

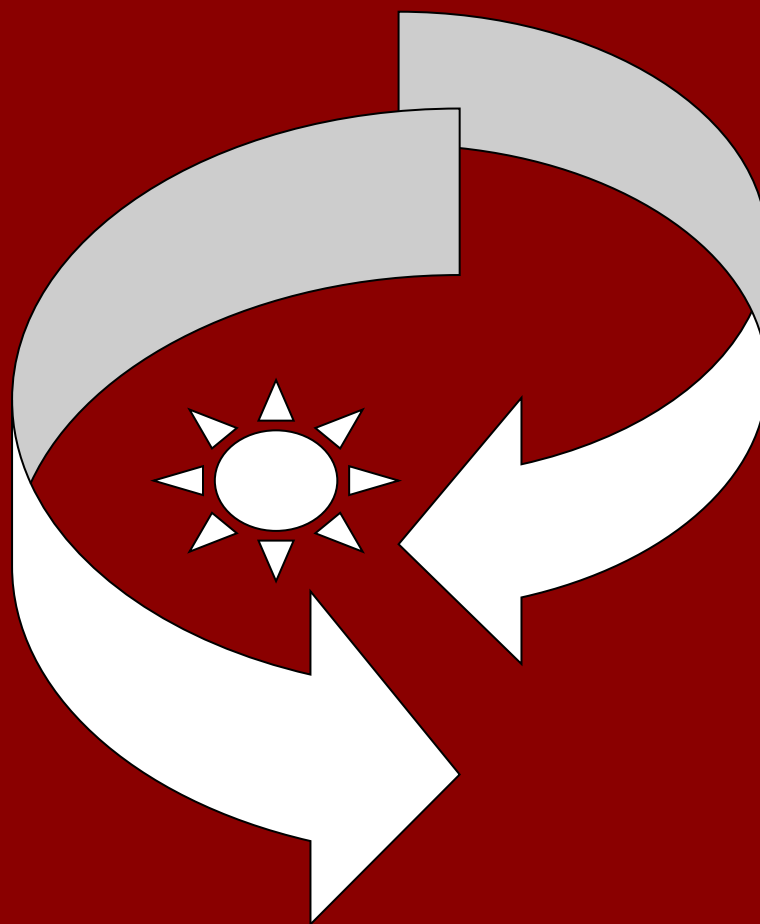
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Jurnal Perspektif Pembiayaan dan Pembangunan Daerah (Journal of Perspectives of Financing and Regional Development)

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Editor's Note

Since Volume 6, Issues 2 (September – October 2018), the Journal of Perspectives on Financing and Regional Development has been nationally accredited with SINTA (Science and Technology Index) score of S2, based on the Decree of the Director General of Development and Research Enhancement, Ministry of Research, Technology & Higher Education of the Republic of Indonesia, Number 10/E/KTP/2019 concerning the Ranking of Scientific Journal.

In Volume 8 Issue 1, 2020 is presented eight articles that come from Universitas Jambi (Indonesia), Universitas Pembangunan Nasional Veteran Jawa Timur (Indonesia), Universitas Patimura (Indonesia), PATH Country Program Office (Ethiopia), Jimma University (Ethiopia), Mulawarman University (Indonesia), Universitas Padjadjaran (Indonesia), Ministry of Energy and Mineral Resources (Indonesia), Commercial Bank of Ethiopia Jimma District (Ethiopia), Universitas Sriwijaya (Indonesia), University of Mitrovica Isa Boletini (Kosovo), University of Prishtina Hasan Prishtina (Kosovo)

Hopefully in the next issue can be presented articles with issues and from more diverse circles.

Happy joy reading

Editorial

Do gender and age of bank clients have an impact on bank card usage?

Ajtene Avdullahi¹; Vjosa Fejza Ademi^{2*}

¹) University of Mitrovica Isa Boletini, Kosovo
²) University of Prishtina Hasan Prishtina, Kosovo

**To whom correspondence should be addressed. Email: vjosa.fejza@uni-pr.edu*

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Abstract

This paper attempts to investigate the ownership and usability of debit and credit cards in Kosovo focusing on two demographic variables: the gender and age of the bank's clients. For research purposes, the Central Bank of Kosovo (CBK) data are used for two consecutive years: 2015 and 2016. The comparative method is used to compare the clients' behavior on the choice of the method to conduct payment and the usage of credit and debit cards in Kosovo banks for two consecutive years 2015 and 2016 based on the gender and age of bank clients. The results show that there is a gender gap, as debit and credit cards are owned and used more by males than females in all age groups and payment types. Whereas, for the variable age, the results show that both debit and credit cards are mostly used by customers aged 25-35 years followed by those 18-25 years. Based on the results of the paper, conclusions were drawn and some suggestions were given. We suggest that banks should do more to enhance the ownership and usage of debit and credit cards by females and elderly clients. Regarding the variable gender, we suggest that banks should offer credit and bonus cards with preferential rates to female entrepreneurs considering the very small number of female entrepreneurs to boost female entrepreneurship and decrease female unemployment in Kosovo.

Keywords: *Card usage, Consumer Behavior, Female Entrepreneurship, Gender*

JEL Classification: E42, G2, M31, M11, L26

INTRODUCTION

We live in a world full of choices. Some of our choices are important and some of them are insignificant. Choices are numerous and different that can be influenced by our behaviors as a consumer but also by the environment. As consumers, we buy products that are essential for everyday life but also other products for entertainment and luxury. One of the many decisions we face every day is the way we decide to pay for the services we receive and products purchased. Payment can be made in cash or noncash systems.

According to Mann (2007), the benefits of cash payments are obvious and are widely accepted. On the other hand, the advancement of information technology has influenced the transformation of payments from traditional payments in cash or through inside the bank services into sophisticated payments with bank cards and online

payments. In addition to technological development, the Internet, Information systems, E-business and E-payments are becoming part of the everyday life of all people (Avdullahi, 2014).

Bank card technology has evolved rapidly from “classic” to contactless (Wang, 2008) and virtual cards, giving consumers better control over payments and increased transaction speed (Eyubolu & Sevim, 2017). Nowadays, trading and payment methods have changed completely, offering a variety of payment methods. Financial institutions in today’s economy have no longer the luxury to improve profit simply by increasing revenue (Avdullahi & Fejza, 2015). Therefore, financial institutions have taken the path toward the digitalization of their products and services to cut operational costs and increase efficiency.

Numerous policies are practised for such services to be accepted by clients. Usually, Banks use incentives for their clients by offering lower prices for online services and by raising the prices of traditional inside the bank services. Although attractive incentives are offered still banks fail to completely transform the operating system because some clients prefer to pay higher costs for traditional services and payments. This question arises: Why some clients use one form or another of service or payment? When it comes to the services’ sector, such as the banking sector, consumer behavior analysis becomes more complex and difficult to understand and analyze (Fejza, Bajrami, & Livoreka, 2018). Services design in the banking sector, according to Chaker (2015) is very different from design in manufacturing, because services are intangible, warranty or repair processes are not as important as recovery or reimbursement processes.

Regarding card payment, the differences reflect respective social class values whereas members of the lower social classes tend to use their cards for instalment purposes; upper classes, for convenience (H. Lee & John W, 1969). The bank cards are adopted differently depending on the type of economy of the respective country (Dospinescu, Anastasiei, & Dospinescu, 2019).

Thus, scientific studies (Nguyen & Cassidy, 2018) have shown that in developed economies, cards are a common payment tool, while in emerging or transition economies, the penetration rate of this technology is lower and depends on many elements of local perception. In the choices of consumers may influence other factors, such as demographic variables (gender, age, etc.), socio-economic factors (employment, revenues, life-cycle, etc.), psychographic variables (perception, learning, motivation, etc.) and behavior variables (product choice, brand choice, method of buying choice, etc.) (Keller & Kotler, 2012). Taking into account all of those variables, it seems necessary to deeply analyze all those influencing factors when we try to evaluate consumer behavior and their choices.

Connolly & Stavins (2015) showed that payment behavior is strongly correlated with demographic and income attributes over the 2009–2013 period, based on data from the annual Survey of Consumer Payment Choice (SCPC). Recent researches on credit card usage (e.g. Kaynak, Kucukemiroglu, & Ozmen, 1995; Sharpe, Yao, & Liao, 2012) found similarities and differences in credit card usage globally. These findings suggest that the usages are influenced by demographic characteristics such as gender, age, education level, income, marital status, culture and attitude towards debt (Abdul-Muhmin & Umar, 2007; Wickramasinghe & Gurugamage, 2009).

Besides the importance that all those factors have, for this paper purposes, we have been focused only on the demographic factors, on gender and age of the consumers, to analyze the effect of those two variables on the consumers’ choice of buying through cash or using their bank cards. Different kind of literature and studies show that there is a

positive relationship between age and ownership and between age and usage of bank cards. According to (Zandi, Mansori, & Hai, 2019) as one grew older, they tend to have a higher status in society with a well-developed career, therefore applicable for more ownership and use of bank cards (debit and/or credit cards). There was also the sign that older generations used to own and use more bank cards to show their privilege over the younger generations (Zandi, Mansori, & Hai, 2019). Another point highlighted by Vathsala & Anurudh (2009) was whereby older generation tends to have more expenditure than the younger generation, such as house commitment and more household expenses, therefore, more ownership of especially credit card would help to leverage their expenses, as compared with the younger generation. According to Lim, Ramayah, & Azzat, (2002) males tend to own and use bank cards more than females because females used to have weaker financial capabilities as compared with males counterparts. In the other hand, Vathsala & Anurudh (2009) through their research findings showed that females tend to have more ownership and usage of bank cards, especially credit cards, than males. This was related to the factor that females prefer the rewards and benefits offered by credit card providers whereas males seem to be less attracted by these rewards and benefits, resulting to female having more credit card ownership and usage than male (Vathzala & Anurudh, 2009).

Based on the reviewed literature we found a gap in the literature regarding the ownership and usability of debit and credit cards in Kosovo focusing on the demographic variables. Therefore this paper aims to investigate the card penetration and usage in Kosovo, based on two demographic variables age and gender of bank clients. Besides we investigate whether commercial banks in Kosovo provide credit cards with preferential rates or incentives for female clients to increase the usage of bank cards by female clients and boost female entrepreneurship.

METHODS

In order to accomplish the purpose of this paper, we have used the desk research technique by reviewing the existing relevant literature such as research papers, books and reports. For our research purpose, we will use secondary data from Central Bank of Kosovo (CBAK) reports on Use of bank cards in Kosovo for the years 2015 and 2016. Reports are based on data reported by commercial banks in Kosovo. The benefits of secondary data analysis are numerous while carrying out a research such as cost and time, high-quality data, the opportunity for longitudinal analysis, more time for data analysis, reanalysis may offer new interpretations, and the wider obligations of the social researcher (Bryman, 2012).

The comparative methods are widely used in social sciences research. Researchers compare the relative effects of variables across cases; they compare cases directly with one another; and they compare empirical cases with counterfactual cases (Ragin & Rubinson, 2009). In our research paper, we have used the comparative methods to compare the clients' behavior on the choice of the method to conduct payment and the usage of credit and debit cards in Kosovo banks for two consecutive years (2015 and 2016) based on two demographic factors (variables): gender and age of bank clients.

RESULTS AND DISCUSSION

In this chapter, the compared results from Central Bank of Kosovo (CBK) reports "Use of bank cards in Kosovo" (CBK, 2016) for the period January - December 2015 and, January – December 2016 (CBK, 2017) of this study are presented. In these two

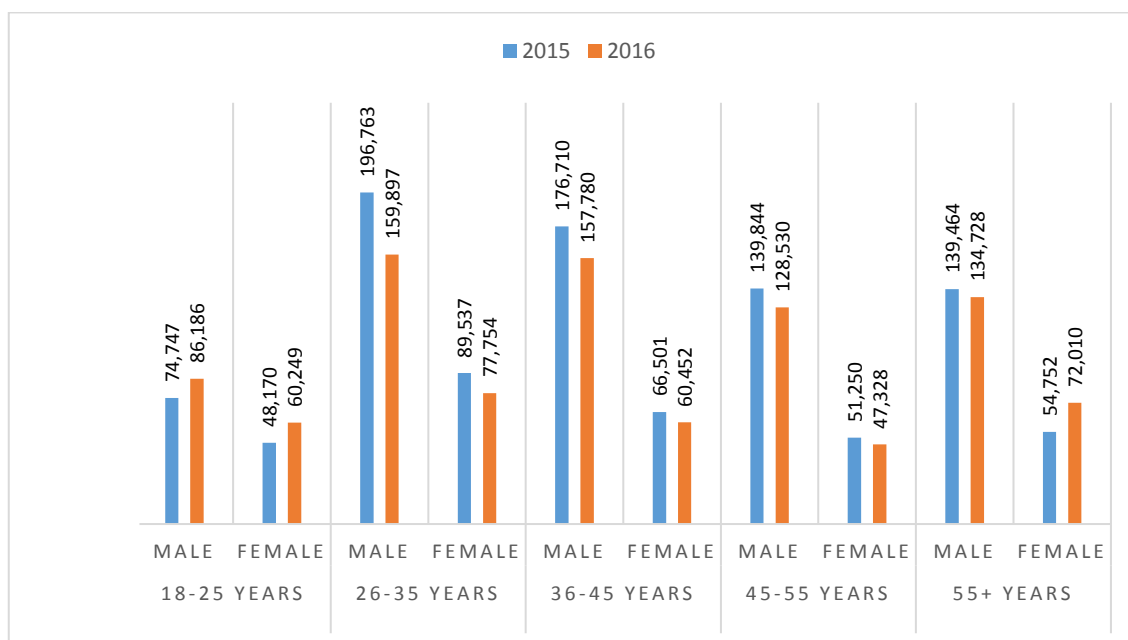
reports, the usage of bank cards in Kosovo is presented based on data reported by commercial banks in Kosovo for two consecutive years 2015 and 2016.

According to the data from CBK, (2016) for the year 2015, from the age group 18-25 years, 60.8 percent of cardholders are male, while 39.2 percent of them are female. In the age group 26-35 years, 68.7 percent of cards are possessed by the male, while 31.3 percent by the female. For the age group 36-45 years and 46-55 years, the difference is even higher (first group 72.7 percent of cards are owned by male and 27.3 percent by female whereas in second group 73.2 percent by male and 26.8 percent by female) (CBK, 2016).

For the year 2016 based on the CBK, (2017) from the age group 18-25 years, the percentage of the female cardholders is 41.1 percent which is higher compared to the previous year. Similar to this age group, there is also an increase in the percentage of bank card ownership by women for the rest of the age groups of cardholders. The same is the case for other age groups where there has been an increase in the percentage of bank card ownership by women.

As can be seen in Figure 1, the vast majority of cards for all age groups for two consecutive years 2015 and 2016 are owned by males. Based on the data presented below we can say that bank cards are owned more by men rather than by female clients.

This gender gap is smaller in younger groups of the customer, but increasing with the increase of age. We can say that the age of female clients is at the inverse proportion with card ownership indicating that the increase of the age of female clients is associated with a decrease in the ownership of the cards by the female. Based on this we can say that older females prefer more traditional inside the bank payment rather than the sophisticated payments with cards. Regarding the variable age for two consecutive years, 2015 and 2016, male and female clients ranging at the age group 25-35 years are the highest-ranked in terms of bank card ownership. This is mainly due to the fact that bank clients from this age group are young and are more likely to be employed/run their own business and have more knowledge to use bank cards.

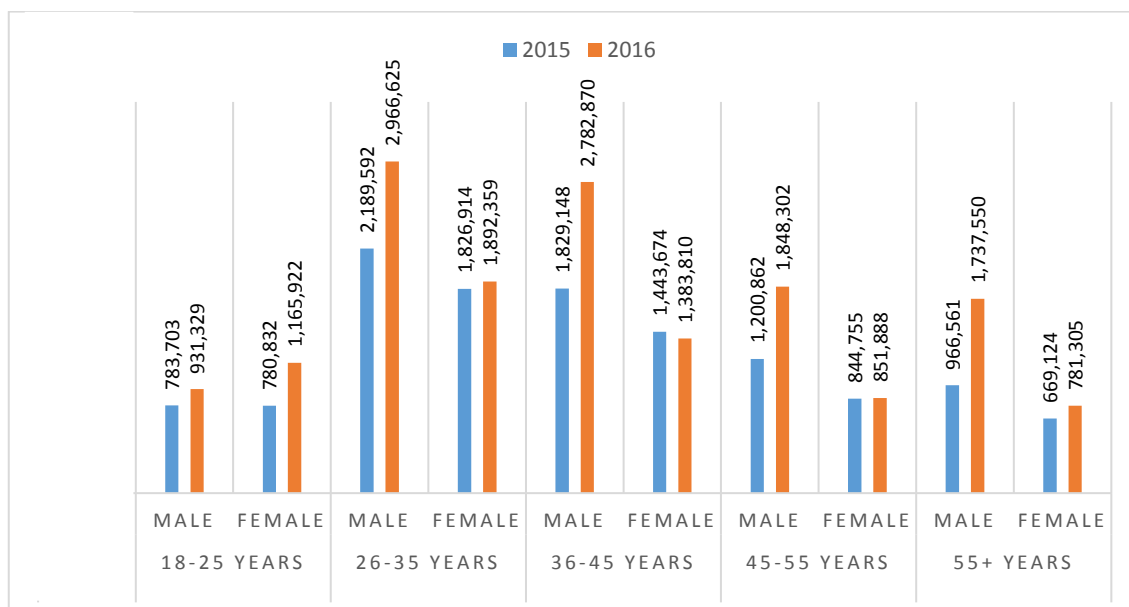


(Source: CBK author's calculations based on CBK report on Use of bank cards in Kosovo for years 2015 and 2016)

Figure 1. Number of cards by age and gender of cardholders in Kosovo, 2015 - 2016

According to CBK (2016), the age group of 26-35 has performed the largest number of transactions with debit cards, from which 54.5% of transactions were carried out by males and 45.5% of females when analyzing the number of card transactions in 2015 (Figure 2). Similarly, in 2016 the age group of 26-35 has performed the largest number of transactions with debit cards, of which 61.1% of transactions were carried out by males and 38.9% of females (CBK, 2017). We can suggest that male and female clients of this age group are employed has the highest level of knowledge for the use of electronic payment instruments as well as regular monthly income. In most of the age groups is recorded an increase in the number of payments with debit cards in 2016 expect for the female clients of age group 36-45 years whereas there a slight decrease in the number of payments with debit cards in 2016 when compared to the same the female age group in 2015.

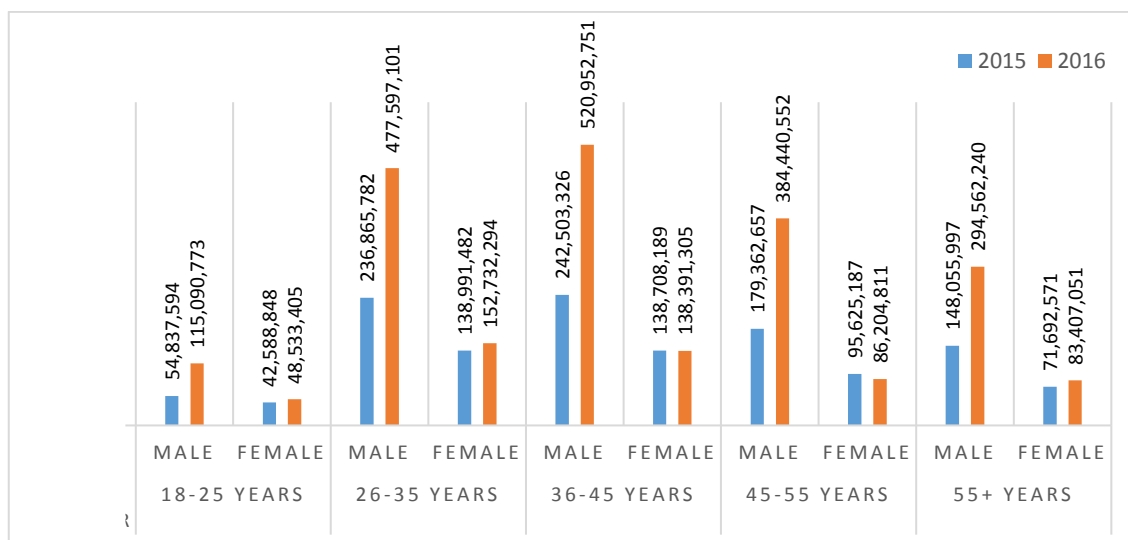
From data in Figure 2 (CBK, 2016; CBK, 2017) it can be seen that clients over 55 years old use less the debit cards for payment, this can come as a result of the lack of knowledge for the use of electronic payments, these categories prefer more traditional banking or for clients over 65 years only a few banks offer cards for pension category clients.



(Source: CBK author's calculations based on CBK report on Use of bank cards in Kosovo for years 2015 and 2016)

Figure 2. Number of payments with debit cards in terminals by age and gender of the cardholders in Kosovo, 2015 - 2016

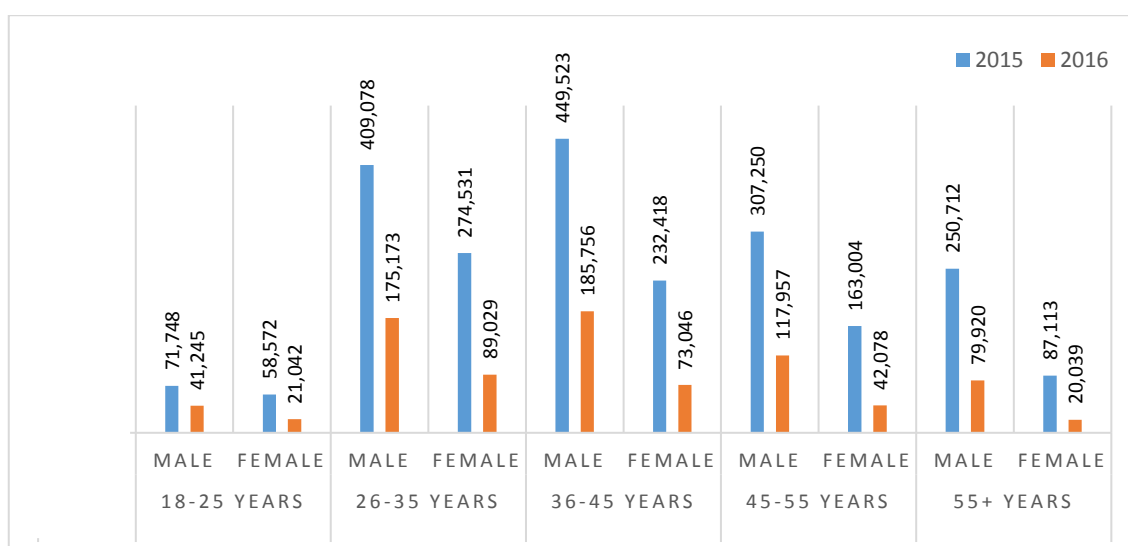
Female and male bank clients from the age groups 26-35 and 36-45, during 2015 and 2016 have conducted more payments with debit cards compared to other age groups (Figure 3). By comparing the number of payments and the value of payments of these age groups we can conclude that the gap in the number of payments between males and females of these age groups is much smaller than the gap in the value of payments. Whereas 63 percent of the value of debit card transactions was carried out by males within the age group 26-35 years (CBK, 2016), while only 37 percent by females for the year 2015 and 76 percent of the value of debit card transactions were carried out by males within the age group 26-35 years, while only 24 percent by females for the year 2016 (CBK, 2017).



(Source: CBK author's calculations based on CBK report on Use of bank cards in Kosovo for years 2015 and 2016)

Figure 3. The value of payments with debit card in terminals by age and gender of the cardholders in Kosovo, 2015 - 2016

Credit cards are very widely used for payments in ATM and POS terminals and online shopping among both female and male bank clients in Kosovo. From CBK reports (CBK, 2016; CBK,2017) the data are presented in Figure 4, where we can see that people aged 26-35 and those 36-45 conduct the largest number of credit card transactions. Out of the total number of credit card transactions 64.6 percent were carried out by males, while 35.4 percent by females in 2015 and, 71 percent were carried out by males, while 29 percent by females in 2016. The biggest difference lies in the number of transactions by citizens over 55 years, which shows that 74.21 percent of transactions are carried out by males while 25.79 percent are carried out by females for the year 2015 and 80 percent of transactions carried out by males while 20 percent of them carried out by females in 2016. In 2015 the difference is smaller among female and male clients from the group aged 18 -25 years which shows that males of this age group have conducted 55.06 percent of credit card transactions while females 44.94 percent of them (CBK, 2016).

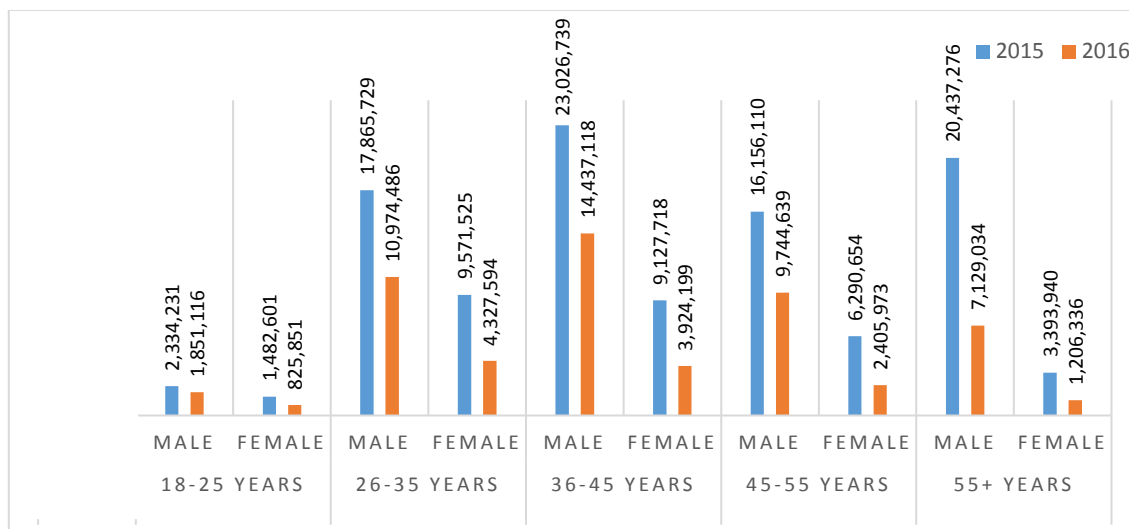


(Source: CBK author's calculations based on CBK report on Use of bank cards in Kosovo for years 2015 and 2016)

Figure 4. Number of payments by credit card on terminals by age and gender of the cardholders in Kosovo, 2015 - 2016

In Figure 5 is shown the value of credit card transactions carried out in 2015 by the bank clients of Kosovo. As seen from the CBK data 72.77 percent of the value of transactions with credit cards are performed by males, while 27.23 percent are performed by females in 2015 (CBK, 2016), whereas 78 percent of the value of transactions with credit cards is performed by males, and 22 percent are performed by females (CBK, 2017).

The difference among both male and female bank clients from the age group 18-25 years old for the year 2015, is smaller whereas, 61.16 percent of the value of transactions in this age group are performed by males, while 38.84 percent of them performed by females (CBK, 2017).



(Source: CBK author's calculations based on CBK report on Use of bank cards in Kosovo for years 2015 and 2016)
Figure 5. The value of credit card payment on terminals by age and gender of the cardholders in Kosovo, 2015 - 2016

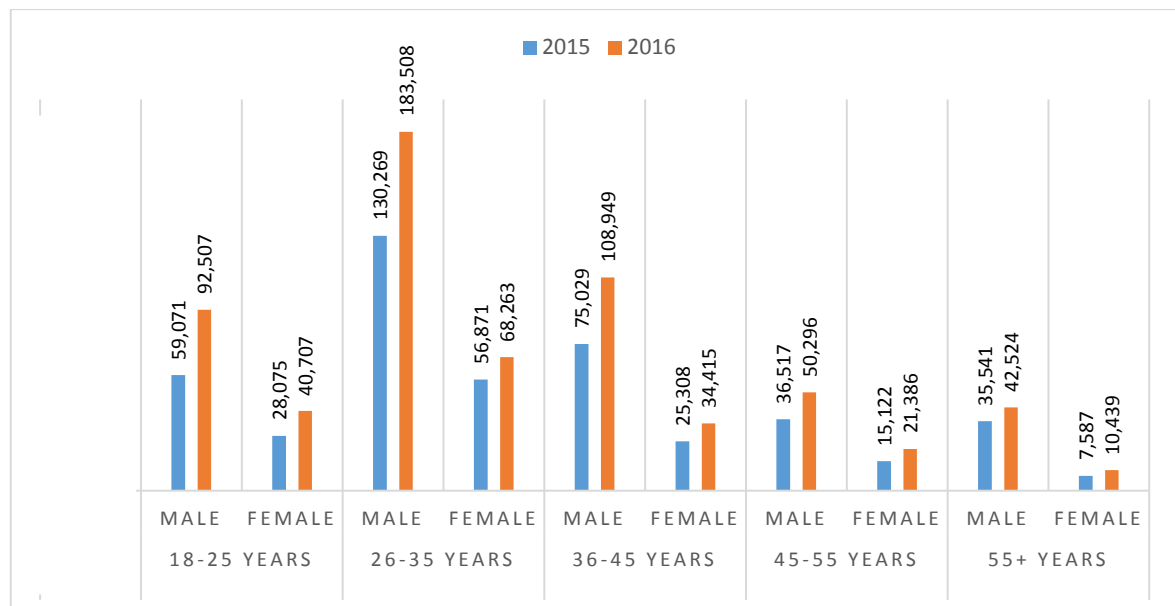
As can be seen in Figures: 2; 3; 4 and 5, bank clients from the age group 26-35 years use the most debit and credit cards in terms of the number of payments as well as the value of the payments. The smallest gender gap was recorded in 2015 among female and male clients from the group aged 18 -25 years which shows that males of this age group have conducted 55.06 percent of credit card transactions while females 44.94 percent of them (CBK, 2016).

