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Department of International Business Administration, College of Applied  
Sciences – Rustaq Ministry of Higher Education, Rustaq, Sultanate of Oman



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## **CUSTOMER CAPITAL AND INCOME DIVERSIFICATION: AN EMPIRICAL ANALYSIS**

**Peter Nderitu GITHAIGA**

Moi University, Po BOX 3900-30100 Eldoret, Kenya  
kgithaiga@gmail.com

### **Abstract**

The purpose of this empirical study was to examine the relationship between customer capital and income diversification. The study used panel data extracted from annual financial reports from the period 2008-2017. The sample consisted of 31 commercial banks that yielded 310 year observations. Data collected was analyzed through descriptive and inferential statistics. The hypothesis was tested through multiple regression analysis. The results revealed that customer capital had a positive and significant influence on income diversification in Kenyan commercial banks. The study concluded that market knowledge resources are beneficial to a firm's diversification strategy.

**Key words:** Customer Capital, Income Diversification, Competitive Advantage, Banks

### **1. Introduction**

The global banking sector is facing numerous challenges that include technological revolution, competition from nonbanking entities, regulatory pressure and rising non-performing loans. These challenges have distorted banks revenue model in particular interest income thus forcing banks to diversify by venturing into non-intermediation activities that generate noninterest income. Non-interest income consists of fee and non-fee incomes. Activities that generate fees income include loan processing, bill discounting, letters of credit and guarantee, account keeping, service and management (Lepetit *et al.*, 2008; DeYoung & Roland, 2001). Non-fee income arises from foreign exchange transactions, investment in government and corporate securities, rental premises owned by the bank and gains from the sale of premises (Rushdi & Tennant, 2003). Previous studies show progressive growth in non-interest income over the last two decades which

is estimated to be approximately 40% of banks total operating income (Kiweu, 2012; DeYoung & Rice, 2004). Studies have addressed the relationship between income diversification and performance though the findings are mixed (DeYoung & Rice, 2003; DeYoung & Roland, 2001; Abedifar *et al.*, 2014; Calmès & Théoret, 2015; Lepetit *et al.*, 2008; Maudos & Solis, 2009; Nguyen *et al.*, 2012). Despite the inconsistencies in the findings, these studies have emphasized the growing importance of income diversification in present day banking (Rime & Stiroh, 2003; Winton, 1997). However, little attention has been paid to unearth drivers of income diversification which may ultimately affect performance. From a similar perspective, DeYoung and Rice (2004), Rogers and Sinkey (1999) noted that some banks reported more non-interest income than other which confirms a synergic relationship between non-lending activities and intangible resources.

For knowledge based economies, a firm's diversification strategy must focus on leveraging knowledge resources and customer satisfaction (Chang & Tseng, 2005). Furthermore, it would be unreasonable for firms to invest on production of goods and services, marketing and advertising if such goods and services fail to attract customers and meet their expectations. Therefore, the success of income diversification hinges on how best a bank is able to build and maintain its customer relationships. Customer relationships management depicts customer capital, a sub-construct of intellectual capital, as a fundamental source of competitive advantage (Edvinsson & Malone, 1997). Duffy, (2000) avers that customer capital influences present and future revenue. While previous studies focused on customer capital and performance causality (Inkinen, 2015; Danai *et al.*, 2018; Hendricks *et al.*, 2007; Yang and Kang, 2008) no attention has been given to establish the importance of customer capital to income diversification. Thus, this study contributes to existing literature by examining the effect of customer capital on income diversification.

## **2. Literature Review**

### ***2.1 Concept of customer capital***

In the knowledge era, the value of tangible assets as drivers of competitive advantage has gradually diminished. Presently, knowledges resources in particular intellectual capital plays an important role in creating competitive advantage and sustained superior performance. So, intellectual capital is regarded the most valuable asset. Besides, human and organizational capital, the other sub component of intellectual capital is customer capital, which focuses on the firm's relationships with customers (Edvinsson and Malone, 1997). Roos and Roos (1997) expanded customer capital to relational capital to integrate the interaction between internal structures and external structures. It is believed that a firm long-term relation with customers represent is the basis for success in a dynamic environment couple by competition,

technological revolutions and evolving customer needs. Consequently, customer capital encompasses relationships between customers and businesses, the knowledge contained in marketing channels and customer relationships, the value of the relationships between the business and its customers (Bontis *et al.*, 2000). Though there is no universal meaning of customer capital, there seems to be a general consensus among researchers that customer capital denotes the relationship between a firm and its customers, or rather value embedded on such relationships. Previous studies have also linked customer capital with organizational performance (Chen *et al.*, 2004) and sustained competitive advantage (Duffy, 2000). Similarly, Liu and Lin (2007) view customer capital as value generated through customer relationships. Moreover, researchers opine that customer is the end product from the interaction between various sub constructs of intellectual capital (Anderson *et al.*, 1994). This study conceptualizes customer capital as the value of relationships between the firm and its customers. Therefore, present managers must focus on building strong and long-term partnerships with customers for sustained competitive advantage and survival. It is also believed that customer capital depicts the value of a firm's intellectual capital (Wang & Chang, 2005). This assertion is corroborated by Kamakura *et al.*, (2002) and Liu and Lin (2007) who claim that customer capital thrives on other firm knowledge resources comprising of human capital, process capital and innovation capital.

In the last two decades customer capital has expanded to relational capital that captures relationships with customers, suppliers, competitors and government (Bontis, 1998; Roos & Roos, 1997). Liu and Lin (2007) assert that customer capital thrive on knowledge management systems that captures market expectations then delivers valuable goods and services for competitive advantage and improved performance. As a result, organizations are moving from product and brand orientation towards customer orientation a phenomenon referred to customer relationships management (Reinartz, *et al.*, 2004).

Studies show that customer capital is a source of competitive advantage so positively influences firm performance (Khalique *et al.*, 2015; Bin Shaari *et al.*, 2018; Weiss, 2016; Berger *et al.*, 2010; Boschma *et al.*, 2017). According to Anderson *et al.*, (1994) customer satisfaction leads profitability owing to customer loyalty, price stability, reduced marketing cost and improved reputation. Besides, Danai *et al.*, (2018) and Arvan *et al.*, (2016) assert that customer capital influences firms bottom-line through enhanced customer loyalty, higher customer retention and increased market share.

Dimensions of customer capital cited in literature include market share, customer databases, customer based services, intelligent customers' perspectives, marketing intensity, service quality and customer loyalty (Liu *et al.*, 2002; Chen *et al.*, 2004; Kamakura *et al.*, 2002). Different management models estimate the

intrinsic value of customer capital. Kaplan and Norton (1996) use the “core measure gap’ index to evaluate the value of a firm’s customer capital. The index comprises of market share, customer acquisition, customer retention, customer satisfaction and customer profitability. Conversely, Edvinsson and Malone (1997) propose the five-measurement valuation model for customer model that encompasses customer type, customer duration, customer role, and customer support and customer success.

## **2.2 Income Diversification**

Amid a turbulent operating environment, banks are searching for new ways of generating income to cushion themselves against deteriorating interest income and for survival. The theoretical underpinning of income diversification is Markowitz (1952) modern portfolio theory. According to this theory, firms reduce income volatility and maximize return by diversifying their sources of income. Essentially, interest income and non-interest income are uncorrelated because interest income is generated from intermediation whereas non-interest income originates from nonlending activities. Though interest income is more stable and significantly higher, non-interest income compensate banks for deteriorating interest income thus smoothening earnings. The importance of income diversification to organizational outcomes is well grounded in portfolio theory and extant literature despite conflicting results which can be attributed to contextual issues. Studies show that income diversification has an influence on internal capital market efficiency (Shih *et al.*, 2018), competitive advantage (Montgomery & Wernerfelt, 1988), shareholder value (Bernardo & Chowdhry, 2002), managerial entrenchment (Cheng & Keung, 2018), economies of scale (Beccalli *et al.*, 2015), resource utilization (Alhassan & Tetteh, 2017), cross-subsidization (Lepetit *et al.*, 2008), lower bank spread (Mujeri & Younus, 2009), market power (Ovi *et al.*, 2014) and improved financial performance (Sanya & Wolfe, 2011).

Customers are among the most important stakeholders of firms because they buy goods and services thus influencing their revenue (Roos *et al.*, 2012). Hence, a firm’s ability to generate adequate income depends on the strength and quality of its relationship with customers. Bontis and Fitz-enz (2002) posited that customer capital is the major driver of corporate performance. According to Khalique *et al.*, (2011), customer capital symbolizes relationships that a firm creates with its customers. Similarly, Bontis *et al.*, (2001) views customer capital is an organization’s knowledge embedded in marketing channels and customer relationship that are created in the course of business. The various tenets of customer capital include customer loyalty, customer satisfaction and market share, brand equity, customer retention, customer acquisition and strategic alliance (Shih *et al.*, 2010; Seetharaman *et al.*, 2004). Theoretically, customer capital is viewed as a driver of firm performance however extant literature shows mixed results.

### **2.3 Hypothesis Development**

Studies claim that diversified firm are more profitable relative to focused firms owing to synergies and economies of shared production, marketing, R&D and management (Sahni & Juhari, 2019; Piscitello, 2000). Similarly, Chandler (1962) states that, "...a successful firm is one that expands its operations geographically, then integrates vertically and finally diversifies its product offering". Thus, market leaders not diversify in their current markets, but also develop innovative products and services for new markets. However, all markets are not accessible to all kind of firms due to incompatibilities between market requirements and firms' resources profile (Penrose, 1959; Chatterjee & Wernerfelt, 1991). In view of this, it's logical to argue that banks desire to exploit their current market capabilities strongly influence the decision to diversify. Consistent with resource based view, this study conjectures that bank tend to diversify into industries or businesses that are related to the core activities that is, intermediation. The study hypothesis that;

H<sub>0</sub>: Customer capital has no significant effect on income diversification

H<sub>a</sub>: Customer capital has a significant effect on income diversification

## **3. Research Methodology**

### **3.1 Data and Sample**

Data was mainly secondary and quantitative and it was used extracted from published financial reports and Central Bank of Kenya supervisory reports for the period 2008- 2017. The population consisted of the 42 commercial banks in Kenya however, after data collection only 31 banks qualified for further analysis hence the dataset reduced to 310 year end observations. The period 2008-2017 was chosen for two reasons. First, due to advancements in regulatory regime and financial reporting data was available and consistent. Two, the Kenyan banking sector witnessed remarkable transformation with the entry of microfinance institution and introduction of mobile money technologies among other.

