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Volatility Spillover Effects of U.S. Quantitative Easing Policies: Evidence from BRIC Bond Markets

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Abstract: We gauge the U.S. quantitative easing (QE) volatility spillover effects on BRIC (Brazil, Russia, India and China) bond markets. The results show a pronounced volatility spillover effect of U.S. QE policy shocks on BRIC bond markets. In particular, BRIC bond markets experienced a more volatile position during the early U.S. QE phases. The adverse U.S. QE spillover effects trigger volatility in BRIC bond markets and partially counteract the market-stabilizing domestic monetary policy effects. This finding indicates an improvement in international policy collaboration, especially between emerging and leading economies.

Key words: quantitative easing; monetary policy shock; BRIC bond markets; volatility spillover; DCC-MGARCH model

JEL codes: E52; F42; G15

1. Introduction

The last decade has witnessed many policy innovations, especially monetary policy innovations. Among these policy innovations, quantitative easing (QE) is among the most popular unconventional monetary policies implemented by central banks (such as Federal Reserves) to stimulate a depressed economy (Klyuev et al., 2009). This policy significantly increased U.S. economic growth, lowered the unemployment rate (Kim & Nguyen, 2009; Chen et al., 2016; Stockhammar & Österholm, 2017), and affected the financial asset returns of international markets (Bauer & Neely 2014; Gagnon et al., 2017). In addition to studying U.S. QE policies from the return perspective, recent studies have assessed the potential volatility spillover effects of U.S. QE policies (Li & Giles, 2015; Yang & Zhou, 2016).

However, these previous studies focused on the U.S. QE volatility spillover effects on international stock markets without analyzing the effects on government bond markets. Government bonds represent an important part of the financial market used by governments to gather funds, and the performance of the government bond market is of significant importance. Changes in the volatility level of government bond markets could not only alter investors' portfolios and investment choices but also consequently change government income and spending. Therefore, studying the U.S. QE volatility spillover effects on bond markets could provide risk management

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guidance to international investors and benefit international monetary cooperation.

This paper empirically examines the volatility spillover effects of U.S. QE policies, particularly on BRIC bond markets. One reason for choosing the ten-year government bond market is that the government bond, especially the long-term government bond, is closely related to U.S. QE operations (Bernanke & Reinhart, 2004). Moreover, emerging financial markets are less developed than advanced markets; thus, such markets are more vulnerable to latent turbulence due to external policy shocks (Chudik & Fratzscher, 2011). In this study, we evaluate the U.S. QE policy shocks to long-term assets (USQEPSLA), which are calculated based on ten-year treasury futures data, to gauge the U.S. QE volatility spillover effects on BRIC bond markets. The empirical results suggest that the USQEPSLA significantly increase the bond yield volatilities in BRIC bond markets during early U.S. QE periods and that these volatilities gradually fade.

This paper offers several contributions. First, we develop a novel approach to measuring external U.S. QE policy shocks independently. One advantage of this method is that the measure is immune to the model specification. The results suggest that the unilateral monetary easing policy injects volatilities in BRIC bond markets during the early U.S. QE phases. This finding provides new evidence supporting market integration and international policy interaction, especially between the U.S. and emerging bond markets.

The remainder of the paper is organized as follows. Section 2 reviews the literature related to the U.S. QE spillover effects on global financial markets from both the return and volatility perspectives. Section 3 presents the data and econometric models used in this study. In section 4, we discuss the empirical results of this study. Section 5 provides the robustness tests, followed by practical implications and conclusions in section 6.

2. Literature Review

Since their first implementation after the 2008 global financial crisis, unconventional monetary policies, such as U.S. QE policies, have attracted much interest and debate (Aysun & Hepp, 2011; Krishnamurthy & Vissing-Jorgensen, 2011). The U.S. QE policies are designed to address economic recession problems in the U.S. economy. However, following the initial U.S. QE1 announcement, scholars have mainly focused on the impacts of U.S. QE policies on domestic markets and the economy (Gagnon et al., 2011; D'Amico & King, 2013). For example, Krishnamurthy and Vissing-Jorgensen (2011) found that the U.S. QE policy announcements significantly lowered bond yields of various maturities, but the intensity of the effect depended on the maturity of the bond.

2.1 U.S. QE Spillover Effects on Asset Returns

Following the implementation of U.S. QE policies, the focus of the literature shifts from the domestic effects of U.S. QE policies to international spillover effects. For example, Neely (2015) assessed the U.S. QE spillover effects on long-term bond yields from five developed markets using the event study method. This author found a significant decrease in all bond yields closely following the U.S. QE announcements. Similarly, Gambacorta et al. (2014) examined U.S. QE spillover effects and found a temporary increase in consumer prices in eight developed markets.

In addition to studies related to developed markets, many studies investigated the U.S. QE spillover effects on emerging markets. Park et al. (2016) examined capital flows in developing Asian markets during the U.S. QE phases. The authors found larger capital flows to developing Asian markets during the U.S. QE periods, and compared to before the 2008 global finance crisis, bonds played a larger role in capital flows. Miyakoshi et al.

(2017) examined the U.S. QE spillover effects on eight Asian emerging markets with a time-varying parameter vector autoregression (VAR) model and found that the U.S. QE policy contributed to a significant increase in stock prices in their sample of emerging markets. Xu and La (2017) assessed the U.S. QE spillover effects on Asian credit markets and observed a substantial increase in the U.S. dollar credit in Asian emerging markets. These results further confirmed the U.S. QE spillover effects on credit markets.

2.2 U.S. QE Volatility Spillover Effects on Financial Assets

In addition to the literature concerning the U.S. QE spillover effects on asset returns, increasing studies have investigated the U.S. QE spillover effects on volatility. For example, Li and Giles (2015) examined the stock market correlations among the U.S., Japan and six developing Asian markets during the U.S. and Japan QE phases. Their results suggest that in both the long run and short run, emerging markets are influenced by domestic policy shocks more than developed markets. However, the U.S. QE volatility spillover effects are more pronounced than those of the Japanese market on the sample emerging markets. Another study conducted by Ghosh and Saggari (2016) examined the U.S. QE volatility spillover effects on BRICS markets and some additional emerging markets during the taper talk period. The authors found a significant volatility clustering phenomenon in the emerging bond markets and observed a contemporaneous volatility covariance between the U.S. and other emerging markets in both equities and government securities. Yang and Zhou (2016) used implied volatility indices to test the volatility spillover effects on U.S. bond and global stock markets. Their empirical results indicated that the volatility spillover effects of U.S. markets intensified three times during the U.S. QE periods. These authors also noted that the U.S. QE policy was the primary driver intensifying the volatility spillover effects and could account for approximately half of the variations in the spillover effects.

However, some gaps exist in the existing literature. First, most studies focus on the U.S. QE volatility spillover effects on global stock markets, and few studies address the effects on bond markets. Furthermore, the event study approach used in some studies is highly dependent on the length of the event window and is unable to capture the persistent effects of U.S. QE policies. Moreover, although time series models, such as the generalized autoregressive conditional heteroscedastic (GARCH) model or the VAR model, can measure the interactions among different markets, such models are unable to properly identify the U.S. QE policy shocks. The shocks generated by the GARCH and VAR models cannot explicitly explain exogenous U.S. QE policy shocks but rather represent the shocks of these markets in general. Therefore, in this study, using the DCC-MGARCH framework, we explain exogenous U.S. QE policy shocks calculated based on ten-year U.S. Treasury futures data. We expect to capture both the market interactions and model-free exogenous U.S. QE policy shocks during different U.S. QE phases.

3. Methodology

3.1 Data

The sampling period ranges from January 2007 to January 2016, and the data are of daily frequency. To calculate the stationary time series data, we use the bond yield change calculated in the following formula: $\ln(P_t/P_{t-1}) \times 100$. P_t is the bond yield price in each market at time t . The sampling period covers all three U.S. QE periods (U.S. QE1, QE2 and QE3 periods), enabling the assessment of U.S. QE policy shocks during all U.S. QE periods. All three U.S. QE periods are determined based on the Federal Reserve QE announcements. To control for potential interactions across international bond markets, we use the daily bond yield from the three leading

bond markets (the U.S., the U.K. and Japan) and the BRIC ten-year government bond markets. Furthermore, we include the monetary base (MB) from the BRIC markets to control for their domestic monetary policy impacts¹.

The summary statistics of the sample bond yield data are presented in Table 1. The mean coefficient indicates that, by a large margin, the BRIC bond yields are higher than those in their developed counterparts, especially the Russian and Indian markets. This higher reward triggers investors' interests and induces capital inflow from developed bond markets to emerging economies. The standard deviation coefficient suggests that the BRIC bond markets (except for China) are more volatile than the developed bond markets, which is unsurprising because higher returns are associated with higher risk.

The log-differentiated daily bond yield data are displayed in Figure 1. The three shaded areas represent each individual U.S. QE period². A pronounced spike in the daily bond yields during or around each U.S. QE period can be observed in the BRIC markets. This finding indicates that the bond yields in the BRIC markets became more volatile in response to U.S. QE policies.

Table 1 Descriptive Statistics of Government Bond Yields from the Sample Markets (2007 to 2016)

Market	Nobs	Mean	Median	Max	Min	Std. Dev.
US	2340	2.92	2.74	5.29	1.39	0.91
UK	2340	3.13	2.98	5.55	1.33	1.12
JP	2340	1.04	1.03	1.97	0.20	0.43
CH	2340	3.72	3.60	4.71	2.78	0.43
BR	2340	4.61	4.59	11.13	2.24	1.18
IN	2340	7.97	7.98	9.48	5.08	1.62
RU	2340	8.55	7.87	16.24	6.26	2.03

Source: Author's calculation based on data from Bloomberg and DataStream

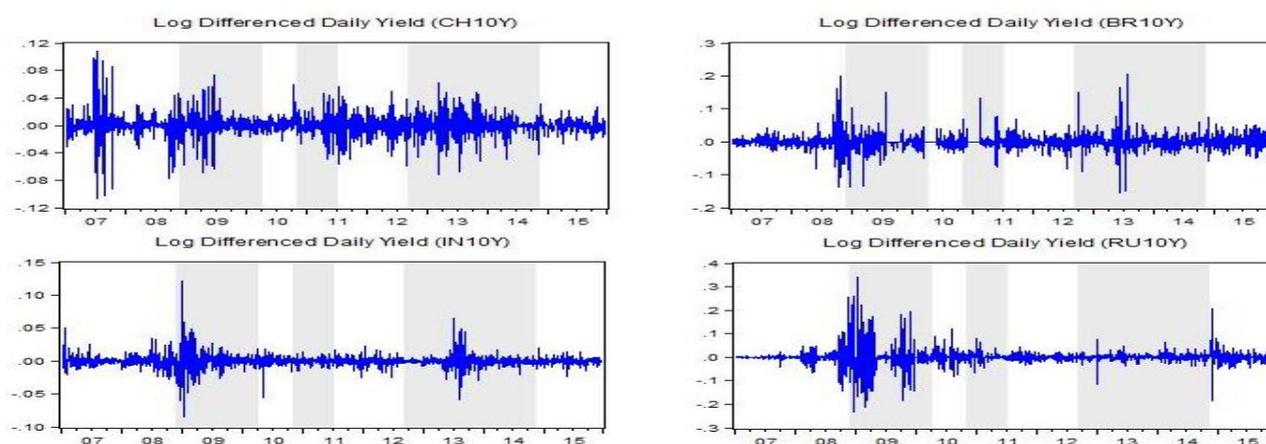


Figure 1 Log-Differentiated Daily Bond Yields of BRIC Markets

3.2 Measuring U.S. QE Policy Shocks

One issue addressed in the previous literature related to U.S. QE policies is the proper measurement of the unexpected components of monetary policies, such as the U.S. QE policy. According to the efficient market

¹ The monetary base data are of monthly frequency and calculated using the formula $\ln(P_t/P_{t-1}) \times 100$. P_t represents the monetary base data at time t .

² In this study, we do not include the Maturity Extension Program, but the taper talking period is included in the U.S. QE3 period.

hypothesis, the expected monetary policy changes should already be reflected in the current market prices. Only unexpected monetary policy changes, i.e., monetary policy shocks, can affect market prices. Hence, it is essential to distinguish the anticipated and unanticipated components of monetary policies. One common approach advocated by the previous literature (Kuttner, 2001) is to use the change in futures prices to calculate exogenous policy shocks. In contrast to the spot market in which prices precisely reflect an asset's current market value, the futures market prices reflect the market expectations of future economic developments. Therefore, the futures market provides a price discovery function and can measure the unexpected components of current monetary policies. Compared to conventional monetary policies, which adjust the short-term interest rates, unconventional monetary policies, such as the QE policy, mainly target long-term interest rates. Therefore, we develop the USQEPSLA with U.S. monetary policy shocks to long-term assets (MPSLA) based on the long-term (ten-year) treasury futures data³. We adopt the Kishor and Marfatia (2013) method developed based on Kuttner's (2001) study.

The daily U.S. MPSLA is defined in equation (1).

$$Dr_t^{MPSLA} = \frac{n_s}{n_s - \mathcal{U}} (g_{s,\mathcal{U}}^0 - g_{s,\mathcal{U}-1}^0) \quad (1)$$

where Dr_t^{MPSLA} is the daily U.S. MPSLA, n_s is the number of days in month s , $g_{s,\nu}^0$ is the current-month ten-year treasury futures price on day ν of month s , and $g_{s,\nu-1}^0$ is the current-month long-term treasury futures price on day $\nu-1$. The model applies to all days within one month, except for the first and last days. When the U.S. MPSLA occurs on the first day of the month, the expectation of its impact would have been reflected in the rate of the previous month; thus, the prior month's ten-year treasury futures rate on the last day, i.e., $g_{s-1,\nu-1}^1$, is applied instead of $g_{s,\nu-1}^0$. Similarly, when the U.S. MPSLA occurs on the last day of the month, the difference in the 1-month long-term U.S. Treasury futures rate is used. The U.S. MPSLA transpiring on the last day of each month cannot affect the current-month spot rate. Furthermore, to avoid amplifying the month-end noise, no adjustments in terms of scaling are applied when the U.S. monetary policy change announcement occurs within the last 3 days of the month.

We multiply the variable Dr_t^{MPSLA} calculated in equation (1) by dummy variables (defined in Table 2) to obtain the USQEPSLA variables (shown in the second equation).

$$USQEPSLA_{i,t} = d_i * Dr_t^{MPSLA} \quad (2)$$

The $USQEPSLA_{i,t}$ variables represent the daily monetary policy shocks generated within the U.S. QE1, QE2 and QE3 periods. The dummy variables d_i represent the time frame of each individual U.S. QE period decided by the federal QE announcements. In both cases, $i = 1, 2,$ and 3 . Variable Dr_t^{MPSLA} measures the daily U.S. monetary policy shocks during the entire sampling period.

³ In addition to applying long-term treasury data to calculate the U.S. MPSLA, we include federal funds futures data to calculate the U.S. QE policy shock to short-term asset (USQEPSSA). We include this shock as a robustness test only.

Table 2 Different U.S. QE Rounds

Dummy Variable	1	0
d ₁	November 25, 2008 to March 25, 2010	Otherwise
d ₂	November 3, 2010 to June 25, 2011	Otherwise
d ₃	September 13, 2012 to October 29, 2014	Otherwise

3.3 Empirical Model

To estimate the volatility spillover effects of the U.S. QE policy shocks on the BRIC bond markets, we use the DCC-MGARCH model (Engle 2002). The DCC-MGARCH model has been widely applied to examine the volatility spillover effects in international financial markets (for example, Baklaci et al., 2016; Kang et al., 2016). The DCC-MGARCH model is given as follows. The mean equation is shown in equation (3):

$$\Delta Y_t = C + e_t \quad (3)$$

where ΔY_t is the change in the yield data at time t in each bond market, e_t is the error term, and C is a constant.

Then, we add the control variables and the USQEPSLA variables defined in section 3.2 to the variance equation of the DCC-MGARCH model as follows:

$$h_t = C_1 + a_1 e_{t-1}^2 + b_1 h_{t-1}^2 + a_1 MB_{i,t}^{ds} + b_1 USQEPSLA_{1,t} + b_2 USQEPSLA_{2,t} + b_3 USQEPSLA_{3,t} \quad (4)$$

where h_t is the conditional variance at time t, e_{t-1}^2 is the square of residuals in time t-1, which is the previous period of t, and h_{t-1}^2 is the square of the conditional variance in time t-1, which also refers to the previous period of t. $USQEPSLA_{i,t}$ represents the daily U.S. QE policy shocks within each QE period. $MB_{i,t}^{ds}$ represents the monthly MB change that controls for the domestic monetary policy effects in each BRIC market.

This is the model for each univariate GARCH model. Then, we estimate the dynamic conditional correlation based on the univariate results and the residual ε_t generated from both equations (3) and (4) as follows:

$$e_t = D_t v_t \square N(0, H_t) \quad (5)$$

where ε_t is an $m \times 1$ column vector of the residuals of ΔY_t in equation (3), m is the number of markets included, v_t is an $m \times 1$ column vector of the standardized residuals, and H_t is an $m \times m$ matrix of the time-varying variances. Specifically,

$$H_t = D_t R_t D_t \quad (6)$$

where D_t is an $m \times m$ diagonal matrix of the time-varying standard deviation of the residual mean in equation (1) and $D_t = \text{diag} \{ \sqrt{h_t} \}$, where each h_t is calculated from the univariate GARCH (1, 1) model in equation (4).

The framework also consists of a specific DCC structure R_t , which is an $m \times m$ matrix of the time-varying correlations and can be expressed as follows:

$$R_t = Q_t^{*-1} Q_t Q_t^{*-1} \quad (7)$$

The dynamic conditional correlation structure is given by equation (8) as follows:

$$Q_t = (1 - \theta_1 - \theta_2) \bar{Q} + \theta_1 v_{t-1} v_{t-1}' + \theta_2 Q_{t-1} \quad (8)$$

where Q_t is the conditional variance–covariance matrix of the residuals, and its unconditional variance–covariance matrix \bar{Q} is obtained from the GARCH (1, 1) process in equation (4). Q_t^* is a diagonal matrix with the square root of the diagonal elements of Q_t , and $Q_t^* = \text{diag} \{ \sqrt{Q_t} \}$. $v_t = \varepsilon_t / \sqrt{h_t}$, and the scalars θ_1 and θ_2 are nonnegative and satisfy $\theta_1 + \theta_2 < 1$.

The parameters in both equations (4) and (8) can represent the time-varying volatility spillover effects of the U.S. QE policy shocks on different bond markets. In contrast to the estimation by the univariate GARCH model alone, which ignores the interaction within each market, the DCC-MGARCH model jointly considers the interdependence among the markets and exogenous U.S. QE shocks and can better identify the spillover effects triggered by U.S. QE policies.

4. Empirical Results

The estimation results are presented in Table 3. Regarding the ARCH and GARCH effects, the coefficients are significant in all BRIC markets. The sum of all coefficients is less than one, indicating the short- and long-term persistence of the variance. The pronounced coefficients also provide evidence of volatility clustering.

The estimated coefficient of the domestic monetary change is negative and statistically significant in each BRIC market. This finding indicates that in these economies, the domestic monetary easing policy effectively lowers the market risk level of bond yields. The increasing monetary supply injects liquidity into the market. Consequently, this monetary easing policy mitigates the obstacles to transferring assets and stabilizes market volatility.

Table 3 USQEPSLA Effects on Global Bond Yield Volatility

Market	ARCH	GARCH	MB	USQEPSLA1	USQEPSLA2	USQEPSLA3	θ_1	θ_2
CH	0.155***	0.527***	-0.018** *	0.036***	0.045***	-0.061	0.021**	0.633**
BR	0.112***	0.555***	-0.013** -0.018**	0.079***	0.134***	-0.037**	0.005**	0.990***
IN	0.147***	0.570***	* -0.026**	0.030***	0.042**	-0.033*	0.026**	0.624**
RU	0.148***	0.572***	*	0.235**	0.431***	-0.319	0.024**	0.261*

***, ** and * indicate that the values are significant at the 1%, 5% and 10% levels, respectively.

In contrast to the domestic monetary easing policy, which has a negative impact on the bond yield volatility level, the estimated coefficient of the U.S. QE volatility spillover effects is positive and statistically significant in all BRIC bond yields during the early QE stages (U.S. QE1 and QE2). This finding indicates that the instability of the BRIC bond yield volatility is due to the constant disorder induced by the U.S. QE policies during their early phases. However, during the QE3 period, the estimated coefficient is nonsignificant or only marginally significant. This finding suggests that the volatility turbulence in the BRIC bond markets decreases likely because of the market adjustments or stricter regulations in these economies.

The DCC parameters are positive and significant in all markets. The sum of all estimated coefficients is less than one, indicating that the dynamic correlation between the BRIC markets and leading bond markets is

stationary and mean reverting.

Figure 2⁴ depicts the dynamic conditional correlations between the U.S. bond market and BRIC bond markets from 2007 to 2016. The three shaded areas represent the individual U.S. QE phases. Generally, the dynamic correlation is persistent with no significant upward or downward trends (except for Brazil). However, significant correlation changes are observed during or around each U.S. QE period.

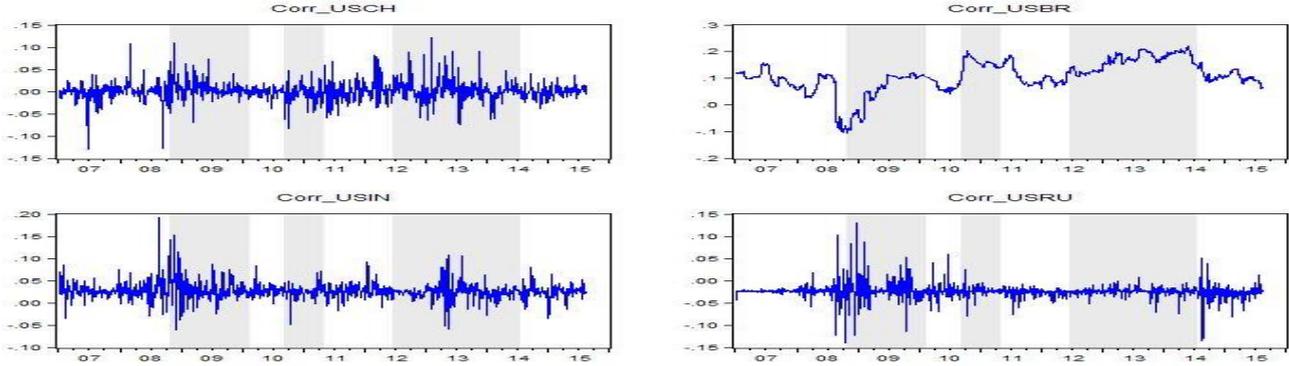


Figure 2 Dynamic Conditional Correlation between the U.S. and BRIC Bond Markets

5. Robustness Test

To better examine the volatility spillover effects of U.S. QE policies, in addition to the USQEPSLA variables defined in equation (2), we calculate the U.S. QE policy shocks to short-term assets (USQEPSSA) with federal funds futures data. The USQEPSSA variables are calculated using the same method as that defined in equations (1) and (2). First, we calculate the U.S. monetary policy shocks to short-term assets (MPSSA) with federal funds futures data in equation (9).

$$Dr_t^{MPSSA} = \frac{n_s}{n_s - U} (f_{s,U}^0 - f_{s,U-1}^0) \quad (9)$$

Then, we develop the USQEPSSA variables by multiplying the U.S. MPSSA variables by time dummies representing each individual U.S. QE period (shown in Table 2) in equation (10).

$$USQEPSSA_{i,t} = d_i * Dr_t^{MPSSA} \quad (10)$$

To avoid the potential multicollinearity problem between the USQEPSSA and USQEPSLA variables, we examine the Pearson correlations between these variables. The correlation coefficient (shown in Panel A, Table 4) is significant but only moderately (0.102). Moreover, we examine the Granger causality relationship between these two variables, and the results are reported in Panel B of Table 4. The nonsignificant results indicate that we cannot reject the null hypothesis that there is no Granger causality relationship between these two variables. These results jointly suggest that there is no multicollinearity problem when incorporating these two variables in the same equation.

⁴ For brevity, only the dynamic conditional correlations between the U.S. bond market and BRIC markets are reported.

Table 4 Pearson Correlations and Granger Causality Test between USQEPSLA and USQEPSSA

Panel A: Pearson Correlations between USQEPSLA and USQEPSSA	
USQEPSSA	USQEPSLA 0.103***
Panel B: Granger Causality Test between USQEPSLA and USQEPSSA	
Null Hypothesis:	F-Statistic
USQEPSSA does not Granger Cause USQEPSLA	1.6501(0.1991)
USQEPSLA does not Granger Cause USQEPSSA	1.4702(0.2248)

***indicates that the value is significant at the 1% level. The number shown in brackets represents the probability.

The variance equation with both the USQEPSSA and USQEPSLA variables is given as follows:

$$h_{1t} = C_2 + a_2 e_{t-1}^2 + b_2 h_{1t-1}^2 + a_1 MB_{t,t}^{ds} + b_1 USQEPSLA_{1,t} + b_2 USQEPSLA_{2,t} + b_3 USQEPSLA_{3,t} + b_4 USQEPSSA_{1,t} + b_5 USQEPSSA_{2,t} + b_6 USQEPSSA_{3,t} \quad (11)$$

The results are reported in Table 5. Following the inclusion of the USQEPSSA variables, the USQEPSLA results show minimal difference from those reported in Table 3, indicating that our results are robust.

Table 5 USQEPSLA and USQEPSSA Effects on Global Bond Yield Volatility

Market	ARCH	GARCH	MB	USQEPSL A1	USQEPSL A2	USQEPSL A3	USQEPSS A1	USQEPSS A2	USQEPSS A3	θ_1	θ_2
			-0.007**								
CH	0.102***	0.582***	*	0.028**	0.034***	-0.021	-0.448	-0.726*	-3.649	0.039***	0.729***
BR	0.106***	0.582***	-0.013**	0.114***	0.115***	-0.081*	3.742	-6.523	-18.591*	0.008**	0.985***
			-0.016**								
IN	0.177***	0.519***	*	0.009**	0.017**	-0.023**	3.650	-2.346	9.825*	0.039***	0.620***
RU	0.148***	0.572***	-0.026**	0.235***	0.273***	-0.321*	0.497	-72.849*	-92.983*	0.027**	0.457*

***, ** and * indicate that the values are significant at the 1%, 5% and 10% levels, respectively.

6. Conclusion

The main purpose of this article is to assess the U.S. QE volatility spillover effects on the long-term government bond yield in BRIC markets. We develop a novel means to measure the individual U.S. QE policy shocks to long-term assets with ten-year treasury futures data. We adopt this measure to examine the bond yield volatilities in BRIC bond markets from 2007 to 2017, covering all three QE phases. We also incorporate another shock calculated with federal funds futures data as a robustness test.

Our results indicate that similar to their effect in stock markets, the U.S. QE shocks induce volatility bursts in BRIC bond markets. Although the adverse impact of this unilateral policy gradually weakens due to market adjustments, it still mitigates the benefits of the domestic monetary policy in stabilizing the market. Therefore, in emerging economies, such as BRIC markets, monetary authorities should develop policies in collaboration with leading economies, such as the U.S., and improve their market regulation and supervision.

References

- Aysun U. and Hepp R. (2011). "Securitization and the balance sheet channel of monetary transmission", *J. Bank Finance*, Vol. 35, pp. 2111-2122, doi: <https://doi.org/10.1016/j.jbankfin.2011.01.011>.
- Baklaci H. F., Süer Ö. and Yelkenci T. (2016). "Volatility linkages among gold futures in emerging markets", *Emerg. Mark. Financ. Trade*, Vol. 52, pp. 1-9, doi: <https://doi.org/10.1080/1540496X.2015.1062292>.