Kosovo is known as one of the countries with a very high acceptance rate of the Internet and, social networks are heavily used. Besides this in Kosovo also have been increased "online" purchases/payments (card payments) through the Internet (CBK, 2016). According to CBK Report in Figure 6 for the years 2015, the largest number of online transactions have been made by males of 26-35 age group with 69.6 percent of the number of transactions compared to females of this age group that have performed 30.4 percent of transactions (CBK, 2016). Whereas for the year 2016 the largest number of online transactions has been made by males of 26-35 age group with 73 per cent of the number of transactions compared to females of this age group that have performed 27 percent of transactions (CBK, 2017).

In general, the gender gap is smaller among the age group 18-25 and 25-35 whereas women are more active and willing to use both bank cards debit and credit for different kinds of payments through ATM, POS and online payments.

The coverage by socio-demographic factors, confirms that the trends of online

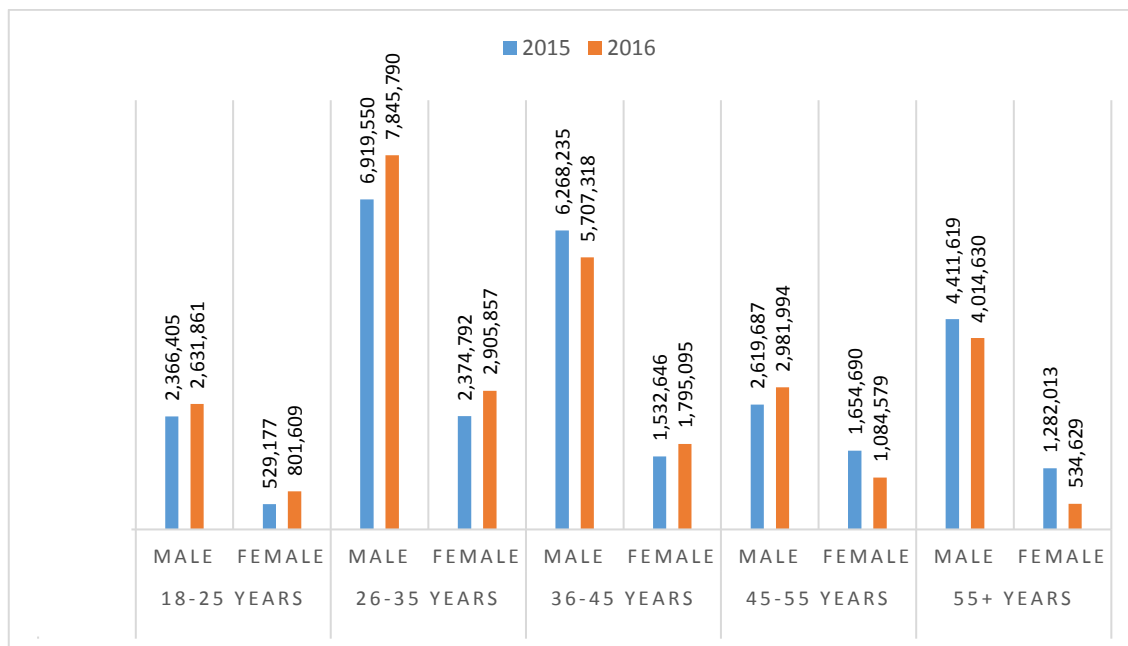
shopping in 2015 show that younger age clients are more familiar with online purchases and consequently payments. If we analyze the coverage by sociodemographic factors, we can confirm that the trends of online shopping in 2015 and 2016 shows that younger age clients have Computer literacy, ability to surf in worldwide webs (www) are more familiar with online purchases and consequently payments. Therefore, most of the online transactions/payments with cards are done from clients of the age group 26-35 since clients of this age group are young and are more likely to have a job/salary or are running their own business. Regarding the online payment/purchase with bank cards, we can say that the gender gap is smaller among age groups 18-25 and 26-35.



(Source: CBK author's calculations based on CBK report on Use of bank cards in Kosovo for years 2015 and 2016)
Figure 1. Percentage of online payments by age and gender of the cardholders in Kosovo, 2015 - 2016

According to data in Figure 7, whereas is shown the value of "online" payments by card, women lag on "online" payments compared to their male counterparts. From all age groups, males are the ones who perform more "online" payments for both years (2015 and 2016). Whereas, the value of "online" transactions by clients aged 26-35 and those aged 36-45 have the highest participation in the total value of "online" payments for two consecutive years 2015 and 2016. When providing more detailed information for the year 2015 in the age group 26-35, 74.5 percent of "online" payments are committed by males, while 25.5 percent by females (CBK, 2016) and we have the same situation in 2016 as well, whereas 73 percent of "the online" payments are committed by males, while 27 percent by females (CBK, 2017). This gender gap is higher in the age group 36-45, whereas from the total value of "online" card payments, 80.4 percent of them is performed by males and only 19.6 percent of them by female bank clients (CBK, 2016).

Whereas for other age groups this gap is higher and the highest gap was recorded for the year 2016 in the age group +55, whereas from the total value of "online" card payments, 88 percent of them is performed by males while only 12 percent of them by females (CBK, 2017). Our findings are in line with Connolly & Stavins (2015) indicating that card usage and payment behavior are strongly correlated with demographic factors and income attributes.



(Source: CBK author's calculations based on CBK report on Use of bank cards in Kosovo for years 2015 and 2016)

Figure 2. The value of online payments with cards via the internet by age and gender of the cardholders in Kosovo, 2015 - 2016

Regarding the variable age, our research indicates that the highest acceptance and usage/payment/purchase rate for debit and credit cards, in general, is among the bank clients that are 35 years or younger (age groups 18-25 and 26-35) this and mainly due to their preference and knowledge to use the card and online payments. These results are not in line with Zandi, Mansori, & Hai (2019) indicating that as one grew older, they tend to have a higher status in society with a well-developed career, therefore applicable for more ownership and use of bank cards (debit and/or credit cards) and that older generation used to own and use more bank cards to show their privilege over the younger generation. Our results are not in line also with Vathsala & Anurudh (2009) that point out that the older generation tends to have more expenditure than the younger generation, such as house commitment and more household expenses, therefore, more ownership of especially credit card would help to leverage their expenses. Regarding the variable gender, our findings are in line with Lim, Ramayah, & Aizzat, (2002) indicating that males tend to own and use bank cards more than females because females used to have weaker financial capabilities. In contrary to our results Vathsala & Anurudh (2009) showed that females tend to have more ownership and usage of bank cards, especially credit cards, than male since females prefer the rewards and benefits offered by credit card providers whereas males seem to be less attracted by these rewards and benefits.

The following question arises: What have done banks to attract these two categories female and older people toward higher ownership and usage of bank cards? Based on our desk research we found that banks are having some promotional offers such as one of the foreign banks operating in Kosovo is offering to female clients regular credit cards plus an additional credit card called “SheCard” thus enabling two parallel credit card limits only for female clients, as well as additional promotional benefits (TEB, 2020). Another bank offers credit bonus cards for the female with a more beautiful pink and figure design but with same conditions as for male bonus credit cards expect for some holidays such as women’s international day provides promotional offers such as 10 percent discount to perfumery and cosmetics merchants (Raiffeisen Bank, 2020). Regarding the variable age

in the particular age group 55+, the offers from banks to enhance the ownership and usage of this clients the offers from banks are scarce. Only a few banks offer debit bank cards for pension accounts whereas in most of the banks the pension payments are done inside the bank through traditional banking by waiting in long lines in front of the banking counter.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

According to CBK (2017) the citizens of Kosovo are using mostly debit cards, which are linked to their current or payroll account and allow them to carry out transactions up to the amount of available funds, and credit cards that allow transactions according to credit limits approved by the card-issuing bank. The majority of cards issued and used in Kosovo are VISA and MASTERCARD brands. Based on the obtained results by comparing the reports of CBK for two consecutive years 2015 and 2016 regarding the use of cards from bank clients in Kosovo banks we can conclude that bank cards are used widely. The usage of bank cards in this paper is analyzed by focusing on two demographic factors, on gender and age of the consumers, aiming to analyze the effect of those two variables on the consumers' choice of buying through cash or using their bank cards. Initially, we have investigated the ownership of the bank cards focusing on the gender and age of clients.

Based on our research results we can conclude that demographic factors have an impact on the ownership and usage of debit and credit cards for different kinds of payments. Debit and credit bank cards in Kosovo are generally used more by males rather than by female clients. The gender gap is smaller in terms of card usage and online card payments in the category of age groups 18-25 and 26-35. Also regarding the variable age, we can conclude that usage of both debit and credit for ATM transactions, POS payments and online payments, in general, are higher for 35 years and younger male and female bank clients, mainly due to their preference and knowledge to use the card and online payment.

Banks in Kosovo are having some promotional offers for female clients by offering an additional credit card thus enabling two parallel credit card limits, some of the banks offer beautifully designed and colorful credit cards and some incentives are also offered such as a discount for women's international day and other holidays mainly with perfumery and cosmetics merchants. None of the banks in Kosovo does offer business credit cards with preferential rates or incentives for female entrepreneurs. Whereas for the oldest clients only a few banks offer debit bank cards for pension accounts.

Recommendations

We suggest that banks should do more to enhance the ownership and usage of debit and credit cards by females and elderly clients. In particular, we recommend banks to offer credit and bonus cards with preferential rates to female entrepreneurs considering the very small number of female entrepreneurs and to boost female entrepreneurship in Kosovo. We believe that the Government can facilitate and support banks with such initiatives having into consideration the high unemployment rate of females in Kosovo and the crucial importance of SMEs as the generator of employment worldwide.

In addition, we recommend banks in Kosovo to offer bank cards with numerous promotional offers for mothers with small children in terms of special agreements with Baby shops - merchant partners while paying at the POS. Banks need to address such

initiatives to the Government by asking to be supported and facilitated by Government considering that these initiatives will have an impact on increasing female employment, reducing unemployment and increasing the countries birth rate or natality.

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The causality between economic growth, poverty, and stunting: empirical evidence from Indonesia

Dwi Darma Puspita Sari; Taufiq Marwa; Sukanto*; Abdul Bashir

Department of Development Economics, Faculty of Economics, Universitas Sriwijaya,
Indonesia

**To whom correspondence should be addressed. Email: soekanto0813@fe.unsri.ac.id*

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Abstract

This study investigate the relationship between economic growth, poverty, and stunting in Indonesia. Observation during 2015-2017 in 34 regions in Indonesia. Using a spatial approach with Klassen's typology and applying the panel vector error correction model. The finding indicated that the priority handling of the problem of the high stunting prevalence focuses on the islands of Sulawesi, Maluku, Kalimantan, Nusa Tenggara, and Papua. Furthermore, addressing the problem of economic growth slows focuses on the Islands of Kalimantan and Sumatra. Meanwhile, the handling of high poverty levels focuses on the islands of Sulawesi, Sumatra, Nusa Tenggara, Maluku, and Papua. On the other side of this study, we get evidence of unidirectional causality flowing from poverty rates and the stunting prevalence toward economic growth in the long-run. The contribution of the stunting case is more dominant to have an impact on slowing economic growth. We also find evidence of unidirectional causality flowing from economic growth and stunting to poverty levels in the long-run, the contribution of economic growth is relatively more dominant with an impact on reducing poverty levels. While there is no evidence of causality flowing from economic growth and poverty to stunting, we have also found that poverty rates have a relatively high contribution to the increase in stunting cases in Indonesia.

Keywords: *Causality, Economic growth, Poverty, Stunting*

JEL Classification: O15, P36

INTRODUCTION

Stunting has become a major challenge for developing countries recently. Report released by the World Health Organization (2018) recommended that the upper-middle-income countries to reduce the rate of stunting by as much as 64 percent. Meanwhile, the middle-income countries are suggested to reduce the rate of stunting by 24 percent during the year 2000 to 2017. The issue of stunting is currently a fierce debate in the literature about whether economic growth has made a major contribution to reducing child stunting (Alderman, Haddad, & Headey, 2014; Mary, 2018; Ruel & Alderman, 2013; and Smith & Haddad, 2015). This debate has major policy implications for the relative role given to pro-poor growth strategy to reduce children malnutrition and the need for direct

complementary nutritional investment as an extension to influence how limited financial resources are allocated competitively among various types of investments. Given the lack of consensus on this debate and the importance of the policy, this study reviews the relationship between economic growth and children stunting.

On the other side, stunting can have negative impact on economic growth (Mary, 2018; and Onis & Branca, 2016). Gross domestic product of Indonesia experienced 2-3 percent losses due to stunting. Indonesia is ranked fifth among countries with the highest stunting burden on children under five, with more than 7.6 million children in sub-optimal body growth (Titaley, Ariawan, Hapsari, Muasyaroh, & Dibley, 2019). Moreover, one third of children under age five experience body growth that did not meet the international height standard (World Health Organization, 2018). Empirical study conducted by Barker (2007) found that the problem of stunting, fat, and non-communicable diseases originated from the process of fetal growth and development in the womb until the age of two. Furthermore, malnutrition can lead to disruption of growth in children, resulting in abnormalities in body shape, even though gene factors in the cells indicate the potential for normal child body.

Stunting is called a short toddlers, which becomes one of the problems of malnutrition experienced by toddlers (Vonaesch et al., 2017). In 2017, 22.2 percent around 150.8 million children under five were stunted. Nevertheless, the figure has decrease compared to 2000 which reached 32.6 percent. In 2017, stunting was experienced by more than half of Asian toddler, while a third experienced by toddlers in Africa. Toddlers in Asia who suffered stunting as much as 83.6 million toddlers in Asia were stunted, where the proportion of stunting case mostly found in South Asia at 58.7 percent, and the least are in Central Asia at 0.9 percent (World Health Organization, 2018).

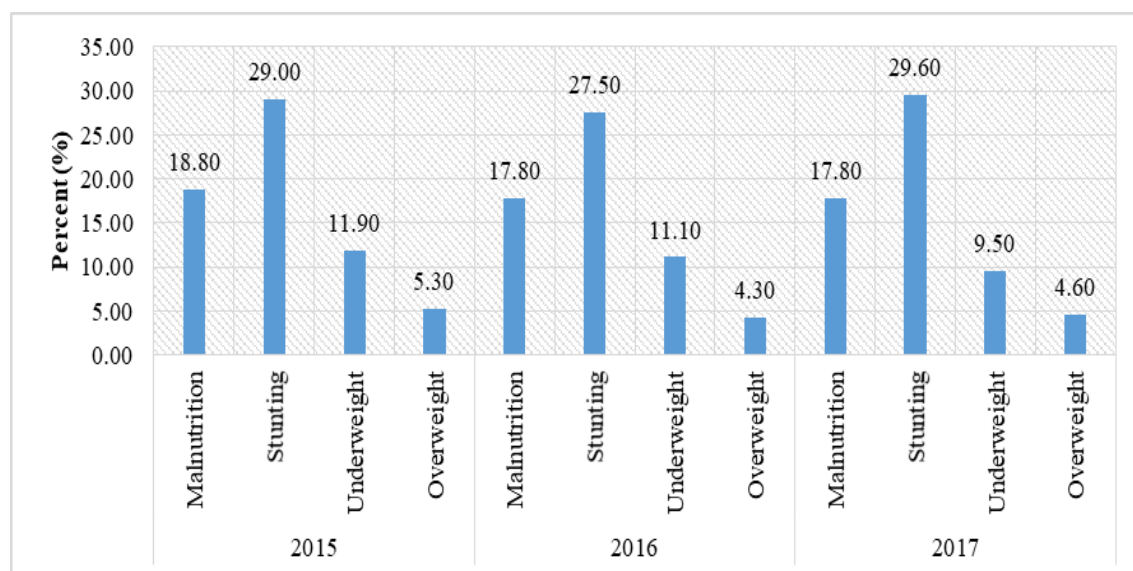


Figure 1. Nutrition Problems in Indonesia, 2015-2017

Source: Nutritional Status Monitoring, Directorate General of Public Health

There are several factors that can affect the nutritional problems in children directly or indirectly. In general, the roots of this problems are economic status or family income which can affect toddlers’ nutrition (Semba & Bloem, 2001). The imbalance consumption of nutritious foods can provide an indication of malnutrition, which is associated with

poverty. The prevalence of toddler malnutrition in Indonesia reached 19.6 percent, which means toddler malnutrition is still a major problem in the health sector as it approaches the high prevalence. Sustainable Development Goals (SDGs) target in 2019 is 28 percent and becomes a challenge for Indonesia. In general, nutritional problems in Indonesia are caused by a lack of consuming food that contains protein and energy. Nutritional Status Monitoring (PSG) noted that the prevalence of toddler stunting in 2017 is at 29.6%, higher than 2016 at 27.5% (Figure 1). The increase in stunting is due to ecological problems, with the interaction of various environmental factors, both physical, social, economic, cultural, and political (Onis & Branca, 2016). Operationally, the triggering factors for the emergence of malnutrition problems are mother's nutrition knowledge, income, lifestyle, and environment.

Children who suffer from stunting can experience Intelligence Quotient (IQ) disorder. Children who suffer from severe malnutrition or stunting has IQ score that 11 points lower than children who are not suffer from stunting. On the other hand, stunting can also lead to degenerative diseases such as underweight (Vilcins, Sly, & Jagals, 2018). Longitudinal studies in children in Brazil, Guatemala, India, Philippines, and South Africa about the reduction in schooling showed that children affected by stunting in the age of two will experience a delay in completing the school for approximately one year (Adair et al., 2013; Martorell et al., 2010). Some of the malnutrition problems such as underweight, stunted, and wasted can be solved from the nutritional ecology approach, namely: (1) access to clean water and health services; (2) economic and social assets as a reflection of socio-economic access to food; and (3) malnutrition (Crahay et al., 2010).

Related literature in this study as (Adeyeye, Adebayo-Oyetero, & Tihamiyu, 2017) found that low agricultural productivity, and lost of harvest production can cause a lack of important nutritional food. Low education level can be a major factor in malnutrition, and the climate changes can have an impact on food production, causing various diseases such as diarrhea and malnutrition. Another study conducted by Larrea & Kawach (2005) proved that economic inequalities can be the deciding factor of population health level and it also showed that there is a relationship between economic inequality and child malnutrition. In addition, study conducted by Kuada (2014) showed that the increase in spending on health in developing countries can increase the value of productivity and social benefits. The benefits also had some impacts on the improvement of child health care. The study also proved that there is a relationship between health spending and the improvement of children's health and nutrition.

Study conducted by Jr Richard (2004) shows that economic growth can reduce poverty, and poverty is highly dependent on economic growth. When economic growth is measured in terms of income (consumption), it shows that there is a relationship between economic growth and poverty. Further studies conducted by MCGovern, Krishna, Aguayo, & Subramanian (2017) showed that the economic growth led to a decrease of stunting, despite having a relatively small relationship. Differently, Frimpong, Okoye, & Pongou (2016) stated that the prevalence of stunting increased along with the increase of economic growth. Other than that, Frimpong, Okoye, & Pongou. (2016) stated that economic growth in developing countries will cause the increased in stunting and poverty.

Another study conducted by Rashad & Sharaf (2018) found that as a whole, economic growth is regarded as an effective instrument to fight poverty and children malnutrition. By sector, according to Mary (2018) it is proved that economic growth in the agricultural sector is more effective in reducing stunting than non-agricultural ones.

The study was also carried out by Ogundari & Aromolaran (2017) which proves that a positive growth rate in the agricultural sector led to a reduction of poverty and stunting. The study was also supported by Lyakurwa (2009); Ogundari & Aromolaran (2017); Pulok, Sabah, & Enemark (2016); and Vollmer et al. (2014) which proves that the growth of all sectors of the economy has a significant effect on reducing poverty and stunting. The differences among previous studies is still a debate among experts. It is important to confirm the differences among those studies, especially in Indonesia. Therefore, the objectives of this study to investigate the relationship between economic growth, poverty rate, and stunting in Indonesia. Contributions from the study results may provide policy recommendations to the reduction of poverty and stunting and being appealing literature in the development of science in economics

METHODS

The data used in this study is secondary data obtained from the Central Bureau of Statistics. To see the overall, data is taken in 34 provinces in Indonesia during the period 2015 - 2017 and were subsequently converted to panel data. The analytical approach used in this study is a quantitative and descriptive approach. The spatial approach used is Klassen typology analysis and quantitative approach used the panel Granger causality models.

Klassen’s typology approach

Klassen Typology Approach used to see the conditions of economic growth, poverty, and stunting by mapping the regions that require priority in the handling of stunting. The Mapping used average rate of poverty, average economic growth and average index of stunting from 2015-2017. The region is classified into the high rate of poverty and stunting, and regions with high economic growth and high stunting become a priority for governments. The following is typology Klassen used.

Table 1. Klassen's typology between stunting and poverty

Stunting (STUN)	Percentage of poverty rate (POV)	
	POVi > POV	POVi < POV
STUNi > STUN	Priority I	Priority II
STUNi < STUN	Priority III	Priority IV

Table 2. Klassen's typology between stunting and economic growth

Stunting (STUN)	Percentage of economic growth (EG)	
	EGi > EG	EGi < EG
STUNi > STUN	Priority I	Priority II
STUNi < STUN	Priority III	Priority IV

Where: STUNi is the amount of stunting in the province to i; STUN is the average number of stunting throughout the province; EGi is a percentage of provincial economic growth to i; POVi is the percentage of poor provinces to i; and POV is the average percentage of poor people across the province; and EG is the average percentage of economic growth throughout the province.

Vector error correction model approach

There are several steps before further estimating vector error correction model (VECM), we must ensure that the variables in the VEC model equation are stationary (not

containing unit-root), then, we do find out the optimum lag in the model, and the last conducting Johansen's cointegration testing. Vector error correction model is the development of a VAR model for time series that is not stationary and has one or more cointegration relationships. The dynamic behavior of VECM can be seen through the response of each dependent variable to shocks to that variable and to other dependent variables. There are two approaches to be able to see the characteristics of the VECM, namely through the impulse response function and variance decomposition. The VECM model has one equation for each variable (as the dependent variable). VECM is characterized by the inclusion of an error correction term (ECT) element in the model. The general form of the VECM with lag length (p-1) is as follows:

$$\Delta EG_{i,t} = \alpha_1 + \beta_1 \Delta EG_{i,t-1} + \gamma_1 \Delta POV_{i,t-1} + \delta_1 \Delta STUN_{i,t-1} + ECT_{i,t-1} + \varepsilon_{1i,t} \quad (1)$$

$$\Delta POV_{i,t} = \alpha_2 + \beta_2 \Delta EG_{i,t-1} + \gamma_2 \Delta POV_{i,t-1} + \delta_2 \Delta STUN_{i,t-1} + ECT_{i,t-1} + \varepsilon_{2i,t} \quad (2)$$

$$\Delta STUN_{i,t} = \alpha_3 + \beta_3 \Delta EG_{i,t-1} + \gamma_3 \Delta POV_{i,t-1} + \delta_3 \Delta STUN_{i,t-1} + ECT_{i,t-1} + \varepsilon_{3i,t} \quad (3)$$

Where: EG is economic growth; POV is the level of poverty; STUN is the prevalence of stunting; i is a cross-section of each region; t is a time-series data; α , β , γ , δ are the coefficients in the model equation; and ECT is an error obtained from the model equation between EG, POV, and STUN in the one lag and also called the error correction term.

After getting the best VEC model, next, analyze the impulse response function to be able to interpret the VECM equation. The impulse response function describes the rate of shock from one variable to another at a certain time span, so that it can be seen the length of influence of the shock of a variable on another variable until the effect disappears or returns to the balance point. Furthermore, we analyze Variance decomposition or also called forecast error variance decomposition is a tool in the VECM equation to measure the estimated variance error of a variable that is how much the ability of one variable to provide an explanation for other variables or the variable itself. By using the VECM approach, it can be seen the proportion of the impact of changes on a variable if it experiences shock or changes to the variable itself in a period.

RESULTS AND DISCUSSION

The average rate of economic growth in Indonesia during the years 2015-2017 is at 5.44 percent. When viewed from the distribution of total GDP of each region to total GDP, it is dominated by the Province on the island of Java and Sumatra, for example the distribution of the GDP total Jakarta Provincial of the total GDP is at 16.50 percent, at 15 percent of East Java, West Java at 13.60 percent, at 9.1 percent of Central Java, North Sumatra and Riau 4.9 percent to 4.9 percent. Figure 2 shows that the spatial distribution of the high economic growth rate in Indonesia is located on the island of Kalimantan and Sulawesi. Provinces that have the highest economic growth in 2017 was North Maluku province at 7.67 percent, South Sulawesi much as 7.23 percent, and the Middle Sulawesi at 7.14 percent. Meanwhile, over the last 5 years the highest average growth rate is in the province of Central Sulawesi with 10.87 percent, West Nusa Tenggara by 9.23 percent and at 7.28 South Sulawesi. Papua and Central Kalimantan each at 7.04 and 6.70 percent.

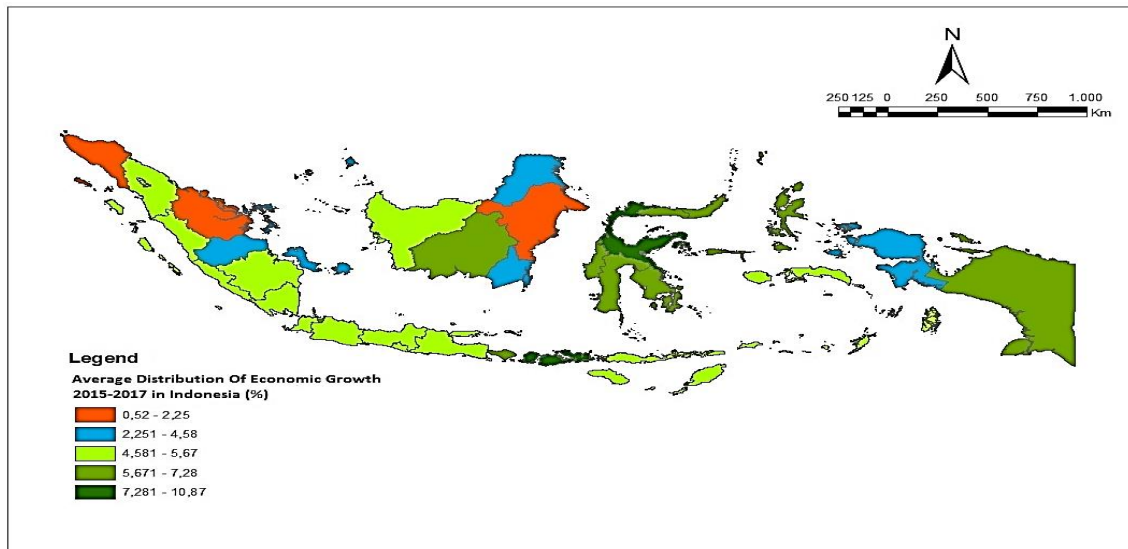


Figure 2. Distribution of economic growth average in Indonesia (%), 2015-2017
 Source: Authors calculation using ArcGIS 10.3, 2019

However, when viewed from the distribution of the total GDP, the GDP contribution of the Province on the island of Java and Sumatra are still relatively larger than the island of Borneo and Sulawesi. This is related to the income disparity between regions in Indonesia are still relatively high, so it can have an impact on the increasing levels of poverty in Indonesia.

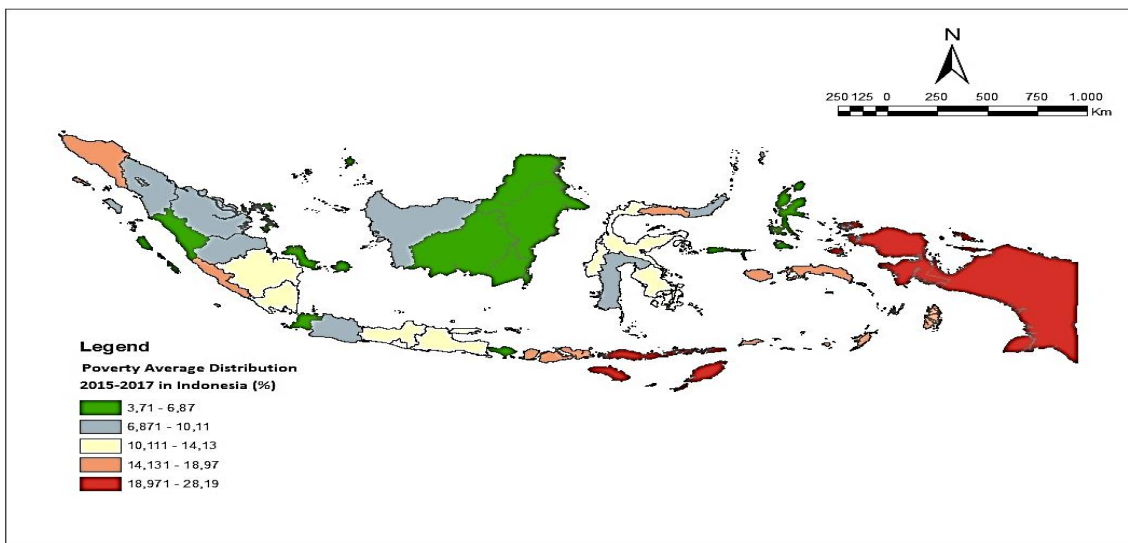


Figure 3. Distribution of poverty rate average in Indonesia (%), 2015-2017
 Source: Authors calculation using ArcGIS 10.3, 2019

Other than that, the average poverty rate in Indonesia during the years 2015-2017 is at 10.65 percent. Spatially shows that areas with relatively high levels of poverty are suffered by the provinces of Maluku, North Maluku, West Papua and Papua with an average poverty rate above 16 percent. It is associated with imbalance relatively high population growth, as well as lack of infrastructure related to education, health and welfare of the community. Meanwhile, regions with relatively low poverty rates are in the province of West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan and North Borneo with an average of 6 percent.