### **3.2 Measurement of Variables**

Income diversification was the endogenous variable in the study. The standard measure of this variable is the Herfindahl-Hirschman Index (Jouida, 2018; Stiroh & Rumble, 2006). HHI is computed as follows;

$$HHI = \left[ \left( \frac{NII}{NOI} \right)^2 + \left( \frac{NONI}{NOI} \right)^2 \right]$$

$$\text{Income Diversification (INDIV)} = [1 - HHI]$$

Where;

NII: Amount of net interest income

NONI: Amount of non-interest income

NOI: Net operating income

Previous studies used different proxies to measure customer capital which include market share, market growth, number of customers, customer loyalty and average customer size (Hung & Chang, 2006; Wang & Chang, 2005; Liebowitz & Suen, 2000; Chiu & Chen, 2017). This study measured customer capital as bank market share. Regulators measure bank's market shares as a composite of net assets, deposits, total shareholders' funds, number of loan accounts and number of deposit accounts. Thus, market share is a most comprehensive measure of banks' customer capital. Firm age has an impact on financial performance. This variable was measured as the number of years since incorporation of the firm (Lei & Chen, 2019). Keeping with previous researchers, this study measured firm size as the natural logarithm of total bank assets (Pucheta-Martínez *et al.*, 2019; Chiorazzo *et al.*, 2008). Large banks have more resources and opportunities for income diversification compared to smaller ones hence the study controlled for bank size which was measured as logarithm of total assets. Lending Strategy denoted as ratio of total loans to total assets (Edirisuriya *et al.*, 2015; Gurbuz *et al.*, 2013; Buch *et al.*, 2019).

### **3.3 Data Analysis**

Data was analyzed through inferential and descriptive statistics as shown in Table I, Table II and Table III. The data was summarized through descriptive statistics essentially; mean, standard deviation, minimum and maximum values. The nature and extent of relationships between the variables was measured through pairwise correlation. Statistically, correlation values  $r$ , lie between +1 and -1 and ' $r$ ' between 0.5 and +1 is considered strong and positive. The research hypothesis was tested through multiple regression analysis.

#### 4. Results and Discussion

**Table I: Summary Descriptive Statistics**

	Mean	Median	Maximum	Minimum	Std. Dev.	Obs
Income Diversification	0.401298	0.425412	0.512131	0.001361	0.091564	310
Customer Capital	3.089454	0.705	20.62	0.002	4.603822	310
Lending Strategy	0.57373	0.588134	0.863747	0.018694	0.121667	310
Firm Age	34.81935	23	121	1	29.22061	310
Firm Size	76637984	32101211	556000000	2289000	96249230	310

Source: Author, 2019

**Table II: Results for pairwise correlation analysis**

	INDIV	CC	FA	FS	LS
Income Diversification (INDIV)	1	.			
Customer Capital (CC)	.456**	1			
Firm Age (FA)	.177**	.503**	1		
Firm Size (FS)	.210**	.808**	.542**	1	
Lending Strategy (LS)	-0.104	-.118*	-0.056	-0.032	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Source: Author, 2019

**Table III: Results of regression analysis**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	3.515717	0.749625	4.689969	0.0000
Customer Capital	0.670820	0.069836	9.605657	0.0000
Firm Age	0.026186	0.103166	0.253827	0.7998
Firm Size	-0.529880	0.105683	-5.013850	0.0000
Lending Strategy	-0.229118	0.281319	-0.814443	0.4160
R-squared	0.267244			
Adjusted R-squared	0.257634			
S.E. of regression	0.554948			
F-statistic	27.80914			
Total Observations	310			

Source: Author, 2019

A summary of descriptive statistics is illustrated in Table I. Table II shows the output of pairwise correlation analysis while the results of regression analysis are displayed in Table III. Prior to regression analysis the

data was log transformed followed by panel data diagnostic tests namely unit root, heteroskedasticity and autocorrelation. The data was found suitable for further analysis. Results of Hausman test favoured random effect regression. From Table I, the average industry income diversification for the period 2008-2017 was 0.4 while the mean customer capital was 3.089%. Additionally, the table shows that average bank age is 34 years; the mean bank size is Ksh 76.6 billion while the average lending strategy was 0.5737. The results of the pairwise correlation are shown in Table II. The table illustrate that the customer capital and income diversification is positive and significant ( $r=0.456$ ,  $q<0.01$ ). The correlation between firm age and income diversification and significant ( $r=0.177$ ,  $q<0.01$ ); same case to firm size and income diversification ( $r=0.210$ ,  $q<0.01$ ) as well as firm size and firm age ( $r=0.542$   $q<0.01$ ). In addition, the correlation coefficients of the three control variables and customer capital was positive and significant for firm size ( $r=0.808$   $q<0.01$ ) and firm age ( $r=0.503$ ,  $q<0.01$ ) while that of lending strategy was negative ( $r=-0.118$ ) and insignificant at 1% and 5%. Table II further revealed that the relationship between bank lending strategy and income diversification was negative and insignificant at 1% and 5% ( $r=-0.104$ )

The main objective of the study was to establish the relationship between customer capital and income diversification. The findings in Table III shows that customer capital had a positive and significant effect on income diversification ( $\beta= 0.671$ ,  $q<0.05$ ). Additionally the study controlled for firm size, firm age and lending strategy. Firm age had a positive though statistically insignificant effect ( $\beta = 0.025$ ,  $q>0.05$ ), firm size had a negative effect ( $\beta = -0.529$ ,  $q<0.05$ ) while lending strategy also had a negative effect on income diversification ( $\beta = -0.229$ ,  $q>0.05$ ). Overall, the regression model predicted 24.95% variability in income diversification. These results suggest that the relationship created between a bank and its customer in the course of lending influence the success of nonlending activities.

Corporate image and brand reputation are likely to affect future product offerings. As reported by DeYoung and Rice (2004), banks keen on relationship banking are more likely to venture into nontraditional activities. Besides, Gourio and Rudanko (2014) argue that it is cheaper to offer new products and services to existing customer due to the already established customer loyalty and distribution systems. Moreover, with the outburst of integrative financial technologies banks are now capable of offering banking and non-banking services simultaneously, thus leading to higher switching cost. Therefore, banks should consider venturing into nontraditional activities so as to harness the amassed customer capital and ultimately improve financial performance.

## **5. Conclusion**

Considering the different forms of intangible resources, this study focused on customer capital and its effect on income diversification. These findings provide evidence that market knowledge resources support diversification thus validating the propositions of resource based view theory that firm resources create competitive advantage (Wernerfelt, 1984; Barney, 1991; Grant, 1991; Peteraf, 1993). The importance of customer capital cannot be more emphasized in a highly competitive market and firms are progressively realizing the role of customer relationship management. The success of bank diversification into non-lending activities hinges on the value of a firm's customer capital in particular to service organizations where competition is pegged on service quality and customer satisfaction.

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## **INCOME DIVERSIFICATION AND PERFORMANCE: SHOULD BANKS TRADE?**

**Peter Nderitu GITHAIGA**

Moi University, Po BOX 3900-30100 Eldoret, Kenya

**Josephat Cheboi YEGON**

Moi University, Po BOX 3900-30100 Eldoret, Kenya

**Joyce Kimosop KOMEN**

Moi University, Po BOX 3900-30100 Eldoret, Kenya

### **Abstract**

Unprecedented growth in financial innovations, changing customers' expectations, competition from non-banking entities and regulatory pressure have distorted interest income stream. Thus, banks are now searching for new ways of income generation to cushion themselves against dwindling interest income and as a survival strategy. Proponents of portfolio theory conjecture that income diversification reduces income volatility and increase the profitability. It's from this background the study sought to investigate the effect of income diversification on performance of Kenyan commercial banks.

Using 310 observations drawn from a sample of 31 commercial banks and panel data for the period 2008–2017, the study found that income diversification has a positive and significant effect on bank performance. Therefore, commercial banks are advised to consider investing in non-lending activities to better their financial performance. In view of this, the study has implications for bank regulators, scholars and practitioners

**Key words:** Income diversification, non-interest income, performance, Herfindahl-Hirschman Index

### **1. Introduction**

The banking sector is important to practitioners and the regulator due to its influence on macro-economic factors such as economic growth (Tongurai & Vithessonthi, 2018; Balcilar *et al.*, 2018), entrepreneurship (Toms & Wright 2019, Cai *et al.*, 2018; Khan & Anuar, 2018), resource allocation (Beck *et al.*, 2007; Dwyer,

2018), poverty alleviation (Honohan, 2004; Abdin, 2016; Sikod & Baye, 2015), education (Sun & Yannelis, 2016; Goksu & Goksu, 2015) and agriculture (Anetor *et al.*, 2016; Bustos *et al.*, 2016). Moreover, monetary authorities transmit macroeconomic policies through the financial system rendering the banking sector one of the highly regulated sector (Valla *et al.*, 2006). Thus, an underperforming banking sector derails economic growth through reduced capital investment on production of goods and services (Sufian & Chong, 2008; Dietrich & Wanzenried, 2014).

Studies show that the global banking sector continues to grapple with numerous performance impediments ranging from rising non-performing loans, stringent regulations to technological revolution (Gololo, 2018; Dimitrios & Mike, 2016; Psillaki & Mamatzakis, 2017). According to IMF reports (2007-2017), the sector reported an insignificant growth in the last decade as evidenced by the average return on asset for example U.S. (0.2%, 2007; 0.3%, 2017), Japan (0.3%, 2007; 0.2%, 2017), China (0.6%, 2007; 1.0%, 2017), South Africa (1.6%, 2007; 1.7%, 2017), Ghana (3.2%, 2007; 4.3%, 2017) and Kenya (3.9%, 2007; 3.2%, 2017). Additionally, Kenya witnessed the collapse of three banks namely Dubai Bank, Imperial Bank and Chase Bank, because of corporate governance mishaps, insolvency and overly non-performing loans (CBK, 2017).

