still actively working. The sample to be used was 100 respondents. In this case, the questionnaire was used as the main primary data which would be used to analyze the research. The measurement scale used in this study is the Likert Scale. namely Strongly Disagree (STS) = 1, Disagree (TS) = 2, Disagree (KS) = 3, Agree (S) = 4, Strongly Agree (SS) = 5

3.2. Research Variable

Organizational commitment is a state in which employees have a deep interest in the organization's goals, values, and goals. Indicators developed by Robbins and Judge (2013) are Affective Commitment, Continuance Commitment. Burnout syndrome is a process where there is a change in negative behavior in response to pressure and work stress for a prolonged time. Indicators developed by Baron and Greenberg (in Chairiza et al., 2018): Physical exhaustion, Emotional exhaustion, Mental fatigue, Low self-esteem. Turnover Intention is the tendency or intention of employees to quit from their jobs voluntarily or move from one workplace to another according to their own choice. Indicators developed by Chen & Francesco (2000): Thoughts of leaving current job, Desire to look for other job vacancies, Desire to leave the organization in the coming months. Include in these subsections the information essential to comprehend and replicate the study. Insufficient detail leaves the reader with questions; too much detail burdens the reader with irrelevant information. Consider using appendices and/or a supplemental website for more detailed information.

3.3. Data Analysis

The data analysis used a partial least squares (PLS) approach, a component or variant-based structural equation modeling (SEM). The formal model defines a latent variable as a linear set of indicators. Weight estimates for generating latent variable score components are obtained based on the inner and outer model. Appropriate identification of research participants is critical to the science and practice of psychology, particularly for generalizing the findings, making comparisons across replications, and using the evidence in research syntheses and secondary data analyses. If humans participated in the study, report the eligibility and exclusion criteria, including any restrictions based on demographic characteristics.

4. Results and Discussion

4.1. Result

The results showed that most of the respondents were women (76.2%). Most of them aged 26-35 years (62.7%), categorized as early adulthood. Most respondents being in early adulthood may appropriately reflect employee turnover intentions. Early adulthood is a period in which employees still have high productivity. When work does not have the opportunity to increase productivity growth, employees will intend to leave. Judging from the level of education, most of the respondents are undergraduates (90.7%). In short, most of the respondents are highly educated.

Education level can influence individuals to make decisions. Based on employment status, most of the respondents were permanent employees (93.7%), and only 6.3% were temporary contract employees. Most respondents have worked for 3 to 4 years (40.5%), and the rest have worked for more than five years. These data are assumed to match the conditions under which fatigue syndrome may occur after prolonged exposure to the task.

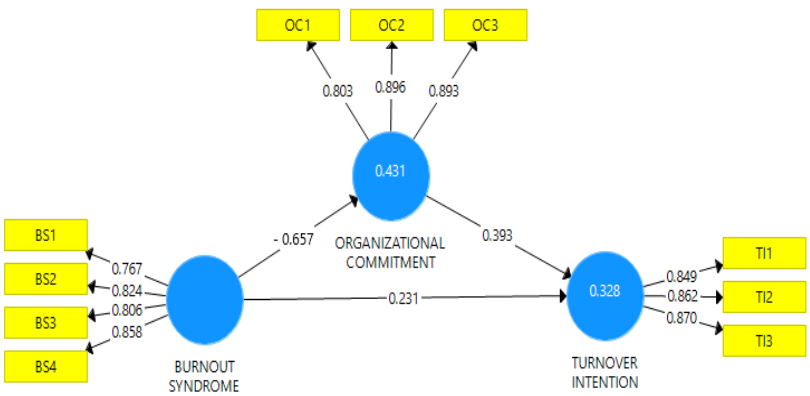

Figure 2: PLS Model

The test results in Figure 2 show that the loading factor or outer loading has a value above 0.7. It means that the indicators used in this study are valid or meet convergent validity. The AVE value for each variable tested has a value > 0.5. This indicates that all the variables in this study meet the criteria for discriminant validity. Test results show that the value of each variable in this study exceeds 0.70. Therefore, all variables tested are said to meet the construct reliability.

Table 1: R Square

Variable	R Square	R Square Adjusted
Organizational Commitment	0.431	0.426
Turnover Intention	0.328	0.314

Source: processed data

Table 1 shows that latent burnout affects the organizational commitment of the structural model. The R2 value is 0.431, indicating that the model is "strong." Latent variables, burnout, and organizational commitments affect sales intention variables. The R2 value of the structural model is 0.328, indicating that the model is "strong enough."

Table 2: Direct effect

Correlation Between Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Burnout Syndrome to Organizational Commitment	-0.657	0.664	-0.063	10.449	0.000
Burnout Syndrome to Turnover Intention	0.231	0.230	0.117	1.981	0.048
Organizational Commitment to Turnover Intention	0.393	0.398	0.114	0.3450	0.001

Source: primary data processed

The results of the direct impact hypothesis test in Table 2 are as follows: Burnout syndrome has an effect on Turn over the intention, so the first hypothesis is accepted. The second hypothesis is accepted because burnout adversely affects the commitment of the organization. The third hypothesis is accepted because organizational commitment negatively impacts turnover intent.

Table 3: Indirect Effect

Indirect Effect Test	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Burnout Syndrome to Organizational Commitment to Turnover Intention	-0.258	0.264	-0.082	3.154	0.002

Source: primary data processed

The indirect effect test in Table 3 shows that Burnout Syndrome has an indirect negative effect on turnover intention. These results indicate that Organizational commitment can mediate the relationship between Burnout Syndrome and Turn Over Intention.

4.2 Discussion

4.2.1. Burnout syndrome's Effect on Turnover Intention

Healthcare professionals are tired of their work caring for Covid-19 patients who continue to arrive at the Surabaya Referral Hospital. It can be interpreted that the more the medical staff recognizes the burnout syndrome, the stronger the intention to leave the job. Cordes & Dougherty (1993); Chairiza et al., (2018) theorize the intention of leaving a job is caused by burnout, and when an employee feels burnout, signs appear in the form of increased

headaches, fatigue, inability to complete work, and increased absenteeism. Employees are dissatisfied with their work and are about to change jobs because the negative signs they experience affect their performance (Maslach et al., 2013). When burnout occurs, it reduces engagement so that employees continue to think about making a turnover . The results of this study are consistent with previous studies by Kardiawan & Budiono (2018) who found that burnout had a significant positive effect on the willingness to leave. In addition, it is supported by the findings of Cordes & Dougherty (1993) Burnout states that it has a positive and significant impact on employees' intentions to retire. The result of Masluchah et al., (2020) also agrees that burnout has a significant impact on turnover intentions.