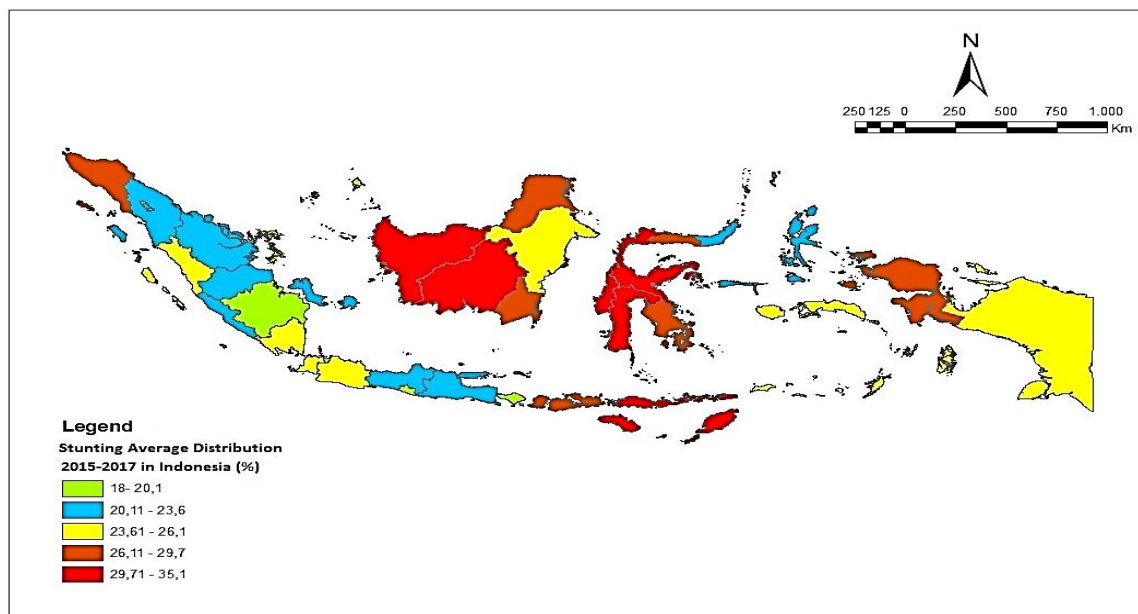


Figure 4. Distribution of stunting average in Indonesia (%) 2015-2017

Source: Authors calculation using ArcGIS 10.3, 2019

Figure 4 shows that the depth and scope of the problem of malnutrition in 2015-2017 is the stunting rate that widespread in Indonesia which rated between 18 percent to more than 35 percent. When viewed by the island, the low rate of stunting which reached between 18 – 20.10 percent are in the province of Riau Islands, South Sumatra, Jakarta, Yogyakarta and Bali. Relatively high stunting rate areas that reach between 29.71 - 35.10 percent are in the province of East Nusa Tenggara, West Nusa Tenggara, West Kalimantan, Central Kalimantan, Central Sulawesi, Southeast Sulawesi, South Sulawesi, West Sulawesi and Gorontalo. This is related to the low intake of nutrition in the first 1,000 days of life, from fetus to baby age two. In addition, this condition also caused by the relatively lack of sanitation facilities, access to clean water, and a lack of environmental cleanliness. Less intact hygiene conditions make the body should work extra to fight against sources of diseases that inhabit the absorption of nutrients. Study that have been done by Adewara. (2011) showed that the quality of clean drinking water has a positive relationship with a reduction in the incidence of diarrhea and death in children.

Furthermore, based on the result of the typology mapping of the region between stunting and economic growth which is divided into four quadrants, it is showed that the first quadrant are inhabited with the province of West Sulawesi, East Nusa Tenggara, Central Sulawesi, Southeast Sulawesi, West Nusa Tenggara, Gorontalo, Maluku and Central Kalimantan with average economic growth and stunting above the national average. This indicates that the economic growth may boost stunting faster. Therefore, the central and local governments should improve programs and policies that promote inclusive economic growth, and to improve the program and policies to prevent stunting. In other words, the province that inhabited the first quadrant is a top priority in the prevention of stunting programs and policies.

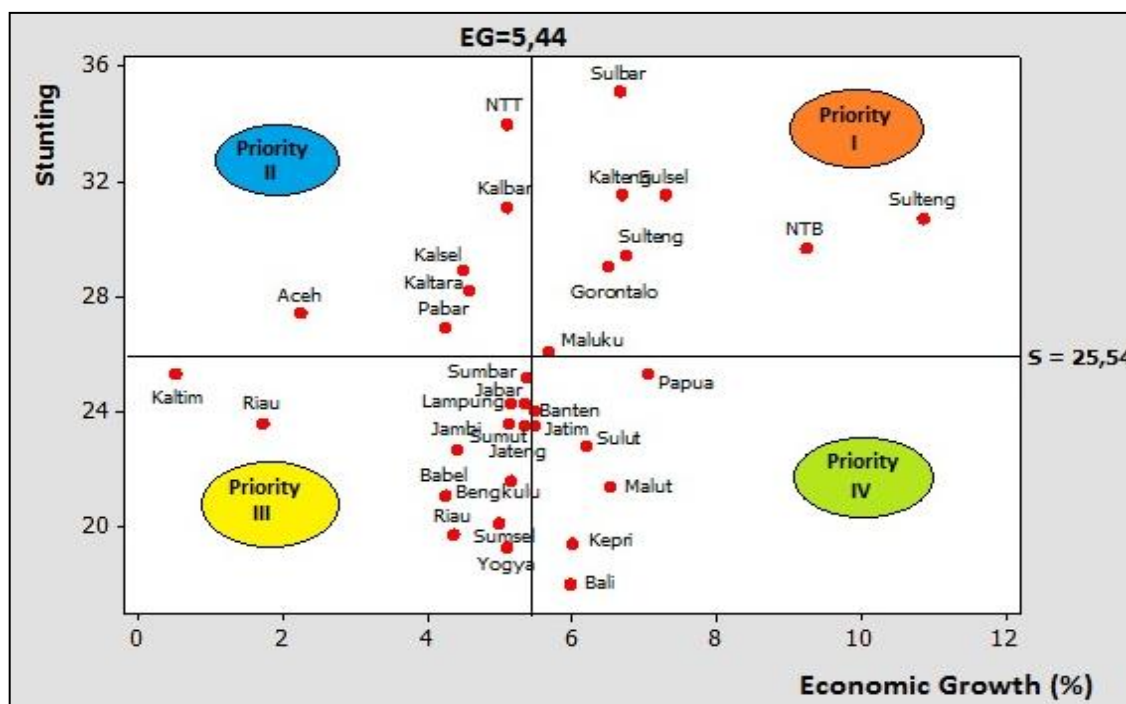


Figure 5. Typology of economic growth and stunting in Indonesia
 Source: Authors calculation, 2019

Then, provinces inhabited Quadrant II are the province of West Kalimantan, South Kalimantan, West Kalimantan, West Papua, Aceh and North Borneo. The category of regions in Quadrant II are the region with economic growth below average, and the condition of stunting above average national. Therefore, efforts need to be undertaken by central and local government in the future is increasing effectiveness and efficiency of programs and policies in the prevention of stunting, and simultaneously encourage the acceleration of economic growth in some of the leading sectors such as industry, mining and agriculture.

In addition, the province inhabited Quadrant III are East Kalimantan Province, West Sumatra, West Java, Riau, North Sumatra, Lampung, Jambi, Bangka Belitung, Central Java, Bengkulu, South Sumatra and Yogyakarta. A category in Quadrant III is the region with an average economic growth and stunting below the national average. Therefore, the central and local governments need to work harder in improving programs and policies to encourage faster, inclusive, and sustainable economic growth, as well as improving and optimizing programs and policies to encourage a decrease of stunting.

While the area located in Quadrant IV are Papua Province, Banten, East Java, North Sulawesi, North Maluku, Riau Islands and Bali. This area shows the average conditions of economic growth above the national average, but the cases of stunting is above the national average. This indicates that the relatively high economic growth has not been an impact on the decrease the cases of stunting. Therefore, the central and local governments need to increase programs and policies in encouraging the development of the leading sectors such as agriculture and plantation sectors, as well as the industrial sector, especially domestic industry, so that economic growth can be run in inclusive and sustainable condition. In addition, the government needs to concentrate on improving programs and policies that have target in reducing stunting.

The results of the typology can be interpreted that human resources as economically potential has high productivity value. Thus, if the prevalence of stunting continued to increase,

the perceived economic potential is also nationally high. Meanwhile, the relatively high economic growth does not have impact to the reduction of stunting, but does have an impact on increasing the income inequality which directly results in widespread poverty in Indonesia. Furthermore, we performed mapping with typology between stunting and poverty. Figure 5 shows that some regions, especially in Eastern Indonesia high poverty and stunting result were obtained, which strengthens the argument that stunting is very much linked with poverty.

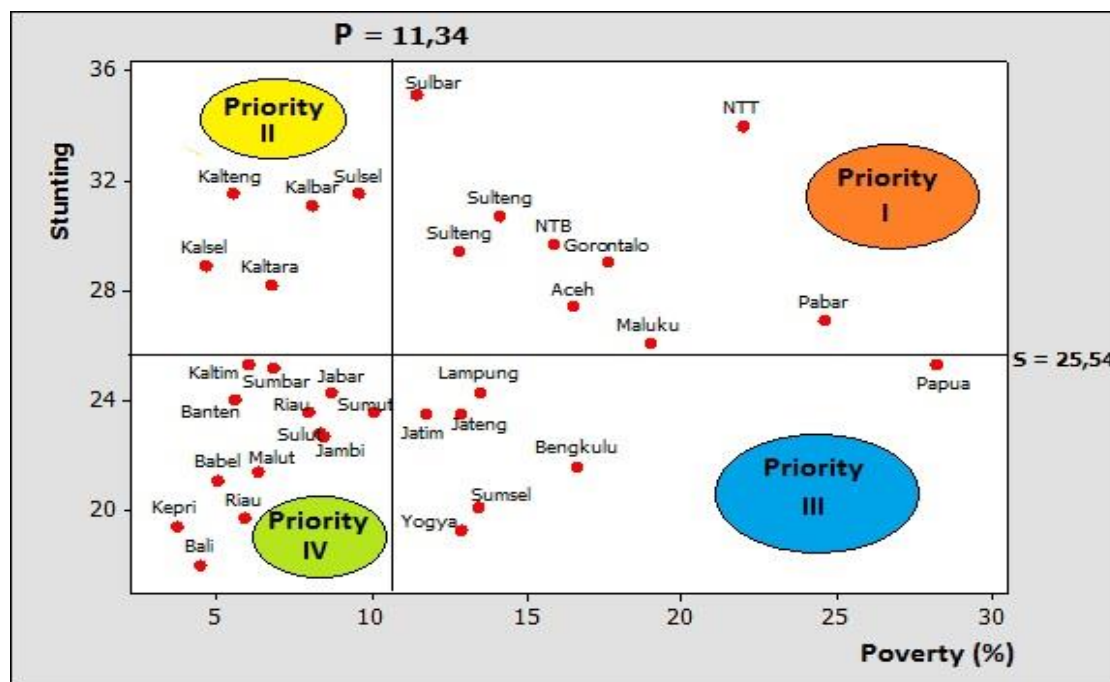


Figure 6. Typology of poverty and stunting in Indonesia
 Source: Authors calculation, 2019

Based on Figure 6 show typology of regions contained in quadrant I, namely the provinces of West Sulawesi, East Nusa Tenggara, Central Sulawesi, South Sulawesi, West Nusa Tenggara, East Nusa Tenggara, Gorontalo, Maluku, Aceh and West Papua, have growth and stunting rate average above the national average. This means that poverty that occurs can encourage increased rate of stunting. Therefore, the central and regional governments need to improve programs and policies related to reducing stunting and poverty optimally.

The area included in quadrant II consists of the provinces of West Kalimantan, South Kalimantan, Central Kalimantan, South Sulawesi and North Kalimantan, with a category of regions with a condition of poverty level below the national average, but has a stunting level above the national average. Therefore, the central and regional governments need to improve programs and policies related to poverty reduction and stunting optimally.

Further, the area contained in quadrant III consists of the provinces of Lampung, East Java, Central Java, Bengkulu, South Sumatra, Papua and Yogyakarta. These regions have conditions of poverty and stunting below the national average. Poverty reduction and stunting are relatively better in the area, so that the central and regional governments must play a role in improving programs and policies appropriately to encourage poverty and stunting reduction. Therefore, the role of government must be more optimal and targeted, so that poverty reduction and stunting can be relatively well addressed.

Meanwhile, the area contained in quadrant IV consists of the provinces of Banten,

West Java, West Sumatra, North Sumatra, Jambi North Sulawesi, North Maluku, Riau Islands, Bangka Belitung, East Kalimantan and Bali. These regions have an average poverty rate that is relatively higher than the national average, but the stunting level is below the national average. This indicates that the programs and policies in stunting prevention are relatively well implemented. Nevertheless, the central and regional governments need to be more optimal in improving programs and policies related to poverty reduction such as increasing human resource capacity with education and training, health quality, and basic infrastructure development equally.

We present the testing phase which consists of the unit root test, optimal lag length, Johansen's cointegration, Granger causality model, impulse response function, and variance decomposition. The first, stationary testing data at the level stage is done by using the Hadri unit root test. The test results show that economic growth, poverty, and stunting is stationary at a significant level at 5 percent. The test results on the three variables level stage are shown in Table 3.

Table 3. The unit root test

Variable	Hadri Z-Statistic	Prob.	Summary
EG	6.00099	0.0000	*Stationary
	8.52935		
POV	6.13287	0.0000	*Stationary
	7.14118		
STUN	5.90344	0.0000	*Stationary
	6.34963		

Note: *Significant level at stationary 1%

The next, in Table 4 shows the lag length is used to determine the dynamics and efficiency of the model. This determination is important to know the optimal lag used in the model equation of this study.

Tabel 4. The Lag length optimum

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-556.4986	NA	2813.588	16.45584	16.55376	16.49464
1	-337.1062	412.9738*	5.781177*	10.26783*	10.65951*	10.42303*

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

The optimal lag test results show that lag 1 is the most optimal lag due to the smallest Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criterion (SC) and Hannan-Quinn Information (HQ). This means that the optimal effect of variables on other variables occurs within the time horizon of 1 period.

Further, this test is to determine the long-term balance and the similarity of movement and stability of relationships between variables. The cointegration test in this study uses the Johansen Fisher panel cointegration test. An equation is said to be cointegrated if the probability value produced by the provision if the trace value is greater than the critical value so that there is cointegration between variables.

Table 5. Johansen cointegration test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
r = 0	0.760297	62.11253	29.79707	0.0000
r ≤ 1	0.328397	13.54843	15.49471	0.0962
r ≤ 2	0.000394	0.013415	3.841466	0.9076

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
r = 0	0.760297	48.56411	21.13162	0.0000
r ≤ 1	0.328397	13.53501	14.26460	0.0649
r ≤ 2	0.000394	0.013415	3.841466	0.9076

Trace and Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Based on Table 5 shows that the value of Trace and Max-Eigen statistics is greater than the critical value of 5 percent, it can be concluded that statistically the null hypothesis is rejected, which means that there are a number of vectors in the cointegrated model. In other words, cointegration is found in the equation model. This finding indicates that in the long run the three variables have a relationship with each other. To find out more about the relationship between economic growth, poverty rate, and stunting prevalence, an estimation of the Granger causality model will be conducted.

Testing the classic assumptions in the model equation in Table 6 shows that from the results of testing the assumption of heteroscedasticity with the Breusch-Pagan-Godfrey approach get chi-square value in the amount of 82.84751 with a probability of 0.5151, these results accept the null hypothesis, which means that there is no symptoms are heteroscedasticity in the equation model. Besides that, the normality assumption testing on each variable in the model equation indicated that the data distribution of each variable is normally distributed.

Table 6. Estimation result of vector error correction model

<i>Short-run coefficient</i>			
ECT:	<i>Dependent Variable</i>		
	$\Delta(\text{EG})$	$\Delta(\text{POV})$	$\Delta(\text{STUN})$
ΔEG	-	0.47801 (0.4893)	0.43389 (0.5101)
ΔPOV	1.25979 (0.2617)	-	0.04629 (0.8296)
ΔSTUN	1.43993 (0.2302)	1.92977 (0.1648)	-
<i>Long-run coefficient</i>			
ECT:	0.11507*** [4.6548]	0.04593*** [5.2131]	-0.07406 [-1.0357]
Summary:			
Obs	68	68	68
R ²	0.65073	0.50454	0.10460
Adj. R ²	0.60255	0.43620	-0.01889
F-stat	13.50769	7.382922	0.846980
Diagnostic test			
Jarque-Bera	3.007720 (0.8079)		
Breusch-Pagan-Godfrey	82.84751 (0.5151)		

Note: Level of significant ***1%, **5%, *10%

Figure in [] is t-test and () is probability value.

Based on the estimation results of the VEC model in the short-term presented in Table 6 shows that there is no evidence of a causal relationship between economic growth, poverty rates, and stunting prevalence. This finding indicates that in the short term, the relationship between these variables is relatively unpredictable. This also proves that in order to reduce poverty and the stunting prevalence cannot be resolved in the short term, there needs to be an inclusive and sustainable policy to overcome these problems. The implications of these findings indicate that the problems of economic growth, poverty rates, and stunting prevalence are relatively insoluble in the short term. Inclusive and sustainable policies are needed to overcome these problems.

Based on the results of the error correction coefficient in the long-run economic growth model (EG) equation presented in Table 6 shows that there is a significant result in the error correction coefficient (ECT) of 0.11507 at a significance level of 1 percent which means that there is evidence of unidirectional causality flowing from poverty rates and stunting prevalence to economic growth in the long run. The findings reveal that whenever there is a shock in the system, the poverty rate and stunting prevalence can make short-term adjustments to restore the long-term balance in the amount of 0.11507 percent. The finding indicates that poverty rates and stunting prevalence have a direct impact on economic growth. In many studies show that poverty rates and stunting prevalence can have a negative impact on economic growth. This was also explained in a study conducted by Harttgen, Klasen, & Vollmer (2013); Vollmer et al. (2014); Mary (2018) and McGovern, Krishna, Aguayo, & Subramanian (2017).

Likewise, the poverty model equation shows a significant result in the error correction coefficient of 0.04593 at a significance level of 1 percent, which means that there is evidence of unidirectional causality flowing from economic growth and stunting prevalence to poverty rate in the long-run. The finding reveals that whenever there are shocks in the system, economic growth and stunting prevalence can make short-term adjustments to restore the long-term balance of 0.0455 percent. These findings indicate that economic growth and stunting prevalence have a direct influence on poverty levels. The implication of this finding indicates that economic growth in each region can relatively cause poverty rates. In many cases, economic growth can reduce poverty levels if the welfare level is more evenly distributed. On the other hand, economic growth can actually increase poverty, this is related to the relatively large income inequality occurs between urban and rural regions. In addition, the increasing number of malnutrition cases indicates that there is an inability of individuals in spending terms for nutritional food consumption needs. This was also explained in a study conducted by Hassan, Zaman, & Gul (2015); Ncube, Anyanwu, & Hausken (2013); and Niyimbanira (2017).

Meanwhile, the stunting model equation does not show evidence of significant results on the error correction coefficient, which means that there is no evidence of causality flowing from economic growth and poverty to the prevalence of stunting in the long run. These findings indicate that economic growth and poverty rates don't have a direct influence on stunting prevalence. The economic growth in each region in Indonesia has not directly affected the reduction in stunting prevalence, this is related to economic growth in Indonesia which is relatively uneven. In addition, the level of awareness of the poor population in consuming nutritious food is still relatively low, so reducing the number of stunting cases is still relatively difficult to solve. Therefore, there is a need for inclusive and sustainable policies to address the problem of stunting prevalence in Indonesia. This finding is relatively different from the results of the study Harttgen, Klasen, & Vollmer (2013) and Vollmer et al. (2014) which found evidence that economic

growth and poverty rates can increase stunting prevalence in developing countries. On the other hand, this finding contrasts with the results of the study Mary (2018) and McGovern, Krishna, Aguayo, & Subramanian (2017) which found evidence that economic growth can reduce the prevalence of stunting in developing countries.

Impulse response function

The results of the impulse response function presented in Figure 7 provide information on the impact factor of the shock on one variable against the variable itself and other variables. In addition, the response function is to predict the impact of the relationship between variables in the long run. The response of stunting prevalence to poverty levels that tend to have a negative impact starts from the 3 to 10 period, this indicates that if there is a shock to the standard deviation of one of the poverty levels, then, the stunting prevalence tends to react negatively or decrease. Furthermore, the stunting prevalence response to shocks from economic growth tends to increase in the 3 to 9 periods, this indicates that if shocks by one standard deviation of economic growth, then stunting prevalence tends to react positively or increase.

The response of poverty rate to shocks from the stunting prevalence in the 1 to 2 periods tends to be negative, but in the next period up to the 10 period is relatively increased, this indicates that if there are shocks by one standard deviation of the poverty rates, then the stunting prevalence of reacts positively or relatively increases. Then the response of the poverty level to shocks from economic growth tends to be negative and increase in period 1 to 10, this indicates that if shocks occur by one standard deviation of economic growth, then stunting prevalence tends to react negatively.

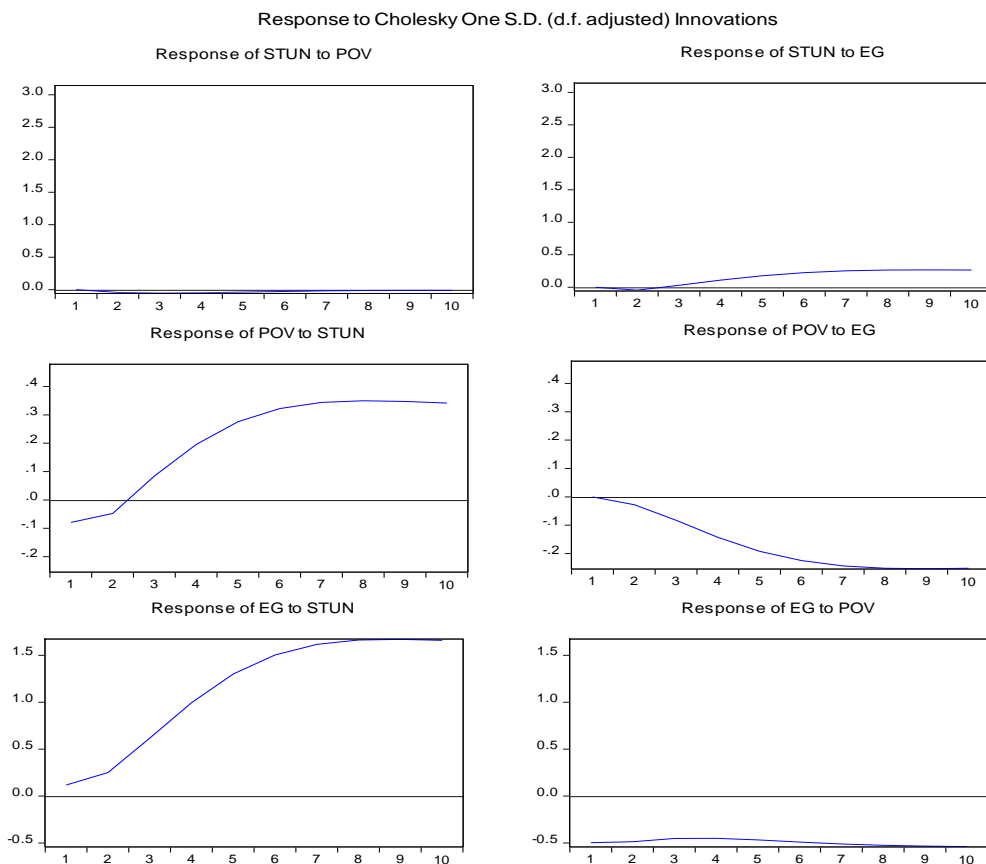


Figure 7. Impulse response function

Meanwhile, the response of economic growth to shocks from the stunting prevalence in the 1 to 10 periods tends to react positively or increase, this indicates that if shocks occur at a standard deviation from the stunting prevalence, then economic growth tends to react positively to stunting prevalence. Furthermore, the response of economic growth to shocks from the poverty rates in the 4 to 10 periods tends to react negatively, this indicates that if shocks occur at a standard deviation from the poverty level, then economic growth tends to react negatively.

Variance decomposition

Table 7 shows that in the period 2 horizon, the predicted stunting of around 99.26 percent came from the stunting variable itself, the remaining 0.038 percent came from poverty and 0.359 percent from economic growth. Furthermore, in the prediction horizon of period 10, the stunting prediction of 98.95 percent comes from the stunting itself, and the remaining 0.959 percent comes from poverty and 0.1054 percent from economic growth.

Tabel 7. Variance decomposition

Variance Decomposition of STUN:			
Period	S.E.	POV	EG
1	3.680319	0.000000	0.000000
2	4.383437	0.038026	0.035914
3	4.648107	0.113319	0.064189
4	4.756338	0.215501	0.081188
5	4.802695	0.334604	0.090971
6	4.823739	0.462172	0.096731
7	4.834277	0.591890	0.100293
8	4.840396	0.719513	0.102629
9	4.844607	0.842441	0.104257
10	4.847941	0.959235	0.105460
Variance Decomposition of POV:			
Period	S.E.	STUN	EG
1	0.441958	0.019989	0.000000
2	0.616607	0.061786	0.145621
3	0.743751	0.099282	0.260737
4	0.845072	0.130401	0.335199
5	0.929348	0.155739	0.383623
6	1.001247	0.176304	0.416523
7	1.063624	0.193044	0.439958
8	1.118388	0.206742	0.457359
9	1.166894	0.218030	0.470730
10	1.210151	0.227401	0.481292
Variance Decomposition of EG:			
Period	S.E.	STUN	POV
1	1.368072	0.001004	1.624721
2	1.433481	0.151630	1.610392
3	1.440568	0.282558	1.605523
4	1.441716	0.355481	1.603903
5	1.442035	0.390106	1.603311
6	1.442155	0.405487	1.603085
7	1.442204	0.412115	1.603013
8	1.442225	0.414927	1.603012
9	1.442234	0.416109	1.603044
10	1.442238	0.416601	1.603091

Cholesky Ordering: STUN POV EG

The poverty prediction for period 2 is around 99.79 percent sourced from the poverty variable itself, the remaining 0.61 percent comes from stunting and 0.146 percent from economic growth. Furthermore, in the period 10, predictions of poverty of 99.29 percent came from poverty itself, and the remaining 0.227 percent came from stunting and 0.481 percent from economic growth. Prediction of economic growth in period 2 around 98.23 percent comes from the economic growth variable itself, the rest of 0.151 percent comes from stunting and 1.61 percent poverty. Furthermore, in the prediction of periods 10, the predicted economic growth of 98.23 percent comes from economic growth itself, and the remaining 0.416 percent comes from stunting and 1,603 percent from the poverty level.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The conclusion from this study results is the priority handling of the problem of the high stunting prevalence focus in the islands of Sulawesi, Maluku, Kalimantan, Nusa Tenggara, and Papua. Furthermore, addressing the problem of economic growth slow focus in the Islands of Kalimantan and Sumatra. Meanwhile, the handling of high poverty levels focus on the islands of Sulawesi, Sumatra, Nusa Tenggara, Maluku, and Papua. On the other side of this study, we get evidence of unidirectional causality flowing from poverty rates and the stunting prevalence toward economic growth in the long-run. The contribution of the stunting case is more dominant to have an impact on slowing economic growth. We also find evidence of unidirectional causality flowing from economic growth and stunting to poverty levels in the long-run, the contribution of economic growth is relatively more dominant with an impact on reducing poverty levels. While there is no evidence of causality flowing from economic growth and poverty to stunting, we have also found that poverty rates have a relatively high contribution to the increase in stunting cases in Indonesia.

Recommendations

The implications of this finding shows that inclusive and sustainable policies or programs are needed to solve this problems since they are estimated to be caused by inequality of income and economic growth amongst regions. Things that should be prioritized are high growth and poverty, and also an inclusive economic increase to reduce growth rates by applying poverty alleviation programs. There are some limitations that have not been discussed until the unit is approved (for example in the level of district/city, sub-district, village) so future studies are recommended to make some updates in order to make them become more focused and on point.