- Bauer M. D. and Neely C. J. (2014). "International channels of the fed's unconventional monetary policy", *J. Int. Money Financ.*, Vol. 44, pp. 24-46, doi: <https://doi.org/10.1016/j.jimonfin.2013.12.007>.
- Bernanke B. S. and Reinhart V. R. (2004). "Conducting monetary policy at very low short-term", *Am. Econ. Rev.*, Vol. 94, pp. 85-90, doi: <https://doi.org/10.1257/0002828041302118>.
- Chen Q., Filardo A., He D. and Zhu F. (2016). "Financial crisis, US unconventional monetary policy and international spillovers", *J. Int. Money Financ.*, Vol. 67, pp. 62-81, doi: <https://doi.org/10.1016/j.jimonfin.2015.06.011>.
- Chudik A. and Fratzscher M. (2011). "Identifying the global transmission of the 2007-2009 financial crisis in a GVAR model", *Eur. Econ. Rev.*, Vol. 55, pp. 325-339, doi: <https://doi.org/10.1016/j.euroecorev.2010.12.003>.
- D'Amico S. and King T. B. (2013). "Flow and stock effects of large-scale treasury purchases: Evidence on the importance of local supply", *J. Financ. Econ.*, Vol. 108, pp. 425-448, doi: <https://doi.org/10.1016/j.jfineco.2012.11.007>.
- Engle R. (2002). "Dynamic conditional correlation: A simple class of multivariate generalized autoregressive conditional heteroskedasticity models", *J. Bus. Econ. Stat.*, Vol. 20, pp. 339-350, doi: <https://doi.org/10.1198/073500102288618487>.
- Gagnon J., Raskin M, Remache J. and Sack B. (2011). "The financial market effects of the federal reserve's large-scale asset purchases", *Int. J. Cent Bank*, Vol. 7, pp. 3-43.
- Gagnon J. E., Bayoumi T., Londono J. M., Saborowski C. and Sapriza H. (2017). "Direct and spillover effects of unconventional monetary and exchange rate policies", *Open Econ. Rev.*, Vol. 28, pp. 191-232, doi: <https://doi.org/10.1007/s11079-017-9437-0>.
- Gambacorta L., Hofmann B. and Peersman G. (2014). "The effectiveness of unconventional monetary policy at the zero lower bound: A cross-country analysis", *J. Money Credit Bank*, Vol. 46, pp. 615-642, doi: <https://doi.org/10.1111/jmcb.12119>.
- Ghosh S. and Saggiar M. (2016). "Volatility spillovers to the emerging financial markets during taper talk and actual tapering", *Appl. Econ. Lett.*, Vol. 24, pp. 122-127, doi: <https://doi.org/10.1080/13504851.2016.1170923>.
- Kang S. H., McIver R. and Yoon S. M. (2016). "Modeling time-varying correlations in volatility between BRICS and commodity markets", *Emerg. Mark. Financ. Trade*, Vol. 52, pp. 1698-1723, doi: <https://doi.org/10.1080/1540496X.2016.1143248>.
- Kim S. J. and Nguyen D. Q. T. (2009). "The spillover effects of target interest rate news from the U.S. Fed and the European Central Bank on the Asia-Pacific stock markets", *J. Int. Financ. Mark. Inst. Money*, Vol. 19, pp. 415-431, doi: <https://doi.org/10.1016/j.intfin.2008.12.001>.
- Kishor N. K. and Marfatia H. A. (2013). "The time-varying response of foreign stock markets to U.S. monetary policy surprises: Evidence from the federal funds futures market", *J. Int. Financ. Mark. Inst. Money*, Vol. 24, pp. 1-24, doi: <https://doi.org/10.1016/j.intfin.2012.11.004>.
- Klyuev V., de Imus P. and Srinivasan K. (2009). "Unconventional choices for unconventional times credit and quantitative easing in advanced economies", *International Monetary Fund*, Washington, D.C.
- Krishnamurthy A. and Vissing-Jorgensen A. (2011). "The effects of quantitative easing on interest rates: Channels and implications for policy", NBER working paper no. 17555, National Bureau of Economic Research, Washington, DC.
- Kuttner K. N. (2001). "Monetary policy surprises and interest rates: Evidence from the fed funds futures market", *J. Monet. Econ.*, Vol. 47, pp. 523-544, doi: [https://doi.org/10.1016/S0304-3932\(01\)00055-1](https://doi.org/10.1016/S0304-3932(01)00055-1).
- Li Y. and Giles D. E. (2015). "Modelling volatility spillover effects between developed stock markets and Asian emerging stock markets", *Int. J. Financ. Econ.*, Vol. 20, pp. 155-177, doi: <https://doi.org/10.1002/ijfe.1506>.
- Miyakoshi T., Shimada J. and Li K. W. (2017). "The dynamic effects of quantitative easing on stock price: Evidence from Asian emerging markets, 2001-2016", *Int. Rev. Econ. Financ.*, Vol. 49, pp. 548-567, doi: <https://doi.org/10.1016/j.iref.2017.03.002>.
- Neely C. J. (2015). "Unconventional monetary policy had large international effects", *J. Bank Financ.*, Vol. 52, pp. 101-111, doi: <https://doi.org/10.1016/j.jbankfin.2014.11.019>.
- Park D., Ramayand A. and Shin K. (2016). "Capital flows during quantitative easing: Experiences of developing countries", *Emerg. Mark. Financ. Trade*, Vol. 52, pp. 886-903, doi: <https://doi.org/10.1080/1540496X.2015.1103136>.
- Stockhammar P. and Österholm P. (2017). "The impact of US uncertainty shocks on small open economies", *Open Econ. Rev.*, Vol. 28, pp. 347-368, doi: <https://doi.org/10.1007/s11079-016-9424-x>.
- Xu Y. and La H. A. (2017). "Spillovers of the United States' unconventional monetary policy to emerging Asia: The bank lending channel", *Emerg. Mark. Financ. Trade*, Vol. 53, pp. 2744-2769, doi: <https://doi.org/10.1080/1540496X.2017.1365287>.
- Yang Z. and Zhou Y. (2016). "Quantitative easing and volatility spillovers across countries and asset classes", *Manag. Sci.*, Vol. 63, pp. 333-354, doi: <https://doi.org/10.1287/mnsc.2015.2305>.

How Local Acting Overtake/Influence Global Thinking

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Abstract: “The increasing globalization of business has heightened the importance of understanding national cultural influences in interorganizational relationships from both a cross-cultural and an intercultural perspective.” Although, it is inevitable that business happens in local cultures. Therefore, this paper focuses on how global thinking is overtaken or influenced by local acting. The institutionally oriented theory asks why and how local communities continue to matter for organizations in the global age. Globalization in both practice and academic circles has shifted away from understanding the effects of the factors of localisation. The following research is based on a counter approach that suggests that globalization is influenced by a homogeneity-producing process, which transfers from particularism to universalism and attempts to answer the question as to why people choose to go their separate ways instead of committing to cooperation.

Key words: local proximity; globalization; global thinking; influence

JEL codes: A10, F00, F61, F62, M16

1. Introduction

Culture is based on mental programming and people inherit these inner patterns of feeling, thinking and behavior (Hofstede, 2005, p. 2). Cultural relativism describes other cultures as better or worse (Hofstede, 2005, p. 6) and cultural practices are changing, whereas cultural values remain steady (Hofstede, 2005, p. 13).

Locality cannot be easily classified as there exist non-equivalent approaches of locality. Locality can be defined as the “impossibility of instantaneous communication” or the “impossibility of action-at-a-distance” or the “impossibility of faster-than-light travel” (Di Lorenzo, 2011, p. 1). Therefore, the term locality can be used geographically, politically, socially or timely. In addition, there are a number of existing common problems, the thinking is both different and international. Confrontations between peoples, groups and countries are based on different cognitions, feelings and behaviors (Hofstede, Hofstede, 2009, p. 1). Knowledge, the provision of information and best practices are distributed all over the world due to advances in telecommunication thus, there exists a global diffusion of ideas and policy transfers. This phenomenon contributes significantly to global convergence and leads to increasing similarity in economic, social and political organizations and are driven by industrialization, globalization and regionalization.

“One important mode of policy transfer is through the elite networking of transnational policy communities or global public policy networks. These communities of experts and professionals share their expertise and information and form common patterns of understanding regarding policy through regular interaction such as through international conferences,

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government delegations, web-sites and sustained email communication” (Bennett, 1991, pp. 224-225).

2. Theoretical Framework

“As is apparent from the previous section, knowledge production and utilization does not take place simply within the confines of a nation-state. Instead knowledge is diffused, ideas are spread, international lessons are drawn, and policies are transferred beyond territorial boundaries and legal jurisdictions.” (Stone, 2001, p. 7).

2.1 Local Behavior and Cultural Implications

Cognitions, feelings and behaviors are directly connected to cultural factors such as the relationships between men and nature, people to people, time-orientation, and activities orientations (Kutschker, Schmid, 2011, p. 702). Furthermore, it is essential if people live in high-context-cultures or low-context cultures (Kutschker, Schmid, 2011, p. 713). The following figure illustrates the cultural differences of managers:

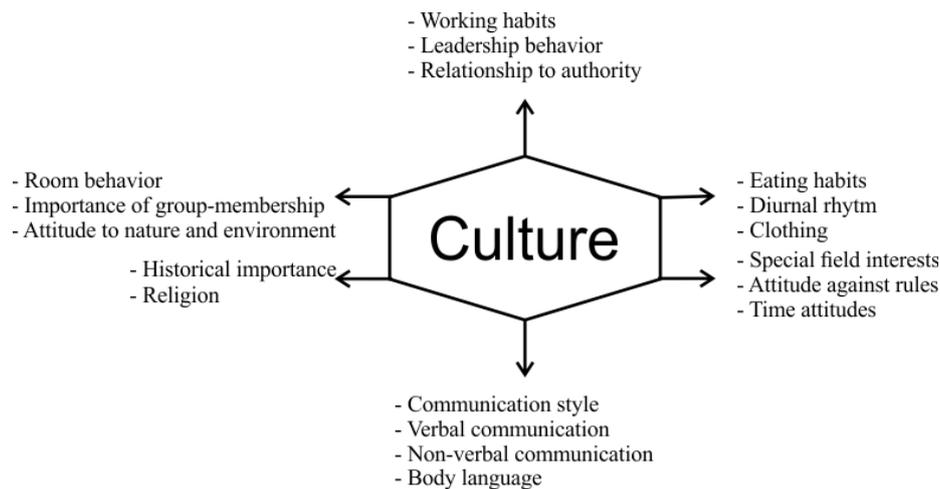


Figure 1 Typical Cultural Differences of Managers

(Source: own illustration based on Eismann, 2009, p. 8)

International capital movements present continuous long-term development and the main-drivers of this internationalization are based on interrelated factors, like limited market size, over boarding markets, risk-diversification, different market cycles, higher performance, developing transparency and adjustment of institutional markets. Moreover, technical drivers, and political, and economic drivers including liberalization of markets, reduction of market-entry-barriers, locally deregulations, globally integrations, legal and fiscal frame conditions, and the globalization of users and consumers, shift the horizons from local proximity to globalization (Scharmanski, 2006, p. 5). According to Granovetter (1985, p. 287) the economic behavior of distant isolated actors is based on continuous social behaviors and institutional structures. Storper (2002, p. 57) states that, “*Knowledge in this context, has to be understood not as “information”, but as institutionalized, embedded social practices, conventions and rules or memes.*” Local input and the re-fashioning of global knowledge are both positive and progressive aspects (Stone, 2001, p. 2). National cultures are not homogenous and therefore different organizational and managerial cultures exist (Hofstede, 2005, p. 23-25). Moreover, there are cultural differences in consideration of region, religion, gender, generation, and social class (Hofstede, 2005, p. 43). According to these factors, it is necessary to analyze how local acting influences or overtakes global thinking. In food industries, local proximity is an essential part of marketing and sales (DLG, 2013, p. 2). A framework for alternative global

marketing strategies were developed by Schiffman/Kanuk (2009, p. 472) and is presented in Table 1:

Table 1 A Framework for Alternative Global Marketing Strategies

Product strategy	Communication strategy	
	Standardized communications	Localized communications
Standardized product	<u>Global strategy:</u> <ul style="list-style-type: none"> • Uniform product • Uniform message 	<u>Glocal strategy:</u> <ul style="list-style-type: none"> • Uniform product • Customized Message
Localized product	<u>Glocal strategy:</u> <ul style="list-style-type: none"> • Customized Product • Uniform Message 	<u>Local strategy:</u> <ul style="list-style-type: none"> • Customized product • Customized Message
	<u>Glocal strategy:</u> <ul style="list-style-type: none"> • Customized product • Customized message 	

Source: own illustration based on Schiffman, Lazar Kanuk, 2009, p. 472.

Local acting and global appearance is based on the fact that we all live in a local community, which is the place where we can create our future (Müller, 2016, p. 4). Worldwide communities are faced with comparable challenges and by their individual search for problem solutions, so that they can be their best consultants, interchangeably. Therefore, specific practices and knowhow should be distributed without barriers based on networking (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, 2016, p. 9). Breidenbach, Zukrigl (2000, pp. 173-180) argue that the way in which societal products and services are demanded and used is connected to the appearance of social relationships and identities. Furthermore, consumer behavior is determined by social relationships and the specific handling of goods and services characterizes consuming-behavior. As people are not seen to be under the tutelage of an external factor but are instead viewed as creators of their world, it can be concluded that socio-economic behavior is imbedded within society. Production and consummation of products and services are uncoupled so that locally produced goods are also sold in other regions, and this leads to the conclusion that all actors along the value-added chain are relevant (Moschitz, Frick & Oehen, 2018 p. 188).

Localization is described as a process which adapts products and or services particular to culture or language and develops a local appeal. Whereas glocalization provides a global offer (of a brand, product, idea, service) which takes local related issues into account. Globalization is the tendency to integrate goods, technology, information, labour or capital (Dumitrescu, Vinerean, 2010, p. 151). Schirm (1996, p. 11) relates his explanation of regional cooperation in the requirement of identification of causal factors, that “*lead states to develop simultaneously convergent preferences for a binding regulation of policy areas at a regional level.*” Moreover, established transnational globalization does not directly lead to regional cooperation but it enables the stimulation of change (Schirm, 1996, p. 13). Thus, political and economic development progresses across the world such as the globalization of production and finance. Furthermore, worldwide competition, private global players and international organizations are increasingly reducing territoriality and sovereignty (Schirm, 1996, p. 14).

“The new quality of “Globalization” lies in the assumption that the (economic) activities of private actors, which are not constrained by political boundaries, follow a functional logic that is hardly compatible with the welfare- and security-intentions of individual states [...]” (Kohler-Koch, 1996, p. 3).

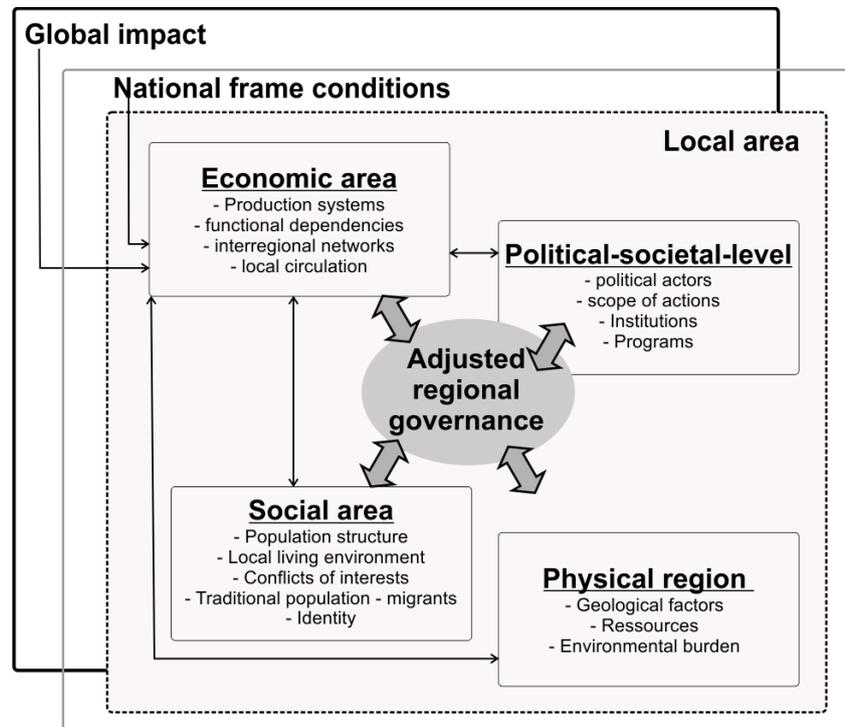


Figure 2 Determinants of Regional Development

(Source: own illustration based on Coy, 2017, p. 17)

“Globalization is a complex and controversial process of building of the world as a whole by creation of global institutional structures (...) and global cultural forms, i.e. the forms that have been produced or transformed by global available objects. It is declared as: a) free market-economic unification of the world with uniform patterns of production and consumption; b) democratic integration of the world based on common interests of mankind such as equity, human rights protection, rule of law, pluralism, peace and security; c) moral integration of the World concerning some central humanistic values, important for sustainable development of humanity.” (Spajic-Vrkas, Kukoc & Basic, 2001, pp. 178-179).

In contrast to the culture of globalization, identity building is more regionalized, because each human life in its own world, is personal and unique (Michels, 2008, 10). Wrobel (2008, p. 85) linked regional political actors with cluster- and network-concepts which impacts economic growth and the positive forthcoming of local economical situations.

3. Conclusion

Globalization and local proximity are extreme counterparts, but these two extremes are discussed in social and economic sciences as local and global interdependences. Globalization and local proximity are regionally significant dynamical factors, so that events and decision-making on geographically distant places are influenced like the two-sides of one coin. “In fact, the interactions are two-way: the *local and the global intermesh, running into one another in all manner of ways.*” (Dicken, 2004, p. 19). Hahne (2014, p. 11) argues that actual challenges relate to local proximity where towns and regions are future-laboratories, which are problem solving significant questions like climate change, energy transition, economic-, demographic, and social changes. Robertson (1998, p. 193) emanates that between local proximity and globalization, there exist complex interactive cause-effect

relationships. Locality expresses processes which override regional barriers, but this interpretation neglects that locality is based on outside advancement (Robertson, 1998, p. 193). Strategies of glocalization refrain from worldwide standardized commercialization of one and the same product or service and are focused on a micro-form of appearance based on the construction that consumers are different (Hepp, 2004, p. 177). Internationally active organizations do not react based on existing cultural differentiations; thus, they are creating it to achieve a positive image for their products to strengthen sales (Robertson, 1998, p. 198). Therefore, the neologism of glocalization is a connection between economic and cultural patterns (Robertson, 1998, p. 201). Today, people can independently from time and space, from speed and distance, communicate in real-time. People are aware that global trading enables local availability but otherwise, they are aware that this local availability of global goods must be paid with high transportation costs which relates to high levels of pollution, which must be paid for by their progeny (Weissberg & Harenberg, 2011, p. 2).

“If space is a product of practices, trajectories, interrelations, if we make space through interactions at all levels, from the (so-called) local to the (so called) global, then those spatial identities such as places, regions, nations, and the local and the global, must be forged in this relational way too, as internally complex, essentially unbound able in any absolute sense, and inevitably historically changing” (Massey, 2004, p. 5).

Global changes demand local decision-making based on global understandings and relates to more efficient forms of production, changes of health awareness and personalization for future-oriented consumer behavior, and higher transparency and traceability. Challenges and solutions must consider individualization through standardization, changes of organizational culture, processes and technologies (GS1, 2018, p. 3).

Based on the theoretical research, it can be concluded that local acting overtakes and influences global thinking, but that also, global thinking exerts an influence on local acting.

References

- Bennett C. J. (1991). “Review article: What is policy convergence and what causes it?”, *British Journal of Political Science*, Vol. 21, pp. 215-233.
- Breidenbach J. and Zukrigl I. (2000). *Tanz der Kulturen: Kulturelle Identitäten in einer globalisierten Welt*, Reinbek: Rowohlt.
- Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (2016). “Lokal handeln, global wirken”, *Kommunen in der Entwicklungspolitik*, pp. 1-18, available online at: https://www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren_flyer/infobroschueren/Materialie290_kommunen.pdf.
- Coy M. (2017). “Regionen und regionale Identität im Spannungsfeld zwischen Globalisierung und Nachhaltigkeit”, available online at: https://www.uibk.ac.at/weiterbildung/community-education/uni-im-dorf/axgallery/praesentationen-2017/1_pp_coy.pdf.
- Dicken P. (2004). *Global Shift: Reshaping the Global Economic Map in the 21st Century* (4th ed.), London: Thousand Oaks.
- Di Lorenzo A. (2011). “A short note on conflicting definitions of locality”, available online at: https://www.researchgate.net/publication/51890384_A_short_note_on_conflicting_definitions_of_locality.
- DLG (2013). “Wie steht der Verbraucher heute zur Regionalität? Studie 2013”, available online at: https://www.dlg-verbraucher.info/fileadmin/downloads/studien/DLG_Regionalitaet_2013.pdf.
- Dumitrescu L. and Vinerean S. (2010). “The glocal strategy of global Brands”, *Faculty of Economic Sciences*, Vol. 5, No. 3, pp. 147-155, available online at: <https://ideas.repec.org/a/blg/journal/v5y2010i3p147-155.html>.
- Eismann V. (2009). *Erfolgreich in der interkulturellen Kommunikation* Berlin: Cornelsen Verlag.
- Granovetter M. (1985). “Economic action and social structure: The problem of embeddedness”, *American Journal of Sociology*, Vol. 91, pp. 481-510.
- Griffith D. A., Myers B. M. and Harvey M. G. (2006). “An investigation of national culture’s influence on relationship and knowledge resources in interorganizational relationships between Japan and the United States”, *Journal of International Marketing*, Vol. 14, No. 3, pp. 1-32.

- GS1 (2018). "Produktion, Transparenz & Traceability 2025: Lokal-globale Lösungen für einen nachhaltigen Konsum", available online at: https://www.gs1-germany.de/fileadmin/gsl/basis_informationen/zukunftsstudie_szenario6_production_transparenz_traceability2025.pdf.
- Hahne M. (2014). *Modellierung von Business-Intelligence-Systemen*, Heidelberg: dpunkt.verlag.
- Hepp A. (2004). *Netzwerke der Medien: Medienkulturen und Globalisierung*, Wiesbaden: Gabler.
- Hofstede G. (2005). *Lokales Denken, globales Handeln. Interkulturelle Zusammenarbeit und globales Management* (3rd ed.), München: Deutscher Taschenbuch Verlag.
- Hofstede G. and Hofstede J. (2009). *Lokales Denken, globales Handeln. Interkulturelle Zusammenarbeit und globales Management* (4th ed.), München: Deutscher Taschenbuchverlag.
- Kohler-Koch B. (1996). "Politische Unverträglichkeiten von Globalisierung", in: Steger Ulrich (Ed.), *Globalisierung der Wirtschaft - Konsequenzen für Arbeit, Technik und Umwelt*, Mannheim: forthcoming.
- Kutschker M. and Schmid S. (2011). *Internationales Management*, München: Oldenbourg.
- Massey D. (2004). "Geographies of responsibility", *Geogr. Ann. B*, Vol. 86, pp. 5-18.
- Michels H. (2008). "Globalisierte Welt: Erlebnisse einzig, aber nicht artig!", *akzent e&I*, Vol. 6, pp. 1-16, available online at: <https://soz-kult.hs-duesseldorf.de/personen/michels/Documents/Downloads/vortrag.pdf>
- Moschitz H., Frick R. and Oehen B. (2018). "Von global zu lokal. Stärkung regionaler Versorgungskreisläufe von Städten als Baustein für eine nachhaltige Ernährungspolitik – drei Fallstudien", *Der kritische Agrarbericht 2018*, pp. 185-189, available online at: http://orgprints.org/32850/1/MoschitzOehenFrick_KAB_2018_RegionaleErn%C3%A4hrung_18.pdf.
- Müller G. (2016). "Lokal handeln, global wirken. Kommunen in der Entwicklungspolitik", *Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung*, pp. 1-18, available online at: https://www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren_flyer/infobroschueren/Materialie290_kommunen.pdf.
- Robertson R. (1998). "Glokalisierung: Homogenität und Heterogenität in Raum und Zeit", in: Beck Ulrich (Hrsg.), *Perspektiven der Weltgesellschaft*, Frankfurt a.M., pp. 192-220.
- Scharmanski A. (2006). "Global denken, lokal handeln — Immobilienwirtschaft im Zeichen der Globalisierung aus theoretisch-konzeptioneller Perspektive", available online at: http://www.wigeo.uni-koeln.de/sites/wigeo/Veroeffentlichungen/Working_Paper/WP_2006-01.pdf
- Schiffman L. and Lazar Kanuk L. (2009). *Consumer Behavior*, New Jersey: Pearson Prentice Hall Publishing, pp. 471-472.
- Schirm S. A. (1996). "Transnational globalization and regional governance: On the reasons for regional cooperation in Europe and the Americas", available online at: http://aei.pitt.edu/63641/1/PSGE_WP6_2.pdf.
- Spajić-Vrkaš V., Kukoč S. and Bašić S. (2001). *Obrazovanje za ljudska prava I demokraciju: interdisciplinarni rječnik, Hrvatsko povjerenstvo za UNESCO*, Zagreb, pp. 178-179.
- Stone D. (2001). "Think global, act local or think local, act global? knowledge production in the global agora", in: *Reshaping Globalization: Multilateral Dialogues and New Policy Initiatives: Central European University Conference*, Budapest, Hungary, October 17th, available online at: <https://warwick.ac.uk/fac/soc/pais/research/researchcentres/csgr/research/keytopic/other/global.pdf>.
- Storper M. (2002). "Globalization and knowledge flows", in: Dunning J. H. (Hrsg.), *Regions, Globalization, and the Knowledge-Based Economy*, pp.42-62.
- Weissberg D. and Harenberg M. (2011). "Global kommunizieren, sich lokal missverstehen", *Kunsttexte.de*, Vol. 4, No. 1, pp. 1-6, available online at: <https://edoc.hu-berlin.de/bitstream/handle/18452/7517/weissberg.pdf>.
- Wrobel M. (2009). "Das Konzept regionaler Cluster: zwischen Schein und Sein? Eine kritische Analyse gängiger Annahmen der aktuellen Clusterdiskussion", *Jahrbuch für Regionalwissenschaft*, Vol. 29, No. 1, pp. 85-103, available online at: <https://link.springer.com/article/10.1007/s10037-008-0030-2>.

Psychological Factors' Influence on Consumers' Propensity to Indebtedness Applying the Behavioural Economic Theory

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Abstract: The purpose of this paper is to develop a conceptual model to examine the multidimensionality of psychological factors and its impact on the propensity to indebtedness. The background of psychological factor and the theory of behavioural economic serve as a starting-point to develop the conceptual model. From the extensive literature review, four dimensions of psychological factor were identified to construct the model. The model based on the psychological factor with respect to the propensity to indebtedness provides a basis for assessing the level of debt and the role of psychological factors under which the use of various aspects of psychological factors should be the further emphasis and enhanced. This finding suggests that psychological factors are not a panacea that can be enhanced but must be imparted gradually through awareness with a clear sense of impact to the propensity to indebtedness. Given that propensity to indebtedness are often detrimental to consumers' insolvency, it is appropriate for interested parties to invest time and effort to diagnose the influence psychological factors have on the propensity to indebtedness, hence, this model will prove valuable. This conceptual model provides an insightful foundation for the analysis of multidimensionality of psychological factors on the propensity to indebtedness.