Researchers have singled out non-performing loans as a major cause of banks failure (Laryea *et al.*, 2016; Waweru & Kalani, 2009; Fofack, 2005; Mwege, 2009; Zhang *et al.*, 2016). During the period 2007-2017 the ratio of non-performing loans to gross loans and advances stood at U.S. (0.5%, 2007; 1.1 %, 2017), Japan (1.4 %, 2007; 1.2%, 2017), China (1.2%, 2007; 0.7, 2017), South Africa (3.9 % , 2007; 3.8 % ,2017), Ghana (7.7%, 2007; 21.6 %, 2017) and Kenya (16.2 % ,2007; 9.2% ,2017) (IMF 2007; 2017). Between 1986 and 1998, 37 banks collapsed in Kenya due to non-performing loans (Waweru & Kalani, 2009; Mwege, 2009). Taking into account the high level of non-performing loans and the average return on assets it is evident that the lending business is ailing and with a bleak future hence banks ought to consider engaging in nonlending activities for survival.

In Kenya, the situation has been exacerbated by the enactment of interest capping law that limits lending rates to 4 per cent above the central bank base lending rate (Banking Act (Amendment) 2016). Olaka (2017) noted that interest capping created a fertile ground for informal lending besides a noticeable decline in individual lending that is likely to crowd out credit to private sector. Researcher claim that interest capping and competition distorts interest income and banks must now shift focus on new income generating activities away from financial intermediation for survival (Ferrari *et al.*, 2018; Mohamed & Bett, 2018; Ng'ang'a, 2019). Moreover, Kenyan banks have lost a significant size of their business to telecommunication companies, mainly Safaricom Ltd, engaging in money transfers and mobile loans in

addition to mobile loan apps (Paelo, 2014; Mudavadi & Weber, 2013). Against this background the study sought to examine the effect of income diversification on performance in the Kenyan banking sector. Furthermore, most of the previous studies focused on developed and emerging economies (Abedifar *et al.*, 2014; Chen *et al.*, 2017; Hahm, 2008)

## **2. Literature Review and Theoretical Foundation**

### ***2.1 Income Diversification***

Income diversification refers to increasing the share of fee, net trading profits and other noninterest income within net operating income of a bank (Gurbuz *et al.*, 2013). Moreover, Ebrahim and Hasan (2008) view income diversification as an expansion into new income earning financial services save for traditional intermediation services. In principle, income diversification is a shift from lending activities towards non-lending activities such as investment banking, trading and insurance (Busch & Kick, 2009).

According to Mujeri and Younus (2009), banks can widen and stabilize their income base by engaging in advisory, asset management services, and sale of insurance and mutual fund products, payment products, electronic bill payments and sale of credit cards. Borrowing from portfolio theory, non-interest income and interest income are uncorrelated thus, income diversification leads to income stability. DeYoung and Rice (2004) found that non-interest income accounted for approximately 40% of the banks total operating income.

### ***2.2 Theoretical Foundation***

The theoretical foundation of income diversification is Markowitz (1952) Modern Portfolio Theory. The theory postulates that banks can reduce income volatility and improve overall financial performance by engaging in a range of income generating activities (Matthies, 2014). Banks diversify their income by venturing into non-lending activities such as investment banking, advisory, brokerage and underwriting (Saunders *et al.*, 2016).

Moreover, Sanya and Wolfe (2011) claim that income diversification absorbs the impact of information asymmetry through cross selling while cushioning banks against cyclical variation in interest revenue. Similarly, Khanna and Tice (2001) opine that diversified firms make optimal investment decisions unlike focused firms. Besides, Williamson (1986) opines that by holding a diversified portfolio of assets, a bank is able to cushion depositors from any possible losses arising from delegated monitoring. Additionally,

Winton (1997) posits that in a highly competitive market, diversification improves the quality of service banks offer their customer.

According to Chiorazzo *et al* (2008), income diversification leads to economies of scale and scope owing to shared production in delivery of related financial. Landskroner *et al.*, (2005) infer that income diversification improves bank revenue and operational efficiency especially where the scale and scope of operations expands. Consistent with portfolio theory, it can be argued that income diversification contribute to stable revenues and greater firm longevity (Fang & Lelyveld, 2014; Schoenmaker & Wagner, 2011; Berger *et al.*, 2010). Castaldi and Giarratana (2014) and Matsusaka (2001) assert that diversification leverages utilization and preservation of firms' knowledge resources. Implying that income diversification is a strategy through which banks create value from intellectual capital for competitive advantage.

### ***2.3 Income Diversification and Firm performance***

Previous studies show that firms pursue income diversification in order to accomplish varied strategic objectives such as internal capital market efficiency (Shih *et al.*, 2018), competitive advantage (Montgomery & Wernerfelt, 1988), shareholder value (Bernardo & Chowdhry, 2002), managerial entrenchment (Cheng & Keung, 2018), economies of scale (Beccalli *et al.*, 2015), resource utilization (Alhassan & Tetteh, 2017), cross-subsidization (Lepetit *et al.*, 2008), lower bank spread (Mujeri & Younus, 2009), market power (Ovi *et al.*, 2014) and enhanced performance (Sanya & Wolfe, 2011).

However, through intermediation, banks earn interest revenue by attracting time and demand deposits from households and firms then repackaging such deposits into loans and other forms of advances (Craigwell & Maxwell, 2009). Studies show that competition, unprecedented financial innovations and regulatory pressure have adversely affected interest income forcing banks to engaging in nonlending activities for profit and survival (DeYoung & Rice, 2004).

Non-interest income consists of fee and non-fee incomes. Activities that generate fees income include loan processing, bill discounting, letters of credit and guarantee, account keeping, service and management (Lepetit *et al.*, 2008; DeYoung & Roland, 2001). While non-fee income arises from foreign exchange transactions, investment in government and corporate securities, rental premises owned by the bank and gains from the sale of premises (Rushdi & Tennant, 2003).

In spite of the unprecedented appetite for non-lending activities, the debate on whether income diversification improves financial performance continues to widen. Some studies claim that income diversification improve performance (Jen Huang & Cheng 2006), reduces risk exposure (Saunders *et al.*,

2016, Abedifar *et al.*, 2014; Calmès & Théoret, 2015), lowers banks spread (Mujeri & Younus, 2009; Kannan *et al.*, 2001), increases market power (Ovi *et al.*, 2014) and enhances firm productivity (Alhassan & Tetteh, 2017)

Conversely, there are studies claiming that income diversification reduces profitability besides exposing banks to income volatility (DeYoung & Roland, 2001; Delpachitra & Lester 2013; Chen *et al.*, 2017; Demirgüç-Kunt & Huizinga, 2009). Surprisingly, there exist studies arguing that income diversification has no significant effect on bank performance hence banks should focus on traditional activities (Hahm, 2008).

There are several explanations for the endless debate around income diversification and bank performance causality. First, interest income is earned through relationship based activities with high switching cost compared to fee-based transactions which occasionally are one-off hence the benefits of diversification are short-term (DeYoung & Rice, 2003). Second, nonlending activities are likely to impact adversely on banks operating and financial leverage thus lessening diversification gains (DeYoung & Rice, 2003). Third, through cross-subsidization and cross selling the effect of income diversification might be invisible (Lepetit *et al.*, 2008). Fourth, income diversification is likely to breed lazy banks (Kumhof & Tanner, 2005; Kumar & Hauner, 2006; Hauner, 2008). Based on empirical literature and portfolio theory the study's hypotheses are derived as follows,

*H<sub>0</sub>: Income Diversification has no significant effect on performance*

*H<sub>a</sub>: Income Diversification has a significant effect on performance*

### **3. Research Design**

According to Zikmund *et al.*, (2013) research design denotes methods and procedures for collecting and analyzing the needed information comprising of sampling methodologies, data collection techniques, data analysis and cost schedules. This research is both longitudinal and explanatory. A longitudinal study uses continuous or repeated measures to follow specific individuals over an extended period of time (Caruana, 2017). In this study, the variables will be examined over the period between 2008 and 2017. Saunders *et al.*, (2011) affirms that explanatory studies seek to establish causal relationship between variables with main emphasis being to study a problem in order to explain the relationship between variables.

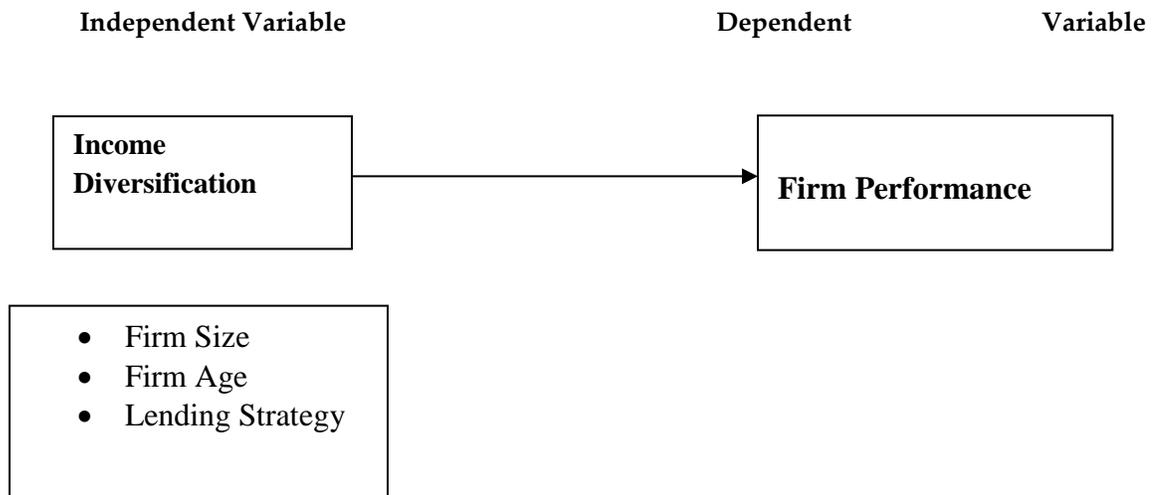
#### **3.1 Study Population**

The study population comprised of 42 commercial banks and 1 mortgage finance company (CBK, 2016). The inclusion and exclusion criterion was guided by whether or not the bank was in operation between 2008 and 2017. Only 31 banks qualified for further analysis. The data collected was secondary and

quantitative in nature. Data was analyzed through descriptive and inferential statistics. Specifically, the data was summarized through mean and standard deviations. Correlation analysis was used to establish the nature and magnitude of the relationship between while multiple regression analysis was used to test the research hypothesis.