4.2.2. Burnout Syndrome has a negative effect on Organizational Commitment

The results of the hypothesis test show that burnout adversely affects the commitment of the health care worker's organization. In other words, the higher the burnout, the lower the organization's commitment. On the other hand, the lower the burnout, the higher the organizational commitment of the employee. Desperate, making mistakes at work, and often easily angry with patients and colleagues, health care professionals' burnout is still reasonable or not excessive. That's because the company's medical professionals have worked for the company for a long time and still have a very high level of organizational commitment.
According to Edelwich & Brodsky (1980), the final result of the burnout syndrome process is turnover, which includes enthusiasm, stagnation, frustration, apathy, and the last stage is intervention. The intervention stage is the stage where employees decide to leave the organization, switch from work, and adjust work responsibilities.
These results do not support Nugroho et al., (2016) in their research results that burnout has a negative and insignificant effect on organizational commitment

4.2.3. Organizational Commitment has a negative effect on Turnover Intention

The level of organizational commitment is inversely proportional to the level of employee turnover intention. If the healthcare professional has a high degree of organizational commitment, the intention to cancel is low and vice versa. However, the company provides facilities that meet the expectations of healthcare professionals, and the high organizational commitment of healthcare professionals allows him to survive in the company. Healthcare professionals are usually devoted to their profession, not the hospital in which they work. Because wherever healthcare professionals work, the main thing is their duty as healthcare workers to help patients. Mowday et al., (1979) argues that an organization's commitment is relatively strong within the organization and is an identification of an individual's commitment to working hard to achieve the organization's goals. This is in line with the research conducted by Allen & Meyer (1991) which states that organizational commitment has a significant negative relationship to turnover intention

4.2.4. Burnout Syndrome affects Turnover Intention through Organizational Commitment

These results explain that organizational commitment can mediate the relationship from burnout to turnover intention in Health Workers. Organizational commitment suggests organizational commitment is an individual's enthusiasm in identifying his or her contribution to the company, illustrated by the acceptance of the company's vision and mission, willingness, and having the desire to stay at the company (Robbins & Judge, 2015), while Burnout syndrome can be said to be a form of continuous stress and the inability to meet expectations (Kartono, 2017). It can be interpreted that someone who experiences burnout syndrome and decides to leave the company, then employees need organizational commitment as a mediator. This is in line with the research of Santi et al., (2020) which states that organizational commitment can mediate the relationship between burnout and turnover intention.

5. Conclusions

Burnout affects the intention of healthcare professionals to leave their jobs, and the higher the awareness of burnout, the higher the intention to leave. However, burnout adversely affects the organizational commitment, and it adversely affects the profit intentions of health care workers. In addition, organizational commitments can

mediate the relationship between burnout and Turnover intention. This means that efforts must be made to reduce turnover intent by minimizing burnout and increasing the organization's commitment through an appropriate compensation system. When dealing with high levels of burnout, employees can take time to think about the cause of the burnout and eliminate it. Organizations can help by telling them that they will prevent them from burning out. We can provide employees with the best solutions to reduce the severity of their burnout. The company is expected to increase employee loyalty by increasing employee engagement. If employees are loyal, employee commitment increases on their own, making it difficult to leave the company even if they get better deals.

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 222-230
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.428

An Empirical Test of The Financial Ratio Effect on Financial Distress in Indonesia (Study in Garment and Textile Industry)

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Abstract
This research aims to investigate the impact of the current ratio (CR), debt to asset ratio DA), and return on assets (ROA) on financial distress. The measure of financial distress level is the Altman Z-score index. The sampling technique in studies is purposive sampling. The sample is 16 textile companies and 80 firm-year observations. The result of data analysis indicates that the current ratio (CR), debt to the asset (DA), and return on assets (ROA) significantly influence financial distress (Z-Score rating). The partially current ratio and return on assets positively affect financial distress (Z-Score Index). The debt to asset ratio has a significant negative effect on financial distress (Z-Score Index). The finding contributes to the company's management considering these three ratios in making business decisions to avoid financial distress. The originality of this study is the analysis of financial distress from the textile and garment industry in the Indonesian capital market.

Keywords: Current Ratio, Debt to Asset Ratio, Return on Assets, Financial Distress

1. Introduction

Companies can avoid bankruptcy by detecting and overcoming financial difficulties as early as possible (Ramadhani and Lukviarman, 2009). Applying the Altman Z-rating technique is used to degree the financial distress level. According to research conducted by Gahar (2016) on 20 companies, LQ45 and 20 companies affected suspense policy until finally delisting, the Altman Z-score's approach outperformed other methods in predicting the bankruptcy of the company. Gunawan et al. (2019), Sayidah et al., (2019), and Sayidah et al. (2020) also use Altman score to study Indonesia companies' financial distress.

Financial distress is when the company has financial difficulties and is threatened bankruptcy. In other phrases, financial distress is when the corporation has monetary troubles to satisfy its duties. The occurrence of damaging losses or profits is one of the company's marks of experiencing financial distress. If financial distress occurs continuously, it can bring a company to bankruptcy (Fahmi, 2016). Consistent with Ramadhani and Lukviarman,

(2009) financial distress is the preliminary degree before default or liquidity due to the decline in financial conditions. According to Beaver (2011) in Rahmawati (2015), financial distress can also be defined as the enterprise's incapacity to pay the due economic responsibilities.

Altman was known as a pioneer in the financial ruin idea with Z-Score. Z-score is a statistical equation used by Altman to predict the level of bankruptcy. He used a statistical method called linear analysis, which precisely is multiple linear analysis (Altman, 1968). Altman initially collects 22 corporate ratios that may be useful for predicting financial distress. He tests them out of these 22 ratios to choose which ratios to use in creating models. The testing purpose is to analyze significant statistics of ratios, the correlation between ratios, prediction capabilities, and researchers' judgment. Primarily based on the ratio test result, he selected the five ratios to be variable within the version. The chosen ratios are (1) working capital to total assets, (2) retained earnings to total assets, (3) earnings before interest and tax to total assets, (4) the market value of equity to book value of debt, and (5) the sales to total assets.

The value of Z-Score will describe the condition of financial of manufacturing companies. Altman divides the financial condition into several tiers, particularly:

1. The value of Z-Score is smaller or equal to 1.88 (Z-Score = 1.88), which means the company is experiencing financial difficulties and high risk.
2. The company is considered grey when acquiring Z-Score between 1.88 to 2.99 (1.88 < Z-Score > 2.99). The company is experiencing financial problems, which should be addressed with proper management handling. The company may have been bankrupt or not.
3. For Z-Score value greater than 2.99 (Z-Score > 2.99) assesses that the company is in a very healthy state so the possibility of bankruptcy is very slight.

Several researchers have identified factors that influence financial distress. The first factor is the current ratio, which represents liquidity. The liquidity ratio, regularly referred to as the current ratio, is used to degree the company's capability to pay operational cost. In other words, the liquidity ratio is useful for recognizing the employer's potential to finance and satisfy responsibilities/debts when billed or due (Kasmir, 2015). Khaliq (2014) and Wahyu (2018) show that the current ratio positively affects the Financial Distress level (Z-score Index).

The second issue is the debt to asset ratio, representing leverage. The leverage ratio, also known as the solvency ratio, is used to determine the quantity the company resources are financed through debt. Leverage is a load of debt compared to its assets (Kasmir, 2015), which measures its ability to fulfill its long-term duties (Hanafi, 2009). An unsolvable enterprise is a company whose general debt is greater than its total assets. In line with the preceding studies of Sari (2018), the debt to assets ratio has a high-quality and insignificant effect. Conversely, Rohmadini (2018) and Gunawan et al. (2019) find that the debt to asset ratio has a negative effect on financial distress levels (Z-score Index). Sayidah et al. (2019) and Salehi et al., 2017 show no convincing evidence that leverage correlates with financial distress.

The third issue is the return on asset, representing the profitability ratio. Profitability is a ratio for assessing the organization's ability to create profit. This ratio also offers a degree of an organization's control effectiveness. This ratio demonstrates the earnings generated from the income and profits from investments (Kasmir, 2015). Organizations with a very high return on investment will use relatively little debt. Highly profitable companies do not need too much debt financing because high returns allow them to do most of their funding through internally generated funds (Brigham & Houston, 2013). Rezki (2017) researched that asset return positively affects financial distress (Z-score Index). This study analyzes the impact of the current ratio (CR), debt to asset ratio DA), and return on assets (ROA) on financial distress in the textile and garments business. ‘

2. Research Method

2.1 Variables

We use the degree of Financial Distress as dependent variable influenced by the Ratio of Current, the Ratio of Debt to Asset, and Return on Asset. The financial distress is measured by Altman Z-Score, which incorporates the five ratios into multiple linear analysis (MDA). The model is:
Z = 1, 2WC/TA + 1.4 RE/TA + 3.3 EBIT/TA + 0.6 MVE/BVD + 1.0 S/TA

WC/TA: working capital to total assets
RE/TA: retained earnings to total assets
EBIT/TA: earnings before interest and tax to total assets
MVE/BVD: market value of equity to book value of debt
S/TA: sales to total assets.