Key words: propensity to indebtedness; psychological factors; behavioral economic

JEL codes: H63

1. Introduction

The consumption mechanisms of cash disinvestment in the early nineteen centuries transformed into consumption via credit attainment. This is possible, owing to an efficient financial market through improved money cycle in the economic, it activated the credit consumption concept. Although debt financing was available earlier than the nineteen century, it played an insignificant role in consumers' consumption decision-making (Calder, 2009). The significant use of credit financing to attain ones' desired goods and services, shifted consumers' consumption decision-making behaviour. And, less focus was given to the financing cost involved in the use of credit facilities. Apart from that, lack of transparency by credit provides and awareness accretion by the credit attainer resulted into unnecessary use of credit financing by consumers that eventually lead to over

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capitalization or over indebtedness. Thus, despite the higher repayment been required for a specific form of credit attainment, its popularity is prevalent because it's used to meet their desired life-style, and also due to a surplus of credit provider (Dickson, 2017). Even though, influx in money cycle among the demander and supplier of funds complements the economic theory. The influx spending creates economic growth but excessive borrowing creates debt unsustainability (Devarajan et al., 1996; Barba & Pivetti, 2008). And, according to Tee (2016) Malaysia household debt to GDP ratio is at 89.1% in 2019, and the primary debt were used to attain real asset for long-term wealth creation (i.e. real estate and financial assets). The ratio of 89.1% mentioned earlier is relatively a high value, since Malaysia carries a developing status. Comparatively, the household debt to GDP of America a developed economic was at 130% in Q4 2007, caused credit unsustainability (Shanmugan, 2014). Conformed by Yellen (2009), a massive credit crunch been experienced by financial institutions due to unserved credit owing, mainly caused by decrease in spending resulted from the increase in unemployment. Thus, the occurrence of credit crunch served as a factor towards Americans' 2008 economic recession. Thus, the lesson learned is an inability of a consumer in serving their credit facilities during an adverse life events (i.e. unemployment) could contribute to the economies unsustainability. However, consumers' inability to service their credit commitments is not limited to their adverse live events, additionally, it could cause by their inability to channel cash inflow for a more significant use (Lea et al., 1995). Thus, to serve due debt, creditors engages into debt-roll-over which ultimate toward higher interest charges. This inability to comprehend their actions is termed as an irrational consumption decision making behaviour (Katona, 1975). Hence, in this study consumers' irrational behaviour is viewed as psychological factors. Thus, comprehension into primary psychological factors to consumers' propensity to indebtedness is useful. Thus, this study could add to the existing body of knowledge form regional demission. The remainder of the paper is structures as follows: literature review on the significance of various psychological construct and the propensity to indebtedness. Next, a comprehensive conceptual framework is developed to depict the relationships among psychological factor and the propensity to indebtedness, followed by the formulation of the propositions. This paper finishes with implications from both practical and theoretical perspectives, and end with a conclusion.

2. Literature Review

2.1 Psychological Factors and Propensity to Indebtedness

Psychological is a study of mental processes, consisting memory, perception, problem-solving, creativity and thinking (Gerrig & Zimbardo, 2002). It is defined as an individuals' irrational decision making behaviour been bounded by their unconscious reflexes, skills and habits and they may also be influenced by their perception of a given situation, events and circumstance (Thaler, 2005; Schwartz, 1998). In the modern multidisciplinary research, integration between economic and psychological is termed as behavioral economics. The economic and psychology factors are effective complements, since humans' behaviour undergoes changes during an adverse economic circumstances therefore exploring a consumers' consumption decision making is useful (Frydman & Camerer, 2016; Anand & Lea, 2011). This study renders its usefulness by viewing at the influence of psychological factors (i.e., emotion, risk perception, overconfidence and myopic) towards consumers' consumption decision making (i.e., propensity to indebtedness). The propensity to indebtedness is defined as subjective measure of debt been consumed, or debt consumption decision-making (Flores & Vieira, 2014) which advocates this study. And, this study would be observing at the main factors that influence individuals'

consumption behaviours leading to propensity to indebtedness. The underpinning theory used is behavioural economic theory (BET), it's a sub-field of behavioural finance. The BET combines descriptive and normative model of human's behaviour, where their tendency to violate economic rationality by underestimation and overestimation is highlighted. To elaborate, an individuals' decisions to consume in the present time are based on anticipated further income, individuals tend to overestimate their future income and underestimate their future expenditure, which would cause them financial incapacity. Since, economic rationality is violated, consumption decision is made based on both economic and non-economic factors (i.e., psychological and sociological) (Thaler, 1980, 1994, 2005; Bazerman, 2005). The non-economic factor is classified as bounded rationality or descriptive model (i.e., unconscious reflexes, skills, and habits) and humans decision-making are found significantly affected under risky and uncertain circumstances (Simon, 1997). The BET stated individuals' irrational decision affected by emotion and cognitive factors to consume under risky circumstances is based on the principles of prospect theory (Kahneman & Tversky, 1979). Risk or uncertainty is caused by a difficult financial situation (i.e., financial incapacity due to uncertainty in income and expenditure) resulting higher debt accumulation or indebtedness (Flores & Vieira, 2014). Therefore, for the purpose of this study, psychological factors (i.e., emotion, risk perception, overconfidence, myopia) effecting an individuals' consumption decisions-making or consumers' propensity to indebtedness is observed. And, subsequently before observing in depth into the empirical papers for the development of the conceptual model that was partly adopted from the empirical papers mentioned above, in the next section the empirical concepts of perceived indebtedness are observed.

2.1.1 Emotion

Schwartz (1998) defined emotion (i.e., positive or negative) has a biases cognitive affective effecting individual under a risky or in an uncertain situation (i.e., high on debt). The three main categories of emotion are background emotions (i.e., long-lasting), primary emotions or positive (i.e., apathy are expressed), and social emotions or negative (i.e., jealousy, embarrassment and pride) (Vikan et al., 2009). According to Flores & Vieira (2014) using structural equation modelling, apart from other variables also found, negative emotion results into low level debt accumulation. Thus, justifies shame, pride and nervousness disengage an individual from the attainment of higher debt. The study by Miltenberger et al. (2003), found negative emotion (i.e., sad/depressed, tense/anxious, bored, self-critical and angry) mediated through compulsive buying behaviour would lead to high debt attainment. Next, Achtziger et al. (2015) found compulsive buying has a direct positive relationship with debt attainment. However, it contradicts with Flores & Vieira (2014), whom which has indicated, various other negative social emotions, such as, shame, pride and nervousness would reduce the propensity to indebtedness. Thus, as for the relationship between emotion and levels of debt, based on various previous research works, it's evident that negative social emotions and negative primary emotions, would contradictorily decreases and increases the levels of debt respectively, and also, positive social emotions found to increase the levels of debt. Therefore, from this current research work the influence of social and primary emotion towards propensity to indebtedness will be analysed, apart from that, the interacting influence of psychological factors (i.e., emotion), towards the propensity to indebtedness among working adults in Malaysia would be explored. Therefore, the following proposition is presented.

P1: Greater emphasis on the emotion factor will lead to a lesser propensity to indebtedness.

2.1.2 Risk Perception

An individual's risk perception is defined as risk a consumer believes exists in the purchase of goods or

services (i.e. excessive borrowing), whereby, risk is generalized as uncertainty or change of a given situation from the norm, and, perception is the judgement of an individual (Solvic, 1987). And, according to Bauer (1960) as cited in Mitchell (1999), a renowned consumer behaviourist, initialled the concept of perceived risk in the perspective of consumer financial decision making. Thus, consumers' consumption behaviour would involve risk due to the uncertainty in the result of consumption decisions, since it is possible to be pleasant or otherwise.

Empirically, Bernstein (1996), has conceptualized risk perception and decision making in a volatile environment (i.e., attainment of credit), by which it overcome an individual's uncertainty to further attain credit, or vice-versa. Apart from that, Sjoberg (2000), found a relationship between attitude and perceived risk. Thus, it further justifies that, cognitive psychology constructs as an interacting effect. Next, Keese (2010) reported the insignificance in relationship between risk perception and level of debt. However, Garling et al. (2009), states that issues of risk has an essential component on respondent's decision making and found a significant relationship between risk perception and level of debt. Lastly, Fellner & Maciejovsky (2007), analyst the influence of risk perception and individuals' investment behaviour into the trade market (i.e., binary lottery choices), where 280 respondents were observed. The study found, high risk perception leads to lower market activity (i.e. consumption) and women were found to have lower risk perception compared to men. Thus, lower risk perception leads to lower propensity to indebtedness. Past researchers offer various result, therefore, the relationship between risk perception and propensity to indebtedness is important to be observed in a Malaysian context. Therefore, the following proposition is presented.

P2: Greater emphasis on the risk perception will lead to a lesser propensity to indebtedness.

2.1.3 Overconfidence

Overconfidence is derived from the behavioural economic theory (i.e., heuristic biases). This study would focus on two heuristic biases factors (i.e., overconfidence and myopia). It is defined as individuals' resistance to request for assistances (information search, planning and calculating) and spends lesser duration in their decision-making process (Perry & Morris, 2005). This study conforms to define overconfidence as per the previous researchers (Smith & Barboza, 2013; Verma, 2017; Malmendier & Tate, 2005), which states that overconfidence is the biases human nature on their self-measure of financial knowledge versus the actual financial literacy level. Empirically, Verma, 2017, states self-assessed financial knowledge could render into irrationality (i.e., negative impact) on individual which could positively impact their financial behaviour. However, irrationality towards financial literacy level lead to higher debt or propensity to indebtedness (Smith & Barboza, 2013; Verma, 2017). Next, Graham et al. (2009) found overconfidence (i.e., knowledgeable) causes into engagement of negative trading behaviour results to negative financial decision making (i.e., investment and consumption decision-making). The study by Perry & Morris (2005) states overconfidence affects saving, spending and planning behaviour which translates to consumption decision-making or propensity to indebtedness, also supported by Fernandes et al. (2014), Huston (2010). Thus, self-comprehension of one's financial acquaintance would reduce an individuals' overconfidence, which would constitute to a greater control in their spending decisions (i.e. consumption financial decision-making), or, in other words, overconfidence of an individual results into higher debt accumulation. Having said that, similar research in the Malaysian context is inadequate, therefore, through this research work the psychological determinant (i.e., overconfidence) can be generalized, in a local perspective. Therefore, the following proposition is presented.

P3: Greater emphasis on overconfidence will lead to a lesser propensity to indebtedness.

2.1.4 Myopia

Myopic is a heuristic bias under the behaviour economic theory, and defined as individuals' excessive risk taking behaviour. Empirically, greatly been emphasis on effect of myopic behaviour on fiscal or government debt and lesser been focus on the private or public toward excessive debt accumulation (i.e., propensity to indebtedness) (Ru & Schoar, 2016; Wenzel, 2014; Gabaix & Laibson, 2006). The study by Kosfeld & Schuwer (2017), myopic behaviour causes inability in comprehending additional cost. Thus, lack of cost comprehension results into, the unawareness in absorption of additional product cost. Hence, such consumers purchase base on initial product cost, but failing to observer the subsequent cost of the product purchased, and it leads consumers into high debt accumulation. Therefore, Wenzel (2014) found firm that presented a more transparent information about the additional cost, the myopic consumer easily repeals against specific consumption due to higher add-cost. Literature also states, business competes into exploiting an imperfect consumer (i.e., myopic). The study by Spiegler (2006); Piccione and Spiegler (2012) found, business use multiple price elements, which require evaluation to infer into total price. However, in such situations consumers significantly makes decision based on single price element. The study by Ru & Schoar (2016) mentioned credit card issuers rely on back load fees, that targets myopic consumers, charging low annual payment rates but high late and over limit fees. Study of the myopic behaviour among individuals and the propensity to indebtedness is useful to be observed, since, Malaysian are found to be highly in debt mainly due to credit card loans. Therefore, the following proposition is presented.

P4: Greater emphasis on overconfidence will lead to a lesser propensity to indebtedness.

2.2 Research Framework

As for the independent variables, the present study applies a psychological factor from the behavioral economic model. This factor is widely used in many consumption decision-making studies and often investigated as one of the solid sets in replication studies. Hence, the seven influences of emotion, risk perception, overconfidence, myopia, money attitude, financial literacy, and compulsive buying are applied to represent the psychological construct in this study. As for the dependent variable, propensity to indebtedness is examined in this study.

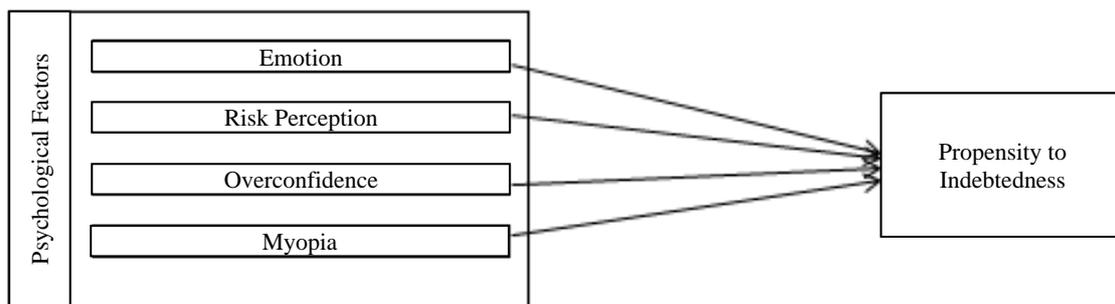


Figure 1 A Model of Effects of Psychological Factors on Propensity to Indebtedness

3. Practical and Theoretical Significance

The practical contribution of this study is the identification of main psychological factors that caused Malaysian to accumulate unreasonable amount of debt. Thus, through this identification, it would help the Malaysian credit counselling and debt management agency or “AKPK”. This study aids into the identification of better suitable methods which controls unreasonable debt accumulation behaviours amid Malaysian. Furthermore, the study serves into the

generalization across other regions with similar economic and cultural parameters. Next, policy makers could help be equipped with knowledge about the human behaviour that causes debt attainment. This study aims to develop a comprehensive theoretical model based on the behavioural economic theory (i.e., behavioural decision-making and prospect theory), which examines the influence of consumer decision-making which leads to consumers' propensity to indebtedness. And, empirically this study brings relevance to its research area, which is primarily issued in the context of economic psychology, consumer behaviour, social issues, and financial sustainability. As such, through this study, the factors which perhaps would be an influence to consumer propensity to indebtedness would be further identified. Apart from that, this study would also differ in the application of inconstant elements of the earlier mentioned factors. Furthermore, this study targeted geographic region is South East Asian specifically Malaysia, and owing to the scarcity of sufficient exploration of the earlier mentioned elements with the present of issues in the regional context; therefore, this study would be creating a new paradigm, which further can be expended by future researchers.

4. Conclusion and Implication of Study

In a nutshell, this study views at the relationship between four dimensions of psychological factors influence towards the propensity to indebtedness, into which past theoretical studies have yet to venture, contributing to the consumption decision-making applying behavioural economic theory literature bank. Findings gathered from the past literature confirmed that the awareness of the influence that psychological factor has on consumers' consumption decision-making would result in a better management of consumer psychological factors, which would bring improvement to their propensity to indebtedness. Many empirical studies are also present to confirm the importance of the psychological factors on consumers' consumption decision-making process. Such a conclusion brings about a deeper insight for researchers, policy makers, and consumers alike who are in search of newer insights and development in the area of consumption decision-making which could result into personal insolvency. Nevertheless, this research paper serves as an initial attempt to explore the relationship between psychological factors and the propensity to indebtedness. In order to establish the validity and practicality of the model, further survey and research will need to be conducted in detail by using more advanced statistical tests, such as Structural Equation Modelling, to enhance and validate the model.

References

- Achtziger A., Hubert M., Kenning P., Raab G. and Reisch L. (2015). "Debt out of control: The links between self-control, compulsive buying, and real debts", *Journal of Economic Psychology*, Vol. 49, pp. 141-149.
- Amélia S., Flores M. and Vieira K. M. (2014). "Propensity toward indebtedness: An analysis using behavioural factors", *Journal of Behavioural and Experimental Finance*, Vol. 3, pp. 1-10, available online at: <http://www.elsevier.com/locate/jbef>.
- Anand P. and Lea S. (2011). "The psychology and behavioural economics of poverty", *Journal of Economic Psychology*, Vol. 32, No. 2, pp. 284-293
- Barba A. and Pivetti M. (2008). "Rising household debt: Its causes and macroeconomic implications — A long-period analysis", *Cambridge Journal of Economics*, Vol. 33, No. 1, pp. 113-137.
- Bernstein P. L. (1996). *Against the Gods: The Remarkable Story of Risk*, New York: Wiley, pp. 1269-1275.
- Bazerman M. H. (2005). "Conducting influential research: The need for prescriptive implications", *Academy of Management Review*, Vol. 30, No. 1, pp. 25-31.
- Calder L. (2009). *Financing the American Dream: A Cultural History of Consumer Credit*, Princeton University Press.
- Devarajan S., Swaroop V. and Zou H. F. (1996). "The composition of public expenditure and economic growth", *Journal of Monetary Economics*, Vol. 37, No. 2, pp. 313-344.

- Fellner G. and Maciejovsky B. (2007). "Risk attitude and market behavior: Evidence from experimental asset markets", *Journal of Economic Psychology*, Vol. 28, No. 3, pp. 338-350.
- Fernandes D., Lynch Jr J. G. and Netemeyer R. G. (2014). "Financial literacy, financial education, and downstream financial behaviors", *Management Science*, (June 2015), pp. 1-23.
- Frydman C. and Camerer C. F. (2016). "The psychology and neuroscience of financial decision making", *Trends in Cognitive Sciences*, Vol. 20, No. 9, pp. 661-675.
- Gabaix X. and Laibson D. (2006). "Shrouded attributes, consumer myopia, and information suppression in competitive markets", *The Quarterly Journal of Economics*, Vol. 121, No. 2, pp. 505-540.
- Huston S. J. (2010). "Measuring financial literacy", *Journal of Consumer Affairs*, Vol. 44, No. 2, pp. 296-316.
- Joyce J. P. (2011). "Financial globalization and banking crises in emerging markets", *Open Economies Review*, Vol. 22, No. 5, pp. 875-895
- Kahneman D. and Tversky A. (1979). "Prospect theory: An analysis of decision under risk", *Econometrica*, Vol. 47, No. 2, pp. 263-292, available online at: <http://www.jstor.org/stable/1914185>.
- Katona G. (1975). *Psychological Economics*, Elsevier, New York.
- Keese M. (2010). "Who feels constrained by high debt burden? Subjective vs. objective measures of household indebtedness", accessed on 08.05.2011, *Social Science Research Network*, available online at: [http://papers.ssrn.com/sol3/results.cfm?npage=2&\(\)](http://papers.ssrn.com/sol3/results.cfm?npage=2&())
- Kosfeld M. and Schüwer U. (2017). "Add-on pricing in retail financial markets and the fallacies of consumer education", *Review of Finance*, Vol. 21, No. 3, pp. 1189-1216.
- Malmendier U. and Tate G. (2005). "CEO overconfidence and corporate investment", *The Journal of Finance*, Vol. 60, No. 6, pp. 2661-2700.
- Miltenberger R. G., Redlin J., Crosby R., Stickney M., Mitchell J., Wonderlich S., and Smyth J. et al. (2003). "Direct and retrospective assessment of factors contributing to compulsive buying", *Journal of Behavior Therapy and Experimental Psychiatry*, Vol. 34, No. 1, pp. 1-9.
- Mitchell V. W. (1999). "Consumer perceived risk: conceptualisations and models", *European Journal of Marketing*, Vol. 33, No. 1/2, pp. 163-195.
- Perry V. G. and Morris M. D. (2005). "Who is in control? The role of self-perception, knowledge, and income in explaining consumer financial behavior", *The Journal of Consumer Affairs*, Vol. 39 No. 2, pp. 299-313.
- Piccione M. and Spiegler R. (2012). "Price competition under limited comparability?", *Quarterly Journal of Economics*, Vol. 127, No. 1, pp. 97-135.
- Ru H. and Schoar A. (2016). "Do credit card companies screen for behavioral biases?", *National Bureau of Economic Research*, No. w22360.
- Smith C. and Barboza G. A. (2013). "The role of trans-generational financial knowledge and self-reported financial literacy on borrowing practices and debt accumulation of college students".
- Tee L. S. (2016). "Household debt on the rise", *The Star Online*, available online at: <https://www.thestar.com.my/business/business-news/2016/04/02/household-debt-on-the-rise/>.
- Thaler R. (1980). "Toward a positive theory of consumer choice", *Journal of Economic Behavior & Organization*, Vol. 1, No. 1, pp. 39-60.
- Thaler R. (1985). "Mental accounting and consumer choice", *Marketing Science*, Vol. 4, No. 3, pp. 199-214.
- Thaler R. H. (Ed.) (2005). *Advances in Behavioral Finance*, Vol. 2, Princeton University Press.
- Schwartz A. (1998). "A contract theory approach to business bankruptcy", *The Yale Law Journal*, Vol. 107, No. 6, pp. 1807-1851.
- Simon H. A. (1997). *Models of Bounded Rationality: Empirically Grounded Economic Reason*, Vol. 3, MIT Press.
- Spiegler R. (2006). "Competition over agents with boundedly rational expectations?", *Theoretical Economics*, Vol. 1, No. 2, pp. 207-231.
- The World Bank (2017). "Policy report", available online at: <https://data.worldbank.org/country/malaysia>.
- Verma R. (2017). "Role of self deception, overconfidence and financial aliteracy in household financial decision making", *Journal of Applied Business and Economics*, Vol. 19, No. 8.
- Vikan A., Maria da Graça B. B. and Roazzi A. (2009). "Rating emotion communication: Display and concealment as effects of culture, gender, emotion type, and relationship", *Interamerican Journal of Psychology*, Vol. 43, No. 1, pp. 77-83.
- Wenzel T. (2014). "Consumer myopia, competition and the incentives to unshroud add-on information", *Journal of Economic Behavior & Organization*, Vol. 98, pp. 89-96.

Yellen J. L. (2009). "Issues Raised by the Credit crunch and Global Recession", available online at: <https://www.frbsf.org/our-district/press/presidents-speeches/yellen-speeches/2009/may/yellen-credit-crunch-global-recession-issues-berkeley/>

Analysis of Tax Compliance with Intervening Variable: “PMK Number 91 of 2015 in Jakarta Central Tax Service Office

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Abstract: This research is motivated by tax revenues in Indonesia that did not reach the target compared to the realization in the last 10 years, this resulted in a relatively small tax ratio of around 12%. These problems illustrate that the level of taxpayer compliance is still low. Minister of Finance Regulation Number 91/03/2015 is expected to increase tax compliance so that state revenues will increase. This research on taxpayer compliance is focused on the implementation of this regulation in the Central Office of the Directorate General of Taxes in Jakarta. The research approach used is descriptive quantitative. The results of the study indicated that the enactment of the regulation in the Central Jakarta Regional Office has contributed to tax revenues of around 2.05% of total state revenues of IDR11,038,854,776,614 and it contributed 0.37% of IDR61,479,497,160,610. In fact the level of taxpayer compliance in Indonesia in 2015 increased by 1.31% from 59.12% to 60.42%, this is a positive impact of the enactment of the regulation, but the target of tax revenue on a national scale has not been fulfilled yet.

Key words: taxpayers; policies; tax compliance

JEL codes: H

1. Introduction

1.1 Background

Indonesia is one of the developing countries that has a development agenda in various sectors, such as the education, transportation, health, security and various other infrastructure sectors. In order to realize the development agenda, it requires large funds. The sources of funds for this development are based on state revenues, especially tax revenues. If seen in the last five years of the State Budget (APBN), which was in 2014 until 2014, the targeted portion of tax revenues reached 78.74% of total state revenues. This shows that income derived from taxes has the largest contribution in state revenues. Tax revenue every year is expected to continue to increase along with increasing targets, so that it can meet the funding needs for development in various sectors in Indonesia. The large dependence of the Indonesian government on revenue from the taxation sector is not in line with the realization of tax targets so far. During the last 5 years (2014-2018) the realization of tax revenues is always below the target. Tax receipts that are always below the target indicate the level of tax compliance in Indonesia is still low, so there needs to be a reform or comprehensive reform in the taxation sector.

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Indonesian taxation adheres to the self assessment system, this gives confidence to taxpayers to register, calculate, deposit and report the amount of tax payable by using a notification letter (SPT) and submit it to the Office of the Directorate General of Taxes where registered Taxpayers. In this system, the tax authorities only have the role of supervising, for example, conducting research on whether the SPT has been filled in completely and all the attachments included, also examining the truth of the calculations and writing. If the Taxpayer has a good level of compliance, the implementation of the self assessment system can be effective. But in reality the level of taxpayer compliance in Indonesia is still low, this can be seen in Indonesia’s tax ratio which reflects the not yet optimal tax revenue. Indonesia's tax ratio of around 12% is still very low when compared to other countries. Increasing the tax revenue target every year is considered as a government effort to raise the tax ratio.

According to data from World Bank (2012), the tax ratio in Indonesia is 11.9%, below the average of Southeast Asian countries, as can be seen in the table below:

Table 1 Tax Ratio in Southeast Asian Countries

Country	Tax Ratio (%)
Cambodia	10.0
Indonesia	11.9
Malaysia	15.3
Philippines	12.4
Singapore	13.8
Thailand	17.6

Source: World Bank (2012)

The low tax ratio illustrates the lack of awareness of the Indonesian people about the importance of taxes, especially to support development. Basically, the tax ratio is a comparison between tax revenue and a country's Gross Domestic Product (GDP). So actually the tax ratio can be seen from two sides. First, the tax ratio shows the extent to which the ability of the government to collect tax revenues or reabsorb gross domestic product from the public in the form of taxes. Second, the tax ratio is used to assess the compliance level of tax payments by the public in a country. The higher the tax ratio of a country, the better the performance of the country's tax collection. Some factors that cause low awareness or level of compliance of Indonesian people include public dissatisfaction with public services, uneven infrastructure development, and the many cases of corruption committed by high officials. The community also does not feel the benefits of taxes that have been paid, for example there are still many roads that are damaged or public transportation is still inadequate.

According to Lars P. Feld and Bruno S. Frey (2007), people are less interested in paying taxes because there is no direct incentive from the state. Taxes that have been paid are also not comparable with the benefits felt by the community. The public will pay taxes from the income they receive if they feel that public services are comparable to the payment of their taxes, fair treatment from the government and clear legal processes from the government. Whereas according to Allingham and Sandmo (1972), the tendency of people not to pay taxes or pay taxes but taxes that are not according to actual income due to low government supervision and sanctions or fines imposed on non-compliant taxpayers is still very small. If we look at the kingdom in the past, all citizens obediently paid their taxes or known as tribute king for fear of severe penalties that would be accepted if they did not pay taxes.

In connection with not achieving the target of tax revenue each year, the Directorate General of Taxation stipulates that 2015 is a Year of Guidance for Taxpayers by raising the motto “reach the unreachable, touch the untouchable” which is addressed to registered taxpayers who have submitted Notification Letter (SPT) or not yet submitted the SPT, as well as groups of individuals or entities that have not been registered as Taxpayers. The determination of the 2015 Taxpayer Development Year itself is motivated by the opportunity to increase tax revenues, the low tax ratio, the existence of untouched Individual Taxpayers, and the availability of external data that will assist the Directorate General of Taxes in achieving revenue targets. In this guiding year, the Director General of Taxes again provided tax amnesty facilities for administrative sanctions. On April 30, 2015, the government issued Minister of Finance Regulation Number 91 of 2015 (PMK Number 91/PMK.03/2015). This regulation was effective from May 4, 2015. This rule refers to Article 36 paragraph (1) letter a of Law Number 6 of 1983 concerning General Provisions and Tax Procedures as amended several times, the latest by Law Number 16 of 2009 (UU KUP), which states that the Director General of Taxes is given the authority to reduce or eliminate administrative sanctions in the form of interest, fines, and increases payable in accordance with the provisions of legislation in the field of taxation in the event that the sanctions are imposed due to taxpayer oversight or not because the mistake. PMK Number 91/PMK.03/2015 concerning Reduction or Elimination of Administrative Sanctions for Delays in Submission of Notification Letter, Correction of Notification Letter, and Delay in Payment or Tax Payment given the term Reinventing Policy or often referred to as Sunset Policy Volume II.

1.2 Research Purposes

To analyze taxpayer compliance through the application of the Minister of Finance Regulation No. 91 of 2015 with a proxy for tax revenue targets in Indonesia, especially in the Central Office of the Directorate General of Taxes in Jakarta.

2. Literature Review

2.1 Understanding of Taxes

The tax definition according to Law Number 16 of 2009 concerning the fourth amendment to Law Number 6 of 1983 concerning General Provisions and Tax Procedures in Article 1 paragraph 1 is “compulsory contribution to the state owed by an individual or entity that is compelling based on Law, by not getting compensation directly and used for the state’s needs for the greatest prosperity of the people”.

2.2 Tax Function

Resmi (2016, p. 3) there are two tax functions, namely the function of the budget and the regular function.

- 1) Function of budget (source of state finance), namely tax is one of the sources of state revenues to finance routine and development expenditures.
- 2) Regular function (regulator), meaning tax as a tool to regulate or implement government policies in the financial sector.