### **3.2 Measurement of Variables**

The study had five variables namely; the dependent variable (firm performance), independent variable (income diversification) and control variable (firm size, firm age and lending strategy) as illustrated by a conceptual framework below



*Fig 1: Conceptual framework (Source Authors; 2019)*

Financial performance was measured as return on assets, which is the ratio of firm’s net earnings to total assets. ROA shows the extent to which a firm is utilizing its assets. A high ROA means that the firm is utilizing its assets efficiently and for value (Van Vu *et al.*, 2018; Juma & Atheru, 2018; Eklof *et al.*, 2018). ROA is computed as the ratio of net income/ profit to total assets. Banks’ operating income comprise of interest income generated from lending activities and non-interest income earned from nonlending activities. The standard measure of income diversification is Herfindahl-Hirschman Index (Jouida, 2018; Olarewaju, 2018; Nepali, 2018; Batool & Jamil, 2019; Brahmana *et al.*, 2018). The study adopted Herfindahl Hirschman Index (HHI) as the measure for income diversification. HHI is computed as follows;

$$HHI= \{(NII/NOI)^2 + (NONI/NOI)^2\}$$

$$\text{Income Diversification (INDIV)} = \{1 - \text{HHI}\}$$

Where;

NII: Amount of net interest income

NONII: Amount of non-interest income

NOI: Net operating income

HHI varies between 0 and 1.00. HHI of 0.50 shows average income diversification while HHI closer to 1.00 represents the highest level of income diversification. As HHI increases the bank becomes more diversified. Hence the lower the value of HHI the more concentrated the firm is.

The study controlled for factors that are likely to affect the endogenous variable to rule out alternative explanation and enhance the predictive power of the exogenous variable and the mediator. Specifically, the control variable comprised of;

- i) Firm age has an impact on financial performance. This variable was measured as the number of years since incorporation of the firm. (Lei & Chen, 2019; Ilaboya and Ohiokha, 2016)

$$\text{Firm Age (FA)} = \text{Number of years since incorporation}$$

- ii) Firm size measured as natural logarithm of total bank assets (Wan & Zhang, 2018; Pucheta-Martínez *et al.*, 2019; Chiorazzo *et al.*, 2008). Large banks have more resources and opportunities for diversification compared to smaller banks.

$$\text{Firm Size (FS)} = \text{Logarithm Total Assets}$$

- iii) Lending Strategy denoted as ratio of total loans to total assets (Edirisuriya *et al.*, 2015; Gurbuz *et al.*, 2013; Buch *et al.*, 2019). This variable controls for the effects of lending strategy on risk-adjusted bank performance

### **3.3 Research model**

The study used panel data for the period between 2008 and 2017. Panel data consist of observations on  $n$  and  $t$  years. The relationship between variables was examined through regression analysis as shown below;

$$FP_{it} = \beta_0 + \beta_1 \text{INDIV}_{it} + \beta_2 \text{FA}_{it} + \beta_3 \text{FS}_{it} + \beta_4 \text{LS}_{it} + \varepsilon_{it}$$

Where;

FP= Firm Performance

INDIV= Income Diversification

FA= Firm Age

FS= Firm Size  
 LS, = Lending Strategy  
 $\varepsilon_{it}$  = Error term

#### 4. Results and Discussion

**Table I: Summary Descriptive Statistics of Research Variable**

Variable	Obs	Mean	Min	Max	Std. Dev
Firm Performance	310	0.03	0.00	0.10	0.018354
INDIV	310	0.40	0.00	0.51	0.0915641
Lending Strategy	310	0.57	0.02	0.86	0.1216674
Firm Size	310	76600000000	2289000000	556000000000	96200000000
Firm Age	310	34.82	1.00	121.00	29.22061

Source: Author 2019

**Table II: Results of Correlation Analysis**

	FP	INDIV	FA	FS	LS
Firm Performance (FP)	1				
Income Diversification(INDV)	.699**	1			
Firm Age (FA)	.294**	.177**	1		
Firm Size(FS)	.372**	.210**	.542**	1	
Lending Strategy (LS)	-.122*	-0.104	-0.056	-0.032	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Source: Author 2019

**Table III: Results of Regression Analysis**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-2.123120	0.305680	-6.945559	0.0000
Income Diversification	0.332326	0.020073	16.55582	0.0000
Firm Age	-0.014009	0.065723	-0.213151	0.8314
Firm Size	0.124265	0.046308	2.683413	0.0077
Lending Strategy	-0.326297	0.126677	-2.575827	0.0105
R-squared	0.498306			
Adjusted R-squared	0.491726			
S.E. of regression	0.217604			
F-statistic	75.73509			

Prob(F-statistic)	0.000000
Number of Observations	310

*Source: Researcher, 2019*

Table I illustrates summary statistics for the research variables. Table II shows the results of pairwise correlation analysis while Table III shows the results of the random effect regression analysis. Before analysis the data was log transformed then tested for unit root, heteroskedasticity and autocorrelation and it was found suitable for regression analysis. The results of the Hausman test favoured random effect regression. Table I indicates that the average industry return on asset for the period 2008-2017 was 3%. Additionally, the table shows that average bank age is 34 years and the mean bank size is Ksh 76.6 billion. Further, the table shows that the average income diversification was 0.40 which can be interpreted as an intermediate level of income diversification.

The results of the pairwise correlation are shown in Table II. The table illustrate that the income diversification and performance is positive and significant ( $r=0.699$ ,  $q<0.01$ ). The correlation between firm age and firm performance and significant ( $r=0.294$ ,  $q<0.01$ ); same case to firm size and firm performance ( $r=0.372$ ,  $q<0.01$ ) as well as firm size and firm age ( $r=0.542$   $q<0.01$ ). However, the correlation of the two control variables, firm size and firm age, with process capital was positive though nonsignificant at 1% and 5%. Table II further revealed that the relationship between bank lending strategy and performance was negative and significant at 1% ( $r=-0.122$ ,  $q<0.01$ )

The main objective of this study was to examine the effect of income diversification firm performance nexus. The regression results showed that the relationship was positive and statistically significant ( $R^2 = 0.49$ ,  $\beta= 0.332$ ,  $q <0.05$ ). As a result our null hypothesis that; income diversification has no significant effect on performance is rejected and the alternative hypothesis accepted. One percent change in income diversification lead to 33.2 % change in bank performance. Similarly, firm size had a positive and significant effect on performance ( $\beta= 0.124$ ,  $q <0.05$ ). Conversely, the findings indicated that firm age ( $\beta= -0.014$ ,  $q > 0.05$ ) and lending strategy ( $\beta= -0.326$ ,  $q < 0.05$ ) had an adverse effect on performance. The overall the model predicts 49 % change in performance. Consistent with modern portfolio theory, the study argues that income diversification improves banks financial performance considering banks are facing declining interest income.

These findings are consistent with previous studies by Carroll and Stater (2008), Elsas *et al.*, (2006), Chiorazzo *et al.*, (2008) and Edirisuriya *et al.*, (2015). Income diversification enables banks to broaden revenues streams thus leading to income stability and organizational longevity. Income diversification is associated with efficient internal capital markets, economies of scale, cross selling and cross subsidization that improve firm financial performance.

Accordingly, in an era of interest capping, high competition from non-banking entities and unprecedented growth in financial innovation, banks should consider diversifying into nonlending businesses for competitive advantage and long-term profitability.

## 5. Conclusion

The study developed a conceptual framework through extensive literature review that also aided formulation of research hypotheses. The focus was on income diversification and bank performance. The unit of analysis was commercial banks in Kenya. The study extracted data from annual financial data from the respective banks and Central Bank of Kenya annual supervisory reports. The findings of this study revealed that income diversification improves firm performance. Nonetheless, the extent banks can engage in non-lending activities is usually limited under banking laws and regulations. Specifically, banks are restricted to activities that either complement or are incidental to lending. Therefore, the study argues that such limit the impact of income diversification on performance. The study recommends that regulatory authorities should relax such regulations to allow banks engage in a wider scope of activities to exploit intellectual capital and ultimately improved performance. Alternatively, the regulator can impose diversification ceilings that are sufficient to cushion banks from interest income volatility. Due to unavailability of data, noninterest income was measured in aggregate form thus prospective researcher can consider decomposing non-interest income into its constituent elements.

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**CHALLENGES FACING THE PERFORMANCE OF CATHOLIC HEALTHCARE  
FACILITIES IN TANZANIA: INSIGHTS FROM TURIANI AND MIKUMI  
HOSPITALS IN MOROGORO**

**Fr. Francis Kunambi Kolongo**

Jordan University College

**Abstract**

A critical challenge in today's dynamic and turbulent organizations is to retain capable, competent, and skilled workforce. This reality has an enormous impact on healthcare institutions which undergo a catalogue of challenges in health service delivery. The ultimate objective of this study was to assess challenges facing the performance of Catholic healthcare facilities in Tanzania in three dimensions; human resources, leadership and managing of financial resources.

A mixed method approach and case study research design were undertaken to assess the challenges facing the performance of Catholic healthcare facilities in Tanzania. Turiani and Mikumi Hospitals in Morogoro Region were taken as the empirical study areas of the research. A total of 121 participants out of 123 (98%) were involved in the study. Self-administered structured questionnaires, interview, observation and document analysis were used as tools for collecting quantitative and qualitative data. Descriptive and inferential statistics were employed through the use of IBM SPSS Statistics v.20. The research instruments had an excellent internal consistency with Cronbach's alpha of 0.962. The factor analysis was suitable and appropriate with KMO test of 0.865 and Bartlett's test for Sphericity of ( $P < 0.001$ ). The findings reveal that, Catholic healthcare is experiencing challenges arising from deficiency in managing human resource. These challenges include weak leadership; inadequacy in managing financial resource, divided loyalty, lack of engagement, and a decline in both commitment and enthusiasm for work. These challenges have stalled health care delivery and have gradually weakened performance in health services delivery. In order to improve this, the leadership, management team and governing board of the hospitals should work closely with employees of Turiani and Mikumi hospitals to re-align themselves with the hospitals' vision, mission and goals to rescue the future of Catholic healthcare. The Tanzania Catholic Church Health Policy of June, 2008 is hereby highly recommended as a yardstick for continuous improvement.