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The determinant of commercial banks financial performance in Ethiopia

Ketema Sime¹; Kenenisa Lemie²; Endalew Gutu^{3*}

¹) Commercial Bank of Ethiopia Jimma District, Ethiopia

²) Management Department, College of Business and Economics Jimma University, Ethiopia

³) Accounting and Finance College of Business and Economics Jimma University, Ethiopia

**To whom correspondence should be addressed. Email: egutu2013@gmail.com*

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Abstract

The study was attempted to investigate determinants of financial performance of commercial banks in Ethiopian by using secondary data. The data were obtained from audited financial statements of five sampled commercial banks for the period of 1997 to 2017 and National Bank of Ethiopia. The study used return on assets (ROA) and return on equity (ROE) as dependent financial performance variable. Moreover, the study used bank specific variables as explanatory variables. Both descriptive statistics and econometrics model specifically fixed effects estimation were used to analyze the relationships of dependent variable with explanatory variables. The major findings of the study shows that bank specific determinants were very important in explaining financial performance of commercial banks. The management efficiency, customer deposit to total asset ratio, capital adequacy ratio, loan to deposit ratio were positively and significantly related to bank's financial performance. The study recommends that banks put a lot of focus on their own internal processes since bank specific factors have the biggest impact on their profitability. Most importantly, Ethiopian commercial banks should invest in expand in new geographical area and also upscale their innovation leading to products attractive to consumers. Competition, which is the main industry specific factor affecting profitability, should be handled through well designed marketing strategy.

Keywords: *Commercial banks, Financial performance, Internal factors*

JEL Classification: G21, G32

INTRODUCTION

Commercial banks play an important role in the development of a country. A sound, progressive and dynamic banking system is a fundamental requirement for economic development. As an important segment of the tertiary sector of an economy, commercial banks act as the backbone of economic growth and prosperity by acting as a catalyst in the process of development. They inculcate the habit of saving and mobilize funds from numerous small households and business firms spread over a wide geographical area. The

funds so mobilized are used for productive purposes in agriculture, industry and trade (Vossen, 2014).

Banking system as one part of financial institution plays an important role in economic growth and development of a country. Efficient banking system reflects a sound intermediation process and enhances the banks' sustainability. Efficient functioning of commercial banks' is a best indicator of effective monetary and polices (Aikaeli, 2008; Andries, 2010).

Banking system is very important for the modern economy. As financial intermediaries, banks pool resources from savers and distribute to potential investors, allocate resources, and provide liquidity and payment services. Considering this vital role, it is very important to develop a sound banking system in which banks operate with good performance. To measure performance of banking sector, two kinds of measurement, namely financial ratio measures and efficiency measures are widely used (Suzuki & Sastrosuwito, 2011).

Banks Financial performance is a measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. Aburime (2008) observed that the importance of bank profitability can be appraised at the micro and macro levels of the economy. At the micro level, profit is the essential prerequisite of a competitive banking institution and the cheapest source of funds. Hence the basic aim of every bank management is to maximize profit, as an essential requirement for conducting business. At the macro level, a sound and profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. Bank profits provide an important source of equity especially if re-invested into the business. This should lead to safe banks, and as such high profits could promote financial stability (Flamini .2009).

Bank financial performance is important because of its effect on the performance of the whole economy. Good financial performance of banks facilitates economic development by making the saving-investment process more smooth, efficient, and easier to reach. The failure of a single bank, on the other hand, can not only affect its shareholders and depositors but also the rest of other banks and all other business. This in turn causes major distress on the economy as a whole (Rao, 2017).

The banking sector in Ethiopia has become very competitive in the recent past with the players in the industry taking keen interest on the financial performance as it is the prerequisite for the banks survival both in the short term and long term. With the continued entry of new players in the industry and a rise in the number of non-bank financial institutions that also offer financial services, there is need for adoption of prudent management policies and strategies that propels the banks forward in terms of increased performance of which financial performance forms the major integral part. Banks face several risks in their operations which may affect their performance. These risks may be traced to the assets and liabilities of the bank which ultimately threatens the financial position of the bank and hence its long term survival (Joseph, 2015).

Banking sectors play a crucial role in the national economic development by balancing the flow of funds from surplus economic unit of the economy to deficit economic. Measurement of banking financial sector is cannot be neglected, since, it plays an important pillar role in financial sector of economy units (Khan, 2006). Schumpeter & Backhaus (2003) acknowledges and accepted the role of financial institutions and banks in economic development of the country.

All commercial banks provide services such as offering basic investment products, making business loans, and accepting deposits. Services like deposit collections and loan disbursement to and/or from large businesses or corporations as opposed to retail banking can be dealt with commercial banks. The term commercial bank also helps to distinguish it from investment banks because of their regulation is different in United States. (Belayneh, 2011).

In the 1990s, after the great depression the U.S congress separate the activities of both banks and the commercial banks only engage in banking activities whereas, investment bank where limited to capital market activities only(Samuel,2015).

Credit-related securities, interest rate service, make market in the currency, merchant banking and private equity financing, cash management and treasury, securities under writing commitments and other form of off-balance sheet exposure, performance bonds, providing documentary study guarantees, installment loans, lending money bay overdraft, accepting money on term deposit, issuing banks draft and banks cheque, providing internet, mobile and pos machine service, processing payment via telegraphic and electronic fund transfers are some common activities which provided by commercial banks (Samuel, 2015).

There are two common ways of classifying bank performance determinant factors. For instance, classified banks performance determinant factors are internal (bank specific) and external (macro-economic) factors. The bank specific (internal) factors are the characteristics of individual banks which can affect the performance of the bank. Bank specific or internal factors are operating environment and technology, human capital, management efficiency, business risk, loan performance, earning quality, liquidity, net-worth, asset quality, asset size and capital adequacy are some common internal determinants of banks performance. Macro-economic or external factors includes: bank concentration and regulation, inflation rate, real economic activities (GDP) and tax rate (Aburime, 2005).

The main objective of this study is to analysis the determinants of financial performance of commercial banks in Ethiopia. Depending on the reviewed developed theories by deferent researchers which have a relation with the banks financial performances and the reviewed literatures of different past empirical studies that has the relation with banks financial performances and the objectives of the study, the following eight hypotheses in this study.

- H1: There is positive relationship between capital adequacy and financial performance of the banks.
- H2: There is negative relationship between asset quality and bank's financial performance.
- H3: There is positive relationship between management efficiency and banks financial performance.
- H4: There is negative relationship between loan to deposit ratio and bank's financial performance.
- H5: There is positive relationship between liquidity ratio and bank's financial performance.
- H6: There is negative relationship between numbers of branches and bank's financial performance.
- H7: There is negative relationship between non-performing loan and bank's financial performance.
- H8: There is negative relationship between deposit to total asset ratio and bank's financial performance.

METHODS

Research design

A descriptive design was used in the study. Descriptive research design is a type of research method that is used when a researcher wants to get information on the current status of a person or an object. It is used to describe what is in existence in respect to conditions or variables that are found in a given situation.

Sampling technique.

The population of this study was public and private banks that were operated over the period of 1997/98–2017/18. The sampling techniques was non-probability judgment (purposive) sampling method. The most important criteria used was the Government and private commercial banks which submitted and completed their financial statements of twenty (20) consecutive based on age of commercial banks from year 1997/98 – 2017/18.

Data source and collection method

The researcher used secondary source of data. In order to analyze the effect of bank specific variables, computed ratios for five Commercial banks for twenty (20) consecutive years .i.e. from 1997/98-2017/18 GC were collect from the secondary sources of data obtained from published sources such as the National bank of Ethiopia.

Model specification of the study

The scope of the study is limited to examine the effect of internal factors that affect the financial performance of commercial banks, comprising of capital adequacy, asset quality, management efficiency, earning quality, liquidity, and numbers of branches, capital adequacy and operational efficiency.

A multiple linear regression model was used to determine the relative importance of each independent variable to determine banks financial performances. The multiple linear regressions model for return on asset (ROA) and return on equity (ROE) is shown on equations below. The left hand variable Y represents the dependent variable in the model, which in this particular study was the firm’s gross profit to total asset. X Contains the set of explanatory or independent variables in the estimation model. The adopted regression models are:

$$ROA_{it} = C_i + \alpha_1 CA_{it} + \alpha_2 ASQ_{it} + \alpha_3 MGE_{it} + \alpha_4 LIQ_{it} + \alpha_5 NOB_{it} + \alpha_6 LTD_{it} + \alpha_7 NPL_{it} + \alpha_8 CD_{it} + e_i \dots\dots\dots (1)$$

$$ROE_{it} = C_i + \alpha_1 CA_{it} + \alpha_2 ASQ_{it} + \alpha_3 MGE_{it} + \alpha_4 LIQ_{it} + \alpha_5 NOB_{it} + \alpha_6 LTD_{it} + \alpha_7 NPL_{it} + \alpha_8 CD_{it} + e_i \dots\dots\dots (2)$$

Whereas;

- ROA_{it} = return on asset of bank i at time t
- ROE_{it} = return on equity of bank i at time t
- CA_{it} = Capital adequacy of bank i at time t
- ASQ_{it} = Asset quality of bank i at time t
- MGE_{it} = Managerial efficiency of bank i at time t
- LIQ_{it} = liquidity of bank i at time t
- NOB_{it} = Number of branches of the bank i at time t
- NPL_{it} = nonperforming loan of the bank i at time t
- LTD_{it} = Loan to deposit Ratio of the bank i at time t
- CD_{it} = customer deposit to total asset ratio of the bank i at time t
- C_i = constant for each bank (fixed effects)
- a = bank specific factors
- t = 1997-2017

RESULTS AND DISCUSSION

Variable description

The determinants of financial performance banking sectors have been studied by many researchers across the world. However, the literature lacks more evidence regarding Ethiopian context. Thus, this study was conducted to examine the determinant of internal factor of commercial banks in Ethiopian context to contribute its own effort for the evidence.

Table 1. Variable description

	ROE	ROA	NPL	NOB	MGE	LTD	LIQ	CD	CAR	AQ
Mean	0.0347	0.02840	0.06143	139.96	0.388600	0.048800	0.44650	0.03728	0.036190	0.020746
Median	0.0370	0.02650	0.06750	58.000	0.371000	0.049000	0.43000	0.03750	0.026000	0.019450
Maximum	0.0980	0.09800	0.19300	1310.0	0.721000	0.102000	0.78000	0.09800	0.165000	0.044500
Minimum	-0.030	-0.0240	0.01000	7.0000	0.141000	0.014000	0.17000	0.00210	0.001000	0.013000
Std. Dev.	0.0258	0.02569	0.04895	225.51	0.145585	0.015191	0.15014	0.02166	0.032674	0.005660
Skewness	-0.1853	0.41417	0.57652	3.3923	0.279577	0.580538	0.45252	0.39536	1.341280	1.372564
Kurtosis	2.9371	3.16764	2.50120	15.146	2.298998	4.397399	2.53064	2.55756	4.610270	5.686652
Jarque-Bera	0.5890	2.97614	6.57639	806.56	3.350233	13.75343	4.33090	3.42077	40.78790	61.47428
Probability	0.7448	0.22580	0.03732	0.0000	0.187286	0.001032	0.11469	0.18079	0.000000	0.000000
Sum	3.4720	2.84000	6.14320	13996.	38.86000	4.880000	44.6500	3.72810	3.619000	2.074600
Sum Sq. Dev.	0.0663	0.06534	0.23729	503486	2.098302	0.022846	2.23167	0.04646	0.105693	0.003172
Observations	100	100	100	100	100	100	100	100	100	100

As indicated from Table 1, ROE measured by the net profit divided by total equity of the bank measures how much the banks are efficiently earning from funds invested by its shareholders. As shown the ROE within the period of the study was 3.4% while the median was 3.7%. The maximum ROE was 9.8% while the minimum was -3.0%. The average of ROA was 2.8%, median was 2.6 %, the maximum was 9.8% and minimum was -2.4%. It has a standard deviation of 0.026.

The average value of nonperforming loan (NPL) within the period of the study was 6.1% and the median 6.75%. Non performing loan was maximum and minimum with the values of 0.193 and 0.01 respectively. The average value of number of branch was 139% while median was 58%. The maximum value of number of branch was 1310 while the minimum was 7. It has a standard deviation of 225.

The average value of management efficiency (MGE) within the period of the study was 3.9% and the median 3.7%. Management efficiency was maximum and minimum with the values of 0.72 and 0.14 respectively, while the standard deviation was 0.145. The average value of loan to deposit ratio (LTD) was 4.88% while median was 4.9%. The average value of liquidity ratio (LIQ) was 44.6% while median was 43%. The average value of customer deposit to total asset ratio (CDTA) was 3.7% while median was 3.7%.

The average value capital adequacy ratio (CAR) was 3.6% while median was 2.6%. As revealed by the ten columns, the average value asset quality (AQ) was 2.07% while median was 4.4%. The maximum value of asset quality was 0.044 while the minimum was 0.013. Generally mean shows average of return of commercial banks from its asset and capital and maximum and minimum shows most profit and least profit from single birr prospectively.

The effect of internal factors on the financial performance of commercial banks

Under this parts of the study regression analysis for the financial performance of banks measures like ROA and ROE have been discussed to understand the relationship between banks financial performance measures and independent variables. Two regression analyses were done to know the relationship between financial performance measures and those independent variables like, nonperforming loan, liquidity ratio, capital adequacy ratio, loan to deposit ratio, number of branch, asset quality, customer

deposit to total asset ratio and management efficiency.

The effect of internal factors on ROA

To analysis the relationship between commercial banks financial performance measures and others independent variables two regression analyses were undertaken. The first one was examining the relationship between ROA and explanatory variables. The model of regression was applied as follow:

Table 2. The effect of internal factors on ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001418	0.018058	-0.078514	0.9376
NPL	-0.035588	0.052665	-0.675734	0.5009
NOB	3.38E-05	1.31E-05	2.577689	0.0116
MGE	0.035613	0.022010	1.618018	0.1091
LTD	-0.345925	0.172075	-2.010317	0.0474
LIQ	0.024172	0.016800	1.438859	0.1536
CD	0.397728	0.148430	2.679561	0.0087
CAR	0.172493	0.079461	2.170782	0.0326
AQ	-0.074712	0.510717	-0.146289	0.8840
R-squared	0.188368	Mean dependent var		0.028400
Adjusted R-squared	0.117015	S.D. dependent var		0.025691
S.E. of regression	0.024141	Akaike info criterion		-4.524091
Sum squared resid	0.053035	Schwarz criterion		-4.289625
Log likelihood	235.2045	Hannan-Quinn criter.		-4.429198
F-statistic	2.639965	Durbin-Watson stat		1.610631
Prob(F-statistic)	0.011951			

As the result indicated in above table loan to deposit ratio, and capital adequacy statically significant at 5% and also number of branch and customers deposit ratio statically significant at 1% management efficiency and liquidity ratio statically significant at 10% level of significances level with ROA. This means loan to deposit, management efficiency, number of branch capital adequacy ratio, customer deposit and liquidity ratio, have a great impact to improve the financial performances of commercial banks. Number of branch, capital adequacy, customer deposit ratio, and liquidity ratio has positive relationship with return on asset which is positive 3.38, 0.17, 0.39 and 0.024 respectively. This means increase in number of branch, management efficiency, capital adequacy, customer deposit ratio, and liquidity ratio directly related with the growth of capital of the bank, as the capital of the bank increase the ability of the bank to provide loan to borrowers also increase this leads the bank to get more return and having strong financial performance. Increase 1% in number of branch, management efficiency, capital adequacy, customer deposit ratio, and liquidity ratio is increase financial performance of bank by 3.38, 0.036, 0.17, 0.39 and 0.024 units respectively.

Loan to deposit ratio have negative relationship with ROA. This means as loan to deposit variables become increased the financial performances of the commercial banks become poor. When the loan to deposit becomes increase the cost of the bank also

increase this may directly damage the financial growth of the bank and decrease in financial performance. 1% increase in loan to deposit ratio is decrease financial performance of bank by 0.34 percent.

R-squared is measured the goodness and the fitness of independent variable in explaining the variations in banks financial performance measures of ROA. As the result indicated in the above table R-squared values for the model of regression was 0.188. This result tells us as all variables in this study jointly explain about 18.8 percent of the variation in the bank’s financial performance measure of ROA. The remaining 81.2 percent of the variation in the financial performances of commercial banks of Ethiopia were explained by other variables which is not included in the study. The model is well fitted at 5% percent significant level.

The effect of internal factors on ROE

ROE is a ratio derived from net income divided by total equity called return on shareholders ‘equity. It is also an essential profitability ratio that discloses the bank’s profit over shareholders’ investment (Guru, 2010). Under this section the second regression analysis was conducted to know how much ROE which is the bank earning on their equity investment in relation with independent variables included in this study.

Table 3. The effect of internal factors on ROE

Dependent Variable: ROE				
Method: Panel Least Squares				
Sample: 1998- 2017				
Periods included: 20				
Cross-sections included: 5				
Total panel (balanced) observations: 100				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.011053	0.011843	0.933295	0.3531
CAR	-0.309126	0.052113	-5.931816	0.0000
CD	0.628175	0.097345	6.453062	0.0000
LIQ	0.007867	0.011018	0.714036	0.4770
LTD	0.328081	0.112852	2.907174	0.0046
MGE	-0.026589	0.014435	-1.841979	0.0687
NOB	-9.08E-06	8.60E-06	-1.055226	0.2941
NPL	0.004624	0.034539	0.133863	0.8938
AQ	0.131166	0.334945	0.391604	0.6963
R-squared	0.694417	Mean dependent var		0.034210
Adjusted R-squared	0.667553	S.D. dependent var		0.027460
S.E. of regression	0.015833	Akaike info criterion		-5.367791
Sum squared resid	0.022811	Schwarz criterion		-5.133325
Log likelihood	277.3895	Hannan-Quinn criter.		-5.272898
F-statistic	25.84893	Durbin-Watson stat		1.400590
Prob(F-statistic)	0.000000			

Table above depict that the customer deposits, loan to deposit ratio, and capital adequacy ratio statically significant at 5% level of significances level with ROE. This means customer’s deposit, loan to deposit ratio, and capital adequacy ratio, have a great impact to improve the financial performances of commercial banks. Customer deposit ratio and loan to deposit ratio has positive relationship with ROE which is positive 0.628 and 0.328 respectively. This means increase in customer deposit, and loan to deposit ratio directly related with the growth of capital of the bank, as the capital of the bank increase the ability of the bank to provide loan to borrowers also increase this leads the bank to get more return and having strong financial performance.

Capital adequacy ratio and management efficiency has negative relationship with ROE. This means as Capital adequacy ratio and management efficiency variables become increased the financial performances of the commercial banks become decrease. OR 1% increase in customer deposit ratio and loan to deposit ratio in -0.309 and -0.0265 unit decrease financial performance of commercial banks.

This result tells us as all variables in this study jointly explain about 69.4 percent of the variation in the bank's financial performance measure of ROE. The remaining 30.6 percent of the variation in the financial performances of commercial banks of Ethiopia were explained by other variables which is not included in the study. The model is well fitted at 5% percent significant level.

Ben & Goaid (2008) in Yesmine & Bhuiyah (2015) examined the impact of bank characteristics, financial structure, and macroeconomic conditions on Tunisian banks' net-interest margin and profitability during the period of 1980 to 2000. They suggested that banks that hold a relatively high amount of capital and higher overhead expenses tend to exhibit higher net-interest margin and profitability levels, while size is negatively related to bank profitability. The study also concluded that during the period under study stock market development had positive impact on banks' profitability and private banks were relatively more profitable than their state owned counterparts. The results suggested that macroeconomic conditions had no significant impact on Tunisian banks' profitability.

Aworemi, Odeyemi & Oyedokun (2012), Akinwale (2011), Dickson (2012) carried out study in Nigerian Banking industry activities in Nigeria did not meet the desired objectives of liquidity, capital adequacy and corporate governance which have resulted to more troubled banks after the consolidation and studied Risk Management and Project Appraisal in Nigerian Banking industry. It was observed from the findings that Nigerian banks make use of risk analytical techniques in their investment appraisal.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The management efficiency and ROA have positive relationship. This means management efficiency has positively relationship with financial performances of the banks measures of ROA and have significant influence on the banks performances or an increase in management efficiency leads to increase in financial performances of commercial banks of Ethiopia.

Loan to deposit ratio have negative relationship with ROA. This means as loan to deposit variables become increased the financial performances of the commercial banks become poor. When the loan to deposit becomes increase the cost of the bank also increase this may directly damage the financial growth of the bank and decrease in financial performance..

Recommendations

The management organs of commercial banks of Ethiopia should be initiative to strengthen the internal factors like capital adequacy, management efficiency, and loan to deposit. Because of all commercial banks of Ethiopia have the same future vision which is to become financially strong banks.

Now a day most population of Ethiopians is not aware about the saving habits and how important of saving in bank. So, all financial intermediaries' in Ethiopia should create the awareness towards the saving habit and the importance of using bank and also they should expand their branch networks in each villages of Ethiopia and support the

development of the country by increasing number of branches, number of bank accounts per person, number of bank credit per person.

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Sustainable food crop production in karst area of Parigi, Pangandaran, West Java: preliminary study

**Reginawanti Hindersah^{1*}; Nia Kurniati²; Dadang Epi Sukarsa²; Rustam³;
Sondi Kuswaryan⁴**

¹⁾ Faculty of Agriculture, Universitas Padjadjaran, Indonesia

²⁾ Faculty of Law Universitas Padjadjaran, Indonesia

³⁾ National Geological Agency, Ministry of Energy and Mineral Resources, Indonesia

⁴⁾ Faculty of Animal Husbandry, Universitas Padjadjaran, Indonesia

**To whom correspondence should be addressed. Email: reginawanti@unpad.ac.id*

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Abstract

Karst formations in Selasari and Parakanmanggu Village of Parigi District, Pangandaran Regency, West Java includes dolines, subterranean stream, springs, and karst hills are useful for agriculture. The purpose of this study was to 1) identify the used of karst area for rice cultivation and local trees in karst area; 2) evaluate the benefit of rice cultivation and local tree for local communities and 3) asses the legal aspect for supporting food crop production. The study was done using qualitative-descriptive method with the primary data obtained from field observations, soil analysis, local tree identification, and interviews. Secondary data was obtained from the Regional Government and the National Geological Agency. The results showed that rice cultivation has been carried out in suitable soil by using simple and rainfed irrigation. Local fruit, herbs, timber and shade-ornamental tree grow naturally on the karst area. Tree logging without significant revegetation caused water supply shortage so that farmers only grow rice once a year. Although the rice productivity of both villages is lower than average rice productivity of Pangandaran Regency, rice is important to support local inhabitant's consumption and family income. Land Use Plan year 2018 regulates the general provisions on zoning regulations for agriculture in susceptible area but the regulation does not mention the karst areas. This study suggested that tree conservation is needed to maintain the existence of rice fields. Land use planning for agriculture in the region must be based on integrated considerations of rice cultivation and local tree conservation.

Keywords: *Karst region, Land conservation, Local tree, Rice.*

JEL Classification: Q15, Q23

INTRODUCTION

Karst is a type of landscape in the form of a basin or small hill which is formed through erosion and dissolution of limestone and dolomite (Hartmann, Goldscheider, Wagener, Lange, & Weiler, 2014). Karst area is a medium for water infiltration into the ground and creating groundwater and springs. On the surface, carbonate stones go

through dissolution process by rainwater and thus forming karst landscape which is characterized by hill, doline, cave and river (Radulovic, 2013).

Karst surface erosion causes the main rocks (regolith) to be exposed by the atmosphere and later form the soil (Klimchouk, 2014). Regolith weathering is important initial stage of soil formation; and integral part of agriculture in the karst area. The process of soil formation is slow and susceptible to erosion mainly in sloping area where rainwater easily moves the soil to the lower part. Eroded soil from the sloping area settles in the karst foothills and karst valleys (doline) where agriculture taken place. Soil in karst areas is generally high in calcium and low in fertility (Yang, Liang, Chen & Cao, 2015) but suitable for local food production.

Parigi district in Pangandaran Regency of West Java has karst landscape include hill and doline that intensively used for agriculture by communities. In most part of Pangandaran, agriculture is still important economic activity. Agriculture in the broad sense contributed to at least 26% of Pangandaran revenue; especially from rice, coconut, livestock and fisheries (Pangandaran dalam Angka, 2017).

Agricultural area in Pangandaran Regency is approximately 15,125 ha which is written in article 47 paragraph (2) of Pangandaran Regency Regulation No. 3 year 2018 about Pangandaran Regency Spatial Plans of 2018 - 2038. Allocation of land for agriculture in Parigi District area were 2,095 ha of rice field and 8,687.57 ha of dry land. Rice field consists of simple-irrigated and rainfed field which cover the area of 1,421 ha and 714 ha respectively. Parigi has 906 ha of State forest, 981.21 ha of community forest and 4,493.63 ha of community estate (Parigi dalam Angka, 2018: 31) which plays an important role in protecting land and water for agriculture, mainly lowland rice field.

Rice cultivation in the karst area of Parigi is important for food security as well as community income. Water is an important part in agriculture; the existence of ground water, subterranean stream, surface water and springs as a source of water for agriculture in karst areas (Baker and Groves, 2008). The watercourse is depends on karst hydrological functions that can be optimized, among others, by maintaining the presence of vegetation on karst. The karst formation process will create unique microclimates and habitats (Efe, 2014) that support indigenous plants and tree. On the other hand, without appropriate protection, vegetation in karst is vulnerable to damage by excessive anthropogenic activities. Protection of tree in karst hills is needed to strengthen the role of karst on water supply for rice field in the downhill. Hence, land use planning in the region should be based on an integrated consideration of both systems (rice cultivation and local tree) rather than considering the two systems independently (Nautiyal, Maikhuri, Semwal, Rao, & Saxena, 1998).

The geological aspects of karst in the Parigi District have been identified by the National Geological Agency in 2017 and 2018, but the existence of agriculture and vegetation in karst ecosystems of Parigi has never been studied. The objective of this research was to 1) identify the used of karst area for rice cultivation and local trees in karst area; 2) evaluate the benefit of rice cultivation and local tree for the communities living in studied area and 3) asses the legal aspect for supporting food crop production.

METHODS

The study was accomplished from July 2018 to September 2018 in Selasari Village and Parakanmanggu Village which located in Parigi District, Pangandaran Regency, West Java (Fig. 1). Both locations are located in the western part of Pangandaran where geological aspects of the karst have been reviewed by the National

Geological Agency in 2017. A humid tropical climate characterizes the area. The mean maximum and minimum monthly temperature at July and August 2018 was 28.7°C and 22.7°C respectively. In general, Pangandaran Regency has dry season (east season) and rainy season (west season) with annual temperature between 20°C-30°C, rainfall of 1.647 mm, and humidity between 85%-89%.

The research was carried out by used of descriptive qualitative method based on primary and secondary data. The description of karst land use was collected by field observations, interview and Focus Group Discussion (Astalin, 2013) that involve the communities living in study area. Rice production system was directly observed in field supported by primary and secondary data on soil characteristics. Soil organic carbon and acidity was measured from soil sample by using standard method for soil analysis (Eviati and Sulaeman, 2009); soil samples were taken by composite method.

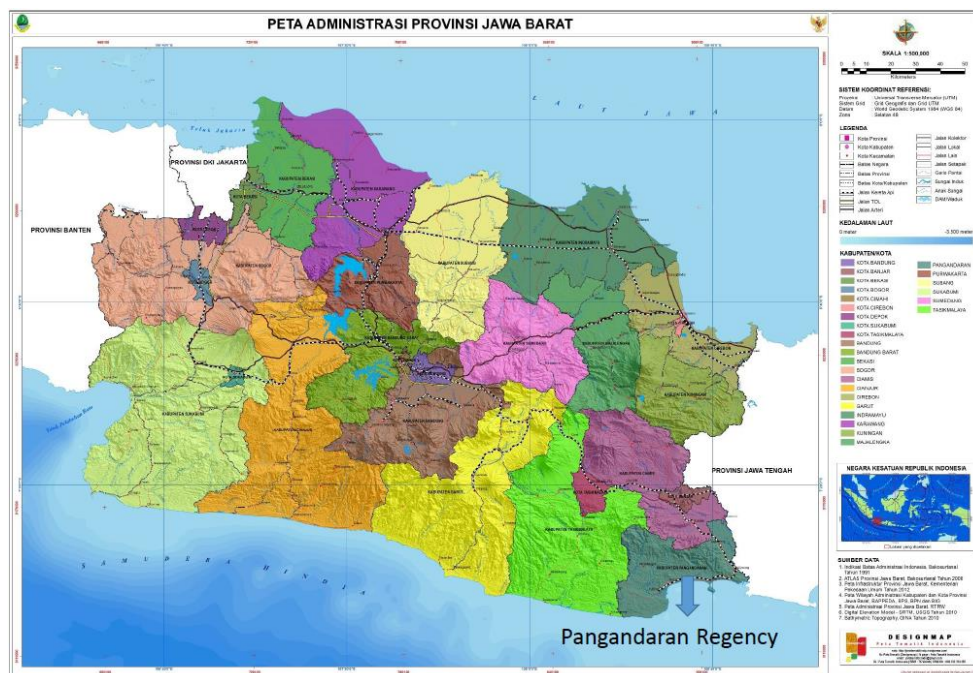


Figure 1. Pangandaran Regency is located at the southern and eastern ends of West Java Province

Purposive sampling based on non-random and subjective consideration; and convenience sampling which select the samples according to our wishes were chosen to establish a sample of karst area, as well as rice field and tree area to be studied. Secondary data were obtained from the Development Planning Agency and the Agriculture Office of Pangandaran Regency; and the National Geological Agency in Bandung, West Java. Local perennial tree exploration was carried out by identifying local trees on karst hills and grouping them according to their use by residents. Local names of trees were obtained through interviews and scientific names were determined based on binomial nomenclature.