Independent variables include the Ratio of Current (CR), the Ratio of Debt to Asset (DA), and Return on Asset (ROA). Current ratio measures the company's ability to pay for immediate short-term or debt obligations immediately overdue when billed as a whole. The current ratio can also measure the company's level of safety (margin of safety). From the ratio measurement results, if the ratio is low, it can be said that the company has less capital to pay the debt. The measurements of CR is:

Current ratio = ((Current Assets))/((Current Liabilities))

Debt to Asset Ratio (DA) is a ratio of debt used to evaluate total debt to overall assets. Companies that finance their assets with large debt will have a high debt to asset ratio (DA). Corporations that have a high obligation will undergo significant interest expenses. They will experience obstacles adding more debt if they need funds for expansion, so they experience financial difficulties (Kasmir, 2015). The measurements of DA is:

Debt to Asset Ratio = (Total Liabilities)/(Total Asset)
Return on asset (ROA) demonstrates the company's ability by using all assets owned to create net profit. This ratio is important for control to evaluate organization management's effectiveness and performance in managing all corporation assets. The larger the ROA, show the management use corporation assets efficiently. The same amount of assets can generate a more significant profit and vice versa. The measurements of DA are:
Return on Assets = (Earning After Tax)/(Total Asset)

2.2 Samples

This study's population is all textile and garments indexed at the Indonesian capital market. The sampling technique in research is purposive sampling. The pattern choice criteria in this study are:

The textile and garment firms have been listed on the Indonesian capital market from 2014 to 2018.

The firms present the complete annual report from 2014 to 2018 on the IDX website (http://www.idx.co.id).

The number of textile and garment companies that meet the criteria in this study amounted to 16 companies in 2014-2018 and 80 firm-year observations

2.3 Data

We collect quantitative data in this study. Quantitative data is a sort of facts that can be measured or calculated directly, which is the statistics or clarification expressed by variety or form of numbers (Sugiyono, 2017). The data source used by the researcher is secondary data from Indonesian Stock Exchange. Secondary data is taken and collected by other parties, and researchers obtain the data by duplicating it by downloading or other means (Sugiyono, 2017).

2.4 Technique of Analysis

This study uses the data panel's regression as an analysis method. The formula of regression is:
$Yit = \beta 0 + \beta 1X1it + \beta 2X2it + \beta 3X3it + \varepsilon it$

Description:
Yit = Financial Distress level (Z-Score Index)
b0 = Constanta
β = regression coefficient
X1 = Current Ratio
X2 = Debt to Asset Ratio
X3 = Return on Asset
ε = Error Term
T = time
i = Company

3. Results

In this research, the initial observation data is 80 units of analysis from sixteen textile and garment industry corporations listed on the Indonesian capital market in 2014-2018. We find five analysis units are the outlier and do not include in the analysis to produce the best regression model. The final number of observations used in the study was 75 observation data. The categorization of financial distress by way of the usage of the Altman Z-rating method in textile and garment businesses indexed on the Indonesia capital market in 2014-2018 is presented within the table 1:

Table 1: The Categorization of The Degree of Financial Distress

Year	Number of Companies			
	Financial Distress	Grey Area	Healthy Financial Condition	Total
2014	12	2	2	16
2015	11	3	2	16
2016	11	4	1	16
2017	11	2	3	16
2018	11	4	1	16
	Total of Unit of Analysis			80
	Outlier			5
	The Total of Analyzed Units of Analysis			75

Source: Processed data, 2019

Primarily based the categorization of the degree of financial conditions on 16 textile and garment groups indexed in the Indonesian capital market in 2014-2018 is as follows:

- In 2014 12 companies had been experiencing financial difficulties, two corporations were inside the gray region or inclined, and two groups were in a healthful situation.
- In 2015 11 companies were experiencing financial difficulties, three companies were in the gray location or prone, and two companies were in a healthy circumstance.
- In 2016 11 companies were experiencing financial difficulties, four companies were in the gray location or prone, and one company was in healthy circumstance..
- In 2017 11 companies were experiencing financial difficulties, two companies have been in the gray location or prone, and three were in a healthy circumstance..
- In 2018 11 companies were experiencing financial difficulties, four companies have been in the gray location or prone, and one company was in healthy circumstance.

3.1 Hypothesis Testing

Researchers used SPSS to test the hypothesis. Based on the regression model test outcomes, the regression significance level in the model is 0.00, as shown in the following table.

Table 2: The Result of F-test

Model	F	Significant
Regression	211.08	0.000

a. Dependent variable: Financial Distress (Dist)
b. Predictors: (Constant), Current Ratio (CR), Debt to Asset (DA), Return to Asset (RA)

Source: Output SPSS (2019)

The test results above show that the variables in this research form a couple linear regression model with the dependent variable Financial Distress. All independent variables, namely Ratio of Current (CR), Ratio of Debt to Assets (DA), Ratio of Return to Assets (RA), significantly affect the Financial Distress variable. Furthermore, the following table 3 shows the effect and significance of each variable partially.

Table 3: The Result of t-test

Variable	Standardized Coefficient Beta	Significance
Current Ratio (CR)	0.300421	0.0098
Debt to Asset (DA)	-3.807749	0.0000
Return to Asset (RA)	3.005070	0.0000

Source: Output SPSS (2019)

Table 3 describes the partial test result (t-test), the value of the current ratio is 0.0098 < 0.05, and the regression coefficient of 0.300421. Based on this value, we can conclude that the current ratio significantly affects the level of financial difficulties (Z-score rating) so hypothesis 1 is accepted. Next, the result (partially test), the debt to asset significance score is 0.00 < 0.05, and the regression coefficient -3.807749. The debt to asset ratio negatively affects the financial difficulties level (Score of Z), so hypothesis 2 is accepted. The effect of the Return on Asset ratio on the financial difficulties (Z-score index) level indicates that the probability grade of the ratio of return to asset is 0.00 < 0.05 and regression coefficient 3,00. The return on asset ratio significantly impacts the financial distress level (Z-Score Index), so that hypothesis 3 is accepted.

3.2 Coefficient of Determinations (R^2)

The test results of the determination coefficient show that the score of adjusted R^2 is 0.8949. The value indicates that the ratio of current, the proportion of debt to asset, and the percentage of asset return can explain or provide information to the financial distress level (Z-score index) of 89.5%. While the last 10.5% is described by different factors, which were not analyzed in this study, which can affect the financial distress level (z-score index).

4. Discussion

4.1 Influence of Ratio of Current (CR), Ratio of Debt to Asset (DA), and Ratio of Return on Asset (RA) to Financial Difficulties level (Z-Score Rating).

The current ratio illustrates the corporation's capability to pay a quick-term duty or debt without delay due. If the corporation has a high current ratio, it will be more liquid to afford a short-term obligation smoothly. In other words, the company will be more spared from the threat of bankruptcy or financial difficulties because it has sufficient current assets to fulfill its current liabilities and, therefore, affect the Z-score index's increasing value. The larger the book Z-score Index, the more the financial distress level will decline or even be freed from the financial distress.