**Key words:** Financial resources, challenges, hospitals, Morogoro

## **1.0 Background of the Problem**

For centuries, the Catholic Church has been a major social actor in provision of healthcare services. A convergence of powerful forces at the beginning of the twenty first century severely threatened the future of Catholic healthcare (White, 2013). Catholic healthcare facilities are obliged to carry out traditional values of serving the poor and respecting the sanctity of life, while also remaining modern, efficient, and compliant with regulatory bodies. Above all, Catholic healthcare providers simultaneously face powerful pressures toward organizational conformity in an increasingly secular world (Cochran & White, 2002). Experience in Tanzania reveals that these challenges are not uncommon (Pheng & Rui, 2016).

Observation and experience reveals that, previously when Catholic healthcare facilities were under missionary founders, the performance of Catholic healthcare facilities in Tanzania was unmatched and because of their great attitude of empathy and concern for people, loyalty and respect for leaders, unshakable healthcare ethics, an affinity for virtue, humility and ability to admit mistakes (Berlucchi, 2011). At this point in time, the Church unwaveringly offered its basic health services on a charitable basis and not to accumulate financial gain.

According to Berlucchi (2011), current experience shows that Catholic healthcare is under-performing and failing to achieve basic healthcare milestones. This has been in one way or another instigated by putting less emphasis on personal and professional development and fundamental healthcare goals. Catholic healthcare is highly dependent on a number of organs and makes insignificant efforts to be initiative. At the same time, there is inadequate management of personnel who provide healthcare services, a fact which lowers the quality of services provided and demotivates enthusiastic healthcare personnel.(Ibid).

Most studies suggest that, a conducive working environment and living conditions, management and supervision, career advancement and training, keeping staff healthy, and improving salaries and benefits are significant to secure employees and augment performance (Aklilu, 2012). Conversely, loyalty, commitment, engagement, and enthusiasm of the workforce as well as the quality and performance of Catholic healthcare is gradually deteriorating, causing high employee attrition and demoralization. Likewise, "Opinion surveys continue to reveal that health employee loyalty, commitment and engagement are decreasing" (Dye, 2010). The purpose of this study was therefore to assess and determine challenges facing the performance of Catholic healthcare facilities in the three dimensions of human resource, leadership, and financial resource. The study also proposes relevant and practical solutions to counteract the above-mentioned challenges.

## **2.0 Literature Review**

### **2.1 Empirical Literature Review**

Most of the existing literature on Catholic healthcare are based only on anecdotal and theological discussions of how Catholic healthcare may be different. Only few studies have managed to compare non-Catholic facilities with those that are Catholic, mainly in provision of services. The comparison is rooted in specific elements like stewardship of resources, access to vulnerable populations, compassionate care and outpatient services (White et al., 2010). According to Kutney-Lee et al., (2014) "How Catholic healthcare compete in a growing market-oriented hospital environment remains a significant challenge, and one in which there is little empirical data to provide evidence of outcomes." A study by Thomson Reuters conducted in 255 hospital systems in United States involving four ownership categories (Catholic, other churches, investor-owned, not-for-profit) found that, Catholic operated hospitals had significant and better indicators of quality performance than investor owned institutions. Other church-owned, non-Catholic, and not-for-profit facilities lagged behind Catholic hospitals as well (Foster, 2010). The findings of the Reuters study suggest that Catholic Hospital leaders have been successful in aligning the management of Catholic hospitals with their specific mission of serving compressive healthcare to vulnerable populations. However, the Reuters study provides very limited data from which administrators can base their decisions (Foster, 2010).

A research conducted by Kutney-Lee et al (2014) at the University of Pennsylvania, Philadelphia titled "Distinct enough? A National Examination of Catholic Hospital Affiliation and Patient Perceptions of Care" aimed to test the following hypothesis: "Higher percentages of patients treated in Catholic hospitals will report more favorable experiences with their care—as measured by the HCAHPS survey—compared with patients treated in non-Catholic hospitals." "Findings revealed that patients treated in Catholic hospitals appear to rate their hospital experience similar to patients treated in non-Catholic hospitals. Catholic hospitals maintain a very slight advantage above their non-Catholic peers on five HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) measures related to nurse communication, receipt of discharge information, quietness of the room at night, overall rating, and recommendation of the hospital; yet, these differences were minimal".

Another study was guided by the Donabedian (1988) framework for assessing the quality of health care and the extant literature on Catholic hospital outcomes in the United States as well as patient satisfaction.

The Donabedian model suggests a linear relationship between three key elements: Structure (capital-intensive aspects of a health system, including Catholic affiliation), Process (the administration of care itself) and Outcomes (discrete changes in a patient's health status, including patient satisfaction). Prior research has shown that several structural aspects of a hospital are associated with patient satisfaction ratings (Kutney-Lee, et al., 2009). The Donabedian model suggests that these relationships are a result of differences in process or the actual delivery of healthcare. Catholic healthcare literature cites multiple reasons why patients might be more satisfied when they are admitted for a hospital stay, including the delivery of spiritually based and compassionate healthcare (Keehan, 2012; Timm, 2012).

## **2.2 Research Gap**

The theoretical and empirical review conducted shows that, although a great deal is known about healthcare organizational characteristics, less is known about how Catholic healthcare organizations differ empirically from other organizational ownership forms. (White, 2000, Kutney-Lee et al, 2014). In Tanzania, Catholic healthcare plays a critical role in the provision of healthcare yet the empirical evidence in these institutions is practically very minimal in literatures. Literature review conducted shows that little attempt has been made to unveil the challenges facing the performance of Catholic healthcare facilities in Africa, particularly in Tanzania whereby one third of healthcare services is covered by the Catholic Church. Therefore, this has necessitated a need to carry out research in order to assess the challenges facing the performance of Catholic healthcare facilities in Tanzania specifically in Turiani and Mikumi hospitals.

## **3.0 Research Methodology**

A mixed method approach and case study research design were undertaken to assess the challenges facing the performance of Catholic healthcare facilities in Tanzania. The study zeroed down on Turiani and Mikumi Hospitals in Morogoro Region as case study. A total of 121 participants out of 123 (98%) were involved in the study. Self-administered structured questionnaires, interview, observation and document analysis were used as tools for collecting quantitative and qualitative data. Descriptive and inferential statistics were employed through the use of IBM SPSS Statistics v.20. The research instruments had an excellent internal consistency with Cronbach's alpha of 0.962. The factor analysis was suitable and appropriate with KMO test of 0.865 and Bartlett's test for Sphericity of ( $P < 0.001$ ).

## 4.0 Results

### 4.1 Demographic Characteristics

The general characteristics of respondents in the study area were as follows:

**Table 4.1: Respondents Demographic Characteristics**

<b>Variable</b>	<b>Frequency(n=121)</b>	<b>Percent (%)</b>
<b>Gender of Respondents</b>		
Male	58	47.9
Female	63	52.1
<b>Age of Respondents</b>		
18-24	3	2.5
25-34	18	14.9
35-44	32	26.4
45-55	40	33.1
Over 55	28	23.1
<b>Education of Respondents</b>		
Secondary Level	13	10.7
Certificate	50	41.3
Diploma	31	25.6
Degree	15	12.4
Masters	8	6.6
Other	4	3.3
<b>Marital Status of Respondents</b>		
Married		
Single	66	54.5
Divorced	37	30.6
Widowed	3	2.5
Separated	8	6.6
	7	5.8
<b>Type of Employment</b>	79	65.3
Clinical staff	42	34.7
Non-Clinical staff		
<b>Name of Hospital</b>		
Turiani	66	54.5
Mikumi	55	45.5
<b>Duration of Employment</b>		
1-3 Years	6	5.0
4-6 Years	29	24.0
7-10 Years	51	42.1
Over 10 Years	35	28.9

#### Field data (2019)

There were more females (52.1%) than males who covered 47.9% of the respondents as depicted by Table 1. Majority of the respondents were between 45-55 years covering 33.1% of the respondents while 26.4% of the respondents were between 35-44 years. 14.9% of the respondents were between 25-35 years while 23.1%

of the respondents were 55 years and above. Most of the respondents were married (54.5%) while the rest of the respondents (30.6%) were single. The number of clinical staff surpassed the number of non-clinical staff by 65.3% which implies that majority of the respondents were professional health workers (Table 4.1)

## **4.2 Main Findings of the Study**

In this section, the analysis and findings of the study is presented based on the results extracted from the IBM SPSS v20 and in light of literature review. The section shows how the four (4) variables and the twenty eight (28) indicators were explored. The percentage ratings of the respondents are presented in the tables and figures below.

### **4.2.1 Challenges of Managing Human Resource**

This part intends to assess the challenges that Catholic healthcare facilities are confronted with when managing human resource and attempting to retain their workforce. Data in Table 4.2 presents the results of the respondents as follows:

100% of the respondents disagreed that their hospitals had adequate staff in all key positions. Likewise, 96.7% of the respondents disagreed that hospitals recruitment and hiring policies are just and fair. Furthermore, 89.2% of respondents disagreed that hospitals support staff training and development. Equally, 99.1% of the respondents disagreed that compensation is adequate for attracting and retaining key staff. Almost 94.3% of the respondents disagreed that promotions are based primarily on performance and competence. Likewise, 95.9% of the respondents disagreed that staffs are adequate and considered competent to provide quality healthcare. On the other hand, 93.4% of the respondents disagreed that hospitals provide welfare services for employees' wellbeing.