RESULTS AND DISCUSSION

Parigi District has some geological features include dolines, subterranean stream, springs, and karst hills (Gunawan, Afrian, & Supratman, 2017) to support rice cultivation. Spring and subterranean watercourses way that come up to the surface (Fig 2) play an important role to irrigate rice field in the ridge of karst hill and doline.



Figure 2. Watercourses way in Karst area at Parakanmanggu Village (left) and Selasari Village (right) in Parigi District

Rice Cultivation in Doline of Karst Area

Rice fields was main agriculture in doline (Fig 3); a closed basin where eroded soil accumulated (Radulovic, 2013) forming a thick solum on its surface. The soil thickness in rice fields are up to 50 cm; enabling the cultivation of lowland rice that only requires a maximum depth of plow layer of 40 cm (Wahab, Abdulrachman, Suprihanto, & Guswara, 2017).



Figure 3. Rice field and vegetable in the dike irrigated by watercourse way from karst hill around the field.

Most of lowland rice field in both villages received water from simple irrigation system made by the communities and rainfed irrigation. Before transplanting, soil is plowing by mixing with roots of previous paddy and then harrowing with traditional methods; farmers do not use tractor in soil preparation. Paddy farmers carry out conservation farming techniques by forming terraces in steep land; and they prefer to cultivate the rice in the flat area of doline instead of steep area. Rice is never grown on the ridge of karst hill due to shallow soil and rock will inhibit root growth.

Soil contained soil organic matter as much as 2.4% equal to 1,39 % of organic carbon so that the soil particles are stable, support the development of soil microbes, the availability of plant nutrients, and provide optimal growing media for roots (Bot and Benites, 2005). Neutral acidity of 6.8 ensure the availability of macronutrient nitrogen, phosphate and potassium; as well as prevents excessive uptake of ferrous ions and other (heavy) metal (Hartatik, Sulaeman & Kasno, 2005; Oseni Olalekan, Taiwo Abayomi,

Ijaola Taiwo, & Yenusa Luqman 2016). The method of rice cultivation in study area is in line with the principles of Integrated Crop Management for irrigated lowland rice through the adoption of technology which adjust with local conditions to preserve the nature (Abdulrachman, Mejaya, Sasmita, & Guswara, 2013).

Rice production in Pangandaran at 2016 was 189,990 tons in which 98,68% was lowland rice but no rice production data of 2017 as well as 2018 (Pangandaran dalam Angka, 2019). The harvested area of lowland rice Pangandaran Regency was 31,131 ha while in Parigi was 9,928 ha in 2016 (Pangandaran dalam Angka, 2019). Parigi Subdistrict didn't have accurate data of both Selasari and Parakanmanggu rice production. The area of paddy fields in both village is 359 ha. According to personal communication with Agricultural Extension Worker, the average productivity of lowland rice in both villages are only 4 tons/ha lower than that of Pangandaran, 6-8 t/ha. However, both villages contributed 1,436 tons of rice to Pangandaran's rice production. Currently rice production in both villages increased and reach up to 2,154 t per year. Although local government has no accurate data, it is clear that rice in the karst area contributes to the availability of rice in Parigi and Pangandaran.

Farmers in Selasari and Parakanmanggu grow introduced rice recommended by the government, namely Ciherang, IR64 cultivars and currently Inpari 43. However, inhabitant and farmers think that the taste of rice grown in Selasari and Parakanmanggu is better than rice in the market so that they never buy rice. Significant contribution of rice to their daily consumption and income is showed; farmers also sell their surplus rice for additional income. Rice cultivation is local wisdom and very important for food safety; the villages had the silo where the inhabitants store the rice as a reserve when rice cultivation is limited due to water supply shortage.

Rice cultivation patterns in the Parigi karst area carried out by farmers and community is along with the agricultural development model in the karst area proposed by Linhua (1999). The cultivation of economic food crops taken place in moderately deep soil and growing annual crops on the top and ridge of karst hill. However, conservation on karst hills, such as simple terraces and individual terraces has not been done in Parigi except for rice fields (Fig. 3). Terraces in karst areas can reduce erosion, as well as increase water infiltration and soil thickness for plant growth (Linhua, 1999; Urich, 2002).

According to local farmers, ten years ago they can cultivate rice twice or three times a year by irrigating the paddy field with water in the creek and springs even in dry season. Nowadays rice production is really depend on rain water. Due to drought under karst ecological conditions in both village, the yield of rice is low. Although in Indonesia 2.5 million ha of rainfed lowland paddy is the second contributor to rice production after irrigated rice, maintaining the sustainability of rice cultivation under existing karst conditions in both villages is not guaranteed without special efforts. Deforestation and illegal logging by local inhabitants in the karst hill cause serious problem in water availability for paddy field. It is inevitable that now and in the future, planting rice in Selasari and Parakanmanggu needs to lift water from underground waterways.

Local Tree Biodiversity

Karst Hill in both village is believed covered with perennial indigenous trees which used as timber. Intensive logging in the past resulting the devegetation of karst hill. The communities carried out revegetation program by planting sengon tree (*Paraserianthes falcataria* (L.) Niels.) and taro (*Colocasia esculenta* L.) between trees but still leaves open spaces that might induce soil erosion (Fig. 3).

At least 34 local trees grow on karst hill between the rocks and in doline (Table 1). Different indigenous trees grow scattered on karst hills. Tree biodiversity in studied area can be categorized into a group of fruit, wood, herbs, and shade-ornamental trees. The type of tree that can adapt in karst depends on the topography (Guo et al, 2017), soil formation (Atalay, 1991) and the physical and chemical properties of limestone (Efe, 2014).



Figure 3. Taro is cultivated by purpose in the ridge of karst hill where the community grows sengon as cash crops

The communities use the trees mainly for food and construction materials, as well as shade plants. The important plants are *Arenga pinnata* (Wurmb) Merrill (Indonesian: Aren; Sundanese: Kawung) and coconut. Starch is extracted from the stem of aren while coconut fruits are purchased; both of commodities are traditional cash crops. Woody plants such as Wangkal, Kiara, Suren, Ki Teja and Ki Rinyuh are utilized as medium quality wood for home construction. Albizia and Kiara (bamboo) are good quality wood that they sell when cash is needed. Bamboo is multipurpose construction material and became a part of the family economy; bamboo is also socially important. The communities used bamboo to build the house, non-permanent buildings and bagan (fishing platform; liftnet) for catching the fish in the ocean; as well as to make stalks for climbing food crops.

Local fruit trees (Kokosan, Nangka and Pisitan) do not provide economic benefits but they are source of vitamins and minerals for the inhabitants. Important economical local legumes trees are Jengkol and Petai since they are a part of local culinary in West Java; while most of the surplus beans was stored, surplus Jengkol and Petai were sold for cash.

Trees are grown in community forest although a part of forest belong to a person or family without certificate of ownership. That natural resources are a social capital correlated to trust, social norms, and social networks developed in the community (Roslinda, Ekyastuti, & Kartikawati, 2017). Local tree in both villages provide a means by which inhabitants can take part in conserve the tree and obtain benefits. The interrelation among forests (trees), agricultural systems and role of people are recognised as key to climate change adaptation. Limited access to tree logging is a way to imply better forest tree preservation to ensure sustainable exploitation of tree products (Matsvange, Sagonda, & Kaundikiza, 2016). In the case of Selasari and Parakanmanggu vilages, ensuring tree growing is a way to sustain the water availability for rice cultivation.

Table 1. Indigenous tree grown naturally on the top of karst hill in Batu Lumpang garden, Tawangmangu Village, Parigi District

Local Name	Binomial name	Local Name	Binomial Name
	Fruits Tree		Shade and Ornamental Tree
Kokosan	<i>Lansium domesticum</i> (Corr) cv. Kokosan	Heras/Laban	<i>Vitex pinnata</i> L.
Nangka	<i>Artocarpus heterophyllus</i> Lam.	Huru	<i>Litsea</i> sp.
Pisitan	<i>Lansium parasiticum</i> (Osbeck) Sahni & Bennet	Kanyere	<i>Vitex trofolia</i> L.
Kelapa	<i>Cocos nucifera</i> (L)		
	Herbs Tree	Ki Ciyat	<i>Ficus fistulosa</i> L.
Jengkol	<i>Archidendron pauciflorum</i> (Benth.) I.C. Nielsen	Ki Rinyuh	<i>Eupatorium inulifolium</i> Kunth.
Kawung	<i>Arengga pinnata</i> (Wurmb) Merill.	Ki Teja	<i>Daphiniphyllum</i> <i>glaucescens</i> Blume.
Picung	<i>Pangium edule</i> Reinw.	Kiara Tapak	<i>Ficus</i> sp.
Salam	<i>Syzygium polyanthum</i> (Wight) Walp.	Kondang	<i>Ficus variegata</i> Blume.
	Wood Tree	Kopeng	<i>Filicium decipiens</i> (Wight & Arn.)
Bambu Awi (Haur)	<i>Phyllostachys</i> sp.	Kopo	<i>Syzygium densiflorum</i> Wall. ex Wight & Arn
Bambu Kiara Suren	<i>Fargesia</i> sp. <i>Toona Sureni</i> (Blume) Merr.	Loa or Ara Mara	<i>Ficus racemosa</i> L. <i>Macaranga tanarius</i> (L.) Müll.Arg.
	Shade and Ornamental Tree	Nangsi	<i>Villebrunea rubescens</i> (Bl.)
Albasia	<i>Albizia Falcata</i> (L)	Pangsor	<i>Ficus callosa</i> Willd.
Bungur	<i>Lagerstroemia speciosa</i> L.	Petai	<i>Parkia speciosa</i> Hassk.
Cayur	<i>Pterospermum javanicum</i> Jungh.	Pongporang	<i>Oroxylum indicum</i> (L.) Vent
Hantap	<i>Pterocymbium tinctorium</i> Merrill.	Sulangkar	<i>Leea sambucina</i> (L) Willd
Hampelas	<i>Ficus ampelas</i> Burm. f	Wangkal	<i>Albizia procera</i> (Roxb)
		Waringin	<i>Ficus benjamina</i> L.

These trees In particular area, rocks have been exposed between the trees showing the removal of vegetation in the past (Fig 4). Vegetation on karst plays an important role in the karst ecosystem because it reduces surface water and guarantees a balance of water infiltrate into the karst system (Liu et al., 2013). Excessive exploitation (logging) of timber tree at certain karst hill has led to deforestation and limited water reserves for rice cultivation.

The sustainability of food crop production in the karst area is not only determined by environmental and cultivation factors, but also depend on regulations and policies of the land use for agriculture in karst landscape. Actually, "Agricultural Area" has been determine by Regional Regulation of Land Use Plan year 2018. The Pangandaran Government has already allocated a total of 20,122 ha of land as the "Sustainable Food Crops Agricultural Zone" in accordance with Law No.41 of 2009 concerning Protection of Sustainable Food Crops Agricultural Land. The purpose of said regulation is

protecting the area and land for food crops agriculture and assuring the availability of sustainable agriculture. Nowadays Pangandaran Regency has not yet Regency Spatial Detail Plan and their zoning regulations. Once the Spatial Detail Plan is put out, the regulation of sustainable agricultural land for food crops should be complied with the plan.



Figure 4. Local tree grown naturally in the top of karst hill in Batulumpang Garden where devegetation leaving the bare rocks

Land Use Plan year 2018 also regulates the general provisions on zoning regulations for agriculture in area susceptible to landslide, earthquake, mudslide, or sinking of the earth. Although the regulation does not implicitly mention the karst areas, these general rules remain comply with vulnerable karst areas. Implementation of Karst Landscape Area in Pangandaran will assure the production of rice and other food crops are carried out on the save and legal area. Protected Karst Landscape Area, include their vegetation and hydrology, is important for sustinable food crops production which is in turn enhance communities heath and revenue.

CONCLUSIONS AND RECCOMENDATION

Conclusions

Rice cultivation method in both villages are in line with the principles of Integrated Crop Management for lowland rice through the adoption of technology which adjust with local conditions to preserve the nature. Karst area provide land and water for rice cultivation in studied are that contribute to rice production of Parigi District as well as Pangandaran Regency. Although the rice productivity of both villages is lower than average rice productivity of Pangandaran Regency, rice is important to support local inhabitants consumption and family inome.

A total of 34 local trees include fruit, herbal, wood and shade-ornamental groups were found in the karst of the studied area. Trees benefit the communities by improving air quality, providing shade, increasing family income and providing water for rice cultivation. Lack of irrigation water due to tree logging by inhabitants cause the change in rice planting season. Currently the farmer only grow rice once a year. This situation

threaten the family income, food safety, and sustainable rice production it self. Despite of usefulness of tree in karst area, vegetation conservation and revegetation with local tree has not yet been done.

Recommendations

This research suggested that local trees need to be studied more as a part of forest or garden conservation which is including establishment local trees nursery to support revegetation with plant adaptive to harsh local conditions. Moreover, the local government should develop permanent irrigation system by taking advantage of underground waterways and spring water. Otherwise the availability of water sources is depend on the tree growing in upper zone of karst area. Sustainable food crop production in the karst area actually has been regulated by some general regulation but land use planning for agriculture in the region should be based on an integrated consideration of rice cultivation and local tree conservation.

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Investigation of corruption prevention plan in construction industries

Aditya Arie Hetami; Muhammad Fikry Aransyah*

Department of Business Administration, Mulawarman University, Indonesia

*To whom correspondence should be addressed. Email: fikryaransyah@fisip.unmul.ac.id

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Abstract.

The business construction in Indonesia is subject to widespread corruption. The efficiency of business construction operations is constrained by corrupt judiciaries, which complicate the resolution process and weaken the protection of property rights. Construction industry corruption undermines the results of Indonesia's construction project and construction industry. The purpose of this paper is to provide an overview of corruption in construction activities so that stakeholders have exposure and discuss the prevention plan of corruption practices. A complete literature review identified a total of 10 preventive corruption practices in the construction industry were (1) enforcement of the law, regulation, and sanction; (2) high integrity and honest construction culture; (3) active reporting channel; (4) audit mechanism; (5) code of conduct; (6) public disclosure; (7) whistle-blowers protection; (8) Comprehensive supervision; (9) appropriate training program; and (10) income level adequacy. This paper seeks to thoroughly investigate an effective preventive plan in corruption practices, especially the construction sector. It provides insight and increases awareness of corruption practices among the construction stakeholders and society.

Keywords: *Construction business, Corruption, Prevention plan*

JEL Classification: D73, L78

INTRODUCTION

One thing that is hampering Indonesia's economy today is the slow pace of construction development - this is marked by the lack of quality and quantity of construction or infrastructure. Indonesia's infrastructure seems to have difficulty encouraging structural and rapid development in Global Competitiveness Report 2015-2016, compiled by the World Economic Forum (WEF). In WEF, Indonesia ranks 62nd out of 140 countries in terms of construction development, where this ranking showed in common work standards but instead caused several significant problems in the Indonesian economy (Indonesia Investment, 2019).

Moreover, corrupt practices in the construction industry damage the reputation of the industry. It causes investors to lose their trust in the construction industry of the country. The corruption practices create distrust towards the companies, and the corrupt practices have been generated as a culture. Thus, corruption is worsening in the construction industry (Melgar, Rossi, & Smith, 2010). On the other hand, the high level

of corrupt practices in a country also affects the consideration of global institutions to invest in the market of the country (Olken, 2007).

It is essential to define the preventive plan and implement the preventive plan actively and progressively in order to prevent aggravation of the corrupt practices and also reduce its consequences towards the construction industry. The preventive plan is significant because prevention is always better than curing the problems that arose. This paper seeks to thoroughly investigate corruption practices in the construction sector, which are capable of developing an effective preventive plan. It provides insight and increases awareness of corruption practices in the Indonesian construction industry among the construction stakeholders and society.

In conclusion, there are still various undiscovered effects of undertaking corruption practices in the construction industry towards the country. These consequences, which are imposed by the corrupt practices in the construction industry, ruin the healthy development of the country and should not be overlooked. Therefore, research on corruption practices in the construction industry is necessary to examine the existence of corrupt practices in order to generate an effective preventive plan to reduce corruption practice in the Indonesian construction industry.

LITERATURE REVIEW

Corruption practices

Corruption practice is a global phenomenon and commonly exercised in the business all around the world, which undermines the contribution towards the development of the country. Some researches highlighted the illegal nature of corruption and defined corruption variously. Corruption is an umbrella term that covers various wrongful acts that abuse the responsibilities for private interest. In other words, when the corruption topics are brought up, the intention and benefits of the corruption participants will be discussed simultaneously. Corruption is a fraudulent behavior regularly undertake by those with unethical intentions to obtain personal benefits through the shortcut (Cuervo-Cazurra, 2015).

Besides, the Indonesian Criminal Code defines corruption as an act against the law to enrich oneself or others, both individuals and corporations, that can harm the country's economy. There are 30 criminal acts of corruption, which are categorized into seven types, namely state financial losses, bribery, extortion, embezzlement, fraud, conflict of interest in the procurement of goods and services, and gratification.

Corruption practices ordinarily comprise two parties include the giver and recipient, at which giver requests the recipient to perform a hidden task which is within the recipient's job scope in order to acquire certain benefits. Moreover, it involves underlying economic relationships such that a person offers monetary benefits to the other party to persuade the party to assist him or her to gain certain advantages instead of upholding their position (Rose-Ackerman, 2006). The corruption practices are about inducing the official to abuse his position by offering benefits like payment and promise.

Due to the existence of different forms of corruption practices, a list of forms of corruption is summarised under Table 1. to describe each of the corruption forms with the construction activities.

Table 1. Forms of corruption in construction industry

Form of Corruption	Description
Bid rigging	The tenderer intentionally establishes a restricted situation (e.g., short time limit and insufficient requirement) during tendering to help the preferred tenderer win the tender.
Bribery	Payment to gain advantage or avoid disadvantage in projects. ' The payment can be in cash, affirmative appointments, and special privileges.
Collusion	All tenders collude the overall tendering costs for significant projects, intentionally raising or lowering the tendering costs to create a situation familiar to high tendering costs.
Conflict of interest	Professionals who can not perform their roles impartially due to conflicting personal or professional interest in a construction project. For example, a site supervisor supervises a site on behalf of the contractor, but the site supervisor has a customer relationship.
Dishonesty and unfairness	Untrustworthy and unequal conduct that is common in tendering, contract negotiation, and building. For example, contractors generate sub-standard works, overclaim project expenses, and gender bias.
Embezzlement	The client misappropriates the construction projects fund leading to delay payment to the contractor resulting in project postponement and failure.
Extortion	Conduct in the form of pushing bribe extraction and demanding assistance from major parties to achieve the desired outcome. Extortion occurs typically between two project groups, for example, from the main contractor to the subcontractor and from the client to material suppliers. It also abuses project funds that include supplying other citizens with illegal income.
Fraud	A common type of corruption involving document alteration and deliberately misguiding and concealing documents, theft of equipment, and materials, producing fake invoices for materials not obtained on-site.
Front companies	The organizational entities created by the senior client or government organization staff to gain unlawful benefits in the rewarding construction contract.
Kickback	The tenderer offers the client's consultant economic advantages in return for favored outcomes, such as tendering and extending the tendering period.
Negligence	A practitioner who cannot exercise honesty and ethical behavior. Negligence practices include insufficient design due to poor material quality, craft, and supervision.
Nepotism	Apply to actions in which a tenderer can secure a construction tender due to an organization staff's assistance that may consist of unique relationships like a family relationship. This corruption activity undoubtedly decreases project efficiency if the awarded tenderer is not eligible.

Source: Vee & Skitmore, 2003; Alutu, 2007; De Jong, Henry, & Stansbury, 2009; Hartley, 2009; Bowen, Edwards & Cattell, 2012; Edwards & Cattell, 2012; and Le, Shan, Chan & Hu., 2014b

METHODS

The literature review includes secondary research data. In this research, the definition of corruption in connection with prevention construction activities will be discussed in order to provide readers with a better understanding of corruption in the construction industry. The literature review takes place in order to provide a comprehensive overview of the research topic based on local and international corruption issues in the construction sector. In order to contain corruption activities and

to reduce the number of unethical actions in the construction industry, the impacts of corruption practices and future prevention measures will be analyzed and addressed.

RESULTS AND DISCUSSION

Enforcement of law, regulation, and sanction

Corruption practice is a crime and generally committed under the table, causing difficulties in discovering such practice. In such circumstances, the law enforcement and regulation are crucial to combat corruption in the construction. Law and regulation, especially regarding the corruption practices, should be comprehensively enforced in the construction industry to reduce the corruption rate (Gunduz & Önder, 2013; Kenny, 2009; Sohail & Cavill, 2006; Zou, 2006; Nordin, Takim & Nawawi, 2012; Le Shan, Chan, & Hu, 2014a). However, the existing corruption-related laws and regulations should also be improved to reinforce the anti-corruption precautions strictly within the construction industry.

The research study of Zou (2006) regarding the preventive corruption plan in China received a respond from interviewee which claimed that besides strengthening the management of construction organizations, the laws, and regulations, as well as sanctions in the construction industry, is a must to prevent vulnerability to the unscrupulous practitioners to practice corruption acts. The establishment of strict sanctions can increase the fear of corruptors, which eventually reduces corruption practices (Tabish & Jha, 2012). However, construction regulations like rules in contractor selection, dispute resolution, and implementation of construction must be established (Sohail & Cavill, 2006). Inadequate publication of amended regulation creates vulnerabilities to unethical practitioners as it fails to gain the attention of construction stakeholders towards the amendments (Nordin, Takim & Nawawi, 2011). Not only developing corruption-related laws and regulations, the existing laws and regulations should also be reviewed strictly in combating the corrupt practices in the construction industry. On the other hand, Nordin, Takim, & Nawawi (2012) emphasized that it is crucial to ensure that the development and maintenance of the corrupted-related laws and regulations are unambiguous and understandable (Yee, 2019).

The laws and regulations to deal with the corruption practices should be implemented fairly and strictly to all the construction practitioners (Kenny, 2009) regardless of the position or status of the practitioners in the construction industry (Nordin, Takim & Nawawi, 2012). It is critical to make sure that there is no personnel escape from the sanction of the corrupt acts by paying a bribe. It is essential to ensure that the laws and regulations are established and implemented at the same time in the construction industry to eliminate corruption practices (Zou, 2006). Other than that, the existing sanction towards the unscrupulous construction practitioner should be review in order to increase the fear of immoral construction practitioners to participate in the corruption activities and reduce the potential in committing unethical behaviors in the construction projects. Zou (2006), Sohail & Cavill (2008), Nordin, Takim, & Nawawi (2012) & Le, Shan, Chan, & Hu. (2014a) mentioned that the corruption cases in the construction projects should be investigated strictly to discover the corruptors, and such corruptors must be punished severely and according to their acts. It can reduce the corrupt practices in the construction projects as individuals tend to learn from experience and correct their wrongdoing after the punishment.

In order to understand the core of the corruption prevention plan, it is significant for existing laws and regulations relating to corruption strengthened to reinforce anti-

corruption measures exclusively within the construction industry. In addition to creating laws and regulations related to corruption, existing laws and regulations should also be strictly checked to combat corrupt practices in the construction industry. It is also essential to ensure that there is no personal exemption from punishing illegal acts by paying the bribe. Other than that, the current sanctions against the unscrupulous construction practitioner should be checked to increase the apprehension of dishonest construction practitioners to engage in corruption activities and reduce the potential for unethical behavior in construction projects. It can eliminate corrupt practices in construction projects as individuals tend to learn from experience and right after the punishment.

Effective reporting channel

One of the most effective ways to contain the increasing number of corruption cases is through a practical and protected reporting channel (Yee, 2019). The corruption acts in the construction projects cannot be uncovered quickly by law enforcement units, especially when the evidence of the corruption acts is unavailable most of the time because such acts are always able to be concealed (Bowen, Edwards, & Cattell, 2012). Therefore, the reporting channel is vital as it provides a platform for people to report the cases immediately to the law enforcement units when they realized the corrupt acts happen.

The whistle-blowing hotline should be provided effectively and formally in order to allow the corruption practices to be discovered (Bowen, Edwards, & Cattell, 2012; Gunduz & Önder, 2013). The whistle-blowing hotline should act as a formal channel that permits the public to contact the law enforcement units once they discover the corrupt practices in the construction projects. A protected whistleblowing hotline encourages the public to report incidents of corruption (Gunduz & Önder, 2013). In most cases, the main factor which causes the whistle-blowers to give up on reporting the corrupt acts in the construction projects is that they are unable to find a correct platform to report the corrupt acts. Therefore, it is urged that the anti-corruption community create an active whistle-blowing hotline in the Indonesian construction industry to the public in order to uncover more of the corruption activities in the construction projects.

However, active reporting channel is also one of the critical preventive plans to corruption practices. The active and efficient reporting systems, such as an independent hotline for corruption, should be adopted and implemented in order to unearth the hidden corruption practices (Owusu, Chan, Degraft, Ameyaw, & Robert, 2019). The development of a well-structured whistle-blowing mechanism act as a deterrent to corruption practices as it encourages ones to report the identified and probed corrupt cases without fear (Oladinrin, Ho, & Lin, 2016) and without exposing identity. The establishment of a healthy whistle-blower plan which protects the whistle-blowers is also vital to stimulate ones' encouragement to disclose the corruption acts (Sohail & Cavill, 2008).

Therefore, a corruption prevention plan can start from creating a forum for people to report crimes to law enforcement agencies immediately when they know the illegal actions happen. An active monitoring platform, however, is also a vital prevention mechanism for corruption activities. Developing a well-structured whistle-blowing system serves as a deterrent to unethical activities because it allows people to expose corrupt cases without apprehension and without revealing identity. Setting up a healthy whistle-blower plan to protect whistle-blowers is also essential to promote the motivation of those to report corruption actions. In most cases, the critical thing that

causes whistle-blowers to give up exposing corrupt actions in construction projects is that they can not find the right forum to expose corrupt actions. Therefore, it is urged that the anti-corruption movement establish an active whistle-blowing hotline for the public in the Indonesian construction industry to expose more corruption activities in construction projects.

High integrity and honest culture

An honest culture in the construction industry helps to promote and develop positive values, high level of moral and ethical standards among the construction practitioners. The construction projects are made up of different concurrent activities and involve a variety of parties; it causes difficulties in supervising every construction activity. Therefore, the development of honest and anti-corruption culture is an essential key to ensure that the corrupt practices are kept in a minimum amount in the construction industry. The establishment of ethical construction culture in the construction industry can minimize corrupt practices effectively in the construction industry (Zou, 2006).

Not merely the construction companies, the government also plays a significant role in promoting ethical and high integrity construction culture in conducting the construction projects all the time (Nordin, Takim & Nawawi, 2012; Zou, 2006). The government should prevent creating a culture like corruption will not be unearthed quickly. Furthermore, in order to create an honest and ethical culture in the construction industry, several approaches like recruiting competent leaders, staff training, increasing awareness, and developing trustworthy reporting channels can be considered.

Furthermore, the construction practitioners themselves are the vital key to develop and promote an honest and clean culture within the construction industry. Controls on the employee selection must be significantly applied in the construction industry in order to filter out the unscrupulous individuals to reduce corrupt acts in the construction projects. Gunduz & Önder (2013) proposed that before the employment of the construction practitioners in the construction companies, several verification and checks should be conducted. For instance, past employment, education, and certification should be examined and verified strictly to inspect whether there is past involvement in the corrupt practices of the recruiters. Besides that, the ethical behaviors of the construction practitioners should be rewarded at the right time in order to build a positive construction industry culture (Yee, 2019).

Therefore, a corruption prevention plan can start from high integrity and honest culture. It is proven that this culture in the construction industry helps foster and grow positive values, high moral and ethical standards among building practitioners. Building projects consist of numerous overlapping tasks and include many parties; it creates difficulties in managing any building operation. Therefore, cultivating an ethical and anti-corruption culture is key to ensuring that unethical practices are held to a minimum in the construction industry. The government should not easily dismantle a society like corruption. Therefore, to build an honest and ethical culture in the construction industry, many strategies can be considered, such as hiring competent leaders, training staff, raising awareness, and creating trustworthy reporting channels.

Audit mechanism

An audit can be defined as a mechanism to examine the financial report of a company by an independent external organization. The construction audit is to inspect various aspects of the projects in order to ensure the projects are performing accordingly

and align with the agreed contract. The audit mechanism in the construction industry stands a crucial role in managing construction projects. In order to reduce the corruption rate in the construction industry, strict audit mechanisms should be developed in construction projects to control the processes (Gunduz & Önder, 2013; Le, Shan, Chan, & Hu, 2014a; Zou, 2006; Le, Shan, Chan, & Hu, 2014b; Sichombo, Muya, Shakantu & Kaliba, 2009).