The debt to asset ratio (DA) measures how much debt a company uses to finance its investments/total assets. The percentage of DA is one of the ratios of leverage that explains its ability to fulfill the long-term debt. The greater this ratio indicates company's financial condition is not healthy. The company will have difficulty in obtaining additional loans Kasmir (2015). Companies that have a high level of debt to assets are companies that have a higher debt burden. These companies tend to experience financial distress because they bear high-interest expenses and have a decrease in the value of the Z-score index. The company pays large amounts of interest, reducing its ability to finance its operations and expand. This condition affect the decrease in the Z-score index value. The smaller the book Z-score Index the financial distress level will increase.

Return on asset demonstrates the company's capacity by using every assets owned to create profit after tax. If a company can be well-efficient, it is increasingly away from bankruptcy because it can maximize the revenue from the management of assets owned. Companies that have high returns on assets show that the income received by the company is enough to invest and pay a duty. The company does not lack funding or will reduce the risk of financial difficulties, affecting the rise of the Z-score index. The larger the book Z-score Index, the financial distress level will decline or even be freed from financial distress. So concurrently, the current ratio, debt to asset, and Return on asset affect the Financial Distress level (Z-Score Index).

4.2 The Impact of Current Ratio (CR) on Financial Distress

A current ratio (CR) is the company's capability to fulfill financial debt in the short term that will mature in less than one year. The high CR indicates that the corporation is liquid and able to smoothly and efficiently afford a short-term commitment smoothly and timely. Companies with a high current ratio indicate that the corporation has the current assets (cash, account receivable, inventory) to pay account payable and other short-term debts. The corporation can pay off short-term debts on time. Conversely, the company is experiencing financial problems if this ratio is low. The corporation no longer has sufficient th current asset belongings to meet short-term obligations. In textile and garment companies composition of current liabilities or short-term obligations dominates the total liability as a whole. Be aware that the debt Trust receipts and operating debt costs are substantial.

In contrast, although the company has considerable inventories, such inventories cannot be quickly sold or used as cash. The absorption of the products in the market isn't always so proper that the corporation no longer has sufficient coins to meet a short-term debt, so late and fail to pay debt occurs. These research findings are consistent with (Khaliq et al., 2014) and (Wahyu, 2018) stating that the current ratio positively affects financial distress.

4.3. The Impact of Ratio of Debt to Asset (DA) on the Financial Distress

The debt to asset ratio (DA) measures how much debt a company uses to finance its investments or total assets. A high debt ratio indicates that most of the company's funding comes from bank loans or bonds. Companies that pay debt and interest in large amounts will face a higher risk of financial difficulties. In addition, this condition makes it difficult for companies to obtain additional loans. Profit and assets are not sufficient to cover the loan.

Companies generally use debt to buy advanced technology machines in the textile and garment industry. Additional debt will increase operating costs and reduce company profits. On the other hand, companies that use advanced technology machines can make production costs more efficient. Therefore, the company must calculate the exact comparison according to the trade-off theory. If the decrease in efficiency does not balance the additional interest expense, then the higher the debt, the higher the bankruptcy. The greater the debt, the greater the company's likelihood of not paying a fixed interest.

Brigham and Houston, 2010 in (Salalahi, 2018) explained that creditors were more interested in lower debt ratios. The more excellent protection for creditors against a loss resulted in investors reluctant to invest because the company was judged at risk. When the company has a high debt to asset ratio, it will bring companies closer or even put them in financial distress. It is reflected in the decrease in the value of the Z-score index. The results

were in line with (Khaliq, 2014), (Rohmadini, 2018), and (Sayidah & Assagaf, 2020) stated that DA was negatively and significantly influential.

4.4 The Impact of Return on Asset (ROA) on the Financial Distress

Return on asset demonstrates the company's capability by using all resources owned to create net profit. If a company can be well-efficient, it is increasingly away from bankruptcy because it can maximize the revenue from the management of resources owned. The findings of this analysis are consistent with Septiana, (2019), which shows that return on assets positively affects financial difficulties. Companies with high ROA describe better financial performance (Strouhal et al., 2018). The company can generate high profits by using its assets.

In the export-based textile and garment industry, companies must produce high-quality products. Standard costs become expensive, and additional indirect costs include import and rental costs. Unfortunately, this cost increase is not proportional to revenue. Meanwhile, domestic market-oriented companies earning small profits are likely to be negative or lose money due to increasingly fierce market share competition. Suppose the domestic market-oriented company cannot compete and eventually go bankrupt because minimal sales. When the company loses money, the company does not have the cash to pay obligations and distribute dividends, so the company experiences financial difficulties and fails to pay debts.

Companies with a high return on assets will earn sufficient income to invest and pay obligations. The company does not experience a lack of funds and has a small risk of financial difficulties. In addition, the ability to generate high returns is considered by investors to invest. Investors believe that companies that maintain a high return on assets are more profitable. The more investors are interested in the company's shares, it will increase the company's value. Companies can get funding from the stock exchange and bank loans more quickly. Companies can avoid the occurrence of financial difficulties. The greater the Z-score index value, the more financial distress will decrease or be free from financial distress.

4. Conclusion

This research analyzes the effect of financial ratios, including the current ratio (CR), debt to asset ratio (DA), and return on assets (ROA) on financial distress. The originality of this research is a unique sample of 80 firm-year observation data from 16 garment and textile companies in the Indonesian capital market. The results of data analysis using the data panel's regression analysis methods provide evidence that the current ratio and return on assets positively affect financial difficulties as measured by the Z-score rating. On the other side, the ratio of debt to asset has negative impact. This finding contributes to the company's management, investors, and creditors. Management must seriously pay attention to financial ratios to avoid financial difficulties in making operational, investment, and funding decisions. The results of this direct study investors collect data regarding the company's financial condition to decide to buy or sell shares in the capital market.

Further research should add more populations, samples, and variables to represent different types of corporate sectors. To explain the financial condition distress more broadly and comprehensively, the researcher can increase the research population to focus on the manufacturing industry and other industries such as finance, mining, and agriculture, which are also in the performance degradation phase. It is expected to add external variables such as rates and interest rates and an internal variable, for example, enterprise risk management, which thoroughly addresses the risk handling the company faced.

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ASIAN INSTITUTE OF RESEARCH
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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.5, No.2, 2022: 231-243
ISSN 2775-9237

DOI: 10.31014/aior.1992.05.02.429

Influence of Capital on Firm Value Through Enterprise Risk Management in Banking

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Abstract
This study aims to prove and analyze empirically how capital affects firm value and interaction that happened between capital and corporate risk management affects firm value. The hypothesis of this study relates to the effect of capital on firm value at banking companies in Indonesia, and the second hypothesis relates to the effect of capital on corporate risk management at banking companies in Indonesia. The results of statistical analysis for testing the fourth hypothesis are obtained that regression coefficient value is -0.079, and t-count value is -1.510 with a significance value is 0.133, which is greater than the error tolerance set at 0.05. It shows that capital does not have significant effect on firm value in banking companies listed on the IDX for the 2016-2020 period. While the results of statistical analysis for testing the ninth hypothesis obtained a regression coefficient value is 0.213 and t-count value is 2,453 with a significance value is 0.016, which is smaller than the error tolerance set at 0.05. It shows that interaction between capital and enterprise risk management has a significant effect on firm value in banking companies listed on the IDX for the 2016-2020 period.