**Table 4.2: Summative response score on human resource challenges**

<b>Human Resource items Indicators – (%)</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Sum Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Sum Agree</b>
Adequate staff	85.1	14.9	<b>100</b>	0	0	0	<b>0</b>
Recruitment	53.7	43	<b>96.7</b>	3.3	0	0	<b>0</b>
Training	53.7	35.5	<b>89.2</b>	9.1	1.7	0	<b>1.7</b>
Compensation	70.2	28.9	<b>99.1</b>	0.9	0	0	<b>0</b>
Promotions	57.9	36.4	<b>94.3</b>	5.7	0	0	<b>0</b>
Competency	61.2	34.7	<b>95.9</b>	4.1	0	0	<b>0</b>
Employees wellbeing	63.6	29.8	<b>93.4</b>	6.6	0	0	<b>0</b>

These findings are also supported by interviews conducted in the course of the study. One of the key informants said:

*“Inadequate staffing is a major challenge. This has left a huge burden on the available staff members who end up carrying out duties that overwhelm their capacity. As a result, there is a heavy workload leading to staff burn-out and dissatisfaction generally. Medical personnel are also under-paid and when they are paid, salaries and benefits are unduly delayed. Managing employees ultimately becomes cumbersome given these shortcomings.”*

In addition to the comments by the foregoing respondent, other respondents had similar sentiments. One of the respondents commented that:

*“In my opinion, if you aspire to be promoted then don’t work for religious organizations particularly church-owned hospitals. In such institutions, promotions are never forthcoming and minimal or no efforts are made towards employee career development. This makes it hard for employees to acquire new skills and they consequently remain challenged career-wise.”*

In the same tone, another respondent echoed a similar opinion by stating that:

*“Recruitment and hiring policies have been overtaken by nepotism, favoritism, and cronyism. This in itself not only creates a negative perception towards the institutional leadership but also waters down the integrity and legitimacy of the leaders.”*

#### **4.2.2 Leadership Challenges**

Data in Table 4.3 presents the opinion of respondents. Practically, 100% of the respondents disagreed that their hospitals had leaders that the organization could depend on for advancement. Likewise, 93.4% of the respondents disagreed that leaders had problem solving skills. Almost 94.2% of the respondents disagreed that there is a shared plan among members to achieve established goals. Moreover, 95% of the respondents disagreed that hospitals have clear leadership structures and decision making processes. Also, the respondents disagreed that the manner of operating governing bodies and hospital management teams was satisfactory. Percentage-wise, 98.3% and 93.4% of the respondents respectively disagreed with the mode of running governing bodies and hospital management teams. Additionally, 95.9% of the respondents disagreed on the existence of a positive organizational climate within hospitals.

**Table 4.3: Summative response score on Leadership challenges**

<b>Leadership items Indicators – (%)</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Sum Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Sum Agree</b>
Leaders	76.9	23.1	<b>100</b>	0	0	0	<b>0</b>
Problem solving	51.2	42.1	<b>93.4</b>	5.8	0.8	0	<b>0.8</b>
Shared plan	52.1	42.1	<b>94.2</b>	5.0	0.8	0	<b>0.8</b>
Decision making	55.4	39.7	<b>95.0</b>	0.5	0	0	<b>0</b>
Governance	67.8	30.6	<b>98.3</b>	1.7	0	0	<b>0</b>
Management	52.9	40.5	<b>93.4</b>	5.0	1.7	0	<b>1.7</b>
Organizational climate	61.2	34.7	<b>95.9</b>	4.1	0	0	<b>0</b>

**Field data (2019)**

**These findings are in line with information acquired during interviews whereby one of the respondents’ mentioned that:**

*“In this hospital the leaders are unsupportive and also lack mentorship skills. Most health personnel secretly wish to work in institutions with better leadership. There is always no solution to our problems because we don’t have leaders who are ready and skilled to tackle these problems.”*

**Another interviewee also lamented that:**

*“Decision making in this hospital is quite perturbing. Decisions take too long to be made, the management is ineffective, and there is a general lack of efficiency in carrying out various tasks. These*

*challenges are eventually affecting the quality of health care delivered. It is doubtful if the governing body of this hospital understands its roles and responsibilities.”*

**Another respondent also voiced his dissatisfaction with the hospital management by stating that:**

*“In this hospital the management team is weak and lacks managerial skills. This has made employees’ lives not only difficult but also unbearable. The management team is continuously failing to carry out its role and lacks transparency. This in one way or another has made the hospital an unpleasant place to work in.”*

#### **4.2.3 Challenges in Managing Financial Resources**

Data in Table 4.4 highlights the responses from the respondents. 100% of the respondents disagreed that the hospitals have adequate operational funds and revenues. 89.3% of the respondents disagreed that competitive salaries are not available because of high hospital expenditures. Almost 92.6% of the respondents disagreed that hospital infrastructures are well secured and maintained. Likewise, 97.5% of the respondents disagreed that the hospitals had enough technological equipment for health services delivery. Moreover, 97.5% of the respondents disagreed that the hospitals manage to purchase medicament resources regularly.

**Table 4.4: Summative response score on financial resource challenges**

<b>Financial Resources items Indicators – (%)</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Sum Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Sum Agree</b>
Funds	81	19	<b>100</b>	0	0	0	<b>0</b>
Revenues	64.5	35.5	<b>100</b>	0	0	0	<b>0</b>
Expenditures	55.4	33.9	<b>89.3</b>	8.2	2.5	0	<b>2.5</b>
Infrastructures	57	35.5	<b>92.6</b>	6.6	0.8	0	<b>0.8</b>
Equipment	56.2	41.3	<b>97.5</b>	2.5	0	0	<b>0</b>
Medicaments	55.4	42.1	<b>97.5</b>	2.5	0	0	<b>0</b>
Resources	64.5	30.6	<b>95</b>	5	0	0	<b>0</b>

Field data (2019)

**This is also supported by responses during interviews whereby an interviewee commented that:**

*“The challenges faced in this hospital are directly linked to inadequacy of funds to meet major recurrent and capital expenditures. Funds are usually diverted due to weaknesses in financial policies. Planning and managing the hospital budget comes with several complications since accounting procedures and financial management are mishandled. The governing body has also failed to monitor financial matters within the hospital.”*

**Another interviewee cemented the above comments by asserting that:**

*“Due to financial constraints, hospital infrastructure and equipment are not adequately maintained. Nowadays due to lack of medicine at the hospital, patients are directed to buy medicine from pharmacies outside the hospital premises.”*

#### **4.3 Multiple Linear Regression Analysis**

A multiple linear regression analysis was conducted because the study involved more than one independent variable that predicts the value of the dependent variable. Henceforth, the value of Catholic healthcare Facilities (CHF) as a dependent variable was predicted by human resources (HR), leadership (L) and financial resources (FR) as independent variables. Multiple linear regressions assisted to estimate the coefficients of the linear equation of the independent variables that predicts the value of the dependent variable whereby the linear equation for multiple regressions is:

$$Y = B_0 + B_1 (\text{HR}) + B_2 (\text{L}) + B_3 (\text{FR}) + \epsilon$$

Y = Catholic healthcare facilities

B<sub>0</sub> = Constant

B<sub>1</sub> = A fractional change of human resources

B<sub>2</sub> = A fractional change of leadership

B3 = A fractional change of financial resources

$\varepsilon$  = Error term

**Table 4.5: Model Summary Output for Multiple Regression**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	<b>.918a</b>	<b>.843</b>	.839	1.280
a. Predictors: (Constant), Financial Resources, Leadership, Human Resource				
b. Dependent Variable: Catholic Healthcare				

**Table 4.6: Analysis of variance**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1028.063	<b>3</b>	342.688	<b>209.020</b>	.000b
Residual		191.821	<b>117</b>	1.639	
Total		1219.884		120	
a. Dependent Variable: Catholic Healthcare b. Predictors: (Constant), Financial Resources, Leadership, Human Resource					

**Table 4.7: Predictors of Challenges towards CH**

Model		Unstandardized Coefficient		Standardized Coefficients	
B	Std. Error	Beta		t	Sig.
(Constant)	-256	.432	.421	-592	.555
Human Resource	.457	.080	.164	5.742	.000
Leadership	.171	.074	.390	2.320	.022
Financial Resource	.416	.075		5.533	.000

The multiple linear regressions conducted show that the linear combination of human resources challenges, leadership challenges, and financial resources challenges scores was significantly related to predict Catholic healthcare facilities by  $F(3,117) = 209.020, p < 0.001$  (Table 4.5). The multiple correlation coefficients was 0.918, indicating approximately (84.3%) of the variance of Catholic healthcare facilities can be accounted for by the linear combination of human resources, leadership and financial resources scores (Table 4.6). The regression equation for predicting the challenges of Catholic healthcare was:  $CHF = -256 + 457(HR) + 171(L) + 416(FR) + \varepsilon$  (Table 4.7).

## **5.0 Conclusion and Recommendations**

General findings indicate that challenges facing the performance of Catholic healthcare facilities in Tanzania are significant. Major challenges lie in how to nurture and ensure sustainable delivery of high quality and safe medical care. Leadership is the most influential factor in shaping organizational climate and culture. There is clear evidence of the link between leadership and a range of important outcomes within health services, including patient satisfaction, patient mortality, organizational financial performance, staff well-being, engagement, turnover and absenteeism, and overall quality of care.

Based on the findings of the study, the key challenges facing Turiani and Mikumi hospitals are perceived by the majority of the employees from the two hospitals to be as follows: hospitals lack adequate staff in all key positions of health services delivery, recruitment and hiring policies are not just and fair, compensation is not adequate to attract and retain key staff, there are no adequate and competent staff to offer quality care, and poor provision of welfare services for employees' wellbeing. There were also insufficient leaders to push the organizations to greater heights, there were weaknesses in formal problem solving skills, there was no clear structure for decision making processes, the governing bodies do not work closely with health workers to implement hospitals' visions, missions, and goals. The management team was also generally weak and the organization slack a culture of showing appreciation to their staff. The hospitals had no adequate funds and revenues to sustain operational costs, there were weaknesses in the management of hospitals' expenditures, there were inadequate supplies and equipment to support operations for health service, and the hospitals do not buy medicament resources effectively. These challenges shape the magnitude of performance within the two hospitals.