Moreover, the audit mechanism is a crucial preventive strategy for corruption practices (Yee, 2019). The corruption crime is not apparent due to its distinctive character with the other criminal cases such as lack of crime scene, left-over impression, and fingerprints and the involving parties are often found unwilling to reveal the truth. Therefore, it is often unable to be revealed and followed up (Owusu, Chan, Degraft, Ameyaw, & Robert, 2019). In order to discover the hidden corruption acts in construction activities, adequate probing measures, and investigation have to be implemented (Man-wai, 2006). Comprehensive technical auditing on a construction project must be performed to audit the construction projects documents, work done and technical specification (Sichombo, Muya, Shakantu & Kaliba, 2009; Zou, 2006) as well as contractual details like contract variations (Shen & Song, 1998; Sohail & Cavill, 2006). The auditors should become familiar with adequate auditing mechanisms in order to successfully uncover corruption risk and conduct (Man-wai, 2006). It is due to one who does not understand the construction process to discover illegal activities due to the complex nature of construction (Sichombo, Muya, Shakantu & Kaliba, 2009).

Sichombo, Muya, Shakantu & Kaliba, (2009) mentioned that the adoption of technical auditing should be committed in the pre-contract and post-contract stage, and it helps to lower the construction cost by minimizing and overcoming the corrupt practices in the construction projects. Meanwhile, the post-contract audits can evaluate the difference between the contract requirements and physical works. Zou (2006) also stated that the audit mechanism is necessary for the construction projects and should be carried out on the final account of the construction project to ensure that the works are done according to a quality standard, and the claiming are based on the work done at the site.

Nevertheless, Gunduz & Önder (2013) proposed two types of technical audit mechanisms to the construction projects, which include internal and external audits. However, the adoption of internal audits in the Turkish construction industry is a more popular method to prevent corruption compared to the external audit. The internal audit focuses more on the issues regarding the construction project practices and processes in order to manage the relevant risks. However, the external audit focus on the examination of the financial accounts of the construction projects to determine if the records are reflecting the actual works.

Therefore, the corruption prevention plan reviews various aspects of the projects to ensure that the projects work correctly and comply with the negotiated contract. The construction audit process plays a crucial function in handling building projects. Effective monitoring and investigation can expose the secret actions of wrongdoing in construction operations. Comprehensive technical auditing of building project records work completed, and technical requirements and contractual information such as contract variations must be conducted must and be enforced.

Auditors are the leading player in corruption prevention plans in order to execute

internal and external audits. They should become familiar with appropriate auditing processes to identify corruption risk and conduct effectively. The implementation of technical auditing should be undertaken in the pre-contract and post-contract phases, helping to minimize construction costs by reducing and eliminating unethical practices in construction projects. Post-contract evaluations, meanwhile, will determine the disparity between contract conditions and physical operations. The internal audit focuses more on building project activities and procedures problems to handle the related risks. However, the external audit focuses on reviewing the building projects' financial statements to decide whether the documents represent real operations.

Code of conduct

Several research papers emphasize the importance of code of conduct as the code of conduct can enhance the professionalism, responsibility, and integrity of the construction practitioners. Furthermore, Ministry of Public Works and Public Housing (PUPR) has formulated and implemented the code of conduct with the primary objectives to describe the standard practices to be adopted in order to ensure that the construction practitioners are performing their tasks efficiently, accountably and transparently. However, the importance of code of conduct is often being neglected, and some practitioners have zero knowledge about the code of conduct when entering the construction industry.

The adequate code of conduct should be strictly established and enforced among the construction practitioners to minimize the corruption practices (Le, Shan, Chan, & Hu, 2014a; Gunduz & Önder, 2013; Le, Shan, Chan, & Hu, 2014b; Kenny, 2009). Nordin, Takim, & Nawawi (2012) stated that there is a need to obtain an adequate monitoring system and raise the integrity among the construction practitioners by assuring that the practitioners understand their core values. Sohail & Cavill (2006) also mentioned that the code of business and professional, ethical conduct are significant preventive corruption measures as the code often contains the principles of the ethical behaviors (fairness, integrity, and accountability) of a business and professional in executing their tasks. For instance, the International Federation of Consulting Engineers (FIDIC) develop the code of ethics of engineers, which is a significant preventive measure of corruption in the construction industry. One of the criteria of an engineer in the code of ethics includes that the engineer should not offer and accept any remuneration as it influences the decision-making process in the construction projects.

The code of conduct is perceived as an essential preventive strategy towards corruption practices in the Malaysian construction industry (Yee, 2019). The code of conduct is one of the useful tools to tackle corruption practices in the construction industry. Hosseini et al. (2019) recommended that the construction organizations including developers, consultants, and contractors to establish a framework to implement and access the code of ethics in order to prevent the corrupt practices in construction projects. Enforcement of code of conduct, which used to specify the standards of conduct for business and professionals, can substantially reduce the number of corruption acts (Sohail & Cavill, 2008). It is an important key to prevent corruption. Sohail & Cavill (2008) further claimed that in order to strengthen the professional institution, the professionals in the construction industry should have adequate training in codes of conduct to the construction stakeholders.

The code of conduct provides the guidance of the ethical principle of the

professionals to discipline the construction practitioners and to ensure that there are high integrity and accountability among the professionals. Besides, the code of conduct not merely to outline the best ethical standards, it also helps to develop anti-corruption procedures to the construction industry. Therefore, the code of conduct should not be neglected but to be enforced strictly in the construction industry to eliminate corruption practices.

Public disclosure

Public disclosure can also be known as a transparency mechanism at which it involves disclosing daily works to the public to obtain public notice. It is to make the whole construction process to be opened and to allow the public to notice every decision made within the construction projects. The open and transparent construction process should be established especially in deciding on the construction projects include tendering and developing construction law (De Jong, Henry, & Stansbury, 2009; Gunduz & Önder, 2013; Sohail & Cavill, 2006; Le, Shan, Chan, & Hu, 2014b; Kenny, 2009; Nordin, Takim & Nawawi, 2012; Zou, 2006; Le, Shan, Chan, & Hu, 2014a).

Besides, in order to prohibit corruption practices in construction, the amount of information regarding construction projects like budgets of projects, public accounts, contractual arrangements, and annual reports should be disclosed more to the public (Sohail & Cavill, 2008). Moreover, the ordinary publication of construction contracts to the public can improve the governance of construction projects and indirectly overcome the impacts of corruption in the construction industry (Kenny, 2012). Kenny (2009) also recommended that the freedom in terms of accessibility of construction projects information has to be increased, and the construction industry should undergo fiscal reform for transparency to monitor the construction projects publicly.

A high level of public disclosure of construction information can allow the corrupt practices in the construction projects to be detected efficiently. Thus, the establishment of open construction processes should be adapted from procurement to completion stage in construction projects, and the transparent public processes should be adopted by all parties who involve in the construction projects in order to reduce corrupt practices in the construction projects (De Jong, Henry, & Stansbury, 2009).

Public disclosure in corruption prevention plan is to allow the public to note any decision taken within the construction projects. in order to prevent unethical practices in construction, more information on building projects such as project budgets, financial accounts, contractual contracts, and annual reports should be reported. High public disclosure of construction details will effectively identify unethical practices in building projects. Therefore, the establishment of open construction processes should be adapted from procurement to completion in construction projects, and all parties involved in construction projects should follow transparent public processes.

Whistle-blowers protection

Though whistle-blowing hotline allows the public to report the corrupt practices in the construction projects, it puts the whistle-blowers in danger and risk. As in research of Ameyaw et al. (2017), it founded that the whistle-blowers are not appropriately protected and having the risk of being exposed. However, Bowen, Edwards, & Cattell (2012) in their research received respond which expressed that it is difficult in reporting the incidents of corruption as the whistle-blowers will be

threatened when the identity is exposed. Not only threatened by the corruptors, but the whistle-blowers are also disdained by other construction stakeholders on reporting corrupt acts, although they make a moral judgment.

Therefore, not only active whistle-blowing hotline but protection towards the whistle-blowers is also critical (Gunduz & Önder, 2013; Ameyaw et al., 2017; Bowen, Edwards & Cattell, 2012). All the identity of the whistle-blowers who report the incidents of corruption is required to keep low and maintain secrecy. It is to protect the whistle-blowers from any threatening risk.

The whistleblower will become black sheep if any corruption practices. They must free from any threat in order to give full information regarding corruption practices. The protection towards the whistle-blowers eventually helps to reduce the corrupt practices in the construction projects.

Comprehensive Supervision

Supervision of construction projects can effectively mitigate the corrupt practices in the construction industry (Zou, 2006; Olusegun, Benson, Esther, & Michael, 2011; Le, Shan, Chan, & Hu, 2014a). However, Zou (2006) suggested that supervision should be adopted internally and externally. For instance, internal supervision should be carried out to monitor individually on each section of the construction project process. In contrast, the external supervision should be implemented as in supervisory organization.

The research paper of Zou (2006) in the China construction industry is significantly emphasized on the comprehensive supervision works in the construction projects that can deal with the corruption practices. The research paper highlighted that it is a need to establish a complete supervising procedure, system, and organization, and the supervising officials have to be proactively and impartially in supervising the works to discover corrupt practices in the construction projects. Not merely the contractors' work at the site, the relevant consultants in the construction projects should also be closely monitored to explore the unethical act of the professional (Olusegun, Benson, Esther, & Michael, 2011).

Furthermore, the supervision works should be carried out randomly and regularly to increase the risk of detection of malpractices. Comprehensive supervision should be one of prevention plan that it is a need to establish in order to complete supervising official, procedure, system, and organization.

Adequate training system

Good leadership is critical to bring the project success (Bowen, Edwards & Cattell, 2012) as the leader is often responsible for controlling the overall construction process and monitoring the workers. The behaviors of the leader can affect the culture and perception towards corruption in the construction industry. Thus, Nordin, Takim, & Nawawi (2012) stated that it is essential to ensure that the leader of the construction projects possesses a high level of integrity, ethical leadership, and competent to guide and monitor the workers instead of showing and encouraging the unethical behaviors to the other construction practitioners.

Other than the enforcement of code of conduct to the construction practitioners, Zou (2006), Sohail & Cavill (2008) and Le, Shan, Chan, & Hu, (2014a) also emphasized that the ethical training programs should be strengthened and provided to the construction practitioners as it is crucial to eliminate the corruption practices.

However, construction practitioners should be appropriately trained and adequately through courses and talks by instilling the significance of professionalism and integrity in the construction industry (Nordin, Takim, & Nawawi, 2012). Furthermore, the construction companies, including the consultants and contractors, should provide internal training to the workers to ensure that the intention to participate in corruption is eliminated (Gunduz & Önder, 2013).

The top management of the construction projects should be well educated to assure that the leader is performing a task without corrupt acts. It is also to prevent the passing down of corruption behaviors and wrong perception towards the corruption to the bottom management in the construction industry. The internal training should emphasize and raise corruption awareness, ethical procedures, consequences of corruption, and the importance of self-regulation to the workers.

Income level adequacy

Most of the time, when the corruptors realize that the benefits of corruption override the cost of carrying out such practices, they will decide to undertake such practices to obtain immediate extra income. Therefore, it is a must to reduce such benefits and increase the cost of corruption by imposing a higher risk of being discovered and harsh punishment. However, the wages level of the construction practitioners should be reviewed (Olusegun, Benson, Esther, & Michael, 2011; Sohail & Cavill, 2006) in order to overcome the financial pressure and to ensure that the construction practitioners will not take it as an excuse to commit the corrupt acts in the construction projects.

Olusegun, Benson, Esther, & Michael (2011) highlighted that the government of Nigeria should look into, review, and provide appropriate income to the construction practitioners to ensure that such income levels are adequate for the construction practitioners to live conveniently. The government can obtain adequate income levels of the construction practitioners by inspecting and researching the level of salaries and incomes that the other countries approved for their construction practitioners in the construction industry.

The primary purpose of providing the appropriate and adequate income level to the construction practitioners is to reduce the excessive greed towards money. The government can also create regulation for ease of financial pressure that the construction practitioners commonly faced and indirectly to overcome the intention of participating in corruption in the construction industry.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Corruption practices create various adverse effects on the country. This situation is getting worse when the corruption practices exist in the construction industry as the industry act as a significant contributor to the economic and social development of the country. Thus, a clear understanding of current essential preventive strategies to corruption practices. The preventive plan was explored in the research were (1) enforcement of the law, regulation, and sanction; (2) high integrity and honest construction culture; (3) active reporting channel; (4) audit mechanism; (5) code of conduct; (6) public disclosure; (7) whistle-blowers protection; (8) comprehensive

supervision; (9) appropriate training program; and (10) income level adequacy. Among the entire preventive plan studied above, audit mechanisms, code of conduct, and public disclosure were considered as the most effective plan by experts to prevent corruption in construction projects because these plans had connections with the causes of corruption as compared to another plan.

Recommendations

In order to reflect the real situation of corrupt practices in the Indonesian construction industry, the mixed-methods research design should be employed to incorporate the qualitative research method with the quantitative method in future studies. Due to the sensitive nature of the research area, it is helpful to undergo qualitative research to justify if the data obtained from the questionnaire survey are reliable. Furthermore, an in-depth case study will be beneficial to comprehend the nature of corrupt practices in the construction industry and provide new insights into the research area. It can help to provide triangulation (e.g., case study, interview findings, and questionnaire responses) to improve the validity and reliability of the study.

However, more researches concerning corruption are recommended in the construction industry. It is to ensure that the studies on corruption practices are carried out thoroughly. It would be interesting to extend this research to investigate the frequency of occurrence of different types of corrupt practices in the construction industry. It is also suggested that future research identifies new vulnerabilities that exist in the construction industry, which stimulates corruption. Besides, future research about the barriers hindering the implementation of anti-corruption practices in the Indonesian construction industry is recommended.

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Determinant factors of knowledge management practice: the case of ministry of health, Ethiopia

Nesibu Agonafir Haile^{1*}; Mekuanint Abera Timbula²; Gemechu Abdisa³

¹⁾ Monitoring and Evaluation Advisor, PATH Country Program Office, Ethiopia

²⁾ Banking and Finance Department, College of Business and Economics, Jimma University, Ethiopia

³⁾ Banking and Finance Department, College of Business and Economics, Jimma University, Ethiopia

**To whom correspondence should be addressed. Email: nesibu2006@yahoo.com*

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Abstract

This study aims at assessing knowledge management maturity level and the effect of the determinant factors of knowledge management in Ethiopia's federal ministry of health. Explanatory survey design involving both the quantitative and qualitative methods was employed. General knowledge management maturity model based on people, process and technology key process areas was used to measure knowledge management maturity level in the organization. The qualitative data was analyzed using thematic analysis and summarized under pre identified and emerging themes. The quantitative and qualitative data were triangulated to enrich the findings. The study determined that the ministry's overall knowledge management maturity level was close to maturity level-2 (Aware), which is generally to mean that the organization was aware of and has the intention to manage its organizational knowledge, but it might not know how to do so. Organizational culture, human resource, information technology and knowledge management process were identified as having significant and positive linear relationship with the knowledge management practice in the organization. It is essential for the ministry to reestablish knowledge management or define improvement plans using model such as the general knowledge management maturity model. The improvement should address the identified determinant factors as well as criterion set for each of the people, process and technology key process areas.

Keywords: *Culture, Knowledge management, Technology*

JEL Classification: M12, M15

INTRODUCTION

Knowledge management (KM) refers to a set of principles, tools and practices that enable people to create knowledge, and to share, translate and apply what they know to create value and improve effectiveness (WHO, 2006). During the past decade many governments have started to waken up after a series of challenges that forced them to think about new approaches and practices that can help lead them to be competitive (Chua

& Goh, 2008). In Ethiopia the national health sector transformation plan (HSTP) has recognized the importance of KM and stated that knowledge management has a strong tie to organizational goals and strategy, and it creates value for the organization. It revealed that in the countries health sector little emphasis has been given to KM so far, evidenced by loss of institutional memory or tracing documentation in major undertakings (Federal Ministry of Health, 2015).

In the knowledge economy, governments are increasingly facing competition over service delivery and policy-making both nationally and internationally from foreign organizations delivering the same services. Customers demand and receive more customization from knowledge oriented organizations, so they expect similar benefits from public service. The retirement of civil servants and frequent transfer of knowledge workers across government departments create new challenges for retention of knowledge and preservation of institutional memory and hence the need for the training of new staff. Jobs today depend more on employees' knowledge than manual skills (Cong & Pandya, 2003). Due to the high cost of government services compared with the private sector, a continual reduction of resources within the public sector needs to be supported by more effective KM initiatives and programs (Chua, 2009; Riege & Lindsay, 2006).

Organizations in developing countries are still facing uncertainty and ignorance towards what kind of value KM approaches and processes will generate for them concretely. Moreover, they are uncertain about what activities and processes they should implement to gain positive outcomes and benefits (Edvardsson & Durst 2013; Daud, Fadzilah & Yusoff, 2010). The progress of KM usage in health care sector of developing country has been abysmal. There is however, perceived prospect in the KM applications in the health sector of developing countries if conscious efforts are made to apply it (Bolarinwa, Salaudeen, & Akande, 2012).

In Ethiopia, recognizing the importance of KM the national health sector transformation plan (HSTP) revealed that KM is lacking in the countries health sector. It boldly stated that little emphasis has been given to KM so far, evidenced by loss of institutional memory or tracing documentation in major undertakings (Federal Ministry of Health, 2015).

Existing practices of knowledge management are largely derived by international organizations and private commercial companies (Ahmad & Khan, 2008). The government's ultimate directive is to better serve and protect its citizens not for profit orientation but also protecting all sort of issues related to public interest. It is important for organizations to understand the key factors which make KM implementation successful (Wong & Aspinwall, 2005). Furthermore as organizations have little control over environmental and external factors they should concentrate on their internal factors for a successful KM implementation (Valmohammadi, 2010).

Existing literatures indicated that there is lack of sufficient body of knowledge about factors that influence knowledge management, specifically in the context of governmental organizations in developing countries (Salleh & Ahmed, 2008; Ahmad & Khan, 2008). It was also understood that knowledge management is highly influenced by its surroundings and contexts, and it is crucial to assess knowledge management in the context of the organization of interest. Thus the purpose of this study is to assess the knowledge management maturity level and the effect of determinant factors of knowledge management in Ethiopia's federal ministry of health.

The main objective of this study is to assess the effect of determinant factors of knowledge management practice and the knowledge management maturity level in Ethiopia's federal ministry of health. Specifically, the objectives of the study were to

analyze: 1) knowledge management maturity level in the federal ministry of health; 2) the effect of organizational culture on knowledge management practice; 3) the effect of human resource on knowledge management practice; 4) the effect of management leadership and support on knowledge management practice; 5) the effect of information technology on knowledge management practice; 6) T the effect of KM process on knowledge management practice; 7) the effect of organizational structure on knowledge management practice.

METHODS

Research design

Explanatory survey designs that involve both quantitative and qualitative method were employed to assess determinant factors of knowledge management practices and the knowledge management maturity level in Ethiopia's federal ministry of health, between February 2018 and May 2019. An Explanatory survey design is selected because it better help in explaining effect of the determinant factors of knowledge management practices and the knowledge management maturity level in the ministry.

Sample size determination

The sample size is calculated using the formula for cross-sectional survey single population proportion. As far as my knowledge is concerned there are limited or no relevant studies on knowledge management and organizational learning practice in public sector organization in the country/similar countries. The sample size was determined as:

$$n = \frac{\frac{Z^2 X p(1-p)}{d^2}}{1 + \left(\frac{Z^2 X p(1-p)}{d^2 N}\right)} = \frac{\frac{(1.96)^2 X 0.5(1-0.5)}{(0.05)^2}}{1 + \left(\frac{(1.96)^2 X 0.5(1-0.5)}{(0.05)^2 (1066)}\right)} = \frac{384.16}{1.829333} = 282$$

plus 20% non-respondent rate n = 340

where:

n = the minimum sample size.

z = the standard normal variable or deviate, α was 0.05 with 95% confidence interval.

d = Marginal error = 0.05

p = Estimated proportion, employee KM awareness rate of 50% (0.5)

The 340 sample size was distributed among the seven directorate based the their respective proportion of employee size. Accordingly, 340 survey questionnaires were distributed to the employees across the seven directorates of the ministry, using stratified simple random sampling proportionate to size. For the qualitative data collection seven in-depth key informant interviews (one per unit) were conducted with managers or employees of the directorates. Related documents and demonstrations of KM systems were also observed.

Model specification and assumption

In order to determine a relationship between each of the independent variable with knowledge management practice (dependent variable) the test of Pearson's correlation coefficient, independent T and analysis of one-way Variance were used. Then multiple regressions were used to study all factors' effect on knowledge management practice. Multiple linear regression analysis was used to find out the relationship between the dependent variable knowledge management practice (\hat{y}) and the independent variables: organizational culture (OC), human resources (HR), management leadership & support

(MLS), Information Technology (IT), knowledge management process (Pro), and organizational structure (OS)

The regression models are: $Y = \beta_0 + \beta_1 OC + \beta_2 HR + \beta_3 MLS + \beta_4 IT + \beta_5 Pro + \beta_6 OS + \epsilon_i$

RESULTS AND DISCUSSION

Motives for knowledge management

Majority of the respondents (>90%) positively responded to the set of positive statements about the widely stated motives for implementing organizational knowledge management. Participants were asked to respond to seven positive statements about motives for implementing organizational knowledge management. All the participants positively responded to each of the statements. They indicated that knowledge management help in: improving organizational performance by producing and sharing knowledge more rapidly, creating institutional memory, releasing information more rapidly and making it more widely accessible to staff, promoting life-long learning, improving transparency, improving working relations and trust among employee, and making up for loss of knowledge due to staff turnover, retirements etc. This indicates that the motives behind establishing organizational knowledge management were very well recognized by the employee.

Knowledge management maturity level

For every directorate each key process area (people, process, and technology) was assessed using the set of characteristics of key knowledge management practices that determine a particular maturity level. People key process area for knowledge management deals with elements such as human resource, organizational culture, management leadership and support, and organizational structure.

Human resource

Participants were asked to respond to six positive statements about supportive human resource management for knowledge management in the organization.

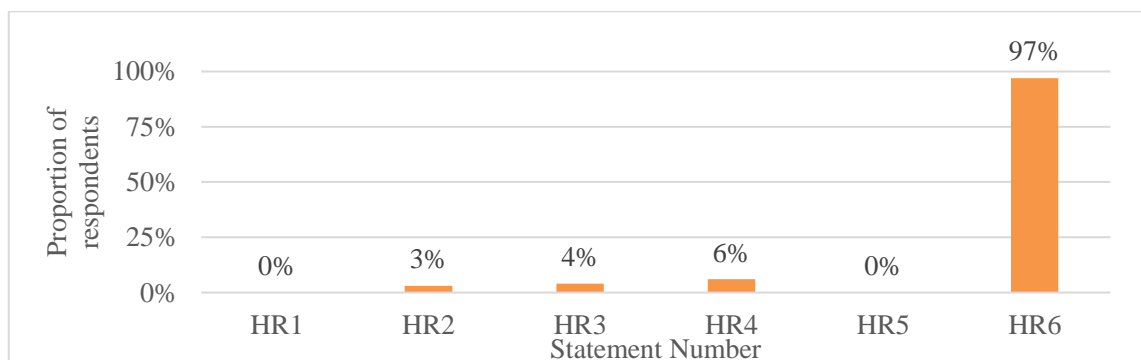


Figure 1. Human resource statement

As indicated in above figure, none or very low proportion of the participants positively responded to the first five statements. The majority disclosed that there was no KM training program (HR1), Individuals were not evaluated and recognized for sharing knowledge and their contributions to the development of KM (HR2), there was no strong mechanism for attracting & retaining talented people (HR3), staffs were not very well qualified for their job and knowledgeable in both their own job tasks and other related job tasks (HR4), there was low employee initiative and motivation (HR5). On the other hand almost all of the participants reported presence of seconded staff/s from other organizations to provide technical assistance & expertise, paid by their parent

organization - for a limited period of time (HR6). These indicate that there was lower level of supportive human resource management for knowledge management practice in the organization.

Organizational culture

Participants were asked to respond to six positive statements about supportive organizational culture for knowledge management in the organization.

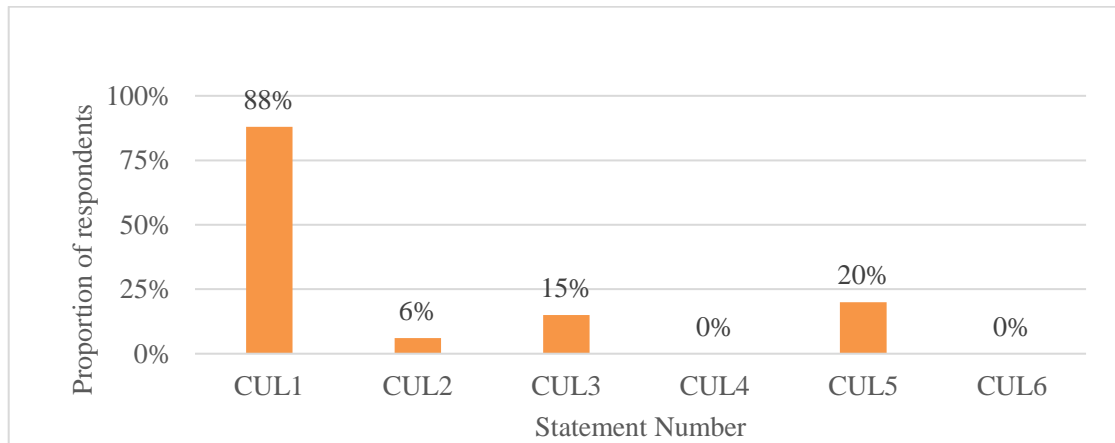


Figure 2. Organizational culture statement

As indicated in the above figure, nearly 90% of the participants reported that knowledge was considered as a main asset in the organization (CUL1). Greater than ¾ of the participants negatively responded to the other five statements. They indicated that KM was not recognized as a key organizational competence (CUL2), there was no strong norm of trust, cooperation and collaboration among employee (CUL3), there was no culture that based on total people involvement and team work (CUL4), there was no tradition of sharing knowledge and information (CUL5), and KM was not considered as everyone’s job (CUL6). These revealed that there was lower level of supportive organizational culture for knowledge management in the organization.

Management leadership and support

Participants were asked to respond to nine positive statements about supportive management leadership & support for knowledge management in the organization.

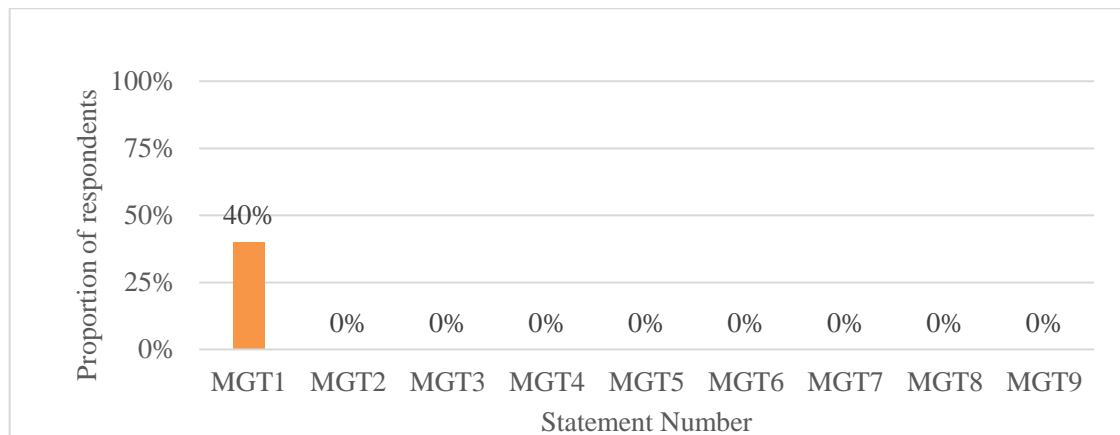


Figure 3. Management leadership & support statement

Only 40% of the participants positively responded to the first statement. They said that knowledge is recognized as a strategic resource and essential for the long-term success of the organization (MGT1). But none of the participants positively responded to

the other eight statements. They revealed that KM was not one of the top internal priorities of the organization (MGT2), there was no clear vision for KM (MGT3), there was no formal KM strategy in place (MGT4), KM was not incorporated into the overall organizational strategy (MGT5), there were no appointed high-ranking KM champions to promote KM practice in the organization (MGT6), there was no conscious drive to get all employees involved in knowledge sharing exercises (MGT7), There was no conscious decision to invest in KM (MGT8), There was no budget specially set aside for KM (MGT9). These show that there was lower level of supportive management leadership & support for knowledge management in the organization.

Organizational structure

Participants were asked to respond to five positive statements about supportive organizational structure for knowledge management in the organization.