Keywords: Capital, Enterprise Risk Management, Firm Value

1. Introduction

1.1 Background problem

The value of banking companies in Indonesia is interesting to study, it is due to the decline of banking companies value that listed on the Indonesia Stock Exchange from 2011 to 2017 (Sitompul, 2019). A high company value will make the market, it does not only believe in the company's current performance but it is also in the company's future prospects. Increasing the value of company every year is a long-term goal of a company. The value of company is a measure of prosperity and the owners happiness and shareholders, the higher value of company, it will make more successful and prosperous the owners and shareholders. Various factors that can affect firm value, they are company management, capital structure, dividend policy and investment decisions

(Utomo, 2016). Proper business management can increase profitability and reduce the risk of business losses in the future, thus it has an impact on increasing business value (Handayani, 2017).

Low bank risk can indicate that management has ability to overcome and mitigate risks inherent in the banking industry. The manager's ability shows the bank's future prospects will be good. The bank's good performance is reflected in its ability to manipulate its assets to generate optimal returns, but some investors believe that company is best viewed from its profitability. These advantages will illustrate the company's ability to carry out operational control optimally, so the business continuity in future is more guaranteed.

When the company has sufficient capital to cover all the risks of its assets, the information is received by investors becomes positive information about the bank's capacity. The capital adequacy assessment (*capital adequacy*) is owned by a bank, it can be expected based on CAR coefficient. The CAR (*Capital Adequacy Ratio*) is one of the capital projections to assess the bank's capital adequacy in case of bad loans (Utami, 2015). Then, Alifah (2014) states that bank capital generation is as measured by CAR, it can increase the company value, because the stakeholders consider the company's capital, it is sufficient to cover the amortization of its assets or provide large bank profits.

It is seen from the previous study results, there was a difference between Capital variable and *Firm Value*, this research included the *Enterprise Risk Management* variable as a moderating variable to be studied. So, this study aimed to obtain empirical evidence related to the relationship between Capital variable and *Firm Value*, that is associated with *Enterprise Risk Management* at banking companies in Indonesia for the 2016-2020 period. This research is the development of several previous studies that focused on Capital variable. The difference between this research and previous research, it focuses on adding *Enterprise Risk Management* variables. There has been no previous research that examines the relationship between Capital variable and *Firm Value* through *Enterprise Risk Management* as a moderating variable.

In addition to the above reasons, the other reason that underlies the ERM variable, it is because reinforced by the case of Century Bank's inability to manage risks due to non-compliance with applicable banking laws, they are risk management and banking management. The Century Bank is a bank that experienced a financial crisis caused by problems with foreign exchange securities and sale of fake mutual funds, which caused money to flow into Robert Tantular's account as the bank owner. This agreement resulted in the Century Bank is being taken over by LPS and changed to PT Mutiara Bank Tbk until it was acquired by J Trust Co.Ltd. After the acquisition, the company's value slowly improved.

Risk management plays a role in protecting capital and optimizing *risk-return*. The large scale of operations and growing business volume have forced Indonesian banking industry to implement an integrated risk management model to identify, measure, monitor and control all potential risks. The disclosure of risk management gives a signal to investors in the form of good news or bad news, so it can affect the company value (Supriyadi & Setyorini, 2020).

1.2 Problem Formulation and Research Benefits

Based on the description above, the formulation of research problem are: (1) Does *Capital* have an effect on *Firm Value*? (2) Does the interaction between *Capital* and *Enterprise Risk Management* affect Firm Value?
While this research has theoretical benefits, it is to improve a good analysis about the comparison of *Capital* influence on *Firm value* through *Enterprise Risk Management* as a moderating variable in Banking Companies. It also gives the contribution as study material and references for similar research. While the practical benefits, this research result is expected to be an input for banking companies in Indonesia, to understand the importance of effect from *Risk Profile*, *Good Corporate Governance*, *Earnings* and *Capital* on *Firm Value* through *Enterprise Risk Management* as Moderating Variables in Banking Companies. Furthermore, it can be practiced and considered as one of means for banking companies to achieve high corporate performance in accordance

with expectations, so it can become a orientation in standard procedures that have high quality, it is as to achieve competitive advantage.

1.3 Relevant Previous Research

According to the research of Luo et al. (2016) which explained that to identify high-quality companies and low-quality companies were 92.16 percent and 93.75 percent, respectively, which indicated that the model has realized good predictions. While research on Wierzbicka (2018) with her research about these elements, they included corporate governance mechanisms. The basic role associated with corporate governance recommendations is to create the framework and guidelines on which the company runs its operations, if it is to fulfill its competitiveness requirements and increase its market value.

Then, in the research of Ochego et al. (2020), the findings of study determined that there was a significant influence between corporate governance and the firm value of commercial banks in Kenya. Therefore, this study concluded that companies with good corporate governance had high firm value, and therefore, commercial bank management should improved the company which will greatly assist in increasing firm value. In contrast, the research was conducted by Yang et al. (2018), it showed that the company's risk management practices significantly affect the competitive advantage and performance of SMEs. The competitive advantage mediated relationship between enterprise risk management practices and SME performance. In addition, financial literacy significantly moderated the relationship between corporate risk management practiced and competitive advantage. While, the research of Pratama et al. (2020), based on the hypothesis that company risk management disclosure, intellectual capital disclosure, independent commissioners and audit committees do not have significant effect on firm value. While, the board of commissioners do not have significant effect on firm value, the directors have a significant effect to the company value.

This research is different from previous research. This research is the development of several previous studies that focused on Capital variable. The difference between this research and previous research is the focus, it is on adding *Enterprise Risk Management* variables. There has been no previous research that examines the relationship between *Capital* variable and *Firm Value* through *Enterprise Risk Management* as a moderating variable.

1.4 Research Framework

Based on the theoretical foundation on the influence of *Capital* on *Firm Value* through *Enterprise Risk Management* as a moderating variable in banking companies (empirical studies at banking companies listed on the Indonesia Stock Exchange for the 2016-2020 period) above, as a guide in formulating hypotheses, a theoretical framework will be presented which included in this research.

Agency theory seeks to solve agency problems that arise because the parties working together have different goals. The Agency theory is proposed to address two problems that can arise in agency relationships. First, the agency problems arise when the desires or goals of principal and agent conflict with each other, and it is difficult for the principal to verify whether the principal is doing the right thing. Second, the problem of risk sharing arises when the principal and the agent have different attitude towards the physical. The essence of agency relationship lies in the agency relationship, it is separation between ownership, and it is called the shareholders, then the controlling party is called the manager who runs the company.

Contingency theory which illustrates in this study, there is special characteristics possessed by the company, it is by adding *Enterprise Risk Management* (ERM) variable. The ERM variable in this study functions as a moderating variable between *Capital* variable and *Firm Value*. The ERM variable was added with the aim of making the company's performance better.

Based on the framework above, it states that the independent variable or variable X is *Capital*, with the moderating variable being *Enterprise Risk Management* and the dependent variable or variable Y is *Firm Value*.

The first hypothesis is proposed in the study, it is a hypothesis related to the influence of capital on firm value at banking companies in Indonesia. Then, the second hypothesis is related to the influence of capital on enterprise risk management at banking companies in Indonesia.

2. Method

2.1 Types of research

This research is a quantitative research, because the data used in this study is classified as documentary data which includes collection, recording and review of secondary data in the form of bank financial statements. This type of research is an empirical study, it is conducted at banking companies listed in the Indonesia Stock Exchange from 2016 – 2020 using secondary data, it is the data that is obtained indirectly (by external parties), which are collected and recorded, especially financial reports and annual reports from the banking industry. The company is published on www.idx.co.id for the period 2016 to 2020. This research design uses quantitative descriptive analysis to explain an empirical phenomenon accompanied by statistical data and patterns of relationships between variables as an analysis of the influence.