2.3 Tax Collection System

The tax collection system can be divided into three (Resmi, 2016), namely:

- (1) Official Assessment System

A tax collection system that authorizes the tax apparatus to determine the amount of tax payable annually according to the applicable tax laws and regulations.

(2) Self Assessment System

A tax collection system that authorizes taxpayers to determine the amount of tax payable annually according to applicable tax laws and regulations.

(3) Withholding System

A collection system that authorizes designated third parties to determine the amount of tax owed by taxpayers in accordance with applicable tax laws and regulations.

2.4 Tax Collection Principles

Adam Smith (Adam Smith, 2003, p. 1043), published his book *An Inquiry into the Nature and Causes of Wealth of Nations* (known as *The Wealth of Nation*), tax collection must be based on 4 (four) tax collection principles known as “The four maxims” are equality, certainty, convenience and low cost of collection.

2.4 Taxation Policy

According to (Mansury, 1999), taxation policy is a policy related to the determination of subjects to be taxed, objects that will be used as the basis for tax imposition, procedures for calculating the amount of tax to be paid and procedures for paying taxes owed.

Whereas according to Salamon (1991, p. 42) tax policy is the selection of certain elements from various alternatives based on the objectives to be achieved, the selection of these elements with regard to the subject of taxes, tax objects, tax rates and tax procedures. The choice of policy regarding the subject of tax concerns who will be taxed and who will be excluded from taxation. Similarly, the determination of tax objects, namely a policy choice about what will be taxed and what will be excluded from tax imposition. While the tax policy option concerning tax rates is progressive, regressive or flat rates that will be chosen.

The final element of the tax policy option is the choice of tax administration. The policy options from the administration side are, among others, the determination of taxpayers who are obligatory and taxpayers who are not required to enter tax returns, reporting dates, tax collection methods with withholding taxes or self payment, a system that will be implemented with a self assessment system or official assessment.

2.5 Tax Administration

Tax administration has an important role to support the success of a tax policy that has been taken. Taxation policies formally formulated in laws and other regulations need to be supported by good tax administration.

According to (Mansury, 1994) tax administration is one element in the taxation system and has three meanings namely:

(1) An agency or body that has the authority and responsibility for carrying out tax collection.

(2) People consisting of officials and employees who work on tax agencies that actually carry out tax collection activities.

(3) The activity of administering tax collection by an agency or body managed in such a way that it can achieve the targets outlined in the tax policy based on legal facilities determined by the tax law efficiently.

2.6 Tax Compliance

Taxpayer compliance is defined by Salamun (1991) as fulfillment of tax obligations (ranging from counting, collecting, deducting, depositing to reporting tax obligations) by taxpayers in accordance with applicable tax laws and regulations.

The tax collection system in Indonesia is a self assessment so that it demands active participation from the community as a taxpayer in fulfilling its tax obligations. Taxpayers who calculate, calculate, deposit and report their own tax.

There are two types of tax compliance, namely:

(1) Formal compliance

Tax compliance meets formal compliance based on tax laws and regulations. For example, the provisions for submitting the Annual Tax Returns on March 31, if the Individual Taxpayer has reported the Annual Tax Return before March 31, the Taxpayer has fulfilled the formal requirements.

(2) Material compliance

More broadly than formal compliance, because material compliance also includes formal compliance. For example, Taxpayers have reported SPT on time (not late), but the material provisions may not be fulfilled because Taxpayers must fill out the SPT honestly, correctly and completely in accordance with the provisions.

According to Homans as quoted by Gunadi, there are several factors that can affect tax compliance (tax compliance), namely compliance cost, tax regulation & law enforcement. If the three factors are adequately controlled, then the level of tax compliance increases optimally. Conversely, if the cost of compliance is high, tax regulations are complex and unclear or cause differences in interpretation (ambiguous), and poor application of regulations can cause a decrease in the level of tax compliance. These three factors can be explained as follows:

(1) Compliance Cost

According to Sandford, as quoted by Gunadi, compliance costs are costs other than tax payable that are paid or issued by taxpayers in order to fulfill tax obligations. Compliance cost consists of direct money cost, time cost & psychological cost.

- a) Direct money costs are real costs incurred by taxpayers in order to fulfill tax obligations, including among others: payments to accountants, tax consultants and the cost of travel to the place of deposit and tax reporting.
- b) Time Cost is the time spent by Taxpayers in order to fulfill tax obligations that cause opportunity loss, starting from the time used to study tax calculation to the time to report taxes and to account for the fulfillment of tax obligations that have been made.
- c) Psychological Cost is anxieties, worries, and fears that plague taxpayers in fulfilling tax obligations and interacting with tax officials.

(2) Tax Regulation

Clear, easy and simple tax laws and regulations that do not cause different interpretations for tax officers or taxpayers will increase tax compliance. On the contrary, according to Wetzler, as quoted by Gunadi, complicated laws, unclear or even conflicting implementing regulations have the potential to cause taxpayers' apathy that will affect the level of tax compliance. One important aspect in tax law is the existence of legal certainty, namely a condition of no doubt in the implementation of tax provisions for tax officers and taxpayers. Legal certainty will be achieved if the words or sentences (wording) in each rule are arranged so clearly that it does not cause different interpretations and does not provide excessive flexibility to the tax officer in their interpretations and implementation.

(3) Law Enforcement

In contrast to the problems in tax regulations arising from differences in interpretations, the problem in law enforcement is the implementation of regulations implemented by tax officials not in accordance with the provisions outlined for various reasons.

Implementation of regulations that are carried out adequately by prioritizing the principle of justice (i.e. equal treatment for the same conditions or equals for equals and different treatments for different conditions

unequal for the un equals) and carried out consistently will support the achievement of optimal tax compliance conditions.

Taxpayer compliance is stated by Norman D. Nowak as a compliance climate and awareness of fulfillment of tax obligations reflected in the situation (Sony Devano & Siti Kurnia Rahayu, 2006):

- 1) Taxpayers understand or attempt to understand all provisions of taxation regulations.
- 2) Fill out the tax form completely and clearly.
- 3) Calculate the amount of tax owed correctly.
- 4) Pay the tax owed on time.

Otto as cited by (Caizhi Nasucha, 2004), indicators of taxpayer compliance are shown by trends:

(1) Registration

Registration is indicated by the number of individuals who register as taxpayers compared to the total population.

(2) Reporting

(3) Report accuracy (correct reporting).

The accuracy of the report illustrates the truth of each Taxpayer's report that can be compared with certain types of business activities and the effectiveness of the tax rates paid based on income received.

(4) Payment

Payments illustrate the trend of timely tax payments, precision with the tax base and deposit per type of taxpayer. According to (Chaizi Nasucha, 2004), taxpayer compliance can be identified from: Taxpayer compliance in registering, compliance to deposit the notification letter, compliance in the calculation and payment of tax payable, compliance in payment of arrears. The principle is tax compliance is the act of taxpayers in fulfilling their tax obligations in accordance with the provisions of tax laws and regulations that apply in a country. Fundamental compliance with the fulfillment of reporting and payment obligations by taxpayers is one sign of the effectiveness of tax policies being implemented.

2.7 Minister of Finance Regulation (PMK) Number 91/PMK.03/2015

The Minister of Finance has issued Minister of Finance Regulation Number 91/PMK.03/2015 concerning Reduction or Elimination of Administrative Sanctions for Delays in Submission of Notification Letter, Correction of Notification and Delay in Payment or Tax Deposit on 30 April 2015 promulgated since 4 May 2015.

This rule refers to Article 26 paragraph (1) letter a of Law Number 6 of 1983 concerning General Provisions and Tax Procedures as amended several times, the latest by Law Number 16 Year 2009 (UU KUP), which states that the Director General Taxes are given the authority to reduce or eliminate administrative sanctions in the form of interest, fines, and increases that are payable in accordance with the provisions of laws and regulations in the field of taxation in the event that the sanctions are imposed due to the mistake of the Taxpayer or not because of his mistake.

(1) Scope of oversight in PMK No. 91/PMK.03/2015

Administrative sanctions imposed due to the oversight of the Taxpayer or not because of the errors referred to in Article 2 are limited to:

- a) delay in submission of Annual Income Tax Returns for the 2014 and previous Tax Year and/or Period SPT for the December 2014 Tax Period and before;
- b) late payment or deposit for the lack of payment of tax payable based on the Annual Income Tax Return for the 2014 Tax Year and before;

- c) delay in payment or deposit of tax payable for a time or Tax Period as stated in the SPT for the Tax Period as stated in the SPT Period for the December 2014 Tax Period and before; and/or
- d) corrections made by Taxpayers with their own willingness for Annual Income Tax Returns for the 2014 and previous Tax Year and/or Period SPT for the December 2014 Tax Period and previously resulting in greater tax debt, which was carried out in 2015.

(2) Procedures that must be carried out to comply with the provisions of PMK No. 91/PMK.03/2015. To get a reduction or elimination of this Administrative Sanction, the Taxpayer must submit an application to the Director General of Taxes.

(3) Requirements for submitting an application to get a reduction or elimination of this Administrative Sanction must meet the following requirements:

- a) 1 (one) application for 1 (one) Tax Collection Letter;
- b) submitted in writing in Indonesian;
- c) signed by the Taxpayer in the case of an individual taxpayer or taxpayer's representative in the case of a corporate taxpayer, and cannot be authorized; and
- d) submitted to the Tax Service Office where the Taxpayer is registered.

This application must be accompanied by a document in the form of:

- a) a statement stating that the delay in submission of SPT, late payment of tax, and/or correction of SPT is done because of an error or not because of an error and signed on the seal by the Taxpayer in the case of individual taxpayers or taxpayers in the case of corporate tax;
- b) photocopy of SPT or SPT corrections submitted or print-out of SPT or corrective tax return in the form of submitted electronic documents;
- c) photocopy of proof of receipt or proof of delivery of the letter which is deemed as proof of receipt of the submission of SPT or SPT corrections;
- d) photocopy of SSP or other administrative facilities that are equated with the SSP as proof of repayment of the outstanding tax stated in the Periodical Tax Return or proof of repayment of the tax deficiency stated in the Annual Income Tax Return or evidence of underpaid tax payment stated in the corrective tax return; and photocopy of Tax Collection Letter (STP).
- e) Other requirements that still need to be fulfilled in order to be able to submit a request for reduction or elimination of Administrative Sanctions are:
- f) Administrative sanctions in STP have not been paid by Taxpayers; or
- g) Administrative sanctions in the STP have been paid in part by the Taxpayer.

In the event that the Administrative Sanctions in the STP have been calculated with excess tax payments, which are calculated with excess tax payments, which are made through deductions from SPT and / or transfer payments, the Administrative Sanctions in the STP are considered not paid by the Taxpayer.

Requests for reduction or elimination of Administrative Sanctions can be submitted by the Taxpayer at most 2 times. The second application must be submitted after the Director General of Tax's letter of decision on the first application sent and still submitted to the STP.

(4) Process by the Director General of Taxes

The Director General of Taxes follows up on this Taxpayer's application by conducting research. Administrative Sanctions Removal Decree or Administrative Sanction Reduction Decree must be issued by the Director General of Tax no later than 6 months from the date of receipt of the Taxpayer's application.

(5) Billing Actions

With respect to STP submitted for the application for reduction or elimination of Administrative Sanctions in accordance with the provisions of this Regulation of the Minister of Finance, the action for collection of such STP is deferred.

3. Research Methods

3.1 Types of Research

This research is descriptive quantitative which aims to explain the existing phenomena by using numbers to rely on individual or group characteristics (Syamsudin & Damiyanti, 2011). This study assesses the nature of the conditions that appear. The purpose of this study is limited to describing the characteristics of things as they are.

3.2 Population and Samples

Sugiyono (2014) states that population is a generalization area consisting of objects or subjects that have qualities and characteristics set by researchers to be studied and conclusions drawn. The population in this study were all registered taxpayers while the samples were taxpayers who submitted the 2015 SPT at the Central Jakarta Directorate General of Taxes Regional Office. The method used is purposive sampling, which is the method of population selection research according to the sample criteria required in the study. The sample criteria in this study were taxpayers who reported the 2015 annual tax return.

3.3 Method of Collecting Data

3.3.1 Field Research

Field studies in this study were conducted through in-depth interviews and statistical data collection in the form of tax revenue targets, realization of tax revenues and the level of compliance at the Central Jakarta Directorate General of Taxes Regional Office.

3.3.2 Library Studies (Library Research)

Literature studies are carried out by collecting and studying literature such as books, journals, previous theses or theses, articles, laws, government regulations, and searches on the internet, as well as other literature.

3.4 Data analysis method

The data analysis method is done by descriptive quantitative method. By analyzing all the data that has been obtained to obtain an adequate picture of taxpayer compliance with the implementation of 91/PMK.03/2015.

3.5 Operational Definition

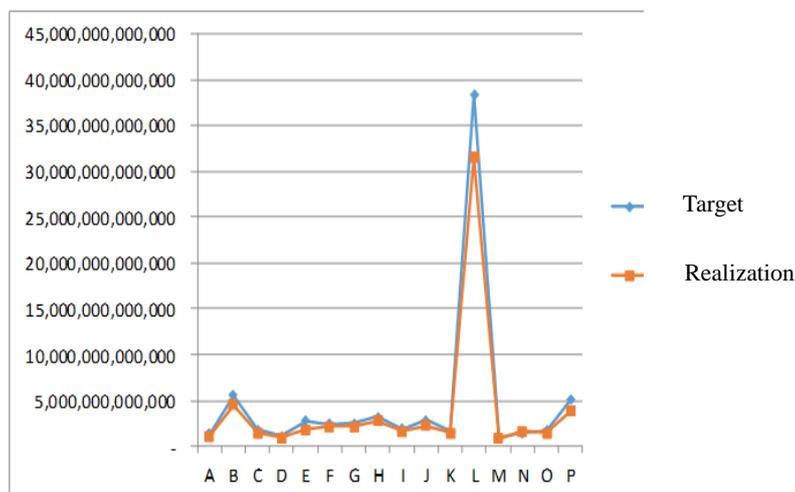
- 1) Minister of Finance Regulation Number 91/PMK.03/2015 is to regulate the reduction or elimination of administrative sanctions for late submission of Notification Letter, Correction of Notification Letter and late payment or tax deposit.
- 2) Taxpayer compliance is as fulfillment of tax obligations ranging from counting, collecting, deducting, depositing to reporting tax obligations by taxpayers in accordance with applicable tax laws and regulations.

4. Discussion

The target of tax revenue in the Tax Office of the Central Jakarta Directorate of Tax in 2015 is IDR. 74,833,958,123,000 consisting of 16 KPPs. Whereas the realization of tax revenue in the Tax Office of the Central Jakarta Directorate of Tax in 2015 amounted to IDR 61,479,497,160,610 consisting of 16 KPPs. Thus, the

realization of tax revenue in the Central Jakarta Tax Office of the Regional Tax Office in 2015 only reached 82.15%.

The Tax Service Office (KPP) included in the Tax Office of the Central Jakarta Directorate General of Taxes is 16 KPP. Of the 16 KPPs, only 1 KPP has achieved the 2015 tax revenue target, namely KPP “N”. KPP N managed to collect tax amounting to IDR. 1,628,870,163,525. This amount of achievement exceeds the target of tax revenue targeted by KPP N, which is IDR 1,493,955,243,981 or 109.03%. This percentage is the largest when compared to other KPPs in the Tax Office of the Central Jakarta Directorate General of Taxes, which ranges from 67.21% to 91.06%. If seen from graph 1 there is 1 KPP that has a graph that is very high in the target of tax revenue and the realization of gross tax revenue, namely KPP “L”. The difference in the target amount of tax revenue and the realization of very significant gross tax revenue is because KPP L is the Medium Tax Office. Central Tax Office of the Central Tax Office serves Corporate Taxpayers registered in all areas of the Central Jakarta DGT Regional Office and is the largest taxpayer in the Central Jakarta DGT Regional Office. The following graph 1 is related to the target and realization of revenue in the 2015 Central Jakarta Directorate General of Taxes Tax Office:



Graph 1 Target and Realization of Tax Revenue Year 2015 (IDR)

Based on data from the Director General of Potential, Compliance and Acceptance of the Directorate General of Taxes that the tax revenue in the Tax Office of the Central Jakarta Directorate General of Taxes in 2015 sourced from PMK Number 91/PMK.03/2015 amounting to IDR 226,262,128,452. Tax receipts from PMK No. 91/PMK.03/2015 in the Tax Regional Office of the Central Jakarta Directorate General of Taxes contributes approximately 2.05% of the total tax revenue from PMK Number 91/PMK.03/2015 at the Directorate General of Taxes consisting of 33 Regional Offices, namely IDR. 11,038,854,776,614. With this amount of IDR 226,262,128,452, the Tax Office of the Central Jakarta Directorate General of Taxes ranks 12th as a contributor to tax revenue from PMK No. 91 / PMK.03 / 2015 most out of a total of 33 Regional Offices at the Directorate General of Taxes.

In line with the purpose of the issuance of PMK No. 91/PMK.03/2015, one of which is to increase state revenues. According to Marsani (Reviewers of the Objection, Appeal and Reduction II Section in the Central Office of the Central Jakarta Directorate General of Taxes) state that the policy contributes to state revenues

through taxpayers who report periodical tax returns and annual tax returns accompanied by payment of tax deficiencies. The amount of tax revenue in the Tax Office of the Central Jakarta Directorate General of Taxes sourced from PMK Number 91/PMK.03/2015 amounting to IDR 226,262,128,452. This amount contributes 0.37% of the total realization of tax revenues in the Regional Office, which is IDR. 61,479,497,160,610. Although the number of 0.37% is relatively small, at least the implementation of the policy of reducing or eliminating tax sanctions contributed to the collection of taxes in the Tax Office of the Directorate General of Taxes in Jakarta in 2015.

The effectiveness of the implementation of PMK Number 91/PMK.03/2015 can be measured from the success of increasing tax receipts of IDR 226,262,128,452 in the Central Jakarta DGT Regional Office or IDR 11,038,854,776,614 in Indonesia. Tax receipts of IDR 226,262,128,452 in the Central Jakarta DGT Regional Office or in the amount of IDR 11,038,854,776,614 in Indonesia may not be collected if there is number PMK No. 91/PMK.03/2015. So that the presence of PMK No. 91/PMK.03/2015 is effective in helping collect taxes in 2015 in Indonesia, especially in the Tax Office of the Central Jakarta Directorate General of Taxes. The following table 2 illustrates the percentage of tax revenue from PMK No. 91/PMK.03/2015 towards the target and realization of tax revenues in the Tax Office of the Central Jakarta Directorate General of Taxes in 2015:

Table 2 Target and Realization of PMK No. 91/PMK.03/2015 (IDR)

Target	Realization	Receipt	Percentage of target	Percentage of Realization
74.833.958.123.000	61.479.160.610	226.262.452	0.30%	0.37%

Source: Section of Supervision of Tax Potential

Explicitly, the presence of PMK Number 91/PMK.03/2015 is intended to increase state revenues. This goal is also written in the weighing section of PMK Number 91/PMK.03/2015. However, if observed carefully, in addition to having a positive impact of helping and contributing to the increase in state revenues in 2015, the implementation of the policy of reducing or eliminating tax sanctions also had a negative impact on state revenues in 2015. The negative impact caused by PMK Number 91/PMK.03/2015 is located in the Tax Collection Letter (STP) issued by the DGT. In PMK Number 91/PMK.03/2015, administrative sanctions are eliminated by the way the Taxpayer submits an application for reduction or elimination of administrative sanctions as stated in the STP. If the purpose of issuing PMK Number 91/PMK.03/2015 is to increase state revenues by abolishing sanctions, it would be more effective if sanctions were abolished automatically without issuing legal products in the form of STP. Because to issue STPs themselves, DGT needs time to research files or SPT WP, human resources or employees that are intended to examine files or WP SPT, and require operational costs to print the STP. These matters can create administrative burdens for the DGT and indirectly will affect state revenues.

5. Conclusion

Based on the implementation of PMK Number 91/PMK.03/2015 at the Tax Office of the Central Jakarta Directorate General of Taxes can be concluded as follows:

1) Proven to assist in collecting taxes in 2015 in Indonesia in general and in the Tax Office of the Central Jakarta Directorate General of Taxes in particular amounting to IDR 226,262,128,452 or 2.05% of the total Directorate General of Taxes (DGT) consisting of 33 Offices Region namely IDR 11,038,854,776,614. Whereas in terms of the amount of tax revenue in the Tax Regional Office of the Central Jakarta Directorate General of Taxes,

which amounted to IDR. 61,479,497,160,610 which means it contributed 0.37%.

2) There is an intensification of tax receipts in the Tax Office of the Central Jakarta Directorate General of Taxes in the amount of IDR 226,262,128,452. Intensification instruments in PMK No. 91/PMK.03/2015 are taxpayers who still have to pay their tax debt. Because, for taxpayers who are late in reporting SPT, sanctions in the form of late fines report can be written off through requests for removal of sanctions and the potential tax from administrative sanctions is automatically lost by the regulation.

3) An increase in the compliance ratio in Indonesia in 2015 was 1.31% from 59.12% to 60.42%. In addition, there is a possibility of a decrease in the compliance ratio in Indonesia as a result of the realization of PMK No. 91 /PMK.03/2015.

6. Limitations & Recommendations

This research only discusses PMK Number 91/PMK.03/2015 which is the embryo of the birth of Law No. 11 of 2016 concerning Tax Amnesty, so that further research needs to be carried out on this policy.

References

- Babbie Earl (2010). *The Practice of Social Research* (12th ed.), United States of America: Cengage Learning.
- Creswell John W. (2009). *Research Design (Qualitative, Quantitative, and Mixed Methods Approaches)* (3rd ed.), California: SAGE Publications.
- Chaizi Nasucha (2004). *Public Administration Reform*, Jakarta: PT. Grasindo.
- Devano Sony and Siti Kurnia Rahayu (2006). *Taxation: Concepts, Theories and Issues*, Jakarta: Kencana
- Leedy Paul D. and Omrod Jeanne Ellis (2001). *Practical Research: Planning and Design* (7th ed.), New Jersey: Merrill Prentice Hall.
- Mardiasmo (2011). *Tax Revised Edition*, Yogyakarta: Andi Publisher.
- Mansury R. (1994). *Guide to the Main Concepts of Income Taxes*, Jakarta: STIA LAN.
- Mansury R. (1996). *Advanced Income Tax*, Jakarta.
- Nurmantu Safri (2005). *Introduction to Taxation*, Jakarta: Granite.
- Resmi Siti (2016). *Taxation Theory and Case*, Jakarta Salemba Empat.
- Rosdiana Haula and Irianto Edi Slamet (2011). *Complete Guide to Tax Procedures in Indonesia*, Jakarta: Visimedia.
- Rosdiana Haula and Tarigan Rasin (2005). *Taxation Theory and Application*, Jakarta: Raja Grafindo Persada.
- Setiawan Lisno. “Comparison of OECD tax components and structures and government finance statistics manual and its impact on defining tax ratios in Indonesia”, Directorate General of Budget of the Ministry of Finance of the Republic of Indonesia.
- Santoso Imam and Rahayu Ning (2013). *Corporate Tax Management*, Jakarta: Observation & Research of Taxation (ortax). Available online at: <http://www.pajak.go.id/content/article/kompleksitas-kepatuhan-pajak>.
- Available online at: <http://www.kemenkeu.go.id/sites/default/files/Analisis%20Implementation>.

The Style of Leadership in the Perception of Managers and Their Leaderships

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Abstract: The research whose results are presented here had the objective of identifying the leadership style adopted by the managers of a language course, in the perception of the managers themselves and their leaders. The theoretical basis was based mainly on Rensis Likert and Patricia Pitcher, leading scholars who propose taxonomies to classify management styles. Based on the classifications proposed by them, a questionnaire was developed, which was applied to employees of the company studied and managers. Another method of data collection used was to conduct an interview with the managing partner. The research also included analysis of internal documents of the organization. The results show that, according to the Likert taxonomy, the employees classify the style of their managers in a position between the consultative and the participatory. The leaders also revealed a perception about their own leadership behavior very close to that which was manifested by the leaders. In the classification proposed by Pitcher, both the workers and the managers expressed the perceived predominance of the style called “artisan”, with some influence of the “artist”. The expression of autocratic Likert (1971) or technocratic Pitcher (1995) styles was not mentioned, which reveals a favorable aspect to the achievement of the strategy adopted in the organization, which seeks to be, as declared by the managing partner, markedly entrepreneurial. However, there were some discrepant points in the perception of the leaders and leaders, who, although they have not manifested themselves in a very significant intensity, can serve as a subsidy for management development actions of the organization.

Key words: leadership; leadership styles; people management

JEL codes: M2

1. Introduction

Since the advent of the so-called School of Human Relations, in administrative theories, concern has spread about the psychosocial environment and people within organizations. Since then, the leadership has begun to be studied, in order to identify the behavior models accepted by the leaders and their implications in the organizational environment. “Leadership research moved away from studying the characteristics of the leader to place greater emphasis on the things he did: the leadership style of the leader” (Marquis, Huston, 1999, p. 37). Leadership style has become the key to achieving organizational results despite the influence of cultural elements.

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Nowadays, there is a transformation in work environments and social media subjects that are engaged in senses and values because people are living in an era that seeks to show society what they are and what role they play in the organization. This is confirmed in Giddens's view that "instead of entering a period of postmodernity, we are reaching a period when the consequences of modernity are becoming more radicalized and universalized than before" (Giddens, 1991, p. 13).

From this perspective, we see the need to investigate how leadership styles are applied in organizations, since people management has become increasingly complex and challenging for both leaders and their leaders. Leaders' decisions have a strong potential for influencing individuals' behavior and social structures, since today's society is characterized by freer individual consciousness and strong interdependence among members of organizations. These characteristics reveal the importance of determining how the leadership styles in companies have been adopted and their impact on workers.

The research, whose results are presented here, was developed in an organization providing service in the education sector, specialized in the teaching of foreign languages located in Juiz de Fora, MG, Brazil. The performance of research in this organization was conditioned to its non-identification. Thus, it will be called, in this work, as "Company X".

Responses were sought for the following problem situation: What is the leadership style adopted by the managers of the company studied, in the perception of the managers themselves and their leaders?

The general objective was to identify the style of leadership that has been predominantly adopted by the managers of the company studied, in the perception of the managers themselves and their leaders. As specific objectives, the following were adopted:

- Distinguish the main characteristics associated with each style of leadership;
- Identify how these characteristics are perceived in the organization's day-to-day life.
- Identify how company managers review their leadership;
- Raise how the company's employees analyze the leadership to which they are subjected;

The relevance of the study can be attested by the fact that, recently, there has been a change in the behavior of individuals in their work environment, in what they are and represent in society. By consulting the literature, one identifies an inversion of historical facts in which the human figure was seen only as a disposable and acceptable object and, today in this new perspective, man is considered as central figure of the organization. Organizations are expected to respect, leadership and team spirit as well as the valorization of the human figure as a driving force in the dissemination of knowledge.

Thus, there is a need to investigate how leadership styles in organizations have been applied, as the current leadership has become increasingly complex and challenging for both leaders and leaders. It is important, therefore, a verification of how the leadership styles in companies have been adopted, analyzing how they are perceived by the leaders. From this analysis, more precise information can be gathered for the organizations in the improvement of the relations between leaders and led. Subsidies can also be generated for future investigations on the topic raised. In addition, the managers of the company studied will be able to use the search results as subsidies for future leadership development plans.

As for the delimitation of the research, the theoretical basis is the statements of Lakatos and Marconi (1999), who report that delimiting a research is to establish limits for the investigation. The delimitation can be in relation to the aspect, to fix circumstances, especially of time and space that will be covered by the research, to the extension and a series of other factors that will be judged concomitantly to the limitations of the investigation. The

research presented here, being a case study, specifically focuses on the analyzed company, taking into account its characteristics and the market of action. The conclusions reached cannot therefore be generalized to other organizations.

The issues of psychological impacts that may arise from each alternative that could be adopted by the organization's leaders were not considered. The lack of consideration of these aspects is justified by the need to narrow the research focus and limitations of the researcher himself, graduating from the Administration course without a specialization in the area of Psychology.