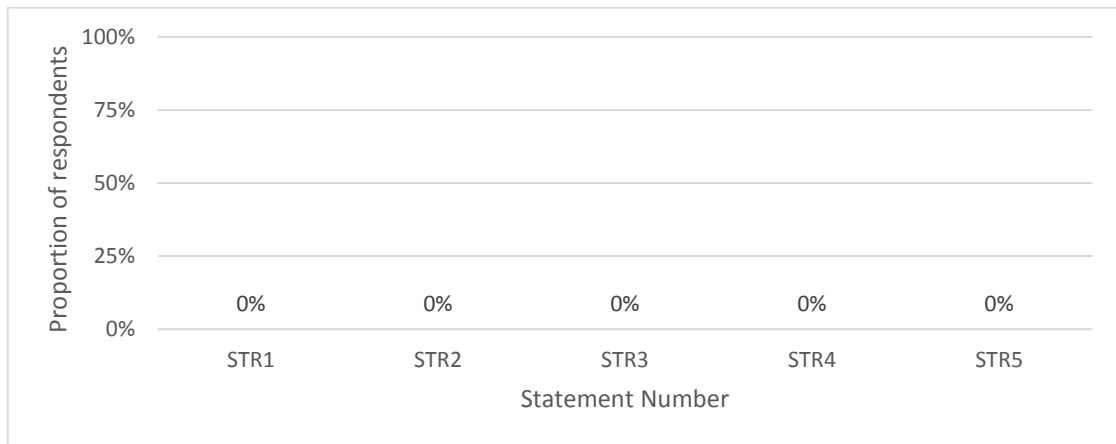


Figure 4. Organizational structure statement

As indicated above, none of the participants positively responded to any of the statements. They disclosed that there was no encouraging bureaucratic organizational structure (STR1), there was no decentralization of authority (STR2), There was no individual knowledge management roles that are defined and given appropriate degree of authority- Ex: KM Officers (STR3), there was low mutual trust within the department & among different departments (STR4), and employees were not always involved in important decision making process (STR5). These revealed that there was lower level of supportive organizational structure for knowledge management in the organization.

Table 1. Descriptive statistics

	Mean	Std. Deviation	N
KM Practice	1.9687	.32000	272
Organizational culture	2.3113	.51477	272
People	2.2145	.35415	272
Information Technology	2.8724	.04417	272
KM Process	1.8750	.39727	272
Management leadership & support	1.8518	.41163	272
Organizational Structure	1.8451	.32575	272

The Table 1 shows the mean score values of the factors relative to the central point. The central point, a value zero indicates that the factor is not supportive to the knowledge management practice in the organization. As the value increase above 0 it indicates increase in supportiveness of the factor for the KM practice in the organization. All of the factors scored value below 3 which indicate that they were low supportive to the

knowledge management in the organization. Management leadership and support, Organizational structure and KM process need more attention for the improvement compared to the others.

The determinant of knowledge management practice

From the correlations table we can see statistically significant positive correlation between KM practice and organizational culture (r = 0.519, with p = 0.000). Similarly there were positive and statistically significant correlation between: KM practice and human resource (r = 0.130, with p = 0.016), KM practice and information technology (r = 0.457, with p = 0.000) and KM practice and KM process (r = 0.249, with p = 0.000). On the other hand there was positive but statistical not significant correlation between KM practice and organizational structure (r = 0.93, with p = 0.063). There was negative but statistical not significant correlation between KM practice and management leadership & support (r = -0.024, with p = 0.346).

Table 2. Correlations

		KM Practice	Organizational culture	Human resource	Information Technology	KM Process	Management leadership & support	Organizational Structure
Pearson Correlation	KM Practice	1.000	.519	.130	.457	.249	-.024	.093
	Organizational culture	.519	1.000	-.150	.181	.339	-.026	.324
	Human resource	.130	-.150	1.000	.099	.392	.752	.421
	Information Technology	.457	.181	.099	1.000	-.071	-.186	-.285
	KM Process	.249	.339	.392	-.071	1.000	.548	.732
	Management leadership & support	-.024	-.026	.752	-.186	.548	1.000	.758
	Organizational Structure	.093	.324	.421	-.285	.732	.758	1.000
	Sig. (1-tailed)	KM Practice	.	.000	.016	.000	.000	.346
Organizational culture		.000	.	.007	.001	.000	.337	.000
Human resource		.016	.007	.	.051	.000	.000	.000
Information Technology		.000	.001	.051	.	.120	.001	.000
KM Process		.000	.000	.000	.120	.	.000	.000
Management leadership & support		.346	.337	.000	.001	.000	.	.000
Organizational Structure		.063	.000	.000	.000	.000	.000	.
N		272	272	272	272	272	272	272

From the collinearity test statistics presented in the last column of the above coefficients table we can see the values of the VIF (variance inflation factor) higher than five or Tolerance value less than 0.2 for organizational structure and management leadership & support. Value of VIF higher than five (or Tolerance less than 0.2) can indicates the presence of multicollinearity, however in social sciences research, as VIF value as high as 10 is considered to be acceptable we can conclude that there was no multicollinearity in the model . Furthermore, from the Condition Index in the collinearity diagnostics table we can conclude that there was no multicollinearity as there were no any two independent variables which have Variance Proportions in excess of 0.9 (column values) corresponding to any row in which Condition Index is in excess of 30. Therefore,

as there is no detected multicollinearity in the model, we can conclude that the regression coefficients are meaningful

Table 3. Collinearity diagnostics

Dimension	Eigenvalue	Condition Index	Variance Proportions						
			(Constant)	Organizational culture	People	Information Technology	KM Process	Management leadership & support	Organizational Structure
1	6.878	1.000	.00	.00	.00	.00	.00	.00	.00
2	.058	10.856	.00	.27	.02	.00	.00	.04	.00
3	.036	13.916	.00	.05	.02	.00	.14	.01	.02
4	.015	21.178	.00	.34	.01	.00	.59	.12	.01
5	.010	26.577	.00	.19	.35	.00	.10	.01	.20
6	.003	45.701	.00	.04	.52	.00	.16	.83	.67
7	8.289E-005	288.051	1.00	.12	.08	1.00	.01	.00	.11

From the model summary table we can observe the R values for assessing the overall fit of the model. The values of correlation coefficient between the predictors (Information Technology, KM Process, Organizational culture, human resource, Organizational Structure, and Management leadership & support) and the outcome variable (KM practice) is .677. The adjusted R-square value is .447 which means that the independent variables ((Information Technology, KM Process, Organizational culture, Human resource, Organizational Structure, and Management leadership & support) in the model can predict 44.7% of the variance in the dependent variable, knowledge management practice. This indicates that 55.3% of the variation in the knowledge management practice of the organization is accounted for other factors. The difference of the R-square and adjusted R-square (.459-.447) is .012 (about 1.2%), which means that if the model were derived from the population rather than a sample, it would account for approximately 1.2% less variance in the outcome.

Table 4. Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F	df1	df2	Sig. F Change
1	.677 ^a	.459	.447	.23803	.459	37.465	6	265	.000

a) Predictors: (Constant), Organizational Structure, Information Technology, Organizational culture, Human resource, KM Process, Management leadership & support

The ANOVA Table shows that the computed F-statistic is 37.465, with an observed significance level of less than .001. Thus, the null hypothesis (H0) that there is no linear relationship between the predictors and dependent variable is rejected. In other words the predictor variables have significant effect on the knowledge management practice of the organization, $F(6, 265) = 37.4465, p < .001$.

Table 5. ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	12.736	6	2.123	37.465	.000 ^b
	Residual	15.014	265	.057		
	Total	27.750	271			

Dependent Variable: KM Practice

The beta coefficients are positive and statistically significant at P value of 0.05 for Organizational culture, Human resource, knowledge management process and information technology. Therefore, we reject the null hypothesis that there is no relationship between each of these predictor variables and the dependent variable. In other

words the better the organizational culture, People, knowledge management process and information technology, the higher the organization’s knowledge management practice.

Table 6. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	-5.444	1.114		4.888	.000	-7.636	-3.251		
Organizational culture	.284	.036	.457	7.854	.000	.213	.355	.603	1.657
Human resource	.290	.072	.321	4.046	.000	.149	.431	.324	3.084
1 Information Technology	2.192	.393	.303	5.577	.000	1.418	2.965	.694	1.441
KM Process	.112	.056	.139	2.000	.047	.002	.222	.425	2.354
Management leadership & support	-.216	.084	-.277	2.572	.011	-.381	-.051	.176	5.694
Organizational Structure	.005	.102	.005	.044	.965	-.196	.205	.191	5.246

a. Dependent Variable: KM Practice

The beta values indicate that from the observed factors organizational culture is the most important factor followed by human resource and information technology. A change of 1 standard deviation in organizational culture will result in a change of .457 standard deviation in the knowledge management practice; a change of 1 standard deviation in people will result in a change of .321 standard deviation in the knowledge management practice; a change of 1 standard deviation in information technology will result in a change of .303 standard deviation in the knowledge management practice; a change of 1 standard deviation in knowledge management process will result in a change of .139 standard deviation in the knowledge management practice.

The findings are in line with many similar studies. Aspinwall & Wong’s (2005) stated management support and leadership, a knowledge-friendly culture, information technology, a clear strategy for managing knowledge, incentives to manage knowledge proactively and measuring the effectiveness of KM as the six most critical success factors of KM. Similarly Valmohammadi (2010) stated that leadership & management support and organizational culture are the two most critical factors for implementing successfully KM processes. In his analysis to discover root causes of failed initiatives across various organizations where knowledge management was being implemented, Frost (2014) indicated that inadequate management support and improper organizational structure were among root causes for knowledge management failure. Ndou (2004) indicated role of leaders and strategy definition and provision of ICT infrastructure among the six important elements for successful implementation of knowledge management initiatives. A study conducted in Addis Ababa University identified individual factors, organizational factors, and ICT infrastructure as having significant impact on knowledge sharing practices (Minwalkulet & Assefa, 2018). A study in Dire Dawa Ethiopia (Temtime, Jimma & Belay, 2015) indicated that KM and productivity depend on people, ICT facility, organizational policy, KM policy and capacity of knowledge expert. A study in Jimma University (Ebuy, Bekele, & Jimma 2013) revealed that technology was least problematic and leadership was the most problematic among the four KM pillars that

were assessed (technology, leadership, organization and learning.) in relation the KM practices in the University.

Culture is among the most critical factors of knowledge management that have been cited in many literatures. Coakes, Amar & Granados (2010) stated that organizational culture is among the most dominating factors in formulating a successful knowledge management system. Rai (2011) stated that Organizational culture is a critical factor in building and reinforcing knowledge management in organizations. Walczak (2005) indicated that Organizational culture has paramount importance which may facilitate, support, and encourage the sharing, utilization and creation of knowledge. Voelpel & Han (2005) emphasized the significance of cultural dimensions in stimulating knowledge-sharing behavior. Alavi & Leidner (2005) indicated that a company's social context is one of the biggest factors that influence on the implementation of KM. Yeh, Lai & Ho (2006) stated that organizational culture also influences the willingness of employees to share and put knowledge into the organization. Bate & Robert (2002) refer to a tendency that appears to be an embedded public sector culture of not sharing information and knowledge between departments leading, in turn, to a difficulty in both the creation and maintenance of (a) interdepartmental relationships and (b) the potential to develop "communities of interaction". Oliver & Kandadi (2006) suggested that to develop knowledge culture, management needs to focus at some key issues such as leadership, organizational structure, business processes and infrastructures.

Goh (2006) articulated that people are the heart of creating organizational knowledge as it is people who create and share knowledge. Goh (2005) revealed that the primary challenge faced by organizations in developing countries is changing the employees' behavior and practices. Cong and Pandya (2003) indicated that the success of KM initiatives depends upon people's motivation, willingness, and ability to share their knowledge and use the knowledge of others. In their argument of human resources as enabler of KM in the public sector Syed-Ikhsan & Rowland (2004) stated that KM is affected by posting, training and staff turnover. If employees are properly placed in the right places they bring to the organization their prior education, experience, knowledge and skills and they add value to the organization. Training will enable employees to convert their knowledge into the organization's routine, competencies, job descriptions and business processes, plans, strategies and cultures, which lead to the creation of new knowledge in an organization. Some organizations are constantly affected by staff turnover, which means that knowledge workers leave the organization without leaving their knowledge behind

Monavvarian & Kasaei (2007) described that information technology is a key enabler of KM, as it is the most effective means of capturing, storing, transforming and disseminating information. Gaffoor (2008) discussed that groupware, intranet, internet are some of the IT tools that enable collaboration or KM in organizations. Abass, Hayat, Shahzad & Riaz (2011) stated that when organizations have up-to-date infrastructure to help knowledge creation and sharing then employees truly recognize knowledge as a key element in strategic planning exercises. Yeh, Lai & Ho (2006) reported that information technology enables rapid search, access and retrieval of information, and can support teamwork and communication between organizational members. Monavvarian & Kasaei (2007) recognized technology as a key enabler of KM, as it is the most effective means of capturing, storing, transforming and disseminating information.

Wong & Aspinwall (2005) argued that successful KM depends on leadership and management support with a clear strategy and a purpose. Scholars reported that effective KM practices require an organizational climate with a reward system that value,

encourage cooperation, trust, learning and innovation, which all are seen to be still missing in many government organizations (Akdere, 2009; Zack, 1999; OECD, 2001). Lack of ownership for KM initiative in an organization, lack of awareness and lack of time were also identified as the key obstacles in KM implementation (Yuen, 2007).

Bannister (2003) point to the fact that the traditional hierarchical structures in the public sector have been potential causes to hinder the success of KM initiatives as such structures may well support the notion of territory and power. Monavvarian & Kasaei (2007) indicated that formal organizational structures limit an individual division's access to knowledge collected by other divisions in the organization. Most government organizations today are not specifically structured for the application of KM concepts and initiatives needed for efficient public service-delivery (Buheji, 2012). The structure of the bureaucratic organization is top down, and the information flows in one direction from the top down, from manager to junior in the form of instruction. Sinclair (2006) stated that KM might thrive more in a flat structure where information flows in all directions, both horizontally and vertically.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The motives behind establishing knowledge management in an organization were very well recognized by the employee. The employee indicated that there was no or little supportive organizational culture, human resource management, leadership and management support, KM process, organizational structure and information technology for to the knowledge management practice in the organization.

Understanding KM maturity from the different dimension provided a comprehensive overview. The ministry's overall achievements were level one for each of the three KPAs (People, Process and Technology KPAs). However, considering presence of some directorates who achieved level-2 or level-3 it was estimated that the overall knowledge management maturity of the Ministry was close to level-2 (Aware), which is generally to mean that the organization was aware of and has the intention to manage its knowledge, but it might not know how to do so. The lower knowledge management maturity of the organization indicates the extent to which the organization was unsuccessful in accomplishing the key practices characterizing the higher KM maturity level. The set of criteria for each of the three key process areas (People, Process and Technology) were under achieved.

The predictor variables (Information Technology, KM Process, Organizational culture, Human resource, Organizational Structure, and Management leadership & support) can predict 44.7% of the variance in the dependent variable, knowledge management practice.

The predictor variables have significant effect on the knowledge management practice in the organization. The better the organizational culture, People, knowledge management process and information technology, the higher the organization's knowledge management practice. From the observed factors, organizational culture is the most important factor followed by human resource and information technology.

Recommendations

The fact that the motives behind establishing knowledge management were very well recognized by the employee is an enabling environment for KM strengthening; therefore the organization has to build on it in its KM initiative improvement.

In order to create enabling organizational environment to support improvement of the knowledge management practice the ministry has to improve its organizational culture, human resource management, leadership and management support, KM process, organizational structure and information technology accordingly.

The observed lower level of achievement in the set of key KM practice in each of the people, process and technology key process areas indicates the need for a compressive improvement that address every key process area using innovative evidence based model such as the general knowledge management maturity model.

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City marketing in various fields of scholar: The development of periodical concept and definition

Aisah Asnawi

Department of Management, Faculty of Economics and Business,
Universitas Pattimura, Indonesia

Correspondence author email: cheasnawi@yahoo.com

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Abstract

City marketing is a topic that attracts many researchers from various scholars. Some of them include management, urban planning, geography, communication science, and urban development. This is very interesting because the sliced theory of city marketing is very specific to each field of science. It is undeniable, the definition of city marketing is also growing from year to year. This research has an aim to mapping the concept and definition of city marketing from year to year to see the focus of discussion and the objectives of the city marketing strategy. The definition changes occur every year but the main focus of city marketing remains on the citizen, visitors, and investors. This is related to the function of a city as a place that is worth living, worth visiting and worth investing. Besides, the understanding that a city can be marketed like a product is highly inappropriate over time because the city has stakeholders and functions that are more complex than marketing in general. Based on the analysis of the chronology, the development of the city marketing concept has continued into several new concepts including city branding. The definition and concept also evolved since 1960 by Kevin Lynch but this paper divided into three periods, those are years 1982-1999, years 2000-2010, and years 2011-2018. During the period 1960 to 1980, the concept of city marketing was still influenced by Kevin Lynch so that not too many new concepts were developed.

Keywords: *City marketing, Evolution, Development, Concept*

JEL Classification: M31, M38, R58

INTRODUCTION

For decades, cities around the world have applied the concepts and techniques of city marketing in their operations and strategies. (Kavaratzis, 2007). Almost all cities in the world initiate agendas and strategies to develop and secure their cities so that they can compete with other cities. (Boisen, 2007). The movement of people and capital is higher so that the city's marketing interest is increasing. This attracts competition between cities in attracting stronger visitors. (Lee, 2003; Hankinson, 2004; Anholt, 2005). City marketing was discussed by Kotler in 1993 not only in terminology but also in the form of concepts and actions based on traditional marketing concepts. (Kotler, Asplund, Rein, & Haider, 1999). Marketing theory for cities is developed and theoretically

conceptualized based on product marketing theory. A city is like a product. (Ashworth & Voogd, 1990).

During the period 1969 to 2018, the concept of city marketing evolved due to environmental changes that indicate globalization and economic growth. Currently there are 3,930,000,000 hits on Google (last checked 12 November 2019) about city marketing. It shows that city marketing is a very interesting topic and is implemented in each city in a different way.

This article is a development of the previous article titled *City Marketing: Chronological Definitions*, published at <http://ssrn.com/abstract=2832540>. The difference between this article and the previous article consists of several points, namely: 1) the difference in the periodical division of time; 2) this article discusses the concept of city marketing while the previous article only discusses the definition of city marketing; 3) This article also contains a mapping of various background researchers about the concept of city marketing from 1969 to 2018.

Some of these experts include experts in the field of management such as Kotler, Kavartzis, Rufaidah, and Ograjensek; Urban Planning experts such as Asworth & Voogd, Smyth, Braun, and Hospers; Geography experts such as Paddison and Boisen; Engineering & Design experts such as Yoon; and even communication experts such as Gelders & van Zullen. Differences in the field of science will lead to different concepts, but in terms of city marketing has similarities with "marketing place" and "city branding".

Although there are debates about the differences in these terms, but there are those who say these terms have a common understanding with city marketing. Further argues that city marketing, in fact, should be about city branding-because the goal of city marketing should be the management of a brand (Kavartzis, 2004). In reality, city marketing terminology is a Dutch invention, elsewhere, this phenomenon is called place marketing, location marketing, place selling and other designations.

This paper discusses more in-depth and more specific about the chronology of the definition of city marketing. This paper consists of four parts: introduction, methods, results and discussion, and the last conclusion and recommendation.

METHODS

There are 5,430,000,000 searches about city marketing on Google and 3,110,000 on Google Scholar (Googling on January 2020). This shows that research on city marketing has developed rapidly, not only being a part of marketing science but also has penetrated into the fields of tourism, communication, urban planning, and other scholars.

In this study, various articles from researchers who wrote about city marketing were analyzed through descriptive mapping. The articles that are reviewed must be in accordance with the objectives of this study, which contain definitions and concepts. After that, it is divided and summarized in the time period that has been set to see the development of the definition of each researcher.

Determination of three time periods namely 1980-1999, 2000-2010, and 2011-2018 is based on the evolution of definitions and concepts that are neither too long nor too fast. It is understood that the definition and concept of city marketing will continue to develop along with the use and importance of this variable in the strategy of developing cities in the world.

RESULTS AND DISCUSSION

City marketing from periodical concept

City marketing is the one way to introduce a city or region. City marketing is not a new phenomenon in the world of marketing. Kevin Lynch has published a book entitled

"The Image of The City" in 1960. This is the beginning of the discussion the concept of city marketing. Since that, the terminology of city marketing develops over time and appears in various terms including place marketing (Kotler, Haider & Rein, 1993; Kotler, Asplund, Rein & Haider, 1999; Kozma, 2006; Van den Berg & Braun, 1999; Metaxas, 2009, Eriksson, 2010; Braun, Kavartzis, Zenker, 2013; Zenker & Petersen, 2010), city marketing (Deffner & Liouris, 2005; Braun, 2008; Kavartzis, 2009), rural marketing (Velayudhan, 2007), destination marketing (Baker & Cameron, 2008; Buhalis, 2000), territorial marketing (Dinis, 2004), urban marketing (Kavartzis & Aswoth, 2008), geographical marketing (Meester & Pellenbarg, 2001), village marketing (Kozma, 2006), and location marketing (Makombe & Kachwamba, 2011). (Kompaniets & Rauhut, 2016)

The term city marketing has become a discussion in various literature about cities in 1980 in Europe, but previously it began in America. (Van Den Berg, 1990). The problem has become widespread about the understanding of city marketing between practitioners and academics. Practitioners focus more on local economic development, promotion and cooperation between the public and private sectors and achieve regeneration. (Paddison, 1993). Whereas academics define city marketing as a long-term process that requires organized capacity to support different target groups. This is seen as a strategic, synthetic and integrated activity. (Hospers, 2010)

At the start of the new millennium, the focus of the place marketing debate shifted towards place branding (Kavartzis, 2008). In the last few years, place/city branding has been popular with the government, starting ranking among major cities in the world through the City Brand Index (Anholt, 2006). Even this term is more widely discussed including in politics and government but does not change the meaning of the true meaning. (Braun, 2008). In addition, the duality of understanding about city marketing also occurs between academics and practitioners. The main difference focuses on scientific and practical dimensions. An academic sees city marketing as a reaction of the city to compete with fellow cities, while practitioners see it as a box with specific managerial functions that can be applied. (Boisen, 2007)

Global cities have a high level of plurality and therefore clear definitions of vision, mission and identity are needed to be more attractive, consistent and competitive to increase market share in the global economy and strengthen economic development (Metaxas, 2009). In inter-regional competition, many marketing techniques are used and utilized for residents, companies and tourists and all of them aim to attract attention and build an image even to attract more educated residents. (Hospers, 2009; Zenker, 2010; Gertner, 2011). Major cities throughout the world adopt the concept of city marketing in the hope that they will have differentiation from other cities. In addition, competition between cities to attract investment is very strong (Hospers, 2010). The long-term goal of implementing city marketing in a city is long-term sustainability and creating satisfaction from the community or residents of the city (Ograjensek & Cirman, 2015).

City marketing: definition and concept

1960

City should be made by art, shape for human purposes with multi-purpose, shifting organization, a tent for many function, raised by many hand and with relative speed. (Lynch, 1960)

1969

City marketing is carried out in order to create perception, maintain or change opinions, intentions and/or conduct of external people to the area (Levy, 1969)

1982

Burgess (1982) defines city marketing as a strategy to get a positive image through competition and all activities to produce and sell the city's space to developing and attract interesting of community.

1990

City Marketing refers on Van den Berg (1990) is selling the city: marketing approaches in public sector planning.

1993

city marketing rebuilds and redefines the city's image more than the promotion of place which reflects and bolsters the image through as specific targeting types of activities related to a socioeconomic function in the city Paddison (1993)

1994

City marketing allows quality policies in the development and completeness, availability, flexibility and creativity of new resources. This new resource can be in the form of capital, ideas, and local knowledge that is used as local policy. In this way, urban marketing is a strategic approach to collaboration between the public sector and private sectors. (Helbrecht, 1994) quoted by Kavartzis (2004). In the same year, Kriekaard (1994) defines city branding or city marketing as the whole of the city's strategy and activities coordinated by the city's authorities to initiate, promote, facilitate, foster, and execute transactions.

1999

Kotler, Asplund, Rein, & Haider (1999) introduced four key-elements in his own framework of city marketing. Those are design, infrastructure, basic services and attractions became the key categories. He transferred nearly all marketing terms to the scene of the city and argued that cities should define the products they wanted to sell before a specific strategy could be developed. That's the reason why Kotler also define city marketing as a method to attracting residents and companies using marketing insights. Van den Berg & Braun, (1999) define City marketing, in operational terms, refers to the conscious attempts to position a city, and increase the city's competitive advantage in relation to competing cities – with the explicit purpose of fulfilling specific ambitions of gaining shares of specific segments of the market through strategic initiatives.

2003

Kotler 2003, cited in Yoon (2010) suggests that city marketing concept by realizing specific locations as a product and through cooperation with various concerned parties. The cooperation in the form of facilitating the regional economy and raises the value of the city through the development of its environment, image, and various infrastructures for target such as the investors, residents, and visitors. Pechlaner, Zehrer, & Tancevski (2003) argue that city marketing in the broadest sense is a kind of marketing platform for downtown trading activities, thus concentrating on developing cities that focus specifically on retail trade, customer loyalty and downtown vitality through events . City marketing classically has a target group of customers, locals and tourists. Whereas city marketing in the narrow sense aims to synergize city marketing and tourism marketing. This integration leads to a deeper concentration of the city's marketing activities.

2004

Kavaratzis (2004) emphasizes that the object of marketing a city is the image of the city because the impression of the city occurs through perceptions and images. Therefore city marketing is highly dependent on construction, communication, and management of the city's image. Kavaratzis discussed more about city branding in the form of a theoretical framework categorized as primary communication, secondary communication, and tertiary communication. This concept was built based on a literature review on city marketing and corporate brands.

2005

Smyth (2005) defines city marketing as the promotion of a city to aim of drawing attention. This issue is to change the external perception of the city which sometimes not necessarily suitable, such as attracting new residents, motivating the relocation of businesses; and encouraging the development of tourism. This opinion was also quoted by Ograjensek & Cirman (2015). Further, it is stated that some organic cities, (cities with a history of hundreds of years) like Jerusalem, Rome or Berlin do not require an integrated strategy to market towns like this because it has been formed and established culturally (Ograjensek & Cirman, 2015)

2007

Boisen in his article (2007) quoting from Arcarani & Valadi, (2000) explain that city marketing has four goals: 1) the improvement of the urban products, covers the city and everything it contains; 2) the growth of the incentives for consumers to make use of the city's products; 3) the improvement of infrastructure and institutions that provide or improve access to the city's product and; 4) the communication of the city that making potential targets aware of the products the city has to offer.

City marketing also initiatives to increase or defend their competitive position as attractive places for business, citizens, events and visitors (Boisen, 2007).

Gyeonggi Research Institute (2007) defines city marketing as a commercial marketing activity in the form of selling and exchanges city spaces for gaining capital and seeks to attract targets. In other words, city marketing is a strategy to deal with targets (residents, enterprises, and visitors) and attract them through promotion combined with values and a city environment.

The American Marketing Association (AMA), defines marketing' to be: "...an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders." (AMA, 2007).

Rufaidah (2007), defines city marketing through an understanding of marketing according to the AMA which is then interpreted in city marketing as the process of creating, communicating, and giving values to the stakeholders of the city or region to achieve sustainable economic development, social sustainability, and environmental sustainability.

2008

Braun (2008) states that city marketing is the use of marketing tools that are coordinated with a customer-oriented philosophy, to create, communicate, deliver and exchange offers that are valuable to visitors and the city community in general. This definition was adopted and developed from AMA (2007) which defines city marketing as city marketing

is a long-term process and / or policy instrument including all different, related activities aimed at attracting and maintaining specific target groups for a particular city.

2010

Yoon (2010) states that city marketing is a city strategy to offer something better than other cities in competition, and all activities that are produced in order to sell city space through a positive image of the city so that it can become an attractive city compared to other cities.

Hospers (2010) Most experienced marketers regard the city as a product, meaning that a city can be marketed as a product (Ward, 1998; Kotler, Asplund, Rein, & Haider, 1999; Rainisto, 2003; Braun, 2008). A result is a form of commodification, that is a marketing campaign by using logos, slogans, advertisements, brochures, exhibitions, displays, websites, events and various attractions.

2011

Hospers (2011) defines city marketing as an interaction that exists in the management of city policy areas, such as education, employment, or housing associated with three target groups, namely tourists, citizens, and companies.

2012

Balencourt & Zafra (2012) making city marketing concept as the promotion of a city that aims to encourage certain activities to change the external perception of a city. That perception to encourage tourism, attract new residents, or allow business/investment relocation. An important feature of city marketing is the development of new areas, or buildings and infrastructure.

2013

In a study of city marketing issued by the City of Melbourne (2013). city marketing is understood as promoting the power of cities that shape the character of the city, such as nature, heritage, specially made, or man-made. It is also about managing a place or destination and providing access to services and facilities that facilitate tourist visits.

2015

Short (2015) At present, although naming remains important, the application of city marketing standards includes the development of media and the creation of slogans or taglines and logos or series of images that contain the features of a city. even today, there are companies that specialize in branding and city branding.

2016

Kompaniets & Rauhut, (2016) said city marketing aims to promote and support competitive advantages that have the characteristics of a city in a strategic way so as to improve the image of the city better than before.