2.2 Data Source

The data source is used in this research; it is a secondary data. The secondary data is data obtained indirectly from a source, such as quotes from books, literature, scientific readings, and others, related to the topic of the article (Ghozali, 2016). The data sources in this study were obtained from IDX (*Indonesia Stock Exchange*), and the *official website* of each bank for 2016-2020 in the form of financial reports. This study prioritizes the validity of financial statement data which is more reliable, so the researchers took data from www.idx.co.id and the o*fficial website* of each bank.

2.3 Sampling Technique

The sample in this study was selected by purposive sampling, it is a sample selection technique based on certain considerations and criteria in accordance with the research (Sujarweni, 2019). The criteria used in this study, they are go public banking companies listed in the Indonesia Stock Exchange (IDX) from the 2016-2020 period. A banking company that publishes financial reports and annual reports for 2016-2020. Banking companies that did not conduct mergers and acquisitions during 2016-2020. Banking companies that implement *Non-Performing Loans*, Managerial Ownership, *Return On Assets, Capital Adequacy Ratios, Enterprise Risk Management* in their annual reports for 2016-2020.

2.3.1 Research Variables and Operational Definitions

There are three kinds of variables in this research, they are:

Independent Variable
The independent variable in this study is *Capital*, that is each bank has and provides minimum capital to operate. The bank soundness ratio that can be used to assess a bank's ability to provide minimum capital, it is the Capital Adequacy Ratio (CAR). The CAR coefficient is a coefficient that describes the minimum capital adequacy required to cover the risk of loss from investing in risky assets and finances all fixed assets and bank shares.

Dependent Variable
The dependent variable in this study is *Firm Value*. Company value is a measure of success that a company has achieved in the past and in the future. If the company value can be seen through the price of ordinary shares per share from the company compared to the book value per share where the book value is obtained as a result of equity held by the number of shares outstanding. In this study, the value of company variables is measured by Price to Book Value (PBV), it is by the following formula (Rahma, 2020).

Moderating Variables

The moderating variable in this study is *Enterprise Risk Management*. The ERM is a variety of methods and procedures used to identify, measure, monitor and control risks arising from all banking activities.

The ERM measurement uses 108 disclosure items criteria based on COSO ERM Framework 2017 which includes 8 dimensions, they are (1) internal environment, (2) goal setting, (3) incident identification, (4) risk assessment, (5) risk response, (6) monitoring activities, (7) information and communication and (8) monitoring. The calculation of each ERM item used, it is given a value. It is 1, if the company discloses risk and 0 if the company does not disclose risk. Each item is added to obtain the overall ERM of each company by calculating the number of disclosures and it is divided by the number of disclosures of 108 items. Information regarding ERM disclosure is obtained from the annual report and the company's website.

2.3.2 Data Collection Techniques

The data collection technique used is the annual report documentation method and audited financial statements of banking companies listed in the Indonesia Stock Exchange for the 2016-2020 period, which contains information on Capital, Enterprise Rise Management, Firm Value and complete financial information. This research uses empirical studies, it studies of real facts/data that are collected and tested systematically. This secondary data collection is done through internet searches by downloading data from the Indonesia Stock Exchange (IDX) website. It is http://www.idx.co.id and related company websites.

2.3.3 Data Analysis Technique

The purpose of this study was to determine the effect of *good corporate governance* on the company's financial performance. During data processing, the researchers used statistical software called SPSS. The data analysis technique used is multiple linear regression analysis. This data model is then estimated using Ordinary Least Squares (OLS).

2.3.4 Hypothesis testing

According to Bahri (2018) states that hypothesis is a declaration, that is still calculated temporarily, it is not verified. Hypothesis testing is used to test partial and concurrent effects. Hypothesis testing is done in three ways, they are:

Coefficient of Determination (R^2)

The amount of R^2 , it is between 0 and 1 or between 0% to 100%. When the value of $R^2 = 0$, so the model is not able to explain the effect of independent variable to dependent variable, but if it is almost perfect or close to 1, so the model is able to explain almost all information needed by independent variable.

Simultaneous Significance Test (F Statistics Test)

The F test shows whether the independent variable simultaneously or simultaneously affects the dependent variable. If the research hypothesis is stated in the hypothesis, then the F test criteria used are as follows:

Ho is rejected: Fcount > Ftable

Ho is accepted: Fcount < Ftable

Or

Ho is rejected: sig < α

Ho is accepted: sig > α

Partial Significance Test (t Test)

Testing of regression results is carried out using t-test at the confidence level is 95% or = 5% with the following conditions:

If the significance level is < 5%, it can be concluded that Ho is rejected and Ha is accepted.

If the significance level is > 5%, it can be concluded that Ho is accepted and Ha is rejected.

The hypothesis in this study is formulated as follows:

(1) The effect of *capital* to *firm value*

Ho: $\beta_4 \leq 0$, it means that there is no *capital* effect to *firm value*
Ha: $\beta_4 > 0$, it means that there is *capital* effect to *firm value*
(2) The interaction between *capital* and *enterprise risk management* affects *firm value*
Ho: $\beta_8 \leq 0$, it means *enterprise risk management* does not moderate the effect of *capital* on *firm value*
Ha: $\beta_8 > 0$, it means *enterprise risk management* moderating the effect of *capital* on *firm value*

3. Results

3.1 Description of Research Object

This study emphasizes testing the effect of risk profile, good corporate governance, earnings, capital on firm value through enterprise risk management. It is intended to test how much influence RGEC has on firm value through ERM. The object of research is used in this study, it is a banking company listed in the Indonesia Stock Exchange that implements ERM during the research period. The researchers used purposive sampling method to obtain samples that match with the research criteria, then 26 banking companies were selected that fulfills the criteria and were used as samples in this study. The data used in this study were taken from the annual financial statements of banking companies that were the sample of study, especially in the financial ratio calculation report, then it is necessary to add in this study at 5-year observation period from 2016-2020 with 26 banking companies spread throughout Indonesia.

3.2 Statistics Description

Based on the results of descriptive statistical tests, it can be concluded that minimum Price to Book Value (PBV) is 0.00 and maximum value is 31.42. It shows that PBV value in the sample of this study ranges from 0.00 to 31.42 with an average is 1.7764 and a standard deviation is 2.80890. The minimum value of Capital Adequacy Ratio (CAR) is 3.41 and the maximum value is 148.28. It shows that CAR value in the sample of this study ranges from 3.41 to 148.28 with an average is 27.7302 with a standard deviation is 19.60477. The minimum value for Enterprise Risk Management (ERM) is 0.41 and the maximum value is 0.71. It shows that ERM value in the sample of this study ranges from 0.41 to 0.71 with an average is 0.5780 and a standard deviation is 0.07584.

3.3 Descriptive Analysis

Capital variable in this study is calculated by the ratio of *Capital Adequacy Ratio* (CAR). The NPL value of banking companies listed in the Indonesia Stock Exchange (IDX) from 2016 to 2020 tends to increase.
The *Enterprise Risk Management* variable in this study is calculated by Enterprise Risk Management (ERM) disclosure ratio. The ERM value of banking companies listed in the Indonesia Stock Exchange (IDX) from 2016 to 2020 tends to increase that the highest ERM value of banking companies listed in the IDX was in 2020, which was 0.605, while the lowest ERM value of banking companies listed in the IDX occurred in 2016 which was 0.558.