It should also be emphasized that the research was based exclusively on the perception of those involved - leaders and leaders, not using other indicators.

This paper is structured in six sections, including this introduction. The next one is devoted to the presentation of the theories studied, which served as theoretical framework of reference to research. The third highlights the methodology followed. Then, it comes to the section dedicated to the presentation of the company studied and the analysis of the results obtained in the field research. Finally, we present the conclusions that the study allowed to arrive and final conclusions.

2. Literature Review

For the better conduction of the research, it became necessary to search for support in theories that approach subjects related to the object of study. Thus, this chapter highlights the contribution of scholars on the theoretical basis that was based mainly on Rensis Likert and Patricia Pitcher, scholars who proposed taxonomies to classify managerial styles.

2.1 Leadership Styles

In addition to the contribution of Rensis Likert, one of the classic authors and precursors of the studies of this theme, highlighted above, are approached following the proposals of some scholars of so-called behavioral theories. In the end, the studies of Patricia Pitcher on leadership, which represent a more contemporary perspective on the study of the theme.

2.1.1 Leadership Behavioral Theories

Among the behavioral theories, it is also necessary to present the theory of leadership styles.

One of the first surveys on leadership behavior was co-ordinated by Lewin (Robbin & Coulter, 1998), identifying three basic styles: autocratic, democratic and laissez faire.

- Autocratic style: it is linked to the centralized leader who makes the unilateral decisions, determining the tasks, leaving no room for participation for the leaders.
- Democratic style: the leader involves his subordinates in the decision-making process, encourages the participation of all and seeks to delegate authority.
- Laissez faire style: leave the group at ease to deliberate on the work to be done and how to do it. (Robinson & Coulter, 1998).

Both within the academic and business worlds, leadership are one of the fastest growing branches of study. As already mentioned by the several authors cited, leadership is a relational phenomenon that exists within a universe of interests and achievements that has become a matter of organizational order. That is, "it is the process in which the individual exerts influence over a group of individuals to achieve a common goal" (Northouse, 2004, p. 3). In the same direction, for other authors such as Behling, Rauch and Yukl (1998, pp. 2-3), "leadership is the

process of influencing the activities of an organized group toward the achievement of a goal.”

As Northouse (2004) asserts, it is a theme with universal and instigating appeal, analyzed by theories with different focuses. In the first place, we find the theories that developed with a focus on the leader (Stogdill, 1974; Blake & Mouton, 1985). At the other moment, we focus on the context of leadership (House, 1971; Fiedler, 1993; Hersey & Blanchard, 1993). In a third moment, the focus is on the interaction of the leader and his follower (Dansereau et al., 1975). The most recent studies focus on the changes that leadership and the leadership process aim to achieve (Bass, 1990; Heifetz, 1998).

Thus, each of these different moments will be discussed, and the two last mentioned previously will be given more relevance for the object of study in question of the present research; contextualizing with the views of the several authors discussed in this study.

2.1.2 Leader-oriented Theories

These theories that emphasize the leader's role in the leadership role value the “Great Man” theory. It is believed, in this theory, that leaders are born with certain characteristics that justify them being the leader and the difference of the other followers because they do not have personality traits. The personality traits were triggered from studies conducted by Stogdill (1974), who began to study those who most influenced the exercise of leadership.

According to Northouse (2004), some of the main features of this theory are: intelligence, self-confidence, determination, integrity and sociability. It should be noted that trait theory does not represent any kind of leadership styles. In addition, the key to the studies was the determination of individual characteristics related to a person's personality that assist in the exercise of leadership.

2.1.3 Context-Oriented Theories

One of the most widespread context-oriented theories in the literature is Situational Theory (Hersey & Blanchard, 1993). This chain states that each situation will have a demand for leadership practice according to the situation in which the leader is involved. In this sense, there are two thoughts that can be played by the leaders: the support behavior that is focused on the people through the stimulus to communication and the behavior of direction that has its core in the tasks, through presentation of objectives and orders.

Another theory of this group is the contingencial (Fiedler, 1993). This approach places the context in the first instance by evaluating the three situational variables that are: leader-follower relationships, task structure, and positional power.

In another study about the theory focused on the organizational context, we find the theory Goal-Path (House, 1971). It comes out of the assumption that those who are led will have a higher level of motivation as they feel free to carry out the tasks of their responsibility. According to the same author, four leadership styles are identified:

- Participatory leadership: the one in which the leader provides all the necessary instructions for accomplishing the tasks including what the leader expects of each employee.
- Support leadership: it is the friendly and accessible behavior of the leader in relation to its leaders, seeking to meet their needs.
- Participatory leadership: it is the style that opens the way for those who are able to participate in the organizational decision-making process.
- Results-oriented leadership: it is the leadership style that challenges each one of the leaders to carry out their tasks at the highest levels of efficiency.

Another context-focused approach is the Theory of Times. According to Hill (2004), teams are defined as groups composed of interdependent members, who share common goals, and who must coordinate their activities to achieve collective goals. It is understood that the primary function of the leader is to assist the team in achieving the goals by holding it together.

2.1.4 Theory Focused on Leader-Led Interactions

Dansereau et al. (1975) deal with leadership from the interactions and relationships established between the leader and his or her leaders. This approach presents two types of interactions between the leader and the leader, being: in group relationships, which are based on expanded responsibility and for the performance of the leaders. And out group relations are those that are restricted to the definitions previously established in the formal contract of each subordinate.

This relationship is found by Northouse (2004, p. 153) where he says: “The core of this theory is the attempt that leaders and subordinates are closely based on the formal hierarchy.”

2.1.5 Theories of Change

Transformational Theory configures how a process of leadership modifies and transforms those led (Northouse, 2004). That is, it refers to the “ways” that the leader uses to persuade others by raising the level of motivation and morality of the leader and led.

Turning on this issue, Bass (1990) states that the process of transformational leadership can be based on the charisma of the leader to generate radical transformations in the work environment by communicating the great expectations that must be achieved.

In Heifetz’s (1994) conception, the leader’s work is not about transformation, but about the adaptation of the group to a certain challenge, to what he called adaptive work. In other words, the author affirms that people cannot break with their behavior patterns, that is, they must adapt the organization and its people, whenever their deeper beliefs are highlighted, or when the values that lead them to success become irrelevant to the moment.

Therefore, the theories focusing on change are aimed at valuing the self-esteem of those led by the leader's performance, which in turn will impact unanimously on the organization as a whole. From the observation of these theories, it is verified that the leader needs to have flexibility in the relation with the led ones, alternating his style of action in function of the situational aspects.

The next section discusses the leadership study developed by Pitcher discussing the three types of leaders found by the author, namely: The Artist, The Craftsman and the Technocrat.

2.2 Study of Pitcher Leadership

In the study of Pitcher (1995) published in her book “Artists, Craftsman and technocrats: the dreams, realities and illusions of leadership”, the author’s notes were made using the method of longitudinal research carried out by and then published in his book.

The study was the result of eight years of research conducted by the author under the guidance of Professor Henry Mintzberg, seeking to identify leadership profiles and their impact on organizations. In her publication, the author approaches the topic management and leadership from the analysis of the profile and the posture of its managers, reaching three types of leaders artists, craftsmen and technocrats.

One of the presuppositions adopted in this author’s studies is that emotion interferes with decisions. According to her, society has put in power men and women who appear to be more objective, cool and calculating, less emotional — the Technocrats.

The point is that, according to the author, the most commonly accepted assumption is wrong: now science is

beginning to prove that, while emotion may hinder judgment, its absence can also do so.

That is, when you study leadership, you cannot leave aside the emotions that are based on the relationship between leaders and their leaders. Corroborating this understanding, Jim Kouzes and Berry Posner (2008, p. 22) in their book “The New Challenge of Leadership” state that leadership is a relationship between those who aspire to lead and those who choose to follow them. So it is the quality of this relationship that matters most when one is willing to do something truly great. A leadership relationship characterized by fear and mistrust will never produce anything of lasting value. However, a relationship characterized by mutual respect and trusts will overcome the greatest difficulties and leaves a significant legacy.

Thus, according to Pitcher, it is common to find people in power with high intellectual capacity, analytically brilliant, and rational, but who have a proven negative judgment. In this sense, the author throws light on three myths in concluding that leadership depends on the leader's interaction with time and context, stating that they are interrelated. The first is that a specific type of leader is needed: the charismatic visionary. The second, and most pernicious, is that anyone can become a leader. The third affirms that if one teaches the leader how he ought to be, so he will be. For Pitcher (1995), it is essential that there be diversity in the management team: people who know how to inspire loyalty and participation, dreamers and people with a gift for details. The great trick is to keep them working together and in the same direction, avoiding the technocrats in positions of authority as they represent a great barrier to teamwork.

The following Table 1 presents adjectives, with each column representing the predominant characteristics in each leader profile, according to the author’s surveys, namely: The Artist, The Craftsman and the Technocrat.

Table 1 Prevailing Characteristics In Each Leader Profile

Artist	Artisan	Technocrat
Unpredictable	Balanced	Rational
Funny	Friendly	Difficult
Creative	Honest	Uncompromising
Daring	Sensitive	Hard
Intuitive	Responsible	Intense
Stimulant	Trustworthy	Detail
Affective	Realist	Determined
Visionary	Stable	Boring
Entrepreneur	Reasonable	Stubborn
Inspiring	Predictable	Logical

Source: Pitcher (1995, p. 3)

In this way, Pitcher (1995) affirms that, in business reality, people have mixed characteristics, that is, of one and the other profile, being rarely identified by a single ideal type. Leaders, however, have central tendencies in one of these leader profiles cited by the author.

From a general perspective, the literary content addressed in the present research reveals that, although leadership styles have evolved over time, the autocratic style still predominates in Brazil, Brazilian cultural characteristics such as nepotism in job positions and in the market of work in general.

What is affirmed in the considerations of Arruda (2006; Motta & Caldas, 1997, p. 30): “Brazilian companies are marked by decisions that tend to be characterized by intense social interaction as well as by an active involvement of the superior leaders , usually authoritarian.”

Thus, appreciating the contribution of the various authors mentioned in the theories discussed here, it is generally perceived that leadership is understood as a process of influencing team members in order to achieve the

goals of the organization as a whole. This means that a leader must always be critical, show resilience to changes in the environment and always know how to balance each challenge found in his leadership, ensuring his followers trust and loyalty in the goals delegated by the organization, having the participatory style as a beginning to exercise more effective leadership.

It is necessary, whenever necessary, to resort to other styles judged to be effective in that particular problem situation. For, since one cannot count on the standardization of human behaviors, one must try to understand how each style of leadership influences within each individual and its respective consequences for the results of the organization.

3. Methodology

3.1 Type of Research

According to the division proposed by Vergara (2005), the research can be classified as follows: As for the ends, it is explanatory, since it evaluates in an analytical way a problem situation, involving an in-depth evaluation of information about leadership styles in organization X, in an attempt to explain the context of a phenomenon and detailing the characteristics of a given situation with the aim of understanding it better. It is also applied, because it deals with a concrete reality, found in the investigated company.

As far as media is concerned, it has a bibliographic character, since the theoretical reference is based on publications such as books, scientific journals, academic materials and computer networks. It is also characterized as a field research, since it is carried out in the establishment where the element is studied, involving methods of information gathering such as interviews or observations. It is also a case study, since it analyzes a peculiar situation, restricting itself to an organization only, not ensuring, therefore, a generalization for the other organizations.

3.2 Method of Approach

According to Andrade (2001), the methods of approach are more general, being responsible for the reasoning used in the development of the research, that is, “[...] general procedures, which guide the development of the fundamental stages of scientific research.” (Andrade, 2001, pp. 130-131). Among the methods of approach are the methods: the inductive, the deductive, the hypothetical-deductive and the dialectic.

In this perspective, the method of approach adopted was predominantly the deductive one, in which the thought traverses a path starting from general facts for particular facts. That is, it involves conclusions about phenomena from the known theories and the assumptions adopted. However, we have analyzed the predominant leadership styles in company X adopted by the leaders and the styles of leadership perceived by the leaders, highlighting some steps for the use of the inductive method.

3.3 Guidance

The research has adopted Quali-Quanti orientation, which, according to Patton (1987) allows to study the questions in depth and in detail and the categories of analyzes are not predetermined. In the research presented here, it was privileged the perception of the subjects investigated, their subjectivity, which typically characterizes the qualitative approach.

3.4 Data Collection

The data collection was carried out initially through bibliographical research, with consultations with books and scientific articles. At the field research stage, questionnaires were applied to the managers and employees who

exercised the leadership role in their respective managing areas in the organization studied. The questionnaires applied were adapted from the propositions of Ferreira et al. (2015), of which 15 were for employees and 3 were for company X, in 2016.

An interview was also conducted with the main manager of the company studied to gather information about the organization's history, its current configuration and plans for the future, thus subsidizing the construction of the chapter dedicated to the presentation of the case being studied.

3.5 Treatment and Analysis of Data

As already pointed out, a qualitative treatment was made, seeking to understand the phenomena from the point of view of the participants. The basic method was content analysis, correlating what was raised in the field with the theoretical basis of the reference. There was also a quantitative treatment of the data, and analyzes of the descriptive statistics were performed in the SPSS (Statistical Package for the Social Sciences) program.

3.6 Limitations of the Method

It is worth remembering that it is not possible to be objective in the qualitative methodology, because the subjectivity of the researcher is tied to the investigation. Even if one tries not to compromise the achievement of the established objectives, the researcher's subjectivity naturally manifests in this type of approach.

As already defined in the section dealing with delimitation, the study does not allow generalizations for other organizations, since it covered a single company, with its own peculiarities. Another restriction is that the questions of psychological impacts that may arise from each alternative that could be adopted by the leaders of the organization were not considered, which is justified by the limitations of the researcher himself, graduating from the Administration course without a specialization in the area of Psychology.

4. The Organization Studied

4.1 Characterization of the Company

The "X" company is a service provider within the educational segment and carries out the foreign language teaching activities (English and Spanish) with the "Y" franchise unit. It is located in the region of Juiz de Fora, Minas Gerais. Your history is summarized below.

4.2 History

According to data available on the website of the organization "Y", it is noted that it was created in 1973, in Porto Alegre, Rio Grande do Sul. It is inserted in the education sector, specifically specialized in teaching foreign languages (English and Spanish), attending from the demands of the children's public to those of the adult public.

Upon receiving significant acceptance from its target public, it was decided to inaugurate other units around the state of Rio Grande do Sul and also in the interior of the state of São Paulo. From the 1980s, the "Y" organization achieved satisfactory growth in its market by deciding to adopt the franchising system. In 1998, the National Administration of the company "Y" was inaugurated, in the district of Paraíso, in São Paulo. Currently, according to data provided by the company, it has 605 units covering the entire national territory. In addition, it has a quantitative of 500 thousand students. With regard to the main technologies and equipment used by the organization studied, it is noticed that it uses online platforms which, according to management's statements, allow students to interact more dynamically and interactively with the learning tools. The following is a brief history of the franchisee in the region of Juiz de Fora, Minas Gerais.

4.2.1 Brief History of the Franchise in the Region of Juiz de Fora, MG

The enterprise of the “X” company appeared in the city of Juiz de Fora in the year 2000. The idea came about through a work that the current manager was developing at the time in one of the units of the company “Y” in the city of Rio de Janeiro. By identifying with the values of the company, the founder of the franchise decided then, together with her husband, to open a branch in the city of Minas Gerais. According to the testimony given by the founder in an interview granted, the decision was taken with great enthusiasm and also a challenging task for both, since they did not know much the city.

Other information given by the founder was that at that time I learned that three English courses had failed in this city, which left the clients of this region with a negative perception of this sector. Faced with this situation, instead of being discouraged, the founder says that managers have taken as a challenge to regain the trust of potential clients. For that, they highlighted, in the advertising campaign developed at the time, that the best language course in the city would be offered, which she believes actually occurred.

Still, according to the founder's testimony, the company was able to establish itself as the main cause of the success achieved by investing in a better infrastructure than those that had already appeared in the city by its competitors who did not succeed in this regard. In addition, the company “X” was also pioneer in the application of modern education technologies, thus obtaining a greater credibility and acceptance before its public more dynamically and interactively with the learning tools.

5. Analyses and Discussion of Data Obtained in the Field

This chapter presents the results obtained in the field research, performed as described in the previous chapter. The first section presents what was raised in the questionnaires applied in relation to the possible framework of management practices adopted in the taxonomy proposed by Likert (1971) presented in chapter two. In the later sections, analyzes are presented based on Pitcher’s theory (1995), also discussed in the second chapter. And, finally, the characterization of the respondents.

5.1 Management Style, According to Likert Classification

In the following issues, those interviewed were asked to evaluate the behavior of their supervisors, marking, in each line, the column that best portrays the profile observed in them. Then the managers were summoned for a self-assessment answering this same questionnaire. The tabulation was done by assigning 1 point to each marking performed in the 1st column; 2 points for the 2nd column and so on. The calculated average allows us to observe which managerial style, according to the division proposed by Rensis Likert, the managers (leaders) of the company are more identified, using the criterion proposed by Ferreira et al. (2015), who consider the following division:

Table 2 Criteria For Determining Leadership Style

Measuring Media Band	Corresponding Style
1.0 to 1.7	Autocratic explorer
1.71 to 2.5	Benevolent autocratic
2.51 to 3.4	Advisory
3.41 to 4.0	Participative

Source: own elaboration, based on the propositions of Ferreira et al. (2015)

As already pointed out in the chapter that presents the theoretical framework, Likert understands that leading is to make the best use of the capacity of individuals in the organization, favoring the productivity of the organization. In this conception, the leader should stimulate the group work and the exchange of ideas among the leaders, emphasizing the pursuit of the objectives of the organ In this sense, the author adopts the participatory style as being the most appropriate. Studies conducted by him have shown that this is the type of leadership that most favors the motivation and commitment of the people led, significantly impacting their productivity.

The predominant style is verified by the general average achieved, which is highlighted at the end of the table below. It is recommended, however, that the averages obtained in each row be checked. In this way, it is possible to detect aspects in which a leader leaves more to be desired, which would correspond to the lower average lines. When several leaders present reduced averages in a given line, the corresponding managerial competence needs to be better developed in the company.

5.2 Leadership Style as Pitcher Rating

As already pointed out, the leadership style of the managers of the organization studied was based on the taxonomy proposed by Patrícia Pitcher, which proposes the existence of three different styles of leader.

The predominant style is determined by the markings made in the so-called "check-list of adjectives" below transcribed. Respondents were asked to choose up to 10 adjectives from the 30 lists that best represented their immediate superior, as can be seen in Table 3.

Table 3 Characteristics of Leaders, in the Perception of the Leaders

Artist Style		Artisan Style		Tecnocrate Style	
Characteristic	Fi	Characteristic	Fi	Characteristic	Fi
Unpredictable	2	Balanced	5	Rational	2
Funny	9	Friendly	11	Difficult	0
Creative	8	Honest	10	Uncompromising	0
Daring	1	Sensitive	10	Hard	1
Intuitive	4	Responsible	9	Intense	7
Stimulant	6	Trustworthy	9	Detail	1
Affective	6	Realist	5	Determined	6
Visionary	3	Stable	1	Boring	0
Entrepreneur	3	Reasonable	8	Stubborn	0
Inspiring	2	Predictable	2	Logical	0
TOTAL	44	TOTAL	70	TOTAL	17

Source: Research Data

In general, it is noticed that, in the perception of the ones led, there was predominance of the Artisan style, but with good presence also of the Artist style. The Technocratic style did not reach a significant mark in the corresponding characteristics. These results corroborate Likert’s (1971) classification, providing evidence that in this organization the leaders, according to the perception pointed out in the responses of the leaders, do not have, therefore, predominant characteristics of “autocratic” or “autocratic explorers” leaders.

In this way, it can be seen that the analyzed organization already carries with it a positive characteristic, since, as defended by Likert and several other scholars, employees tend to have a more productive and productive relationship with non-autocratic leaderships. The leaders, doing their self-assessment, according to the criteria

already mentioned, generated the results presented in Table 4 below.

Table 4 Characteristics of Leaders, in the Perception of the Managers Themselves

Artist Style		Artisan Style		Tecnocrate Style	
Characteristic	Fi	Characteristic	Fi	Characteristic	Fi
Unpredictable	0	Balanced	1	Rational	0
Funny	2	Friendly	3	Difficult	0
Creative	3	Honest	3	Uncompromising	0
Daring	0	Sensitive	2	Hard	0
Intuitive	0	Responsible	2	Intense	2
Stimulant	1	Trustworthy	2	Detail	0
Affective	0	Realist	1	Determined	0
Visionary	0	Stable	0	Boring	0
Entrepreneur	0	Reasonable	2	Stubborn	1
Inspiring	0	Predictable	1	Logical	0
TOTAL	06	TOTAL	17	TOTAL	03

Source: Research Data

In the process of self-evaluation of leaders, as seen from the markings in Table 5, the perception they had of their leadership is in line with that presented in the evaluation of the leaders. Note, therefore, the predominance of the Craftsman style, but with good presence also of the Artist style. The Technocratic style did not reach a significant mark in the corresponding characteristics. In this sense, Pitcher (1995) emphasizes that diversity in the management team is paramount, that is, the presence of people who know how to inspire loyalty and participation, dreamers and people with a gift for details. It is advisable to avoid technocrats in positions of authority as they may represent a barrier to teamwork.

For Ferreira et al. (2015), in small companies, businesses are usually initiated by artists and artisans, since technocrats do not have enough imagination to start a new business, except in the field of consulting, where they find prestige and can apply the revenues prescribed. These same authors point out that, in business reality, people have multifaceted characteristics, that is, of one and the other profile, being atypical the identification by means of a single ideal type. Leaders, however, have central tendencies in one of these behavioral profiles cited by the author.

Therefore, it can be seen from the data found in the organization studied, as predominant characteristics of the Craftsman and Artist styles, which can be justified by the size of the company and the managerial profile of its founders, also already discussed in chapter four.

5.3. Motivation for work

In order to verify the relationship that the employees of the company maintain with their work, the leaders and leaders were asked to self-evaluate, that is, how much they feel motivated to carry out the work, assigning a grade between 0 and 10, where “0” represented total lack of motivation for the execution of the work and “10” strong motivation to carry it out. The data can be observed in Table 5 below.

Table 5 Motivation for Work

Factor	Led Average	Leaders Average	Difference	% Dispersion
Motivation	8.2	9.0	0.8	8.0

Source: Research Data

In the last column, the percentage of dispersion is indicated considering that 100% would be 10, corresponding to the difference between the minimum degree, which is 0.0 and the maximum, that would be 10.0. As you can see the leaders obtained an average of 9.0 while the leaders reached an average of 8.2.

It can be seen, therefore, that the leaders obtained a more positive perception of their motivation, although the leaders are not too far apart, since the observed dispersion was only 8%. Moreover, in this question the percentage of non-response was null. Therefore, from the data can be perceived that the people in the organization according to the results presented in Table 6, are motivated to carry out their activities.

After answering the question previously mentioned, respondents were also asked to answer a series of factors related to motivation for work, and leaders and leaders were asked to evaluate how each one has manifested in the company, from the following scale: 1 = Very dissatisfied 2 = Unsatisfied 3 = Satisfied 4 = Very satisfied. The means averages for both groups of research objects in this organization are distributed in table 4 below. In the last column, the percentage of dispersion is indicated considering that 100% would be 3.0, corresponding to the difference between the minimum degree, which is 1.0 and the maximum, which would be 4.0.

Table 6 Average Between the Leaders and the Led Factors of Motivation and Satisfaction with the Work

Factor	Led average	Leaders average	Difference	% Dispersion
Feeling secure and stable in employment	3.4	4.0	0.6	20.0
Interpersonal relationship with co-workers	3.5	3.6	0.1	3.3
Recognition received for their efforts	3.2	4.0	0.8	26.7
Attribution of tasks commensurate with their professional capacity	3.8	4.0	0.2	6.7
Opportunities for learning and professional growth	3.1	3.6	0.5	16.7
Perception of being well informed about your work	3.4	3.6	0.2	6.7
Challenges consistent with your qualification and your expectations	3.7	3.6	-0.1	-3.3
Feeling of self-satisfaction with their professional life	3.4	3.3	-0.1	-3.3
Autonomy that counts to perform its tasks	3.4	4.0	0.6	20.0
Adequacy of rewards received for his contribution to the company	3.2	3.3	0.1	3.3
Clear perception of mission, too many objectives strategic definitions	3.7	4.0	0.3	10.0
Freedom you receive to organize your tasks in your own way	3.6	3.6	0.0	0.0

Source: Research Data

As can be seen in Table 7, in comparison between the leaders and the leaders, it has been that the leaders were the only ones to reach maximum marks for this category in five factors. Such factors were “Feeling of safety”; “Recognition received”; “Assigning Responsible Tasks”; “Autonomy that counts ...”, and “Clear perception of the mission”. On the other hand, those surveyed positioned themselves between 3.2 and 3.8 for these same factors, thus showing that although the leaders were considered very satisfied in the organization with these factors, not the same perception felt by the leaders presenting a dispersion between 6.7% to 26.7%. As for the factors related to the challenges compatible with the qualification and expectations and the factor of feeling of

self-realization, it is verified that the leaders positioned themselves more severely than those led, however, in percentage terms there was a high dispersion.

It was also asked to the leaders that the 3 factors among those listed above that most impact on the favoring of their motivation in the organization, being more cited the following:

- 1st place: Recognition received for your efforts
- 2nd place: Interpersonal relationship with co-workers
- 3rd place: Freedom to organize your tasks in your own way

It is verified, therefore, that the leaders of this company consider the “recognition received by their efforts” as being the most important factor for facilitating the motivation to carry out the activities carried out according to the function that each one occupies in the respective organization. It is important to note that the factor “interpersonal relationship with co-workers” and “freedom to organize their tasks in their own way” are highlighted, which highlights the possibility of attention on the part of leaders in this regard.

Finally, it should be pointed out that the factor that was ranked 3rd, obtained identical averages both by the leaders and those led, with dispersion of 0.0%, which reaffirms the possibility of unanimity according to the perception of both groups surveyed in this organization.

5.4 Characterization of Respondents

The questionnaire's characterization section sought to identify the following information: gender, age group, educational level, working time in the company and, finally, the area of activity for the administrative and pedagogical leaders and for the leaders general, pedagogical coordination and administrative supervision).

To further deepen the analysis, the results of the frequency distribution were divided into two groups: respondents who act in the company as leaders and respondents who act as leaders.

5.4.1 Genre

The distribution of the gender among the 17 respondents, that is, the segregation between leaders and leaders is shown in Table 8 below.

Table 8 Gender of respondents

Genre	LED		Leaders		TOTAL	
	Frequency	%	Frequência	%	Frequency	%
Female	11	78,6	3	100	14	82.4
Male	3	21,4	0	0	3	17.6
Total	14	100,0	3	100	17	100.0

Source: Research Data

According to the gender, 78.6% are women and 21.4% are men. This is explained by the fact that there is usually more women in the area of pedagogy. In the group of leaders, there is a predominance of women. Such an event can be justified by a pattern of memory that characterizes leading organizations, in addition, it should be noted that an organization composed of 15 employees.

5.4.2 Age group

The age of the respondents is distributed in age groups, according to Table 9.

It is observed that, in the age range of 26 to 35 years, the majority of respondents (41.2%) are found. The second most incident is 36 to 45 years, with 29.9%. Based on these data, it can be assumed that the company prioritizes the hiring of younger people. The lower frequency of employees in the 18 to 25 age group can be attributed to the retention of talent that, according to the manager's testimony, characterizes the company, which

manages to maintain a low turnover, given that it offers good working conditions. That is: the current employees entered the company very young and remained in it.

Table 9 Age Range of Respondents

Age Range	LED		Leaders		Total	
	Frequency	%	Frequency	%	Frequency	%
From 18 to 25 years old	2	14.3	0	0.0	2	14.3
From 26 a 35 years old	6	42.9	1	33.3	7	41.2
From 36 a 45 years old	3	21.4	2	66.7	5	29.9
From 46 a 55 years old	1	7.1	0	0.0	1	4.9
From 56 a 65 years old	1	7.1	0	0.0	1	4.9
66 years or over	1	7.1	0	0.0	1	4.9
Total	14	100.0	3	100	17	100.0

Source: Research Data.