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## **FACTORS AFFECTING THE SATISFACTION OF NON-STATE ENTERPRISES WHEN INVESTING IN THAI NGUYEN PROVINCE**

**Bui Van Luong**

People's committee of Pho Yen district - Thai Nguyen Province

**Do Anh Tai**

Thai Nguyen University of Economics and Business Administration

**Tran Thi Thanh Xuan**

University of Transport Technology - Thai Nguyen Training Facility

### **Abstract**

The objective of the study is to find out factors that affect investment and based on that, proposing some solutions to improve the efficiency of attracting investment from non-state enterprises in Thai Nguyen province. Data sources for the study were taken from random interviews of 250 non-state enterprises to invest in Thai Nguyen province. The methods used to analyze data are descriptive statistics, numerical analysis, factor analysis and cross-analysis.

**Keywords:** Investment, Non-state enterprises, Thai Nguyen city, Thai Nguyen province

### **1. Introduction**

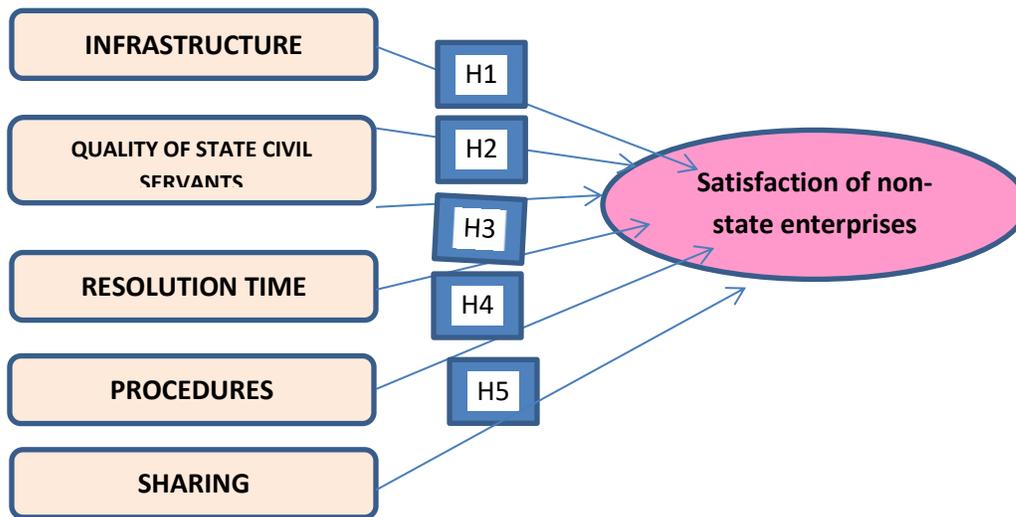
With potential as an important position, Thai Nguyen has been recognized by the Government as a class I urban and identify as the growth pole of the key economic region in the northern mountainous provinces. Resolution No. 37-NQ / TW dated July 1, 2004 of the Politburo orientate on socio-economic development and ensuring national defense and security in the Northern midland and mountainous region by 2020 (Resolution number 37). Developing Thai Nguyen in Industrialization period to 2020 has confirmed: "Developing and expanding e-government, improving the quality of operational efficiency of government agencies, serving people and enterprises is getting better and better. Execute the exchange, text transactions between government agencies by

electronic texts with digital signatures reached over 85% before 2021. Continuing strives to the end of 2020, reducing at least 40% of the time compared to the regulations and concurrently implementing administrative procedures related to investment and business. By the end of 2019, providing at least 30% of online public services under jurisdiction at level 4 (according to Decree No. 43/2011 / ND-CP dated 13 June 2011 of the Government). On average, there are over 800 enterprises registered each year and by the end of 2025, the province has over 12,000 enterprises operating. Provincial People's Committee; District People's Committee; departments and agencies organize dialogues with enterprises and residents on a monthly when required to grasp and solve difficulties and problems for organizations and individuals and investment projects in the province". Thai Nguyen has a lot of potentials and advantages in attracting investment capital, becoming an attractive destination for domestic and international investors.

In the period 2004 - 2018, Thai Nguyen is one of the provinces with the highest growth rate in the Northern mountainous provinces (MNPB) with an annual average GDP growth rate is 12.8% per year compared to the region's average is 10.45%. In 2018, GRDP per capita increased from 5.9 million VND (2004) to 77.7 million VND (2018), 13 times, equivalent to 3,370 USD / person per year. The high economic growth rate of the province is attributable to the important contribution of non-state enterprises (DNNNN) that currently accounting for nearly 80% of the provincial GDP. In recent years, the province has many guidelines and policies to encourage economic sectors to invest in promoting economic growth. Private economy has a good growth. However, the development of this component is not commensurate with the available potential. The quantity and scale of the private economy is still very limited. Up to 95% of non-state enterprises are small and medium scale (Registered capital is less than VND 30 billion). This article has overall objectives is identifying factors affecting investment decisions of non-state enterprises in Thai Nguyen to provide solutions to encourage investment of these enterprises. To achieve that goal, we identify the specific objectives of the topic: i) Describe the situation of non-state enterprises in Thai Nguyen; ii) Analysis the factors affecting investment by non-state enterprises in Thai Nguyen; and iii) Providing solutions to encourage investment for these enterprises. To achieve this goal, the analysis is mainly based on primary data collected from 250 non-state enterprises in districts / towns of Thai Nguyen. These data are put on in a regression model that helps review the the degree of influence of factors on investment decisions of non-state enterprises. Besides, the topic also uses secondary data from many sources such as the General Statistics Office, the Provincial Statistical Office, the Department of Planning and Investment, etc.

## 2. Theoretical foundations and research hypotheses

Parasuraman et al (1985, 1988) built a model and SERVQUAL scale on service quality, this model highlights the key requirements to ensure service expectations. Cronin and Taitor (1992) adjusted the SERVQUAL scale to SERVPERF scale. This scale retains the components and observed variables of SERVQUAL but omits the assessment of customer expectations. Accordingly, the quality of service is the actual perception of customers about the services they receive from suppliers. Le Dan (2011), Le Van Hoa (2010), Nguyen Thanh Truc (2015), Nguyen Huu Hai & Le Van Hoa (2010), Nguyen Dinh Tho et al (2005), Ha Minh Trung (2010), Nguyen Quoc Bao (2012) ... in this studies used models and scales of Parasuraman, Cronin and Taitor to measure customer satisfaction about the service. The research model is determined based on the model and scale of Parasuraman, Cronin and Taitor to measure the impact of the components of service to the satisfaction of non-state enterprises in Thai Nguyen province. Accordingly, 5 factors of tangible, reliability, responsiveness, assurance, empathy are the deciding factors to attract investment, thereby affecting the satisfaction of non-state enterprises.



**Figure 1: Proposed research model**

Hypothesis H1, H2, H3, H4, H5 are set out as the facilities, quality of civil servants, processing time, procedures and costs when implementing investment procedures in Thai Nguyen have a positive relationship with the satisfaction level of the enterprises.

Based on the theory of five-component model of satisfaction of non-state enterprises, SERVPERF, this study identifies 5 factors affecting the satisfaction of enterprises with the service quality of Thai Nguyen province with the following scales:

**Table 1: Scale table of factors affecting the satisfaction of non-state enterprises**

No	EXPLAIN	ENCODE
INFRASTRUCTURE-VC		
1	Having favorable geographical locations	VC1
2	Having clean space for investors	VC2
3	Modern communication system	VC3
4	Stable water supply	VC4
5	Stable electricity	VC5
6	Sewerage system	VC6
7	Convenient transportation	VC7
8	Dormitories for labourers	VC8
THE LEVEL OF RESPONSIVENESS - DU		
1	Local government perform their commitments	DU1
2	Civil servants always give clear and accurate instructions	DU2
3	Civil servants always answer on time	DU3
4	Simple procedures	DU4
5	Apply technology in solving administrative procedures	DU5
6	Security and order in the province	DU6
7	Abundant labors to meet the needs of enterprises	DU7
8	Financial and banking services	DU8
9	Health services, health care for labourers	DU9
10	Auxiliary services sector development	DU10
RESOLUTION TIME - TG		
1	Time to wait for the procedure	TG1
2	Number of travel and submission of administrative files	TG2
3	Time to receive inspection and inspection teams of authorities	TG3
PROCEDURE PROCESS - TT		
1	The steps to perform have clear instructions	TT1
2	The administrative procedures are public and transparent	TT2
3	The legal provisions on administrative procedures are appropriate	TT3
4	Records returned to residents and enterprises are not missing or errors	TT4
SHARING - CS		
1	Difficulties and problems of enterprises are listened and shared by local leaders	CS1
2	Leaders are interested in solving enterprises's requirements	CS2
3	Local leaders regularly organize conferences and meetings with enterprises	CS3
4	Enterprises easily meet to exchanges and discuss with local leaders	CS4
ENTERPRISE SATISFACTION - HL		
1	Local leaders have met the expectations of enterprises	HL1
2	Enterprises feel satisfied when investing in the province	HL2
3	Enterprises will invest in long-term in the province	HL3

\* Collecting secondary data: Specialized journals, reports at city tax department, reports at Department of Industry and Trade, Department of Planning and Investment, Provincial People's Committee report ...

Collection and analysis of relevant studies has been published. This method helps the authors to find the gap in both theory and research practice that can be supplemented and contributed. This approach also provides access to achievements, results and ways to solve problems. The method that researchers have successfully used can save time, effort and go straight to the problem that the research process is most effective.

\* Collecting primary data: Surveying the actual data at the facility in the study area by survey questionnaires and interviewing directly with 250 forms has 205 forms reached

+ Determining sample size of survey form/ survey:

There are many different ways to identify the sample size, however, in this study to identify the number of observations, the author used a survey formula to determine the sample size according to Tabachnick & Fidell (1996) believe that the sample size need to ensure according to the formula:

$$n \geq 8m + 50$$

Which: n: sample size; m: Number of independent variables of the model

Thus, based on the initial variable of the research model is 5 independent variables, the sample size is satisfactory for factor analysis and expected regression is about 80 samples. In addition, according to Hai & ctg (1998) for exploratory factor analysis (EFA), there must be at least five variables on an observation. The research model consists of 29 observed variables, so the required sample size is 145. Therefore, excluding the error forms and errors of the authors, the number of samples issued was 250 forms.