2018

Zenker (2018) In general, the city marketing definition refers to the opinion of Braun (2008) which can be understood as the use of tools in marketing in a coordinated and customer-oriented manner. This refers to the application of marketing instruments to promote and develop through routine communication such as advertising, social media, designing policies to improve public management to accommodate the needs and desires of various target groups (tourists, residents and investors). (“Editorial : City marketing and branding as urban policy,” 2018)

Table 1. City marketing mapping

Year	Name	Concept
Initial Concept		
1969	Levy	Create perception, maintain or change opinions, intentions and/or conduct of external people to the area.
1st Periode (1980-1999)		
1982	Burges	Strategy of cities to develop attractiveness
1990	Van den Berg	Marketing in public sector
1993	Paddison	socioeconomic function to rebuild and redefine their image
1994	Helbrecht	strategic approach to collaboration between the public sector and private sectors
1999	Kriekaard, T	city's strategy that coordinated by the city's authorities
	Kotler,	Method to attracting residents and companies using marketing insights.
	Van den Berg & Braun	Gaining shares of specific segments of the market through strategic initiatives
2nd Period (2000-2010)		
2003	Kotler	Raises the value of the city for the investors, residents and visitors
2004	Pechlaner, Zehrer, & Tancevski, nd	Synergize city marketing and tourism marketing to the target group of customers, locals and tourists.
	Kavaratzis	Construction, communication, and management of the city's image
2005	Smyth	Promotion of a city for business, immigrant and tourist.
2007	Gyeonggi	Competitive position as attractive places for business, citizens, events and visitors.
2008	Rufaidah	Process of creating, communicating, and giving values to the stakeholders
	Braun	Marketing tools that are valuable to visitors and the city community in general
2010	Yoon	City's strategy to offer something better than other cities through a positive image of the city.
3rd Period (2011-2018)		
2011	Hospers	City policy to interaction with three target groups tourist. citizens, and companies
2012	Balencourt	Promotion of a city to encourage certain activities such as tourism, attract new residents, or allow business / investment relocation.
2013	City Government of Melbourne	Promoting the power of cities that shape the character of the city, managing a place or destination that facilitate tourist visits.
2015	Short	Creation of slogans or taglines and logos or series of images that contain the features of a city.
2016	Kompaniets & Rauhut	Strategy to improve the image of the city better than before.
2018	Zenker	Refers to the opinion of Braun (2008)

The development of concepts and definitions of city marketing is very diverse, adjusted to the development of each field of science. As should be clear by now, city marketing borrows a lot of its concepts and terminology from traditional marketing. Some scholars use the terminology place marketing (Avraham & Ketter, 2008) or place branding (Kavaratzis). However, in this article these differences will be ruled out and only use the terminology of city marketing

The chronology and the development of the concept of city marketing has evolved even since 1969. This paper will be divided into three periods; first period start from 1980 to 1999 referring to the article of Burges, Van Den Berg & Braun, 1999; Paddison (1993), Kotler, Haider & Rein (1993); Kotler, Asplund, Rein & Haider (1999), Helbrecht (1994), and Kriekaard (1999) . During this first period, the time span of the concept and definition of city marketing has been developed but not too fast, it was the emphasis on strategies or methods to strengthen the perception and opinion of external people towards a city. This was applied in the form of strengthening the image in order to attract residents and companies or the private sector. In the first period, the concept of destination image was not overly developed and complex as effective marketing tools in promoting cities.

From 2000 to 2010, the discussion of the definition of city marketing was limited in academic fields such as economics, geography, and planning. (Asnawi, Kartini, Afiff, Rufaidah, 2018). This discussion contributes to the applying of the traditional concept in city marketing which refers to problems and solutions as well as an application of marketing in a city. Therefore, experts have used more conventional marketing methods or strategies for attracting tourists and selling the potential of the city. This is done through increased promotion in order to improve the image of the city that aims to the improvement of the social economy.

While the second period from 2000-2010 referring to Kotler (2003) in Yoon (2010), Pechlaner, Zehrer & Tancevski (2003), Kavaratzis (2007), Smyth (2005), Gyeonggi Research Institute (2007), Rufaidah (2007), Braun (2008) and Yoon (2010). The concept at this time is more directed to the communication process that strengthens the image of the city in order to attract residents, visitors and investors. The marketing concept used in this period is getting stronger with the emergence of a stronger city branding in shaping the image of the city.

Third period, since 2011 until 2018 there has been a development of the definition of city marketing conducted by experts such as Hospers (2011), Balencourt & Zafra (2012), City Government of Melbourne (2013), Short (2015), Kompaniets & Rauhut (2016), and Zenker (2018). Whereas in third period, 2011-2018 the concept of city marketing is containing functions in marketing management, clearer and more measurable, considering the interests of all stakeholders (residents, investors, and visitors) especially tourists. The definition discusses about slogan and tagline which can strengthening the image of a city. The competition between cities very competitive It also highlights the uniqueness of a city and the positive things that can increase the value of the city.

In addition to the division according to a time period, city marketing is also divided according to the school thought of city marketing experts. Some experts regard a city as a product (Kotler (2003) in Yoon (2010), Kavaratzis (2009), Gyeonggi Research Institute (2007), and Braun (2008)). However, despite having this idea, the researchers still believe that marketing a city is different from marketing a product. Meanwhile, according to some experts such (Rufaidah (2007), Boisen (2007), and Lombarts (2008)) city marketing is a process of targeted and measurable activities to achieve long-term or sustainable goal.

CONCLUSION AND RECOMMENDATION

Conclusions

Since *Undang-Undang No. 12 Tahun 2004* ((Law of the Republic of Indonesia Number 12 of 2004) was issued on regional autonomy, each city and province was given the authority to manage their regions in several sectors, including the tourism sector. City marketing and tourism sector are closely related so that the concept of city marketing will continue to develop from year to year to make a city more competitive. A city, competing with other cities in all aspects, that is why a city needs the right strategy in marketing the city.

At present, the development of a city cannot be separated from the marketing strategies commonly used by business companies. If a company uses a marketing strategy to achieve profit, then a city uses a marketing strategy to maintain and comfort the population, attract visitors and attract investors to help increase the competitiveness of the city more than other cities.

In addition, it is not only the field of marketing that deals with city marketing but also other fields of science that also have an interest in the development of a city. Therefore, the concept of urban marketing will be more diverse and broad because it is seen from various perspectives in the field of science.

Recommendations

Discussions about city marketing will continue to grow every year. This research only focuses on mapping concepts and definitions. There are still many other things that can be explored in this variable. For example the evolution and city marketing strategies of each city. This is interesting because some cities are very successful in implementing city marketing to attract millions of tourists, but some are failed in city marketing policies. Therefore, subsequent research on city marketing further enriches the concept and understanding of these variables in various fields of science.

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Hedonic value motivation: impact on consumers' purchase intention

Wiwik Handayani^{1*}; Musnaini²; Wahyudhan Iswara Praditya³

- 1) Faculty of Economics and Business, Universitas Pembangunan Nasional Veteran Jawa Timur, Indonesia.
- 2) Faculty of Economics and Business, Universitas Jambi, Indonesia.
- 3) Faculty of Economics and Business, Universitas Pembangunan Nasional Veteran Jawa Timur, Indonesia.

**To whom correspondence should be addressed. Email: wiwik.em@upnjatim.ac.id*

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Abstract

The focus of this study, using an explanatory and accidental approach, shows consumer buying interest in shopping at modern shopping centers in Surabaya. Data were collected from 90 questionnaires and analysed using the Partial Least Square (PLS). The results of the study showed that consumer buying interest at the modern shopping centers (malls) was driven by hedonic impulses. It is evident from the positive significance value associated with consumer perceptions of the atmosphere of the outlet, of retail services, as well as the presence of fashion that contains hedonist value so as to have an effect on consumers' purchase intentions. For future studies, it is best to examine utilitarian aspects as a motivation that affects the purchasing intention of consumers at modern shopping centers.

Keywords: *Fashion involvement, Hedonic value, Outlet atmosphere, Purchase intention, Retail services*

JEL Classification: D91, M31, M37

INTRODUCTION

Economic growth has a positive influence on rising consumer demand. Yet consumer behavior and interests are very difficult to predict (Zang, Combs & Chaipoopirutana, 2011; Samuel, 2005). Based on observations and interviews with several employees conducted by researchers in the storage department at several malls in Surabaya, the majority of visitors who come do not make purchases and shop in a short time. This evidence is interesting to be used as the phenomenon of this study. Mall visitors should be able to spend hours enjoying the mall atmosphere and shopping (Yistian, 2012). Since the design concept of the store department of each modern shopping center typically provides comfort, convenience and enjoyment (Astuti, Badri & Musnaini, 2017; Babin, Darden & Griffin, 1994; Kang & Park-Poaps, 2010).

Most consumers had to make purchase decisions in the supermarket (Anshori, Handayani, Mudjanarko & Usman, 2018; Fam, Jozsa, Merrilees & Richard, 2011).

Stimulus in the shopping environment can be realized through store atmospheres and services provided to customers in their shopping activities (Handayani, Hardjati & Iryanti, 2019). Babin, Darden & Griffin (1994) divided consumer spending behavior into two parts: hedonic shopper and utilitarian shopper.

Hedonic shopping prioritizes experience in purchasing, meanwhile utilitarian shopping is a task-oriented spending. By knowing the type of buyer behavior, it is expected. By knowing the type of buyer behavior, it is expected to require assistance from prospective customers and they are expected to purchase the products from these outlets (Japariato & Sugiharto, 2011).

Shopping is an activity carried out by the community or among students to enhance the appearance or identity associated with fashion. Shopping activities are assumed to be practices that can relieve stress, spend money and change one's mood significantly (Cottet, Lichtlé & Plichon, 2006). At the moment, there are the product that they like and as well interested to buy too and it is directly involve to interconnect to fashion. Hedonic consumption reflects the value of purchasing experiences such as fantasy, desire, sensory stimulation, enjoyment, pleasure, curiosity, and entertainment (Scarpi, 2006).

Musnaini, Astuti, Sukoco & Yacob (2017) state that hedonic consumption is one aspect of consumer behavior relating to sensory aspects, fantasy, and dialog in experiences controlled by various benefits, such as assistance in the use of goods. Hausman (2000) suggests that the value of hedonic can be fulfilled with emotional feelings arising from the social experiences that have arisen during shopping. Characteristics of hedonic values are self-determined and self-oriented (Ratnasari & Yulianti, 2016).

Through this study, researchers want to prove that consumers' perceptions of the atmosphere of outlets, retail services, the role of fashion and its influence on hedonic value impact on consumers' purchase intentions. This means that these factors can trigger consumers' hedonic values and influence consumers' shopping behaviour, namely consumer interest. In accordance with the hypothesis of the study:

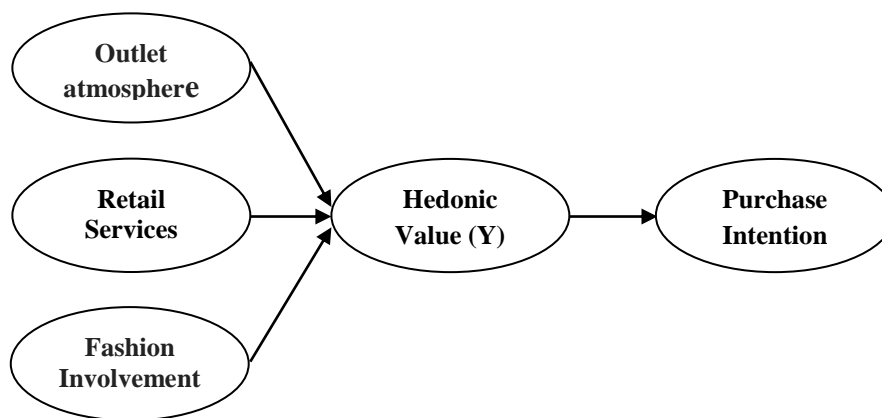


Figure 1. Research conceptual framework

Hypothesis

The hypothesis is a conclusion or a presumption, while the problem is based on a theoretical framework. The hypotheses for this research are:

H1. It is suspected that the atmosphere of outlet has a positive effect on the value of consumers in department stores.

- H2. It is suspected that the retail service has a positive effect on the value of consumers in department stores.
- H3. It is suspected that the fashion involvement has a positive effect on consumer value in department stores.
- H4. It is suspected that the consumer value positively influences consumers’ buying interest in department stores.

RESEARCH METHODS

For the research design, data collection was using questionnaires distributed randomly to 90 visitors who visit department stores in malls in Surabaya. Data analysis techniques and hypothesis testing use Partial Least Square (PLS).

However, the determinacy of the factor score estimation would lose the predictive accuracy of the test theory. The operational variables in this research are (1) outlet atmosphere, is the design of the retail chain outlet, which causes different emotional effects on the consumer thus increases the purchase probability; (2) retail services, is where the people manning the store are incredibly friendly and tried to help after realizing that the consumer was unsure of what to purchase; (3) fashion involvement, is defined as belongings of fashion interactive doings; (4) hedonic value, is the value of pleasure and pain or displeasure that the consumer experiences on the basis of the experience of fun and playfulness; and (5) purchase intention, is an implicit commitment to purchase a product again any time one make the next trip to the store.

Measurement of the determinant variable uses a Likert scale, and to assess consumers’ intentions, the firms usually survey a sample of consumers and ask them to respond to a purchase intentions questions, such as “How likely are you to purchase product *x* in the next *y* months?” and the response options are on a scale 1 to 5, in which 5 = “definitely will buy”, 4 = “probably will buy”, 3 = “may or may not buy”, 2 = “probably will not buy”, and 1 = “definitely will not buy”.

The data analysis used SmART using the partial least square (PLS) path modeling approach is more suitable. It is because the approach to estimating the latent variable is considered to be a linear combination of indicators, avoiding indeterminacy problems and providing a definite definition of the score component. In this study, with some latent variables in the form of a linear combination of indicators, it is easy to predict the value of the latent variables so that it can also be easy to predict the latent variable affected.

RESULT AND DISCUSSION

The findings of the data analysis related to the characteristics of the respondent can be known through the respondents’ answers to the questions in the questionnaire. Based on the study results, the respondent characteristic based on gender is given in Table 1.

Table 1. Characteristics of respondents based on gender, 2019

Gender	Frequency	(%)
Male	33	36.67
Female	57	63.33
Total	90	100.00

Based on Table 1, that respondents with female gender more than respondents with male sex. Respondents with male gender as much as 37% and respondents with female gender as much as 63%. This means that the majority of customers who were respondents in this study were female visitors. Then, the result of age responden analysis can be seen in the table 2.

Table 2. Characteristics of respondents based on age, 2019

Ages (Years)	Frequency	(%)
17 – 22	7	7.78
23 – 28	18	20.00
29 – 34	44	48.89
>35	21	23.33
Total	90	100.00

In this study, characteristic of respondent can be seen that the majority of respondents is in the 29-34 year old group (48.89 percent) and the second highest number is in the above 35 years old group. It indicates that consumers who visited supermarket (superstore) were mostly those in 29-34 years old group.

Related to the shopping needs of consumers, it is given in Table 3. Table 3 showed that the supermarket visitors purchased based on personal needs. Visitors of a department store of modern shopping centers/supermarkets account for 63 percent in women aged 29-34 years. They are the majority of consumers in Surabaya.

Table 3. Characteristics of respondents based on shopping needs, 2019

Purchase	Frequency	(%)
Self	84	93.33
Others	6	6.67
Total	90	100.00

This study indicates that the outlet atmosphere, the retail services, and fashion involvement are critical for women as they display feasible fashion belongings. They offer freedom of discussion during shopping time like providing some humor of happiness, pleasure and also take a notice about their shopping difficulties and their buying intention.

The main assumption of this method is that consumers can not express only one perfect behavioral intention for a good or service. Nevertheless, consumers can give information about acceptable outlate atmosphere, retail services, fashion involvement and hedonic value of a certain product. In purchase intention expectation must be taken into account in addition to consumer’s perceptions. By taking into consideration fourth variable perception of consumers and other relevant factors together, more accurate purchase decision can be made.

In this study, purchase itention which is one of the methods of marketer is discussed. Firstly, importance of the hedonic values for consumers is presented and then retail services is examined in detail. In the research, the perceptions of the respondent on outlate atmosphere of private dormitories are measured. However, very little is known about the effects of hedonic value on purchases intention under various strategic marketing. Nonetheless, there is some empirical evidence that suggests a customer perception contributes more to retail services, fashion involvement and outlate atmosphere than does a purchasing of product.

In this study The analysis tool is SEM program by using the software PLS (partial least square). The measurement of SEM with Smart PLS is using outer model and inner model. Evaluation of structural models or inner models aims to predict the relationship between latent variables by looking at the magnitude of the variance percentage described by looking at the value of R-Square and the T-statistics value in table Path Coefficients. Completely the proposed model of our study is explaining in the the concepts of this paper is presented in figure 2.

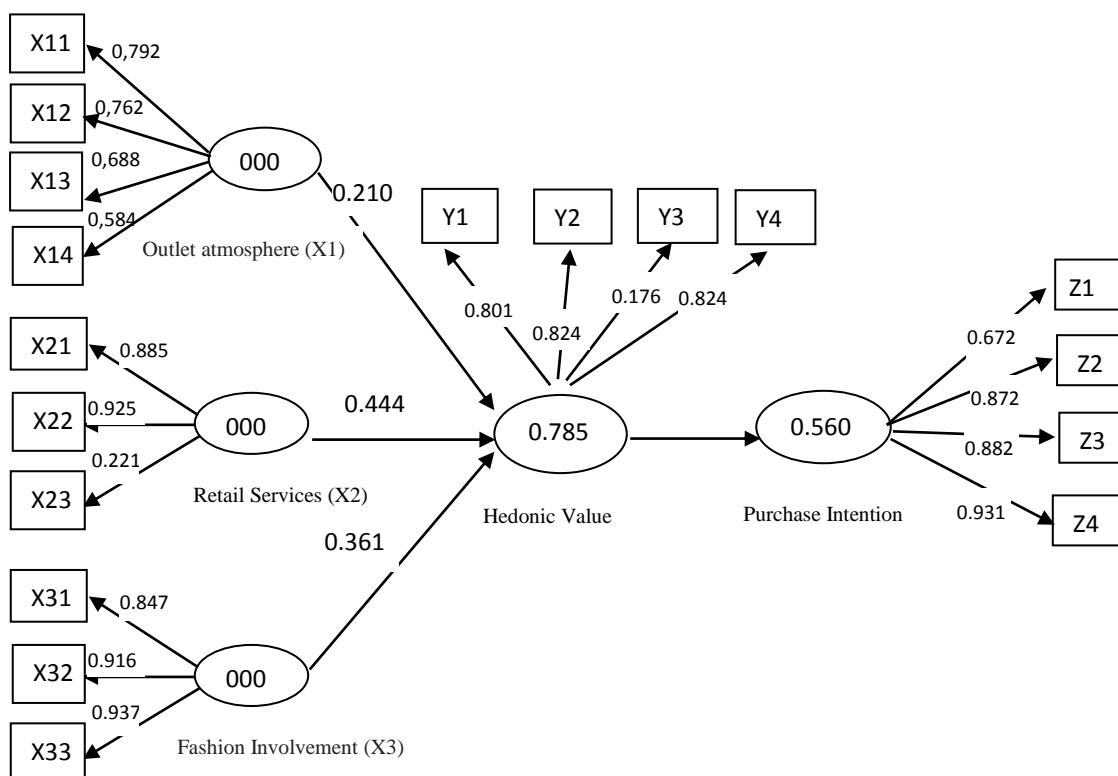


Figure 2. Diagram of the Hypothesis Test

The results of the analysis in this study indicate that the hypothesis proposed is statistically proved to be:

1. Outlet Atmosphere (X1) has a significant positive effect on Hedonic Value (Y) with a path coefficient of 0.209 because the value of t -statistic = 2.677 is greater than the value of $Z \alpha = 0.10 (10\%) = 1.645$
2. Retail Services (X2) significantly and positively affect Hedonic Value (Y) with a path coefficient of 0.444 because the value of t -statistic = 4.617 is greater than the value of $Z \alpha = 0.10 (10\%) = 1.645$
3. Fashion Involvement (X3) has a significant positive effect on Hedonic Value (Y) with a path coefficient of 0.361 because the value of t -statistic = 3.328 is greater than the value of $Z \alpha = 0.10 (10\%) = 1.645$
4. Hedonic Value (Y) significantly and positively affect Purchase Interest (Z) with a path coefficient of 0.748 because the value of t -statistic = 10.577 is greater than the value of $Z \alpha = 0.10 (10\%) = 1.645$

The results of the hypothesis test diagram (Figure 2) suggested that the coefficient path of the retail services is 0.444, thus it becomes the dominant variable that affects hedonic value and purchase intentions.

These days, consumers are wiser by choosing shopping centers with a fun, safe and comfortable atmosphere, and that provide a sense of satisfaction and comfort every time they shop. Feelings of satisfaction felt by consumers while shopping is an opportunity for fashion managers. Longer and more satisfied consumers are in the outlet is expected to encourage them to spend their money. This opportunity can be generated if the outlets create a pleasant atmosphere. Thus the visitors in the outlet feel like at home, and it is hoped that, as the next action, the consumers will spend their money (hedonism aspect).

Outlet Atmosphere (X1) -> Hedonic Value

Rintamäki, Kanto, Kuusela & Spence (2006) argue that customers/buyers consider hedonic value in shopping as a right, disregarding previous purchase planning. Most consumer decisions are taken while in the store (Fam, Merrilees, Richard & Jozsa, 2011).

Stimulus in the shopping environment can be experienced through the atmosphere of the booth and services provided to consumers. Stimulus in the shopping environment can also trigger impulsive purchases (Handayani, W, Anshori, M., Usman, I. & Mudjanarko, S., 2018). When consumers feel that they enjoy shopping, that means a positive impact on their purchase intention (Japariato & Sugiharto, S., 2011; Kang & Park, 2010). As a result of longer time spent by consumers in a store, the probability of a purchase can increase.

In addition, marketing managers may use the purchasing intention as a hedonic value tool. For example, outlet atmospheres that supermarket managers tend to lose from place to smooth take and meet of homecare products.

Retail Services (X2) -> Hedonic Value (Y)

Consumers are more driven by the perception that the outlet is not only a place for shopping, but also a place for leisure and entertainment (Lin & Zhang, 2011). Such consumers will also look for a shopping environment that offers a high level of comfort in order to make their shopping activities more enjoyable (Ratnasari & Yulianti, 2016).

Marketing managers may use this motivation as a hedonic value tool. For example, retail services that supermarket managers tend to give services to skin problems of cosmetic products.

Hedonic Value (Y) -> Purchase Intention (Z)

The shopping environment should be designed in such a way as to have an emotional effect on consumers, increasing the probability of purchases. This aspect of hedonism must then be addressed by managers of fashion outlets, so that customers not only become utilitarian shoppers (shopping based on needs) but are also encouraged to become hedonistic shoppers with a pleasant atmosphere of fashion outlets (Abednego, 2011; Asrini & Musnaini, 2019).

Based on the research carried out with regard to the creation of the outlet atmosphere, the department store managers must pay attention to lighting systems and music as a backsound. In terms of retail services, the management must pay attention to the support of facilities such as a functioning escalator, a wide parking area and the existence of toilets, as well as to the support of consumers' fashion involvement (Marianty & Junaedi, 2014). Therefore, with the creation of hedonic values, consumers' purchase intention would increase.

Marketing managers often consider purchase intentions as a key predictor of potential demand for their goods and determine whether their marketing actions can

have an impact on future sales. While they believe that purchase intentions are good proxies for what consumers will do in the marketplace, we have long understood that they are correlated but imperfect predictors of potential consumer behavior (Musnaini, Astuti & Sukoco, 2017).

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Creating a good store atmosphere will increase the hedonic value of the consumers. This means that better creation of outlet atmosphere in department stores in the malls in Surabaya will increase the hedonic value of the consumers.

Good retail services will increase the hedonic value of consumers. This means that better retail services that consumers experience in the department stores at the malls in Surabaya will increase the hedonic value of consumers.

Higher fashion involvement may increase consumer hedonic value. The higher the degree of consumer fashion engagement, the higher the hedonic value of the consumer. Higher hedonic value can encourage consumer buying interest. Thus the higher the consumer's hedonic value, the greater the consumer's interest in purchasing a product.

Recommendations

In order to stimulate the hedonism of the consumer, the department store manager must be able to provide stimulus that will increase the hedonic value of the consumer. For further studies, based on the findings of the study, it has been identified that the outlet atmosphere, the retail services, and the fashion involvement are only capable of explaining the phenomenon of hedonic values and purchase interests by 34.3%, while the remaining 65.7% are still affected by other variables not included in the model research. Therefore, in order to find out more about the factors influencing the hedonic value and consumers' purchase interest in department stores, the suggestion for the further research is to incorporate other factors besides the store atmosphere, the retail services and the fashion involvement. These other factors include price, product quality, promotion and others.

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APPENDIX

Appendix 1. Result of outer loading

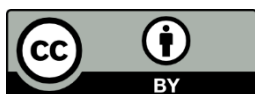
Outer Loading	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics ((O/STERR))
X1.1 <- Outlet Atmosphere (X1)	0.791773	0.792295	0.034556	0.034556	22.912471
X1.2 <- Outlet Atmosphere (X1)	0.761924	0.754155	0.060018	0.060018	12.694913
X1.3 <- Outlet Atmosphere (X1)	0.687659	0.686512	0.059398	0.059398	11.577206
X1.4 <- Outlet Atmosphere (X1)	0.583978	0.570927	0.107610	0.107610	5.426825
X2.1 <- Retail Services (X2)	0.884617	0.873754	0.042233	0.042233	20.946279
X2.2 <- Retail Services (X2)	0.924740	0.923482	0.015068	0.015068	61.371545
X2.3 <- Retail Services (X2)	0.221060	0.216979	0.160818	0.160818	1.374602
X3.1 <- Fashion Involvement (X3)	0.846552	0.846461	0.031344	0.031344	27.008435
X3.2 <- Fashion Involvement (X3)	0.916000	0.914234	0.026112	0.026112	35.080156
X3.3 <- Fashion Involvement (X3)	0.937103	0.937017	0.013120	0.013120	71.422936
Y1 <- Hedonic Value (Y)	0.800948	0.792039	0.065679	0.065679	12.194839
Y2 <- Hedonic Value (Y)	0.824325	0.823350	0.035141	0.035141	23.457929
Y3 <- Hedonic Value (Y)	0.176199	0.164204	0.165298	0.165298	1.065947
Y4 <- Hedonic Value (Y)	0.823853	0.818200	0.055421	0.055421	14.865336
Z1 <- Purchase Intention (Z)	0.671892	0.673127	0.074859	0.074859	8.975446
Z2 <- Purchase Intention (Z)	0.826576	0.826099	0.031085	0.031085	26.590891
Z3 <- Purchase Intention (Z)	0.881889	0.880309	0.033080	0.033080	26.659459
Z4 <- Purchase Intention (Z)	0.930908	0.930723	0.013894	0.013894	67.002231

Appendix 2. Result of outer Weights

Outer Weight	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics ((O/STERR))
X1.1 <- Outlet atmosphere (X1)	0.489353	0.491782	0.058615	0.058615	8.348605
X1.2 <- Outlet atmosphere (X1)	0.313846	0.314817	0.034304	0.034304	9.148918
X1.3 <- Outlet atmosphere (X1)	0.355213	0.356035	0.041151	0.041151	8.632013
X1.4 <- Outlet atmosphere (X1)	0.221157	0.215961	0.036859	0.036859	6.000098
X2.1 <- Retail Services (X2)	0.490876	0.484271	0.024791	0.024791	19.800903
X2.2 <- Retail Services (X2)	0.602627	0.602074	0.039794	0.039794	15.143828
X2.3 <- Retail Services (X2)	0.038407	0.038928	0.078581	0.078581	0.488752
X3.1 <- Fashion Involvement (X3)	0.319104	0.319635	0.019135	0.019135	16.676775
X3.2 <- Fashion Involvement (X3)	0.386625	0.384686	0.018650	0.018650	20.730611
X3.3 <- Fashion Involvement (X3)	0.400931	0.402860	0.022015	0.022015	18.211424
Y1 <- Hedonic Value (Y)	0.372332	0.365027	0.028429	0.028429	13.096728
Y2 <- Hedonic Value (Y)	0.498925	0.499452	0.055413	0.055413	9.003779
Y3 <- Hedonic Value (Y)	0.042210	0.038294	0.067631	0.067631	0.624127
Y4 <- Hedonic Value (Y)	0.343591	0.343083	0.027718	0.027718	12.395994
Z1 <- Purchase Intention (Z)	0.241515	0.242841	0.030087	0.030087	8.027356
Z2 <- Purchase Intention (Z)	0.273348	0.272833	0.017729	0.017729	15.417830
Z3 <- Purchase Intention (Z)	0.331188	0.328654	0.022710	0.022710	14.583291
Z4 <- Purchase Intention (Z)	0.343442	0.343952	0.021976	0.021976	15.627821

Appendix 3. Result of inner weight

Inner weight	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics ((O/STERR))
Outlet atmosphere (X1) -> Hedonic Value (Y)	0.209847	0.215658	0.078375	0.078375	2.677458
Retail Services (X2) -> Hedonic Value (Y)	0.444334	0.440179	0.096235	0.096235	4.617183
Fashion Involvement (X3) -> Hedonic Value (Y)	0.361024	0.362305	0.108473	0.108473	3.328226
Hedonic Value (Y) -> Purchase Intention (Z)	0.748012	0.749219	0.070721	0.070721	10.577004



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