5.4.3 Degree of Schooling

The level of education of the respondents is shown in Table 10 below.

Table 10 Degree of Schooling of Respondents

Schooling	LED		Leaders		Total	
	Frequency	%	Frequency	%	Frequency	%
Until complete or incomplete elementary school	2	14.3	0	0	2	11.8
Until complete or incomplete high school	5	35.7	1	33.3	6	35.3
Incomplete higher education	0	0	1	33.3	1	5.9
Complete Higher Education	5	35.7	0	0	5	29.4
Postgraduate complete or not (Specialization/MBA)	2	14.3	1	33.3	3	17.6
Total	14	100	3	100	17	100

Source: Research Data.

It is noticed that the majority of the employees have education equal to or higher than the complete high school and many have undergraduate or graduate. This can be justified by the area of education in which the company operates, which usually requires a higher level of education and the reason why most of the workers occupy the position of teacher.

Leaders are already concentrated in middle school, complete or incomplete, to incomplete higher education. In this sense, it should be noted that in the case of the founder and principal manager, she has higher education. In the area of pedagogical coordination, as it is a specialized area, it has as requisite higher education or postgraduate in the area.

5.4.4 Working time in the Company

Respondents were also questioned as to the time they served in the company, i.e., the time spent in company X studied, which is detailed in Table 11 below.

From the data presented in Table 11, it is observed that the majority of employees are in the working time range in the company for “five years or more”. This can be explained according to reports of the managing partner himself, because the people who work in the company are satisfied with the work environment of the organization.

Table 11 Working Time of Respondents

Time of Work in the Company	LED		LEADERS		TOTAL	
	Frequency	%	Frequency	%	Frequency	%
Less than 1 year	3	21.4	0	0.0	3	17.6
More than 1 year and less than 5 years	4	28.6	0	0.0	4	23.5
Five years or more	7	50.0	3	100.0	10	58.8
Total	14	100.0	3	100.0	17	100.0

Source: Research Data.

It can be added to this result also, the average obtained in Table 1, regarding the perception of the leaders in relation to the style of leadership employed in the company, which in this case was on the border between the Advisory and Participative style, however, which is close to the second, which corroborates with the retention data of those in the company, because the Participative style provides a more productive and satisfactory work environment in organizations, as previously discussed by Likert (1971).

5.4.5 Area of Operation

Finally, the description of the area of action of the respondents is addressed, being the ones assigned in the areas (administrative and pedagogical) and for the leaders (general management, pedagogical coordination and administrative supervision). The distribution of frequencies to the leaders and leaders can be seen in detail in Table 12 below.

Table 12 Area of the Action of the Respondents

Occupation Area	LED		Leaders		Total	
	Frequency	%	Frequency	%	Frequency	%
Administrative	5	35.7	1	33.3	6	35.3
General Management	0	0.0	1	33.3	1	5.9
Pedagogical	9	64.3	1	33.3	10	58.8
Total	14		3	100.0	17	100.0

Source: Research Data.

It can be seen in Table 12 that the majority of those headed are concentrated in order of importance in the “Pedagogical” area with 64.3%, followed by the “Administrative” area reaching 35.7% in this order.

The leaders achieved proportional results for the three areas of activity outlined above, with 33.3% each. The total concentration by area is greater in the “Pedagogical” area of the company “X”, which can be easily understood, as this company falls into the education segment, being therefore these key points of its activity, representing 58, 8% of the total.

6. Conclusion

From the beginning of the twentieth century it has been found in the literature of the administrative sciences that the human labor force was perceived as a simple productive piece. It was governed by the philosophy of homo economicus, that is, individuals were treated as common resources of production, and these were easily controlled by expectations of financial rewards.

With the passing of the years, new approaches have been developed and human resources management began to seek the integration of workers within organizations as part of a dynamic and interconnected system. The

Behavioral Theory emerged, spreading the philosophy of the “homo administrativus”, attributing the idea that man is no longer motivated by the economic, but by the style of administering. It is in this context that the need to get to know people in a deeper way, giving greater attention to their subjective aspects, can directly affect their productivity in the work environment. It is then up to the administrator to know how to understand human nature and guide them towards a common purpose, that is, to know how to lead a team.

Nowadays, there is a transformation in work environments and social media subjects that are engaged in senses and values because people are living in an era that seeks to show society what they are and what role they play in the organization. It is in these circumstances that the present research was elaborated, having as general objective, as already explained, to identify the style of leadership that has been predominantly adopted by the managers of the studied company, in the perception of the managers themselves and of their led.

To achieve this goal, specific objectives have been set. The first was to distinguish the main characteristics associated with each style of leadership. In order to arrive at the answer of this, a theoretical revision was made on the topic leadership, going through the varied approaches with regard to leadership styles. It is interesting to note that the main authors were Likert, Pitcher, Kouzes and Posner, Northouse, Yukl.

The second specific objective was to identify how these characteristics are perceived in the organization's day-to-day life. Based on the theoretical assumptions of Pitcher (1995), through the application of a questionnaire containing a table with 30 adjectives, they were distributed in three columns, hiding the correspondences between autocratic styles, artisan and artist.

With this, it was possible to find, through the frequency of markings, according to the perspectives of the leaders and led the predominance of the Craftsman style, but with significant presence also of the Artist style. The Technocratic style did not reach a significant mark in the characteristics corresponding to it. This result can be justified by the entrepreneurial profile of the owner company “X”, which is evidenced by the characteristics attributed to the Craftsman style.

To reach the other specific objectives, a research instrument was elaborated and applied with a representative sample, composed of 16 employees, of whom 3 were leaders and the others were led. However, the questionnaire was answered by 15 people, because an employee was on medical leave at the time. With regard to the third specific objective, we sought to identify how managers analyze their leadership. In this case, a questionnaire was applied to the 3 managers of the company “X” in which there was a framework of behaviors based on Likert's theory (1971) where the leaders should mark in the column a value ranging from 1 to 4.

The criterion proposed by Ferreira et al. (2015) is presented in frame 2, noting that the general average reached is at the border between the consultative and participatory style. Although it is within the limits of the first, it is very close to the second. Given that Likert, as already pointed out, advocates the participatory style as the most effective, it is noted that in the company surveyed, the leaders are very close to this style.

It should also be noted that the leaders attributed higher markings on the items “team setting” and “rewards” in which they reached averages of 3.6 and 3.6 respectively. On the other hand, those in the same category attributed averages of 2.7 and 2.7 in this order.

Finally, in order to reach the fourth specific objective that was to be taken as the company's employees analyze the leadership to which they are submitted, the same questionnaire was also applied to managers, but with adaptations in the same, to the profile of the thus tracing a comparative of perception that both groups had in relation to the leadership that they are submitted in company “X”.

It was noticed that in four evaluated aspects the average obtained was exactly the same. In nine others, however, the leaders revealed a more favorable self-assessment than their own. Already in three other aspects, the self-evaluation was inferior to the manifested perception by the ones led.

The evaluation of the way in which the team's objectives were established reached a 30% difference between the perceptions of the leaders and those of the leaders, with the former manifesting a more optimistic observation than the latter (average of 3.6 vs. 2.7). This fact demonstrates that, according to the division proposed by Likert (1971), leaders understand that goal setting is passed through group action. On the other hand, the leaders perceive that the objectives of the team are passed through the issuing of orders after discussion.

From this significant discrepancy between the perception of the leaders and the leaders, it is verified that the leaders could take some action so that the leaders also reach the perception of the objectives through group action, that is, with the establishment of goals in an equitable way .

With regard to the evaluation by the employees in relation to other company practices observed in the workplace as motivation and satisfaction, the overall result was positive.

It was perceived that the leaders of this company consider the “recognition received by their efforts” as being the most important factor for facilitating the motivation to carry out the activities carried out according to the function that each one occupies in the respective organization. Already, in relation to satisfaction, both groups judged themselves satisfied with the working environment of company “X”.

Finally, concluding and responding to the research problem, the perception of the leadership style adopted by the managers of the company studied, in the perception of the managers themselves and their leaders is that the leaders perceive the leadership as being between the consultative and participative style.

Although it is within the limits of the first, it is very close to the second. Considering that Likert, as already pointed out, advocates participatory style as the most effective, it was noticed that in the company surveyed, the leaders are very close to this style.

As for the leaders, these revealed a perception about the very behavior of leadership very close to that which was manifested by the leaders. The result achieved, contrary to what was achieved w Therefore, it is perceived that the organization “X” fits into the participatory style, which is a positive factor for it, besides favoring a more adequate and productive environment. As a suggestion of future studies, we can mention the development of complementary researches that seek to investigate the impacts that the managerial style observed has generated on the quality of life at work and the results achieved by the studied organization. It would also be feasible to develop studies similar to those presented here in other organizations with those led, corresponds to the participatory style, but the score is very close.

References

- Andrade Maria Margarida de. (2001). *Introdução à metodologia do trabalho científico: elaboração de trabalhos na graduação* (5th ed.), São Paulo: Atlas.
- Arnold William W. Plas and Jeanne M. (1996). *Liderança orientada para pessoas: o toque humano como fator de produtividade e lucro*, São Paulo: Editora Atlas.
- Barret R. (2000). *Libertando a alma da empresa: como transformar a organização numa entidade viva*, São Paulo: Cultrix.
- Bass B. M. (1990). “From transactional to transformational leadership: Learning to share the vision”, *Organizational Dynamics*, No. 18, pp. 19-31.
- Bennis Warren (1996). *A formação do líder*, São Paulo: Atlas.
- Bergamini C. W. (1994). *Liderança: administração do sentido*, Atlas, São Paulo.
- Blake R. R. and Mouton J. S. (1985). *The Managerial Grid III*, Houston: Gulf.

- Childre Doc and Cryer Bruce (2000). *From Chaos to Coherence: The Power to Change Performance*, Boulder Creek: Hear Math.
- Ciulla Joanne B. (2006). "Ethics: The heart of leadership", in: Maac Thomas & Ples Nicola M. (Eds). *Responsible Leadership*, New York: Routledge, pp. 17-32.
- Covey S. R. (2002). "Três funções do líder no novo paradigma", in: Hesselbein F. & Covey Stephen R., *Liderança baseada em princípios*, Rio de Janeiro: Campus.
- Dansereau F., Graen G. B. and Haga W. (1975). "A vertical dyad linkage approach to leadership informal organizations", *Organizational Behavior and Human Performance*, No. 13, pp. 46-78.
- Ferreira Victor Cláudio Paradela, Dusi Cristina Sayuri Cortes Ouchi, Solano Gabriela Soares, Talho Leticia Ferreira and Silva Ana Beatriz Madeira da. (2015). "Liderança em empresas familiares: estilos predominantes e principais reflexos sobre a satisfação dos trabalhadores", in: *XII Simpósio de Excelência em Gestão e Tecnologia (SEGTE)*, Anais. Resende – RJ.
- Fiedler F. E. (1993). "The leadership situation and the black box in contingency theories", in: Chemers M. M. & Ayman R., *Leadership, Theory and Research: Perspectives and Directions*, pp. 1-28.
- Fieldler F. E. and Chamers M. M. (1981). *Liderança e Administração eficaz*, São Paulo: Editora Pioneira.
- Follet M. P. (1997). "Os elementos da liderança", in: Graha M. P. (org.), *Mary Parker Follet: profeta do gerenciamento*, Rio de Janeiro: Qualitymark, pp. 173-193.
- Giddens Anthony (1991). *Dimensões da globalização: As consequências da modernidade*, São Paulo: Ed. Unesp.
- Heifetz R. A. (1994). *Leadership Without Easy Answers*, Cambridge: Harvard University Press.
- Hersey P. and Blanchard K. H. (1993). *Management of Organizational Behavior: Utilizing Human Resources*, Englewood Cliffs: Prentice Hall.
- Hesselbein Frances, Goldsmith Marchel and Beckhard Richard (1996). *O líder do Futuro* (9th ed.), São Paulo: Editora Futura.
- Hill S. E. K. (2004). "Team leadership", in: Northouse P. G., *Leadership: Theory and Practice*, London: Sage Publications, pp. 203-234.
- House R. J. (1971). "A path-goal theory of leader effectiveness", *Administrative Science Quarterly*, No. 16, pp. 321-328.
- Kouzes James M. and Posner Barry Z. (1991). *Posner O Desafio da Liderança*, Rio de Janeiro: Campus.
- Kouzes James M. and Posner Barry Z. (2008). *Posner O Novo Desafio da Liderança*, Rio de Janeiro: Campus.
- Lakatos E. M. and Marconi M. de A. (1999). *Técnicas de pesquisa* (4th ed.), São Paulo: Atlas, S.A..
- Lewin K. (1939). *Resolving Social Conflicts*, New York: Harper.
- Likert R. (1971). *Novos padrões de administração*, São Paulo: Atlas.
- Marquis B. L. and Huston C. J. (1999). *Administração e liderança em enfermagem* (2nd ed.), Porto Alegre: Artmed.
- Maximiano Antônio Cesar Amaru (1995). *Além da hierarquia: como implantar estratégias participativas para administrar a empresa enxuta*, São Paulo: Editora Atlas.
- Motta F. C. and Caldas M. (1997). *Cultura organizacional e cultura brasileira*, São Paulo: Atlas.
- Northouse P. G. (1997). *Leadership: Theory and Practice*, London: Sage Publications.
- Northouse Peter G. (2004). *Leadership: Theory and Practice* (3rd ed.), Thousand Oaks. Sage Publications.
- Patton Michael Q. *How To Use Qualitative Methods in Evaluation*, Newbury Park.
- Pereira M. Fernandes et al. (2012). "A produção científica sobre liderança na Universidade Federal de Santa Catarina", in: *CONVIBRA- Congresso Virtual Brasileiro de Administração*, accessed on 01 maio, 2012, available online at: <http://www.convibra.com.br>.
- Perez F. A. B. Marcon (2012). "A influência dos Estilos de Liderança no Uso das Redes Sociais Digitais", Sociedade Brasileira de Gestão do Conhecimento, acesso em 18 maio, 2012, available online at: <http://www.sbgc.org.br>.
- Pitcher Patricia (1995). *Artists, Craftsmen and Technocrats — The Dreams, Realities and Illusions of Leadership*, Hardcover.
- Portal cna. Acesso em 5 de maio de 2016, available online at: <https://www.cna.com.br>,
- Rauch C. F. and Behling O. (1984). *Functionalism: Basis for Alternate Approach to the Study of Leadership*, Elmsford, New York: Pergamon Press, pp. 45-62.
- Robbins S. and Coulter M. (1998). *Administração* (5th ed.), Rio de Janeiro: Prentice Hall do Brasil.
- Senge Peter M. (Tradução de OP traduções) (1998). *A quinta disciplina: arte e prática da organização que aprende*, São Paulo: Editora Best Seller.
- Smith P. B. and Peterson M. F. (1989). *Leadership, Organizations and Culture*, London: Sage Publications.
- Sobral F. and Peci A. (2008). *Administração: teoria e prática no contexto brasileiro*, São Paulo: Prentice Hall.
- Stogdill R. M. (1974). *Handbook of Leadership: A Survey of Theory and Research*, New York: Free Press.

- Vergara S. Constant (2007). "Especial Liderança: A liderança aprendida", *Revista de Administração Getúlio Vargas Executivo*, Vol. 6, No. 1, pp. 61-65.
- Vergara Sylvia Constant (2005). *Métodos de pesquisa em administração*, São Paulo: Atlas.
- Yukl G. (2002). *Leadership in organizations*, Delhi, India; Pearson Education.
- Yukl G. (1989). "Managerial leadership: A review of theory and research", *Journal of Management*, Vol. 15, No. 2, pp. 251-289.
- Yukl G. (1998). *Leadership in Organizations*, New Jersey: Prentice Hall.

Feasibility Study to Introduce a New Product to the Market in a Restaurant Chain in Pachuca, Hidalgo

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Abstract: The importance of economic issues in our society and the way they affect us individually and collectively, raise the need for specific training that provides the necessary keys for companies to venture into new business ideas. The present project gives an important contribution to the business perspective, since it allows the promoter of a business opportunity to carry out a detailed study that will provide with certainty its viability

For this reason the company wants to launch a new product in a restaurant chain, which has 12 branches located in Pachuca, Mexico and Queretaro. The project is based on the annual consumption of tea in the aforementioned branches, seeking to satisfy the demand of customers under the idea of providing natural alternatives and a more varied range in the tea menu.

Knowing that the success of a project is determined by the degree of feasibility presented in the operational, technical and economic points of the plan, its structure includes information to assess the business and make accurate decisions, describe the processes and logistics that the company will implement for the purchase, storage, processing, distribution, promotion, advertising, sale and delivery of Gourmet Teas to customers, defining the flow of products from the point of purchase to the point of consumption, with the purpose of establishing strategies that allow to the consumer a quality drink at a competitive cost in the market, 100% natural, made with different mixtures of dehydrated herbs.

Key words: feasibility; demand; plan; strategies; competitive advantage

JEL codes: M310

1. Introduction

Micro, small and medium enterprises are the backbone of the Mexican economy because of its high impact on job creation and national production.

In the same way, according to data from the National Institute of Statistics and Geography, in Mexico MSMEs generate 52% of the Gross Domestic Product and 72% of the country's employment. Consequently, it is important to pay special attention to the applicable strategies to support companies in their permanence and growth. Hence the importance of a business plan, as this can help to start the idea.

Positioning a new product in the client's preference should not require improvisation to achieve success. A gourmet product should be promoted by exalting its quality and benefits, creating a status for its consumers, and

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for this to have a market study to determine its feasibility and develop a business plan is a fundamental part of success or failure of a new product in the market. The business plan is an essential tool for those who want to carry on a business and to guide it as best as possible.

“It is expected that the consumption of tea in the country grow from 15 to 20 percent during 2017. In addition to this, the preferences of the domestic market are mostly green tea, black tea and tisanes”, said the experts Andrea Gutiérrez and Georgina Barragán, te Master of Star TREE Tea and founder of said company, respectively (The Informant, 2017). This market growth goes hand in hand with the formation of new segments of consumers who are looking for more natural and organic products.

It will be understood as business model to the way in which a company defines its vision, mission, policies and strategy and then take them into practice through an articulation of its value chain accordingly to stay competitive in the long term. From this mechanism, the company will define how to satisfy the needs of its customers and consequently how it will obtain income to become sustainable.

2. Theoretical Revision

To validate the research process, it is necessary to base it on three axes: business plan, product (tea), and consumer behavior.

2.1 Business Plan and Its Structure

The business plan is a written document that basically includes the objectives of the company, the strategies to achieve them, the organizational structure, the amount of investment required to finance the project and solutions to solve future problems (both internal and environmental).

It is also a guide where several key aspects are reflected: definition of the concept, what products or services are offered, to which public the offer is directed and who are the competitors that are in the market, among others. This without mentioning the precise calculation of how many resources are needed to start operations, how they will be invested and what is the profit margin that is sought.

On the contrary, to what some entrepreneurs imagine, developing a business plan is less complicated than it seems. Although each project is different, all part of having an idea and materialize it in writing based on five basic points:

- Ideological structure. It includes the name of the company, as well as the mission, vision, values and a description of the competitive advantages of the business.
- Structure of the environment. It is based on an analysis of the strengths and weaknesses of the company, as well as the behavior of the sector in which it develops, market trends, competition and potential customers.
- Mechanical structure Here the distribution, sales, marketing and advertising strategies are listed, that is, what actions have to be executed to achieve the success of the business idea.
- Financial structure. This point is essential because it tests — based on calculations and scenarios projections. the viability of the idea, speaking in economic terms, and whether it will generate an attractive profit margin.
- Human Resources. It helps define each of the jobs that must be covered and determines the rights and obligations of each of the members that make up the organization (Entrepreneur, 2017).

2.2 Teas, Characteristics, Consumption and Importance

It describes information about tea and the types that exist worldwide, this is in order to have detailed information of the product that is intended to be launched in the short term.

Tea is a drink that is prepared from dried leaves of tea plant or small trees. Legend has it that the tea was discovered by Emperor Shen Nung, when he was boiling water next to a tree and the tea leaf fell by accident into the pot. This infusion was very comforting for what he began to take it constantly.

Tea is consumed by more than half of the world's population and can be taken as a hot or cold drink. It contains a very low level of calories (2 kcal per cup) and is free of artificial colors or flavors (Mexico, 2014).

The term foods has its origin in Latin. It comes from alimentum, alimenti whose meaning is what is eaten and drunk to grow and subsist; (in plural) subsistences. This word is formed by the verb alo, which means to nourish, to raise, to make grow and the suffix -mentum that indicates means, instrument or result. In this way it can be said that the original concept of this word is the means or instrument to nourish and make grow. As for the word gourmet comes from French. Its registration in that language dates from the fourteenth century, as a variation of an earlier form “gromme” which in turn came from the old French “gromet” — This pointed to the servant of a wine merchant. The current meaning -gastronomy- comes from the eighteenth century (Current Dictionary, 2017). At present, this term is used for high quality food products.

The main properties of tea are:

- Prevents infections.
- It helps to have a good digestion.
- Helps keep your teeth healthier due to its high fluoride content.
- Helps keep skin younger by its antioxidant property.
- Improves the immune system.
- Cardiovascular.
- Helps reduce the risk of cancer thanks to its property containing lacatechins as they prevent the proliferation of cancer cells. (Cabrera C, 2003)

Types of teas and their characteristics:

Table 1 Types of Teas

White tea	White tea is considered the most exquisite and refined, since from the whole leaves the youngest buds are collected where all the energy of the plant is concentrated. This plant is one of the most beneficial for health since its taste is considered exquisite and refined (Mexico, 2014).
Red tea - Pue Erh	Red tea has a very characteristic flavor, strong and earthy and its color is a dark reddish color. Its ripening process may come to doubt for several years and it is particularly this fermentation process that gives red tea its appreciated color, taste and exceptional properties
Oolong Tea- Blue Tea: “Black Dragon”	Blue tea is a “half way” between green tea and black tea, its manufacturing process is semi-fermented which results in a softer taste than black tea, but stronger than green tea
Rooibos: the small tree of South Africa	Rooibos tea contains many health benefits, is a perfect alternative for relaxation, has digestive properties and does not contain stimulants

Source: Mexico (2014)

2.3 Consumer Behavior

Consumer behavior is the decision process and physical activity that individuals perform when they search, evaluate, acquire and use or consume goods, services or ideas to meet their needs (Rivera Camino, Arellano Cueva, & Morelo Ayala, 2013).

Nowadays gourmet products are more sought after, due to their perception as high quality products, which

project class and distinction, in addition to other factors such as their natural and organic origin. This product is aimed at a specific segment of the market, made up of people over 14 years old looking for natural products, a healthy life, who care about their health and who are constantly looking for new products in this area. They are people who do not have time to buy, move through the sector and look for comfortable and sophisticated things.

The lifestyle of the consumer has two functions: to characterize the individual and direct his behavior; which is going to identify the individual by means of a consistent pattern of behavior that defines the individual in their way of being and expressing themselves, in addition to their external characteristics, which determine the way of being and expressing themselves (Blogger, 2011). This is achieved through the purchase of products and/or services that reaffirm their identity (I am what I buy).

Three principles of consumer behavior applied to gourmet products:

Price as a status symbol: In the absence of knowledge of the costs of production, brand, etc., it is common to be guided by the price to assume that it is good (price = quality at a higher price, higher quality). In addition to this, being able to buy a product that has a high price is an indicator of the economic capacity to have it, which establishes a high social status, which is a desire of consumers who want to demonstrate that they are capable of buying it (It is common for people spread that he buys something and it cost him so much, considering that the price is a status indicator).

Change of concept to position a product in the preference of the consumer: The business of sales of teas already exist, the way to create a market that demands them is to form a new category that puts them in the taste of the consumer, giving the impression of providing a greater value, in this case when positioning it through gourmet products, creates the perception that it is a product for only a part of society, establishing a segment that is desirable to belong.

Create a service that establishes a lifestyle, for this principle should be considered that the products that are consumed most are those that are fashionable and that create an identity to the person who consumes them. Using concepts such as modernity, healthy, organic, reliable and/or sustainable are increasingly sought in products by consumers.

2.4 Segmentation of Markets as Competitive Advantage, and Target Market Millennials

Market segmentation is a process that consists of dividing the total market of a good or service into several smaller and internally homogeneous groups (León Ale, 2015). It is preferable to consider before segmenting two types of market the target market or objective, which consists of a set of buyers who have common needs and/or characteristics that the company or organization decides to serve (Kotler & Armstrong, 2008), or potential market, which is that market made up of the group of customers that do not consume the product we want to offer, because they do not have the characteristics required by us of the segment we want to sell, because they consume another product (chicken), they buy from the competition, either a similar one or a substitute (canned tuna)) or simply do not consume for fear of affecting their health (Pelaez Avalos, 2009).

The importance of this procedure is to define the segment or niche (portion of a market segment in which individuals have characteristics and homogeneous needs, and the latter are not fully covered by the general offer of the market (The World Economy & Business, 2017), more attractive for our product, and with that, define and elaborate the strategies that are required to consolidate ourselves in the market as a leader in consumer preference.

Entering a market with existing products limits us in the sense of positioning, i.e., the place occupied by other products in the mind of the consumer, and especially the order in which it is located, as mentioned by Ries and Trout (1986): "The fundamental approach of positioning is not to create something new and different, but to

manipulate what is already in the mind, to re-link the connections that already exist.” Therefore create strategies that allow to penetrate the taste of consumers and to establish their preference and loyalty, although loyalty is something relative is a necessary aspect to improve sales.

2.4.1 Content

People who were born between 1986 and 2000 are known as millennials, so they should not be older than 30 years (Sánchez, 2015). They are more educated, more technological, more liberal from the political point of view and less religious than previous generations (Puro Marketing, 2016).

Who are the millennials?

- They are known as Generation and
- Characterized because: They are heavy users of social media, they are lovers of communication, technology, media, control their life and work independently, and are enterprising, creative.

Another aspect to take into account is that the purchase process is preferably online, leaving the stores or catalogs aside, and also another aspect that should be taken into account are their habits and customs, and what they consume: Categories Top of online purchases abroad by Mexican millennials are: entertainment and education in digital formats such as e-books, courses, apps, music, movies, etc. (55%); clothing, footwear and accessories (52%) and consumer electronics (41%). However, the category of clothing is the most commercialized, both for millennials and for the total population of Latin America and the world (Mundo ejecutivo, 2016).

Millennials seek to express themselves through brands, they think that the brands they consume and use define them (Soto, 2015), they have a great capacity for learning, but not necessarily to project long-term work in them (Social Footprint, 2016). A Guardian investigation of income in Western countries revealed that young people have a good reason to complain: in seven rich countries in particular, young people are destined to be poorer than their parents. In the USA, young people are poorer than retirees (Conti, 2016), why then is this market attractive ?, one, because of the size (already exceeding 75.4 million people, only in the USA), and its growth is due in large part to the births of descendants of immigrants, especially from Latin America (Pereda, 2016), and the other the desire to compare and demand better products, are not satisfied by what new products must be fulfilling their expectations, therefore the cost is not a factor of interest, which means that they do not necessarily buy the most expensive, but they consider the cost/benefit much, “the expensive is not necessarily the best”.

By segmenting and finding a target market it is easier to direct efforts to achieve better results in order to position the product and brand of teas in the consumer’s preference.

3. Methodology

The project has a mixed approach, because it employs qualitative elements (SWOT and situational analysis of the market and product) and quantitative elements (market size, sales forecasts, etc.).

A synthetic-analytical method is used, by which several elements are used (market research, study of the situation of the micro and macro environment, financial analysis, feasibility analysis, etc.) to integrate a total study of the case, and each element is seen individually and studied in an objective and particular way for its better use (analytical), and its importance in general research is described.

The type of research is of a mixed nature, since sources of printed and digital information (documentary type) were used for consultation, as well as a process of interacting with customers, suppliers, studying the competition (field work). In addition, the description was used to detail the current market situation and the consumers that

make up the product's target segment.

3.1 Marketing Plan

3.1.1 Situational Analysis

It is vital to establish an effective situational analysis. An adequate analysis of the external environment as internal consumption and organizational that allows a complete situational analysis.