3.4 Classic Assumption Test

The normality test was carried out with the aim of testing whether in regression model, confounding or residual variables had a normal distribution. The normality test in this study was carried out with the *Kolmogorov-Smirnov One-Sample* statistical test. The results of normality test using the *Kolmogorov-Smirnov One-Sample* statistical test can be seen in the table as follows:

Table 1: Normality Test Results

	Unstandardized Residual	**Conclusion**
Asymp Sig (2-tailed)	0.200	Normal

Based on the results of normality test above, it shows that all variables in this study have a significance value greater than 0.05 (sig > 0.05), so it can be concluded that all research variables in this regression model are normally distributed.

Multicolonierity test aims to test whether in the regression model, and there is a correlation between independent variables. The presence or absence of multicollinearity problems can be seen from tolerance value or *Variance Inflation Factor* (VIF) provided that, if tolerance value is greater than 0.10 or VIF value is less than 10 (VIF < 10), it means that there is no multicollinearity problem. Based on the results of multicholinearity test, it shows that all free variables in this study have a tolerance value greater than 0.1 and a VIF value smaller than 10 (VIF < 10), so it can be concluded that the regression model in this study did not occur multicholinearity.

Heteroskedasticity test aims to find out whether in regression model, there is a variance inequality of residual one observation to another. The heteroskedasticity testing in this study used the Glejser statistical test. If the significance value for the independent variable is greater than 0.05, so it can be concluded that there is no problem of heteroskedasticity.

Based on the results of heteroscedasticity test, all the independent variables in this study has a significance value greater than 0.05 (sig > 0.05), so it can be concluded that the regression model in this study does not occur heteroscedasticity.

Autocorrelation test was conducted to determine whether in the regression model, there is a correlation between confounding error in period t and period t-1 (previous period). The autocorrelation test in this study used the *Durbin-Watson* test (DW Test) with a significance level is 5% or 0.05, that the Durbin-Watson value is 1.006, it is between -2 and +2 (-2 < 1.930 < +2), so it can be concluded that the regression model in this study does not have an autocorrelation problem.

3.5 Moderation Regression Analysis Results

Moderating Regression Analysis method to test *enterprise risk management* as a moderating variable on the effect of *capital* to *firm value*. This method uses the equation that is used to see the moderating effect of *enterprise risk management* on the *capital* on *firm value* effect. This analysis was processed using SPSS 25 program. The results of Moderation Regression Analysis can be seen in the following table:

Table 2: Equation Regression Result

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
	B	**Std. Error**	**Beta**		
1 (Constant)	0.552	0.400		1.381	0.170
CAR	-0.079	0.052	-0.550	-1.510	0.133
CAR*ERM	0.213	0.087	0.892	2.453	0.016

Dependent Variable: PBV

Based on the regression analysis results in table 4.1, the following regression equation can be obtained:

$PBV = \beta_4 CAR + \beta_8 CAR*ERM$ ……(IV)

PBV = -0,079 CAR + 0,213 (CAR*ERM)

3.6 Hypothesis test

The determination coefficient test results obtained the adjusted R2 value is 0.313. It shows that the ability of independent variable consisting of capital moderated by enterprise risk management in explaining the variation of dependent variable is 31.3%, while the remaining 68.7% is explained by other factors, it is not examined in this study.

3.6.1 F Statistic Test

The F test shows whether independent variable simultaneously or simultaneously affects dependent variable. If the research hypothesis is stated in the hypothesis, then the F test criteria used are as follows:
Ho is rejected: Fcount > Ftable
Ho is accepted: Fcount < Ftable
or
Ho is rejected: sig < α
Ho is accepted: sig > α
The result of F test in this research, it can be seen in this table as follows:
Based on the results of first model F test, the F value is 10,585, and the significance value is 0.000 < 0.05. It shows that simultaneously the CAR variable has a significant effect on the PBV variable, and the interaction between the CAR and ERM variables has a significant effect on the PBV variable.

3.6.2 Test of t-Statistic

The results of t-test equation in this study can be seen in the table as follows:.

Table 3: The result of t-test Equation

Variable	B	t	Sig.	Conclusion
CAR	-0.079	-1.510	0.133	Not significant
CAR*ERM	0.213	2.453	0.016	Significant

Source: SPSS Data Output Moderation Regression Test Results Equation

Based on the second equation t-test the results in the table 4.19 above, it can be explained as follows:
The influence of *capital* (CAR) to *firm value* (PBV). Based on the table above, the regression coefficient value is -0.079 and the t value is -1.510 with a significance value is 0.133 > 0.05. It shows that *capital* (CAR) does not have significant influence to *firm value* (PBV) at banking companies listed in the IDX for the 2016-2020 period.
The influence of interaction between *capital* (CAR) and *enterprise risk management* (ERM) to the *firm value* (PBV). Based on the table above, the regression coefficient value is 0.213 and the t-count value is 2.453 with a significance value is 0.016 <0.05. It shows that interaction between *capital* (ROA) and *enterprise risk management* (ERM) have significant effect on *firm value* (PBV) at banking companies listed in the IDX for the 2016-2020 period.

4. Discussion

The results of statistical analysis for testing the fourth hypothesis obtained a regression coefficient value, it is -0.079 and a t-count value is -1.510 with a significance value is 0.133, which is greater than the error tolerance set at 0.05. It shows that capital doesn't has a significant effect on firm value at banking companies listed in the IDX for the 2016-2020 period. The results of this study are in line with research conducted by Wardoyo dan Agustini (2015) which states that capital does not has a significant effect on firm value.

The results of statistical analysis for testing the ninth hypothesis obtained a regression coefficient value, it is 0.213 and a t-count value, it is 2.453 with a significance value is 0.016, which is smaller than the error tolerance set at 0.05. It shows that the interaction between capital and enterprise risk management doesn't has a significant effect on firm value at banking companies listed in the IDX for the 2016-2020 period. The results of this study are in line with research conducted by Idowu dan Awoyemi (2014) which states that the interaction between capital and enterprise risk management has a significant effect on firm value.

So, in this study resulted that *Capital* doesn't has significant effect on *Firm Value*. It is evidenced by the regression coefficient value, it is -0.079 with a significance value is 0.133, which is greater than error tolerance that has been set at 0.05. 8. Meanwhile, the interaction between *Capital* and *Enterprise Risk Management* has a

significant effect on *Firm Value*. It is evidenced by the regression coefficient value of 0.213 with a significance value of 0.016 which is smaller than the error tolerance that has been set at 0.05.

Acknowledgments

On this occasion, the author would like to express his deepest gratitude and highest appreciation to all parties who have contributed greatly and helped us in completing this article.

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Appendix A

Company Sample List

Table 4: Company Sample List

No	Code	Company
1	AGRO	PT Bank Raya Indonesia Tbk
2	AGRS	PT Bank IBK Indonesia Tbk
3	ARTO	PT Bank Jago Tbk
4	BBCA	PT Bank Central Asia Tbk
5	BBHI	PT Allo Bank Indonesia Tbk
6	BBKP	PT Bank KB Bukopin Tbk
7	BBMD	PT Bank Mestika Dharma Tbk
8	BBNI	PT Bank Negara Indonesia (Persero) Tbk
9	BBRI	PT Bank Rakyat Indonesia (Persero) Tbk
10	BBTN	PT Bank Tabungan Negara (Persero) Tbk
11	BDMN	PT Bank Danamon Indonesia Tbk
12	BINA	PT Bank Ina Perdana Tbk
13	BJTM	Bank Pembangunan Daerah Jawa Timur Tbk
14	BMAS	PT Bank Maspion Indonesia Tbk
15	BMRI	PT Bank Mandiri (Persero) Tbk
16	BNGA	PT Bank CIMB Niaga Tbk
17	BSIM	Bank Sinarmas Tbk
18	BSWD	Bank of India Indonesia Tbk
19	BTPN	PT Bank BTPN Tbk
20	DNAR	PT Bank Oke Indonesia Tbk
21	MAYA	PT Bank Mayapada Internasional Tbk
22	MCOR	PT Bank China Construction Bank Indonesia Tbk
23	NISP	PT Bank OCBC NISP Tbk
24	NOBU	PT Bank Nationalnobu Tbk
25	PNBN	Bank Pan Indonesia Tbk
26	SDRA	PT Bank Woori Saudara Indonesia 1906 Tbk