The questionnaire used by the author is designed based on the survey form of the survey questionnaire with the inheritance and adjustment suitable to the object of survey and research of the author from 11/2017 to 5/2018.

+ Designing votes by scale is measured by 5-point Likert scale, data is cleaned, cleaning the questionnaires that do not meet the requirements such as lack of information of the questionnaire. Details of the questionnaire: Appendix 1. The content of the survey has the inheritance and adjustment in accordance with the object of survey and research of the authors.

+ Synthesis method: Tool to synthesize survey data, survey is excels spreadsheet, eview. Research using statistical classification method to synthesize data and use statistical tables, statistical graphs to present data aggregation results.

+ Data analysis methods: The authors use SPSS 20.0 software to support the analysis of data in their research.

Descriptive statistics method: Statistics is a system of methods used to collect and analyze the numbers (quantity) of large digital phenomena to understand their inherent nature and rules (substrate) in specific time and place

conditions. Descriptive statistics are used to describe the basic characteristics of the data collected from experimental study in different ways.

Some quantities used: Sample mean (mean); Median number (median); Standard deviation, or deviation. Selecting research contents: The factors affecting the satisfaction of customers when investing in Thai Nguyen have many factors such as factor group: facilities; the level of Responsiveness; Processing time; Procedures; Sharing. In this article, the authors only focus on 03 main groups affecting the satisfaction of non-state enterprises, specifically: Physical facilities; Responsiveness level and Sharing.

### **3. Research findings and discuss**

#### ***3.1. Testing the scales***

Results of scale test shows that the Alpha coefficient of the scale is greater than 0.6 so no scale is excluded (Table 2). Scale of satisfaction of non-state enterprises: Alpha coefficient of the scale "The satisfaction of non-state enterprises" is 0.508, satisfy condition  $0.5 < \text{Alpha} < 1$ , so this scale is good. The Alpha coefficient of the Non-state Enterprise Satisfaction scale, 0.508, satisfies the condition of  $0.5 < \text{Alpha} < 1$ , so this scale is good. In addition, Coefficient of correlation of total variables (Corected Item - Total Corelatio) of all variables is 0.3 and the coefficient Alpha when the variable (Alpha if Item deleted) is less than the Alpha coefficient of the scale, so there are no variables removed. Thus, the three variables HL1, HL2, HL3, of the scale of satisfaction of non-state enterprises will be analyzed separately to determine the value of the dependent variable.

**Table 2: Descriptive statistics the satisfaction scale of non-state enterprises**

#### **Descriptive Statistics**

	<b>Mean</b>	<b>Std. Deviation</b>	<b>N</b>
HL1: Local leaders have met the expectations of enterprises	3.81	.793	205
HL2: Enterprises feel satisfied when investing in the province	3.76	.864	205
HL3: Local leaders have met the expectations of enterprises	3.47	.947	205

*Source: Authors group calculated from the questionnaire, 2017 with the help of SPSS20.0*

#### ***3.2. Scale of factors affecting satisfaction***

##### ***3.2.1. Infrastructure***

According to the evaluation of non-state enterprises, the factor that is rated by the non-state enterprises is the highest score is Having clean ground for investors (VC6 = 3.87 points) and the lowest score is the Leaders are interested in solving enterprises's requirements (CS2 = 3.24 points). This is the province's competitive advantage

because of the availability of premises for enterprises, but still has not gained trust of most non-state enterprises, the score reached 3.56 points.

Based on the rotation matrix of these factors, the equation is drawn as follows:

**Table 3: Descriptive statistics factors affecting the satisfaction of non-state enterprises**

	N	Mean	Std. Deviation	Variance
VC1: Having favorable geographical location	205	3.85	.862	.743
VC2: Having a clean ground for investors	205	3.87	.904	.818
VC3: Modern communication system	205	3.38	.924	.853
VC4: Stable water supply	205	3.34	.949	.901
VC5: Stable electricity	205	3.70	.937	.879
VC6: Sewerage system	205	3.85	.865	.749
VC7: Convenient transportation	205	3.42	.940	.883
VC8: Dormitory for labourers	205	3.77	.730	.533
DU1: Local government perform their commitments	205	3.80	.815	.664
DU2: Civil servants always give clear and accurate instructions	205	3.62	.875	.765
DU3: Civil servants always answer on time	205	3.67	.770	.594
DU4: Simple procedure	205	3.72	.815	.665
DU5: Applying technology in solving administrative procedures	205	3.59	.857	.734
DU6: Security and order in the province	205	3.55	.848	.719
DU7: Abundant labors meet the needs of enterprises	205	3.60	.825	.681
DU8: Financial and banking services	205	3.67	.803	.644
DU9: Health service, labourers health care	205	3.52	.783	.613
DU10: Auxiliary services sector development	205	3.41	.851	.724
CS1: Difficulties and problems of enterprises listened and shared by local leaders	205	3.27	.841	.707
CS2: Leaders are interested in solving the requirements of enterprises	205	3.24	.760	.577
CS3: Local leaders regularly organize conferences and meetings with enterprises	205	3.50	.676	.457
CS4: Enterprises easily meet to exchanges and discuss with local leaders	205	3.33	.772	.595
Valid N (listwise)	205	3.56		

*Source: Authors group calculated from the questionnaire, 2018 with the help of SPSS*

The first group of factors (F1) including five component factors, which the most influential factor is highly appreciated by non-state enterprises, is having a favorable position for investors with influence score of 0.796 and the factor with the lowest influential score is Dormitory for laborers with an impact score of 0.603

The first group of factors (F2) including three components factors, which the most influential factor is highly appreciated by non-state enterprises: having clean ground for investors with an influential score is 0.772 and the factor with the lowest influential is Wastewater system with an impact score is 0.365

### ***3.2.2. The level of responsiveness***

Non-state enterprises have different assessments on the criteria in the group of responsiveness levels in Thai Nguyen provincial government with average scores ranging from 3.41 to 3.80 points on a 5-point scale. Which, the lowest average assessment score of non-state enterprises DU10 targets: Auxiliary services sector (3.41 points) and DU1: Local government perform right commitment (3.80 points).

Non-state enterprises rated this criterion "Sometimes good, partly correct". Is that such a low point is due to the quality of services such as medical, security is not guaranteed, civil servants do not yet committed to work with allocated ... On the other hand, labor quality has not met the requirements of enterprises, especially foreign-invested enterprises.

The results of the analysis and calculation of the author show the relevance to the actual conditions of Thai Nguyen province. The author group used factor analysis to assess the indicators of non-state enterprises on the satisfaction level of non-state enterprises when investing in Vietnam. To perform factor analysis, the authors check the conformity to the dataset with the expected model,

### ***3.2.3. Factors group of Sharing***

The most common group of factors (F1) consists of three components factors: the difficulties and problems of enterprises listened and shared by local leaders (CS1) with influence scores (0.841); Leaders interested in resolving enterprises's requirements (CS2) have an influence score (0.760) and enterprises easily meet to exchange and discuss with local leaders (CS4) with a score (0.772)

The second factor group (F2) including one factor is that local leaders regularly organize conferences and dialogues with enterprises (CS3) with an influence score (0.676).

#### 4. Analysis of variance (regression)

In the above results, if sig, <0.05 is equivalent to 95% confidence and  $|t| > 1$ , that factor is accepted, means it has an impact on the satisfaction of non-state enterprises. The regression results show that there are 10 factors that satisfy the conditions: Having a clean ground for investors; Sewerage system; Convenient transportation; Dormitory for labourers; Local government perform right commitment; Civil servants always answer on time; apply technology in solving administrative procedures; Health services, health care for labourers; Auxiliary services sector development; Difficulties and problems of enterprises are listened and shared by local leaders; Local leaders regularly organize conferences and meetings with enterprises.

**Table 4: Regression coefficients using the Enter method**

	Model	Unstandardized regression coefficients		Standardized Coefficients	t	Sig.	multicollinearity statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-.236	1.014		-.232	.816	-2.238	1.767
	VC2: Having a clean ground for investors	.117	.079	.100	1.479	.141	-.039	.274
	VC6: Sewerage system	.000	.085	.000	-.003	.997	-.168	.168
	VC7: Convenient transportation	-.357	.160	-.287	-2.227	.027	-.674	-.041
	VC8: Ký túc xá cho người lao động	.502	.193	.396	2.602	.010	.121	.883
	DU1: Local government perform their commitments	.332	.151	.249	2.199	.029	.034	.631
	DU3: Civil servants always answer on time	-.057	.149	-.048	-.382	.703	-.352	.238
	DU5: Applying technology in solving administrative procedures	.356	.144	.300	2.466	.015	.071	.640
	DU9: Health service, labourers health care	.139	.135	.112	1.030	.304	-.128	.406
	DU10: Developmental of Auxiliary services sector	-.224	.126	-.156	-1.776	.078	-.473	.025
	CS1: The difficulties and problems of enterprises are listened and shared by local leaders	.018	.114	.016	.161	.872	-.207	.243
	CS3: Local leaders regularly organize conferences and meetings with enterprises	.082	.143	.065	.574	.567	-.200	.364

Source: Authors group calculated from the questionnaire, 2018 with the help of SPSS

From above results analysis will be the basis for the authors to give implications and recommendations for leaders in Thai Nguyen province.

## **5. Conclusion**

Research on the satisfaction of non-state enterprises investing in Thai Nguyen province helps local government leaders assess the satisfaction of enterprises: helping local management boards, Industrial parks understand that the factors: Facilities; The level of response; the sharing of leaders ... has the greatest impact on the satisfaction of enterprises in general and non-state enterprises in particular when investing in Thai Nguyen province. This will contribute to creating a basis for planning construction programs, promoting and positioning brand in the market more effectively to increase competitiveness, attracting many enterprises as well as improving the satisfaction of enterprises.

The research also helps advertising and researching market, get the role of these factors. From that, these enterprises can implement market research projects and how to build market advertising, stable development, and takes advantage of local advantages thanks to the support of facilitating of local governments.

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