3.1.2 Analysis of the External Environment

There are several factors of consideration when evaluating the external environment: competitive forces, growth and stability of the economy, political tendencies, legal and regulatory factors, technological changes and cultural trends. These elements lead to what would be a successful business if the company evaluates and adequately defines them.

3.1.3 Analysis of the Competition

For the analysis of this section, 4 competitive forces are considered: total budget competitors, generic competitors, product competitors and brand competitors.

The total budget competitors have to do with competing products not related to the products, and that attracts the attention of the customers. Products other than teas, which can be produced by the same customers fall into this category, also other products that can produce different teas.

Generic competitors are artificial raw materials, as well as chemical flavorings. With product competitors, we refer to other raw materials for making teas and raw materials for other beverages.

The brand competitors are companies that are dedicated to selling the same infusions, the only thing that makes them different is their brand, then a table with the most recognized competitors is appreciated directly and indirectly.

Table 2 Main Direct and Indirect Competitors

	Brand competitors	Competitors of products	Generic competitors	Competitors of total budget
Raw material for teas	Florite	Other raw materials for teas	Chemical flavors	Another line of products (Herbalife)
	Inspira-te			
	Sandy Rose Te Gourmet			Other drinks
	Teve			
	Teasana			
	Tessito			

4. Results

4.1 SWOT Analysis

The company has been administered in a family manner and therefore little formality has been taken in its structure. It is necessary to perform an analysis of the environment that allows facing the current environments.

The strategies used in the company are categorized empirically, following the general manager's perception, a strategy that has worked and allowed him to be profitable, but insufficient to grow at the pace of current situations. So to stay strong and consolidate in the market to which it belongs, it is necessary to implement improvements that lead to a more formal administration.

Table 3 SWOT Analysis

<p>SWOT ANALYSIS</p> <p>INTERNAL FACTORS</p> <p>EXTERNAL FACTORS</p>	<p>List of Strengths</p> <ol style="list-style-type: none"> 1. Quality of your products. 2. Experience and knowledge acquired. 3. Solid financial resources. 4. Competitive costs. 5. It will be marketed online 6. You have direct contact with customers 	<p>List of Weaknesses</p> <ol style="list-style-type: none"> 1. Little differentiation in the products. 2. Little formal structure of the company. 3. Lack of strategic direction. 4. Internal operational deficiencies. 5. Lack of personnel.
<p>List of Opportunities</p> <ol style="list-style-type: none"> 1. Competitive companies that are not aggressive. 2. Demographic and cultural changes. 3. Market growth. 4. Discovery of new uses to the products. 5. Financial contributions by the partners. 	<p>FO (Maxi-Maxi)</p> <ol style="list-style-type: none"> 1. Take advantage of demographic and cultural changes to promote and educate the client about consuming a 100% natural and quality drink by the most used advertising media in the region. (F1, F5, O2) 2. To use the solid resources that are had for the growth of the market, offering products with competitive costs. (F3, F4, O3) 3. With the experience and knowledge that has to make discoveries of new uses of the product that is offered. (F2 .O4) 	<p>DO (Mini-Maxi)</p> <ol style="list-style-type: none"> 1. Hire staff and train them to perform quality work with the resources provided by the partners. (D5, D4, O5) 2. Take advantage of the little competition that exists to be able to create products that make the differentiation in the market. (D1, O1) 3. Carry out a formal structure of the company, defining posts and responsibilities of each area to notice the growth of production and marketing of the product. (D2, O3)
<p>List of Threats</p> <ol style="list-style-type: none"> 1. Economic changes. 2. Entry of foreign competitors. 3. Adoption of new strategies by current competitors. 	<p>FA (Maxi-Mini)</p> <ol style="list-style-type: none"> 1. Take advantage of the financial resources and the experience and knowledge that you have to face foreign competitors. (F2, F3, A2) 2. Commercialize quality products and 	<p>DA (Mini-Mini)</p> <ol style="list-style-type: none"> 1. Achieve the differentiation of the product to differentiate from the competition. (D1, A2) 2. Create strategies for the growth of the company and protecting it to prevent the

4.2 Consumption Analysis

It was carried out an analysis of consumption in the 12 branches of a restaurant chain.

Customers have expressed a taste for natural tea with healing properties and that the menu of them is more varied. The table below is a comparison of teas in the restaurant chain.

Table 4 Consumption Analysis

Código	Descripción de artículo	Unidad	Enero	Febrero	Marzo	Abril	Mayo	Junio	Julio	Agosto	Septiembre	Octubre	Noviembre	TOTAL
AB018008	TÉ DE HERBABIENA MCCORMICK PAQUETE CON 50 SOBRES	CHURUBUSCO	3	4	2	3	6	2	2	4	3	2	4	35
		METEPEC	6	1	7	2	8	2	2	3	4	2	5	42
		COACALCO	1		1	2	3	1	3	3	3	1	2	20
		SAN JAVIER	3	3	6	1	6	2	4	5	4	3	5	42
		MADERO	1	6	-	-	1	-	1	3	2	1	2	17
		TULA	2	-	3	1	3	1	3	2	1	2	2	26
		SENDERO	2	6	4	5	6	5	3	6	5	2	6	50
		VILLAS	2	7	3	2	5	3	5	1	3	1	5	37
		SAN MARCOS	2	2	4	1	5	3	3	5	2	3	5	35
		LAGO ALBERTO	2	3	5	2	3	2	4	4	2	1	4	32
		PABELLÓN	-	1	-	2	2	-	-	4	1	-	-	10
		QUERÉTARO	-	-	-	-	-	-	-	-	-	-	-	8
SUMAS			24	33	35	21	48	21	30	40	30	18	48	

AB018009	TÉ DE LIMÓN MCCORMICK PAQUETE CON 50 SOBRES	CHURUBUSCO	3	4	1	1	3	3	2	4	3	3	4	30
		METEPEC	5	1	5	4	9	8	4	9	6	4	9	64
		COACALCO	1	3	3	3	7	2	5	5	3	5	2	39
		SAN JAVIER	3	5	4	8	6	2	4	5	4	3	5	49
		MADERO	1	4	-	-	2	2	1	3	2	1	2	18
		TULA	2	2	5	3	6	2	4	5	4	3	5	40
		SENDERO	3	4	10	4	8	4	4	6	5	4	5	57
		VILLAS	2	8	8	6	7	8	6	10	4	4	8	71
		SAN MARCOS	3	6	5	4	7	5	4	6	3	4	5	52
		LAGO ALBERTO	2	1	1	2	5	2	4	1	2	1	4	25
		PABELLÓN	-	-	1	1	2	1	1	5	2	-	1	14
		QUERÉTARO	-	-	-	-	-	-	-	-	-	-	-	8
SUMAS			25	38	43	36	62	39	39	59	38	32	58	

AB018010	TÉ DE MANZANILLA MCCORMICK PAQUETE CON 100 SOBRES	CHURUBUSCO	1	3	2	2	3	3	2	4	3	-	4	27
		METEPEC	3	-	5	3	4	2	3	5	4	2	3	34
		COACALCO	1	1	1	1	2	1	2	1	2	1	2	15
		SAN JAVIER	4	4	4	4	5	2	5	5	4	2	5	44
		MADERO	1	4	1	-	3	2	2	2	2	1	2	20
		TULA	2	3	2	2	2	1	2	2	3	1	2	22
		SENDERO	3	3	9	1	7	4	3	5	4	3	3	45
		VILLAS	1	4	4	1	4	3	5	3	3	1	3	32
		SAN MARCOS	1	5	-	3	3	3	2	2	3	2	3	27
		LAGO ALBERTO	2	4	2	3	2	2	2	2	2	2	1	24
		PABELLÓN	1	-	-	2	1	-	-	4	1	-	-	9
		QUERÉTARO	-	-	-	-	-	-	-	-	-	-	-	5
SUMAS			20	31	30	22	36	29	28	35	31	15	33	

The project includes 11 infusions, 4 are traditional chamomile, mint, lemon and lemon tea and 7 are compound teas such as: digestive tea, green tea, black tea, anti-insomnia relaxing tea, diuretic tea, anti-stress pain tea and tea from moringa.

It is intended to reach potential customers, as the first potential customer is the restaurant chain and online sales, later to restaurants, cafeterias and hotels, to clients with a high purchasing power, concerned about the consumption of natural beverages. The commercial strategy will be aimed at more points of sale, including supermarkets, convenience stores and direct sales to consumers. The marketing of the teas will be made in presentations of plastic containers with a capacity of 250 grams, accessories for the service in restaurants will also be sold: teapot with infuser of 500 ml, measuring spoon, cup with transparent glass plate and reclining bags with capacity of 250 grams.

4.3 Business Model

To facilitate the management of resources, a model is proposed, shown in the following Figure 1.

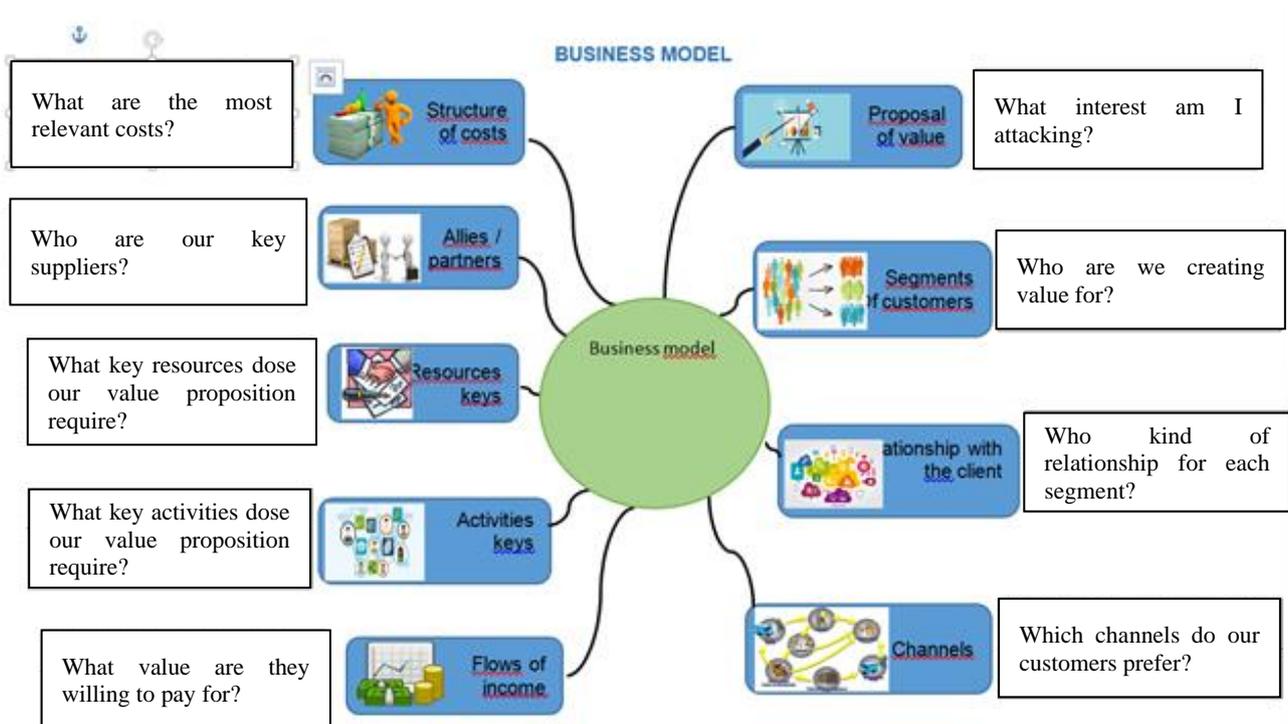
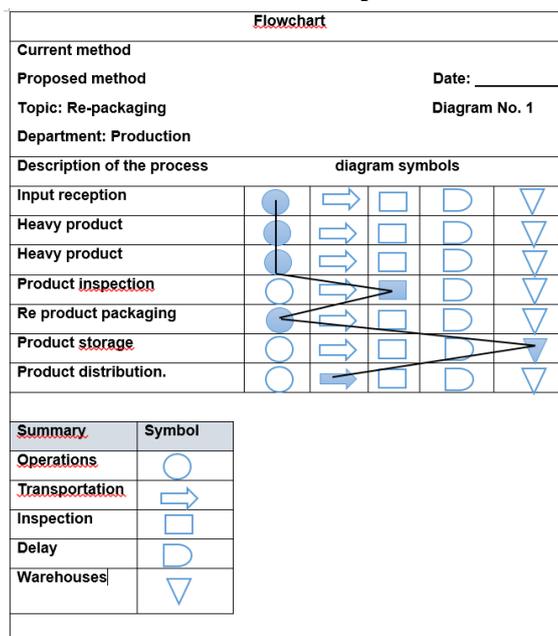


Figure 1 Business Model

4.4 Method of Operation

The method of operation includes the description of the production process and the method with which production is planned. The recommended method for planning production in the company is based on the pull system, this system consists of producing only the quantity that the client demands. In the company this fact occurs when a purchase order is generated. Next, the diagram of the production process is presented.

Table 5 Method of Operation



4.5 Forecasts Using Different Methods

Table 6 Sales Forecasts

	Year	Year	Year	Year	Year
Concept	1	2	3	4	5
Corporate sales	\$144,499.11	\$151,724.06	\$153,310.26	\$167,275.78	\$175,639.57
Online sales	\$620,762.96	\$651,801.10	\$684,391.16	\$718,610.72	\$754,541.25
TOTAL	\$765,262.06	\$803,525.17	\$843,701.42	\$885,886.49	\$930,180.82

Table 7 Period of Investment Recovery

	0	1	2	3	4	5
Flow ACT.	250,732.99	403,309.40	306,158.48	292,242.18	278,958.45	266,969.98
Balance	250,732.99	152,576.41	458,734.89	750,977.07	1,029,935.52	1,296,905.50

Recovery period	
1.00	años

Table 9 Forecasts Using Various Statistical Methods

Month	Linear method	Forecast method	Exponential method	Mobile averages	Random method
12	115	115	110	134	118
13	117	117	112	144	82
14	119	119	115	144	106
12	121	121	117	131	99
16	123	123	119	134	123
17	126	126	121	125	92
18	128	128	124	127	92
19	130	130	126	126	103
20	132	132	128	112	142
21	134	134	131	104	112
22	136	136	133	111	75
23	138	138	136	139	145

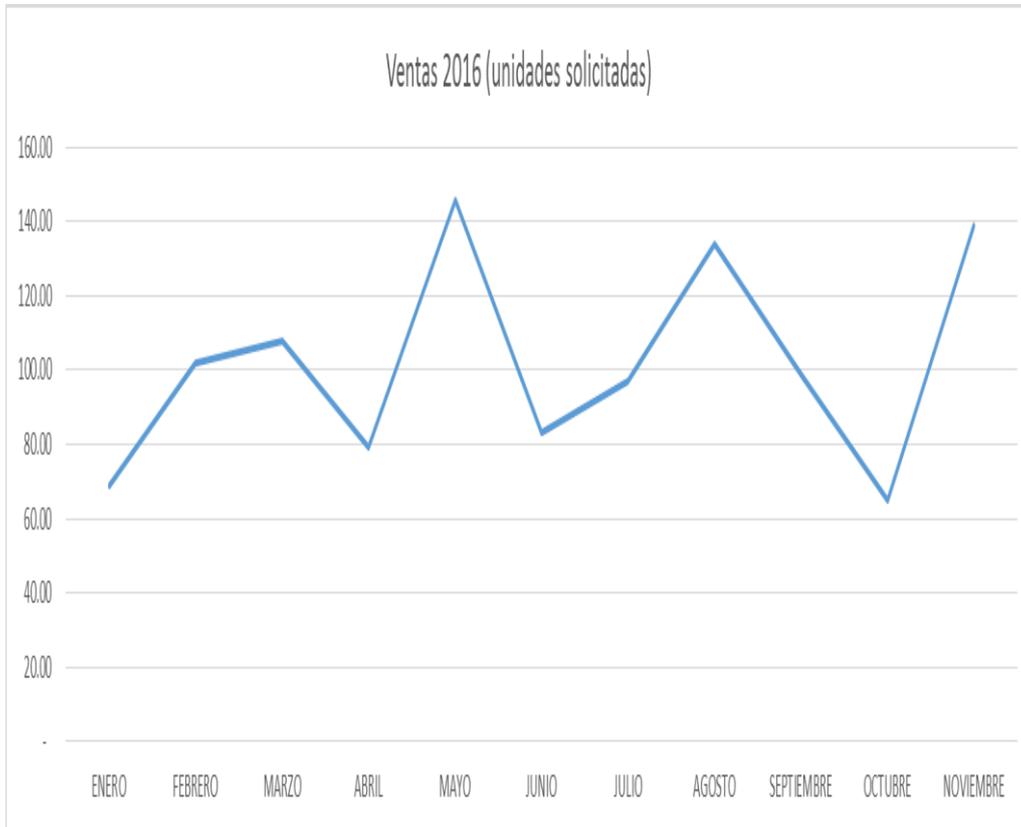


Figure 1 Previous Year Sales Graph

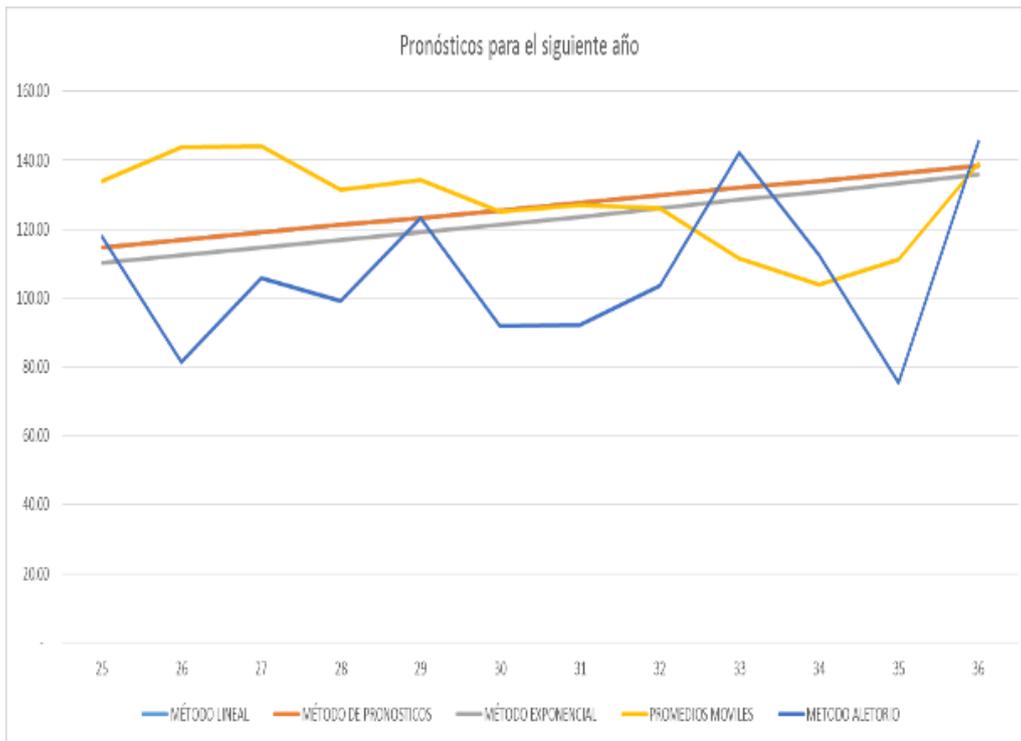


Figure 2 Projected Sales Chart for the Following Year

5. Discussion

The objective was met, to know the viability of the project, since the purpose is to evaluate the feasibility from the demand, financial and technical factors. Prepare a business plan, to then formulate a business model to position the gourmet tea, in the preference of the consumer by means of the strategies of quality, value and organic products for the health of its consumers.

According to the analyzes carried out, it is concluded that the project is viable, since the product has a demand of 6500 cups per month in the 12 branches of the restaurant chain, where the highest consumption is of the traditional teas, mint, chamomile and lemon.

There are 11 infusions of teas, green tea, black tea, digestive tea, anti-relaxant-insomnia, diuretic tea, anti-pain — anti-stress and moringa tea.

\$250,732.99 will be invested, the recovery of the investment is less than one year, the cost and sale price varies from one infusion to another, the presentation of the product will be sold in plastic containers with a capacity of 250 grams and refillable bags with a capacity of 250 grams. The sale price on average is \$31.98 including VAT.

The evaluation of investment projects is nowadays a topic of great interest and importance, since through this process the advantages and disadvantages of allocating resources to a specific project are evaluated qualitatively and quantitatively. The project analysis is a method to present the best use of scarce resources and the correct evaluation that is made to the projects, so that they contribute to the medium or long term development of a specific company and the economy in general. from a country.

The contributions of the project are beneficial for business studies, since it is an analysis that is carried out through a process of several technical, financial and administrative approaches that allow the employer to make accurate decisions and not put at risk the resources of the company .

The fact of having a business plan does not ensure the success of a company, but if it makes the road and the realization of it easier and more accurate since having a developed plan allows companies to anticipate and prevent certain events.

References

- Blogger (2011). "Comportamiento del Consumidor", available online at: <http://presentacioncompdelconsu.blogspot.mx: http://presentacioncompdelconsu.blogspot.mx/2011/06/estilos-de-vida.htm>.
- Diccionario actual (2017). "Alimentos gourmet", available online at: <https://diccionarioactual.com: https://diccionarioactual.com/alimentos-gourmet/>
- El informador (10 de 01 de 2017). "Consumo de té aumentaría este año en México", available online at: <http://www.informador.com.mx/economia/2017/701303/6/consumo-de-te-aumentaria-este-ano-en-mexico.htm>.
- El mundo economía & negocios (2017). "Obtenido de El ABC de la economía", available online at: <http://www.elmundo.com.ve/diccionario/nicho-de-mercado.aspx>.
- Entrepreneur (2017). "Tu Plan de Negocios paso a paso", available online at: <https://www.entrepreneur.com/article/269219>.
- México Hierbas Orgánicas (2014). "Hierbas Orgánicas", available online at: <https://www.hierbasorganicas.com.mx>.
- Huella Social. (2016). "Obtenido de Millenials: una generación de alta rotación", available online at: <http://www.eltiempo.com/estilo-de-vida/gente/millenials-una-generacion-de-alta-rotacion/16685251>.
- Kotler y Armstrong (2008). *Fundamentos de Marketing*, México: Prentice Hall.
- León Ale (2015). "Obtenido de qué es la segmentación de mercado?", available online at: <http://www.merca20.com/que-es-la-segmentacion-de-mercados/>

Feasibility Study to Introduce a New Product to the Market in a Restaurant Chain in Pachuca, Hidalgo

- Mundo ejecutivo (2016). “Obtenido de qué compran los millennials en internet?”, available online at: <http://mundoejecutivo.com.mx/economia-negocios/2016/02/18/que-compran-millennials-internet>.
- Pelaez Avalos (2009). “Obtenido de mercado potencial vs mercado objetivo”, available online at: <http://markegruop.blogspot.mx/2009/03/mercado-potencial-vs-mercado-objetivo.html>.
- Pereda (2016). “El País. Obtenido de Los ‘millennials’ ya son la generación más numerosa de Estados Unidos”, available online at: http://internacional.elpais.com/internacional/2016/04/28/estados_unidos/1461855222_506427.html.

The District of Tiquaruçu As Reference in the Use of Social Techonolgy for the Production of Bonsai

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Abstract: The Incubator of Solidary and Popular Economy Initiatives of the State University of Feira de Santana (IEPS-UEFS) has been trying to call the attention for the great potential of the semiarid region over time. The partnership with a group of family farmers of the district of Tiquaruçu –Feira de Santana (BA) represents this action which tries to value their work, cultivation and trade of ornamental plants, among which bonsai made with caatinga plants. The objective is to understand the relevance of associative organization of social technologies in marks of geographic indication of the activities of a group which produces bonsai with caatinga plants in the district of Tiquaruçu mediated by IEPS-UEFS. The proposal is a theoretical research based on the gathering of information obtained from the work made with the group.

Key words: economic development; innovation; technological change

JEL codes: O

1. Introduction

The Brazilian semiarid is a climatic zone which covers not only natural forms, but also important social ones, and that reflects the daily routine of a people who struggle for the reaffirmation of its space in and out of the territory.

When it comes to the semiarid region of Bahia, Feira de Santana is part of this context. The northern region of this city is an area in which semiarid climate has some peculiarities that highlight the diversity of the region, specially the district of Tiquaruçu, located in the north of the city.

The district of Tiquaruçu, despite the process of rural exodus which reflects the reality of a great portion of the cities in Bahia, represents a great highlight concerning its expression in the rural commercial sector of Feira de Santana. That is the case of a group of family farmers who have been living in the district for 20 years and, through millenary Japanese technique incorporated to local culture, obtain the majority of their income from the production of bonsai made with native plants from the Caatinga biome.

The Incubator of Solidary and Popular Economy Initiatives Program of the State University of Feira de Santana (IEPS-UEFS), through its research projects and works, relies on faculty, students and volunteers working with popular groups that act according to another economy, following the principles of cooperation, solidarity and self-management. In that scenario, we got the opportunity to be in contact with the work of farmers and proposed

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partnership through the Ornamental Plants Project. The objective of this project is to promote the access of a group of family farmers in Tiquaruçu to the space of the cafeteria of Module I, aiming at composing the network of commercialization of popular economy regional products through sales of native ornamental plants.

Bonsai is a Japanese-origin art which means *tree on a tray*. The great differential of the bonsai this family produces lies on the use of simple techniques with appropriation of social technology in the forms of production, reproduction, learning and teaching of such techniques that have been added to this art due to the fact of being inserted in a peculiar soil and climate condition — the semiarid region of Bahia.

In that context, Tiquaruçu has become a reference in the production of Bonsai in the Caatinga. For that purpose, it is necessary the creation of a reference term anchored in Geographic Indication that ensures not only the protection of Tiquaruçu Bonsai trademark, but also the legitimacy of the importance of Social Technology use by the population of the district.

It is known that the process that involves the register of geographic indication is not simple, and for that purpose, IEPS-UEFS would intermediate the creation of such term collaborating not only with the bureaucratic procedures, but also with the strengthening of the work associated among the members of family farmers. Thus, the creation of a reference term for the Bonsai would make possible for the city of Feira de Santana to recognize the valuing of popular knowledge and stimulate other producers to use accessible technology associated to know-how that does not demand complex learning techniques.

This article discusses an ongoing work which started with the proposal of a Scientific Initiation research and the intention to make it a Master's degree project. That is the reason why specific objectives are necessary and possible future changes may occur. Thus, our general objective is to understand the relevance of associative organization of social technologies on geographic indication marks of bonsai producers that use plants from the Caatinga region of Tiquaruçu district — Feira de Santana–Bahia intermediated by IEPS -UEFS.

As for the specific objectives, we have: to prove the use of Social Technologies in the bonsai production process; to provide family farmers who produce bonsai in Tiquaruçu a better understanding about associative organization in search for Geographic Indication (GI); to promote dissemination of Social Technologies used in the production of bonsai in Tiquaruçu among inhabitants of the district; to promote the local knowledge through the creation of a reference term of Tiquaruçu bonsai. Considering that the research will be developed with family farmers from the district of Tiquaruçu, the social context of this work involves the understanding of the district's geographic characteristics, maps, books and online sources used in the research of factors that influence the formation of natural landscape such as relief, climate, vegetation and soil.

The research-action is the guiding principle of all phases of the research which, according to Thiollent (2000, p. 14) “[...] is conceived in close association with an action or solution for a collective problem in which researchers and representative subjects are involved in a cooperative and participative way”. For that purpose, anchored on research-action, the phases of research will proceed as following: participation in the process of bonsai production, aiming at understanding how the phases of production process develop as well as the use of Social Technology; chat wheels involving family farmers bonsai producers and other inhabitants of Tiquaruçu to understand the history of formation and organization of the place; meeting with local associations to apprehend the way bonsai is produced.