Appendix B

Variable Data Tabulation

Table 6: Price to Book Value (PBV)

No	Code	*Price to Book Value (PBV)*				
		2016	**2017**	**2018**	**2019**	**2020**
1	AGRO	2,842	3,023	1,51	0,94	5,15
2	AGRS	0,835	2,143	2,35	0,8	0,88
3	ARTO	1,311	1,457	1,92	5,49	31,42
4	BBCA	0,678	0,822	0,84	0,95	0,9
5	BBHI	0,631	1,03	2,13	1,74	5,11
6	BBKP	0,842	0,783	0,37	0,29	2,22
7	BBMD	2,288	1,849	1,83	3,29	1,53
8	BBNI	1,154	1,83	1,49	1,17	1,02
9	BBRI	0,392	2,683	2,44	2,6	2,57
10	BBTN	0,963	1,745	1,13	0,94	0,91
11	BDMN	0,977	1,701	1,74	0,85	0,67
12	BINA	1,067	2,252	1,51	3,98	1,54
13	BJTM	1,182	1,36	1,22	1,14	1,02
14	BMAS	1,455	1,499	1,36	1,29	1,49
15	BMRI	0,88	2,196	1,86	1,71	1,52
16	BNGA	0,621	0,918	0,58	0,56	0,61
17	BSIM	2,965	2,794	1,74	1,64	1,46
18	BSWD	1,927	2,125	2,15	2,09	2,3
19	BTPN	0,945	0,835	1,04	0,84	0,77
20	DNAR	0	1,341	1,28	0,74	0,79
21	MAYA	1,801	2,099	3,88	5,04	2,42
22	MCOR	1,027	1,456	0,94	0,77	0,88
23	NISP	0,609	0,493	0,8	0,7	0,63
24	NOBU	2,533	3,061	3,14	2,7	2,41
25	PNBN	0,528	0,757	0,68	0,72	0,54
26	SDRA	1,262	0,979	0,86	0,79	0,67
	Total	**32**	**43**	**41**	**44**	**71**
	Mean	**1.219807692**	**1.644076923**	**1.568846154**	**1.683462**	**2.747308**

Table 7: Capital Adequacy Ratio (CAR)

No	Code	*Capital Adequacy Ratio (CAR) (%)*				
		2016	**2017**	**2018**	**2019**	**2020**
1	AGRO	23,68	29,58	28,34	24,28	24,33
2	AGRS	17,17	3,41	15,63	28,46	14,89
3	ARTO	22,87	21,04	18,62	148,28	91,38
4	BBCA	21,9	23,1	23,4	23,8	25,8
5	BBHI	21,73	19,6	16,85	16,2	19,61
6	BBKP	11,62	10,52	85,43	92,59	84,86
7	BBMD	35,12	34,68	34,58	38,6	46,49
8	BBNI	19,4	18,5	17,4	18,7	15,7
9	BBRI	22,91	22,96	21,21	22,55	20,61
10	BBTN	20,34	18,87	18,21	17,32	19,34
11	BDMN	20,9	22,1	22,2	24,2	25
12	BINA	30,36	66,43	55,03	37,41	40,08
13	BJTM	23,88	24,65	24,21	21,23	21,64

14	BMAS	24,32	21,59	21,28	20,19	16,53
15	BMRI	21,36	21,64	20,96	21,39	19,9
16	BNGA	17,96	18,6	19,66	21,47	21,92
17	BSIM	16,7	18,31	17,6	17,32	17,1
18	BSWD	34,5	37,17	39,46	45,78	45,49
19	BTPN	25	24,6	24,6	24,2	25,6
20	DNAR	77,76	98,28	51,28	41,27	53,98
21	MAYA	13,34	14,11	15,82	16,18	15,45
22	MCOR	19,43	15,75	15,69	17,4	35,28
23	NISP	18,28	17,51	17,63	19,17	22,04
24	NOBU	26,06	26,83	23,26	21,57	22,02
25	PNBN	20,49	21,99	20,13	20,81	27,04
26	SDRA	17,2	24,86	23,04	20,02	19,98
	Total	**624**	**677**	**692**	**820**	**792**
	Mean	**24.01077**	**26.02615**	**26.59692**	**31.55346**	**30.46385**

Table 8: Enterprise Risk Management (ERM)

No	**Code**	***Enterprise Risk Management (ERM)***				
		2016	**2017**	**2018**	**2019**	**2020**
1	AGRO	0,58	0,65	0,61	0,64	0,66
2	AGRS	0,47	0,47	0,47	0,54	0,56
3	ARTO	0,56	0,55	0,59	0,61	0,65
4	BBCA	0,64	0,65	0,69	0,71	0,69
5	BBHI	0,51	0,54	0,55	0,57	0,58
6	BBKP	0,6	0,57	0,55	0,7	0,7
7	BBMD	0,56	0,57	0,56	0,6	0,61
8	BBNI	0,66	0,69	0,67	0,68	0,68
9	BBRI	0,63	0,64	0,68	0,69	0,7
10	BBTN	0,67	0,65	0,68	0,69	0,68
11	BDMN	0,5	0,5	0,51	0,51	0,53
12	BINA	0,48	0,48	0,52	0,56	0,55
13	BJTM	0,61	0,58	0,62	0,63	0,63
14	BMAS	0,45	0,45	0,46	0,49	0,51
15	BMRI	0,62	0,67	0,67	0,69	0,71
16	BNGA	0,55	0,56	0,56	0,6	0,59
17	BSIM	0,52	0,54	0,52	0,54	0,52
18	BSWD	0,56	0,53	0,55	0,58	0,59
19	BTPN	0,53	0,52	0,52	0,53	0,55
20	DNAR	0,46	0,46	0,49	0,57	0,59
21	MAYA	0,53	0,52	0,62	0,63	0,63
22	MCOR	0,65	0,55	0,56	0,58	0,54
23	NISP	0,64	0,63	0,65	0,65	0,63
24	NOBU	0,42	0,41	0,42	0,42	0,44
25	PNBN	0,62	0,64	0,63	0,66	0,67
26	SDRA	0,48	0,5	0,49	0,49	0,53
	Total	**15**	**15**	**15**	**16**	**16**
	Mean	**0.557692**	**0.558462**	**0.570769**	**0.598462**	**0.604615**

Appendix C

SPSS Data Output Moderation Regression Test Results Equation

Table 9: Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	CAR*ERM, CAR[b]	.	Enter

a. Dependent Variable: PBV
b. All requested variables entered.

Table 10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.378[a]	.143	.129	2.62091

a. Predictors: (Constant), CAR*ERM, CAR

Table 11: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	145.414	2	72.707	10.585	.000[b]
	Residual	872.385	127	6.869		
	Total	1017.799	129			

a. Dependent Variable: PBV
b. Predictors: (Constant), CAR*ERM, CAR

Tabel 12: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.552	.400		1.381	.170
	CAR	-.079	.052	-.550	-1.510	.133
	CAR*ERM	.213	.087	.892	2.453	.016

a. Dependent Variable: PBV