2. Tiquaruçu Bonsai

A great part of the territory of Bahia is located in the climate zone of semiarid. Data from Semiarid Report published by Superintendência de Estudos Sociais e Econômicos da Bahia (Superintendency of Social and Economic Studies of Bahia – SEI) in 2012 register that the semiarid region is composed by 265 cities, which correspond to 70% of this territory. These cities represent 27% of total GDP and 46% of agriculture GDP, (SEI/BA, 2012). The semiarid region of Bahia covers a significant area of the Brazilian territory, specially concerning cultural and economic aspects, which have peculiar characteristics reflecting a legacy marked by territorial dispute and continuous search to reaffirm the space through population resistance.

The city of Feira de Santana – Bahia is located in a region of ecotone, an area of transition between two kinds of biomes: in the south, vegetation that suffers influence from climatic conditions of Recôncavo, a border region of the city. In the north, the Caatinga reflects the semiarid climate, also present in the region. The city is formed by 8 districts: Humildes, Jaíba, Governador Dr. João Durval Carneiro, Bonfim de Feira, Jaguará, Maria Quitéria, Matinha and Tiquaruçu. The north region of Feira de Santana is an area in which the semiarid climate has distinct characteristics that highlight the region diversity, specially the district of Tiquaruçu, located in the North of the city, south of Santa Barbara city, west of Santanópolis and east of BR116 North (Federal road).

Despite the little representation of rural population in the district of Tiquaruçu (6.8%) according to Santos (2007), in relation to other districts, one cannot neglect its importance as a mark of expressive cultural manifestation of the city. In this scenario, the traditional Festa de Reis, which takes place every January, stands out. Another relevant factor is the participation of small groups of farmers in street markets in downtown Feira de Santana. This condition provides the families involved their income as well as the dynamics of the city's commerce, promoting an important trade network in the region.

In that aspect, the district of Tiquaruçu, despite the fact that it has gone through a process of rural exodus (reality experienced by many cities of Bahia), is a highlight in the rural commerce sector of Feira de Santana. Thus, family farming is a reality of a great part of the rural population of the district as a means of income, as well as the maintenance of a historical and cultural legacy that is beyond measurement of losses and gains from the point of view of economic indicators.

In this perspective, it is worth mentioning a group of family farmers that has lived in the district for 20 years and get their income from the associated work through a millenary Japanese technique, the bonsai, made out of native plants from the Caatinga biome.

The family, who lives in a farm named *Chácara dos Olhos Verdes*, had their first contact with IEPS-UEFS in 2015 from a proposal of partnership between a group of farmers and solidary canteens, a space where the family would exhibit their products and exchange experience with other subjects involved in the projects.

These farmers had their income from work with commerce at first. After participating in an exhibit promoted by an association of which they are members, they found out bonsai and realized it would be possible to reproduce the art using their own techniques, adding aesthetical regional characteristics, using plants from Caatinga in the region of Tiquaruçu.

Since then, the family has been improving not only the cultivation, but also the teaching through exclusive methods and the use of Social Technologies (TS) as the main path to learning and promoting art. According to Rios and Lima (2016, p. 2): “Social Technology fosters positive aspects which Conventional Technology lacks, such as the development of local communities. The problem is that such knowledge is not disseminated”.

The explanation is that TS is directly associated to popular classes. That is the reason why it is not given the proper importance. Thus, the use of Conventional Technology ends up camouflaging the richness of popular creativity offered by TS, which is cultivated and sustained by knowledge that preserves local culture, environment and solidarity among subjects. According to Fernandes and Maciel (2010, p. 10):

[...] it is important to highlight that TS always considers the peculiarities of local realities that are directly related to collective and democratic organizational processes. It ends up representing solutions to overcoming different situations of social vulnerability and social exclusion, improving life conditions of those involved with TS.

According to the citation, family farmers of Tiquaruçu represent a great potential concerning the diffusion of TS as the one applied in the production of bonsai due to the form of learning, cultivation and teaching by producers.

One of the criteria used for acknowledging a product in IG mark is the attribution of the product to organized groups, such as cooperatives, not to private ones. The collaboration IEPS-UEFS with family farmers also works out in that sense through spaces of formation, discussing politics and reinforcing solidary economy with the objective of creating consciousness in the use of social technology not only due to the low cost they represent, but also to its importance for the development of the location where it is applied.

Some authors or institutions approach TS in the perspective of social inclusion such as Fundação Banco do Brasil (FBB) which, in 2001, launched Banco de Tecnologias Sociais (Social Technology Bank). This bank has registered 850 technologies since its creation: programs, projects and initiatives from all parts of Brazil with solutions for specific social problems. A brief analysis related to these registered technologies allows us to observe that, despite the fact that there are some initiatives that present low cost, environmental concern, possibility of income generation among other characteristics which define a technology as social, there is a great majority that presents a high value for implementation. It brings a false idea that it is environmentally adequate, without worrying with political and social character of people involved in the process of implementation (the case of some educational technologies) and some do not consider the involvement of the population in a way to foster the principles of Solidary Economy.

For a better analysis, we selected 4 TS registered in the Social Technology Bank of FBB, which compose a table that separates them by: name of Social Technology, social function and location.

Table 1 Some Technologies Registered in the Bank of Social Technology of FBB

Social Technology	Social Function	Location
Flora Tietê	Provide income to small farmers of rural settlements through reforestation projects with Eucalyptus seedlings, and avoid cutting of native trees to supply the timber sector.	Penápolis/SP
Programa Água Limpa	Develop a systematic rural sanitation action, with the objective of improving quality of life of families that live in the rural area of the city of Caxias do Sul, encouraging preservation and recovery of native vegetation, soil and hydric resources conservation.	Caxias do Sul/RS
Banheiro Redondo	Build restrooms in the rural area guaranteeing basic sanitation to rural families, contributing to health maintenance, environment preservation and water saving in order to improve quality of life in Brazilian semiarid region.	Recife/PE

Source: Adapted from Social Technology database of Banco do Brasil Foundation

Despite the importance of each cited project, due to necessities Brazilian population might have, one cannot help making some inference related to the referred technologies. Flora do Tietê is one example of technology that,

besides its high cost, has great environmental impact demonstrated by scientific research. It is known that Eucalyptus trees are extremely allelopath (it does not allow the growth of other species in the surroundings) and demands a large amount of water for cultivation (around 360 liters/day for each plant).

In other words, if one considers that the income generation alone promoted by implementation of monoculture is a TS, it is the same as reducing the meaning of TS itself to income generation only. Furthermore, it is not taking into consideration the environmental impact, high cost for implementation of plant nursery and the local potential of native flora that could be recovered through sustainable consortiums widely known around the world.

The TS named *Água Limpa* also has high cost considering that fact that it was created to small farmers. The TS is feasible only through partnerships with financial institutions. The applicability of such TS to small farmers (the way described in the project) exempts responsibility of great producers and also participation of urban population, consumers of hydric resources. By doing so, network awareness is left behind. Such awareness, brought by the TS, is achieved through popular education with a work calling the attention to the causes and effects of deforestation, pollution and hydric resources waste.

The “Banheiro Redondo” Technology is a great alternative for the needy population from northeast semiarid. However, it requires specific material for building, which demands costs, due to the fact that these people have low income.

In general, the TS presented by FBB points out two important aspects. The first one is about the understanding or appropriation of such technologies. It is necessary to think how, by whom and for whom they are being produced to because if they do not reach society as a whole, it becomes only reproduction of Conventional Technology. Mainly, if we consider principles such as collective purpose, local development, environmental preservation and fair trade. A second aspect refers to existence of Technologies that are really more adapted to society. It is worth highlighting the Tiquaruçu bonsai in which TS is present from the choice of the plant to the form of reproduction and teaching of the art. The following table (Table 2) shows the TS used during the process of reproduction.

Table 2 Composition of Social Technolgies That Involve Cultivation of Bonsai in Tiquaruçu

Tecnology	Function
Plants of caatinga biome	decoration/Bonsai
Home-made biofertilizers	Plant nutrition
Home-made fertilizers (solid)	Fertilization
Natural insecticide	Pest control
Adapted tools	Production/maintenance

Source: MOURA, 2018.

The forms of bonsai cultivation in Tiquaruçu alone constitute a TS because, due to the fact that they are an oriental art and the plants used have a peculiar format and special care, one could not imagine reproduction with caatinga plants.

When these family farmers could adapt this art to an environment considered so hostile such as the semiarid climate, using plants with adapted radicular system and leaves that can control evapotranspiration in order not to waste water, has made caatinga bonsai even more special. Caatinga plants are easy to access and can be cultivated by any person.

Tiquaruçu bonsai does not require the use of chemicals because most of it is produced using home-made recipes in the production of biofertilizers, natural insecticides, organic fertilizers and, most important, the miniature trees are actually replicates of what they look like in nature, with their forms and natural shapes, typical of the caatinga biome.

Concerning the way the group has learned the art, it was made possible by the curiosity and observation that made them seek improvement, associating oriental techniques to local ones. In other words, the way popular knowledge is made, accumulated and increased according to Freire (1980). Thus, from the knowledge acquired by trial and error with the art involved in the work, according to Tiriba (2014), these farmers share their knowledge without restrictions or priorities through courses, mini-courses and workshops.

No doubt the work developed by the family farmers of Tiquaruçu reveals the various positive aspects involved in the work in associated and socio-productive character. This work, anchored on Social Technology, having the semiarid region of Bahia as scenery may express the creation of an adequate territory for the incentive of practice and diffusion of simple technologies.

The territory studied in the research is the district of Tiquaruçu, assigning the idea of “used territory”, term that Milton Santos (1999) claimed to consider the territory with its socio-spatial dynamics that shapes its content, for the author

[...] If one takes it from its contents, a content shape, the territory has to be seen as something that is in process. It is the life frame of us all, in its global dimension, national dimension, intermediate dimension and local dimension (Santos, 1999, p. 19).

In this scenario, Tiquaruçu assumes the form of territory when seen as location where local and global relations of power are reflected. In addition, when some economy and global rules are established, characteristic that affects local dynamics. In this aspect, the content is configured in the peculiarities of such territory (Tiquaruçu) in which are inserted the forms of local production, entertainment options, reproduction of local knowledge and all factors that compose local ways of living that influence the territory dynamics.

Due to all these peculiarities, it is necessary to create a reference term for Tiquaruçu bonsai through Geographic Indication (IG). The National Institute of Industrial Protection (INPI) considers that IG:

It is used to identify the origin of products or services when the place has become known or when a specific characteristic or quality of product or service is present. The IG has two categories: Denomination of origin (DO) and Indication of Origin (IP) (Instituto Nacional De Proteção Industrial, 2013).

In this context, by creating the reference term, we would be not only protecting the creation of the group of family farmers, but also establishing the district of Tiquaruçu as a territory that covers potentials directly linked to the geographic location. Tiquaruçu bonsai is an example of art whose characteristics reflect cultural, soil and climate conditions. The law of intellectual property — LPI (Law 9.279/96), article 177, defines intellectual property.

[...] Indication of Origin is the geographic name of a country, region or location of a territory that has become known as a center of production or extraction of a determined product or service provision (LPI, 1996).

The best modality that fits such reference term is the denomination of origin (DO), considering these bonsai acquire form, size and specific values because they are produced in a territory where, among other factors, the climate, the soil and the culture shape them. The law of intellectual property (LPI – Law 9.279/96) also defines

the denomination of origin in article 178:

[...] Denomination of origin is the geographic name of the country, city, region or location of a territory that designates product or service whose characteristic qualities derive from geographic environment, which includes natural and human factors (LPI, 1996).

In this context, the importance of the reference term plays a significant role beyond acknowledgement of its legal form. It also makes possible for the District of Tiquaruçu to become a reference territory not only due to the excellence in the production of caatinga bonsai, but also to the strengthening, promotion and export of the use of social technology, contributing for the promotion of knowledge and local traditions of that territory.

3. Final Considerations

The special character of bonsai produced by family farmers of Tiquaruçu lies not only in the plants used for its production, but also in the raw material, forms of use, treatment and the socio-environmental context they are part of. It is noticed when one considers that the Social Technologies adopted by farmers are beyond the use of manufactured tools. When caatinga plants are used the care is distinct from that of cold weather plants. The resistance of species and other characteristics that condition the “less elaborated” cultivation, end up influencing in the form of bonsai because they assume a structure extremely similar to the natural one.

The Geographic indication, more than a certification stamp, means promotion of organized groups, product, farmers (in the case of Tiquaruçu bonsai) and the location itself. The potential of the farmers as promoters of the use of simple technologies may influence other farmers to produce environment-friendly. It also helps promoting local culture and valuation of the species from the caatinga biome.

References

- Araújo Sérgio Murilo Santos de (2011). “A Região Semiárida do Nordeste do Brasil: Questões ambientais e possibilidades de uso sustentável dos recursos”, *Rios Eletrônica - Revista Científica da FASETE*, ano 5, n. 5.
- Banco De Tecnologias Sociais (2017). “Fundação Banco do Brasil”, accessed on May 10th, 2017, available online at: <http://tecnologiasocial.fbb.org.br/tecnologiasocial/principal.htm>.
- Fernandes Rosa Maria Castilhos and Maciel Ana Lúcia Suarez (Org.) (2010). *Tecnologias sociais: experiências e contribuições para o desenvolvimento social e sustentável*, Porto Alegre: Fundação Irmão José Otão.
- Freire Paulo (1980). *Conscientização: teoria e pratica da libertação – uma introdução ao pensamento de Paulo Freire. Tradução Kátia de Melo e Silva* (3rd ed.), São Paulo: Cortez e Moraes.
- INPI (Instituto Nacional da Propriedade Industrial) (2013), Instrução Normativa n.25/2013, accessed on April 27th, 2017, available online at: <http://www.inpi.gov.br/sobre/legislacao-1>.
- INPI (Instituto Nacional de Proteção Industrial). Accessed on April 22th, 2017, available online at: <http://www.inpi.gov.br/sobre/legislacao-1>.
- INPI (Instituto Nacional de Proteção Industrial). Accessed on April 24th, 2017, available online at: <http://www.inpi.gov.br/sobre/legislacao-1>.
- RIOS, Dara Missão da Silva et al. (2016). “A prática da extensão universitária como incentivadora da tecnologia social”, in: *7º Congresso Brasileiro de Extensão Universitária Ouro Preto*, Minas Gerais, 2016.
- SANTOS, José Antônio Lobo dos (2007). “Implicações do PRONAF na produção do espaço rural do município de Feira de Santana-BA (1999/2006)”, Dissertação (Mestrado), Programa de Pós-Graduação em Geografia, Universidade Estadual da Bahia, Salvador.
- Santos M. and Paviani A. et al. (1999). “O Território e o Saber Local: algumas categorias de análise”, *Cadernos IPPUR*, Rio de Janeiro, Vol. 1, No. 2, pp. 15-26.
- Superintendência De Estudos Sociais E Econômicos Da Bahia – SEI, Relatório Semiárido, 2012.

Thiollet M. (2003). *Metodologia da pesquisa-ação*, São Paulo: Corte.

Tiriba Lia and Picanço Iracy (2004). “O trabalho como princípio educativo no processo de produção de uma ‘outra economia’”, in: Tiriba Lia, Picanço Iracy, *Trabalho e Educação: arquitetos, abelhas e outros tecelões da economia popular solidária*, São Paulo: Ideias & Letras, pp. 19-32.

Educação: arquitetos, abelhas e outros tecelões da economia popular solidária, São Paulo: Ideias & Letras, 2004, pp. 19-32.

Applying Simulation Method in Determining the Queue Service Capability: Empirical for ATM

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Abstract: This research aims to systematize some basic theories of simulation methods, to apply simulation methods in defining the queue service and empirical study for ATM facility. One of the main findings of the research is: (i) Establishment of a general model for defining queue service capacity, (ii) Establishment of a simulation program of capacity utilization through the assessment of parameters: the number of customers using the service, the number of customers leaving; the waiting time of customers; the idle time of facility, and (iii) formulating a suitable simulation technique which will reduce idle time of servers and waiting time of customers for any bank having ATM facility. This simulation technique will be helpful for any company improving and enhancing customer's satisfaction.

Key words: service capability; simulation; ATM

JEL codes: O

1. Introduction

Along with the development trend in the direction of deep integration, a queue service system with high-tech elements are really necessary for modern civilized society. This has opened up many promising business opportunities for businesses. Lavenberg (1989) stated that simulation has been found as an effective tool for studying complex queue models. The estimation of probabilities in the queue network has received considerable attention in the simulation literature. Queuing theory has been applied to many business situations in practice. All queue situations are related to the appearance of customers (Hira & Gupta, 2004). In general, customers expect a certain level of service from businesses while businesses use capacity to meet customer needs and try to keep costs to a minimum (Vasumathi & Dhanavanthan, 2010). Therefore, companies are always interested in an effective queue service capacity system.

There are many activities to provide products and services in which the characteristics of the queue system appear (customers wait to be served) such as: waiting for medical treatment, waiting for check-in at the airline, waiting for payment at the supermarket, waiting to fill up the gas, ... This article focuses on the case study of ATM services to determine the ATM capacity in the relationship to meet the customers demand. There are many methods that can be used in ATM network layouts such as intuitive methods, profit-cost analysis, scoring methods, transportation problems, load distances and optimal mathematical models (Jacobs & Chase, 2008). We can apply

these methods to identify a network of suitable locations to place ATMs (Ho Tan Tuyen & Nguyen Huy Tuan, 2014). However, the remaining problem is that at each designated location, how many ATMs are located at that location. One method that can be used to solve this problem is a simulation method (Vasumathi & Dhanavanthan, 2010; Zhang et al., 2018). As an outstanding method, through a simulation program is set up, the bank will decide quickly how many ATMs are best to put together at the same place, this help reduce costs for banks (Vasumathi & Dhanavanthan, 2010).

2. Literature Review

This study approaches the queue system with three major components: (1) the inflow of system, (2) the servicing system, and (3) outflow of system (Gross & Harris, 1974; Jacobs & Chase, 2017). The inflow of system is expressed through the source population and the way customers arrive at the system, the source population can be finite or infinite. The servicing system is expressed through factors such as manpower, premises and equipment used in the customer service process. The scale of the system reflects the queue servicing capacity of businesses. The outflow of system reflects the number of customers served/ not served, customer satisfaction, and the benefits of business.

Jacobs and Chase (2017) showed specific parameters in four queue models, including three queue models with infinite source population (Single channel-Single phase; Single channel-Multi phase; Multi channel-Multi phase), and one queue model with finite source population. Specifically, (i) the queue model with Single channel-Single phase: the source population is infinite, the distribution of arrival is exponential, the servicing rule is first come first served, and the length of waiting line is unlimited. (ii) The queue model with Single channel-Multi phase: the source population is infinite, the distribution of arrival is constant, the servicing rule is first come first served, and the length of waiting line is unlimited. (iii) The queue model with Multi channel-Multi phase: the source population is infinite, the distribution of arrival is a Poisson type, the servicing rule is first come first served, and the length of waiting line is unlimited. (iv) The queue model with the finite source population: the distribution of arrival is a Poisson type, the servicing rule is first come first served, and the length of waiting line is unlimited. Jacobs and Chase (2017) also said that in addition to these queue models, there are many other queue models but the calculation formulas and solutions are quite complicated, so it is necessary to use simulation tools on the computers. This topic considers solving queue models with Single channel-Single phase and Multi channel-Single phase in which the distribution on arrival is the random probability distribution with the estimated probability density function based on the observed data from the practical system.

Considering the operation of ATM systems in banks, there are two queue models: (i) Single channel-Single phase (in a specific location, there is only one ATM), and (ii) Multi channel-Single phase (in a specific location, there are tow or more ATMs). The inflow of these systems has an infinite source population (there are many customers and each customer can come to use the service many times), the arrival time of the customer usually has a power distribution form (Vasumathi & Dhanavanthan, 2010), the servicing rule is the first-come first served. The criteria used to evaluate the queue service capacity system include: (i) the number of customers using the system, (ii) the number of customers leaving, (iii) the time waiting of customers, (iv) The idle time of service capacity system (Jacobs & Chase, 2008).

3. Study Research

There are many different methods in determining service capacity needs, such as qualitative analysis methods,

customer scale analysis methods, and experience-based methods, through operational experience, the capacity to wait for the queue is determined, and then evaluate the efficiency of using the queue service capacity to make adjustments to suit the changes in uncertain conditions (Cliff & Jonathan, 2013). In addition, businesses can use simulation methods by using simulation techniques in order to determine queue capacity needs to find results. Activities that need to be performed in the simulation method include: (i) observing customer happenings, integrating initial data, processing data, setting up simulation program on computer, running simulation program, analysing and making the decision (Anderson, 2014). The greatest benefit of this method is that there is no need to renovate the real system, so there are no additional costs; it does not take much time to wait for the evaluation of effectiveness; and it help make decisions quickly to use the queue service capacity (Zeng, Ma, & Qi, 2010). The results extracted from simulations are reliable based on large number rules. Furthermore the simulation results are clear, scientific and persuasive (Kimita, Tateyama, & Shimomura, 2012). Through the simulation method, enterprises can avoid unforeseen circumstances and make adjustments to make decisions with better expected results. Discovering probability distribution rules of events is a key factor in using simulation methods (Kos, Hess, & Hess, 2006). Objectively, the simulation method are evaluated as a modern method, in accordance with the continuous development of information technology.

3.1 The General Simulation Model

The general simulation model is described in Figure 1, accordingly:

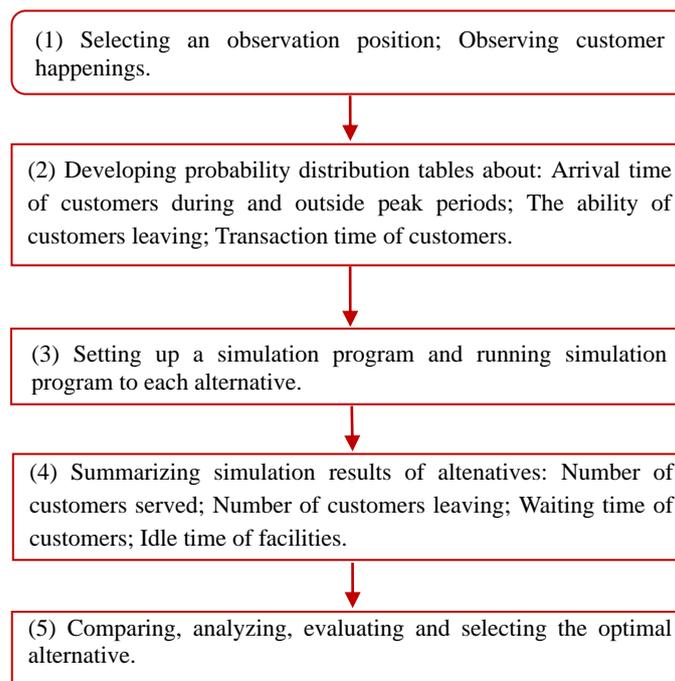


Figure 1 The General Simulation Model

(1) Selecting an observation location, observing customer happenings to get initial primary data: Arrival time of customers during and outside peak periods; the ability of customers leaving; Transaction time of customers. (2) From the initial primary data, developing probability distribution tables about: Arrival time of customers during and outside peak periods; the ability of customers leaving; Transaction time of customers. (3) With each alternative, setting up a simulation program and running simulation program (performing in repeating many times)

by using Microsoft Excel software. Increase reliability of simulation results by performing multiple simulations. (4) Summarizing simulation results of alternatives: Number of customers served; Number of turns of customers leaving; Waiting time of customers; idle time of facilities. (5) Comparing, analyzing, evaluating and selecting the optimal alternative.

3.2 Setting Up a Simulation Program

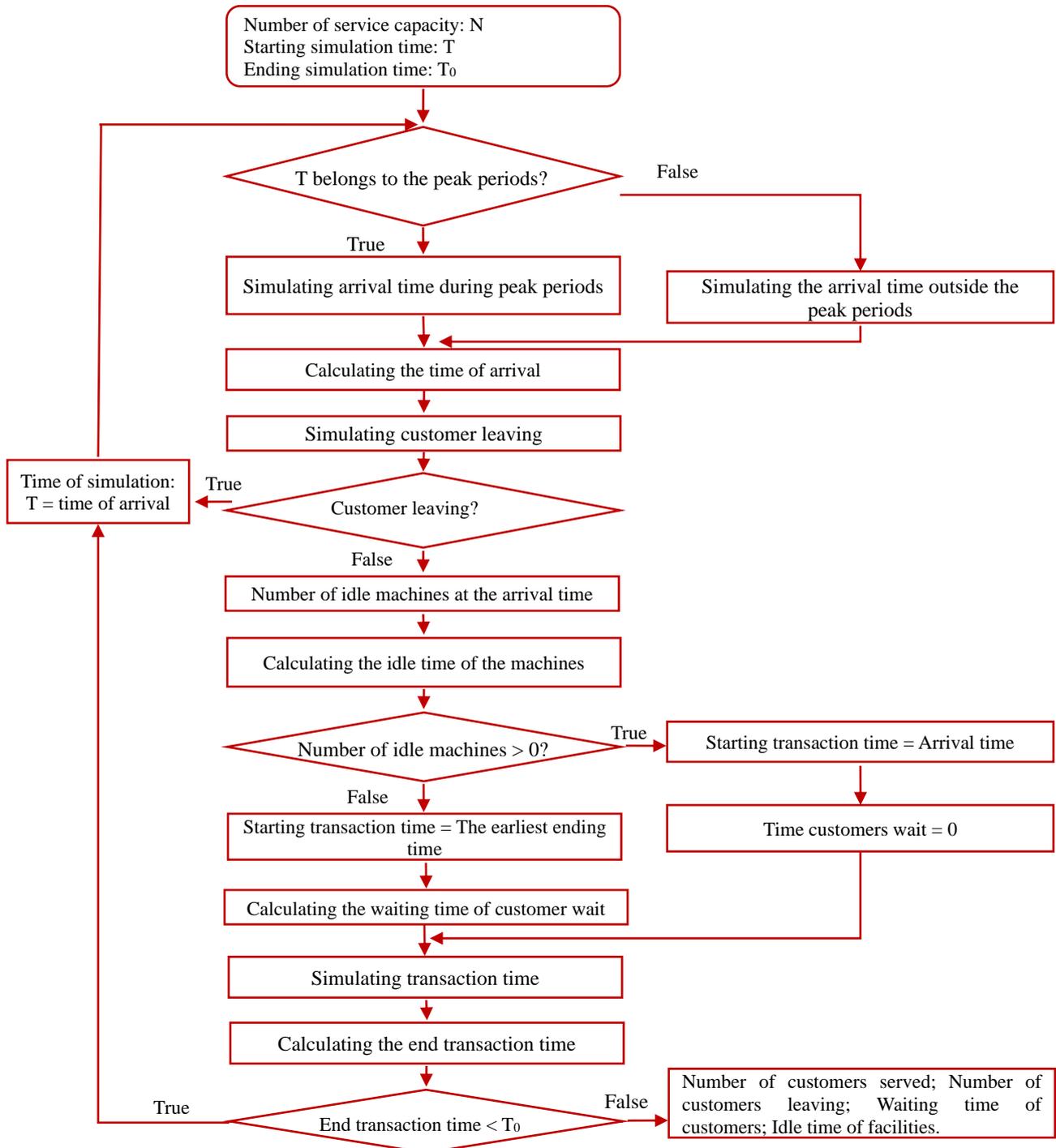


Figure 2 Diagram of Simulation Program Using of Service Capacity

Figure 2 shows diagram of simulation program using of service capacity. This simulation program is built to apply for many alternatives of capacity at the same position, generalizing with the capacity of N units, this helps determine the optimal service capacity demand.

4. Empirical Research for ATM

4.1 Scope of Experimental Application

The common weekly working period of Vietnamese organizations (including banks) is from Monday to Saturday (six days per week), so the decision on the number of adjacent ATMs at the same location will depend on the use of ATM services during that period. In other words, Weekends (Sunday) are less dominant in decision making. Therefore, in the application of the simulation program, this article only shows the observed contents in the days from Monday to Saturday in order to form research data. Because of similarities of working days in the week, the simulation program will be implemented in one day from 7:00 AM to 18:00 PM and simulation results reflect the situation of the days within that review period (Monday to Saturday). In order to ensure reliability, the author will perform 30 different simulations, then calculating the average parameters such as the number of customers using ATM services, the number of customers leaving, the waiting time of customers. And the idle time of ATMs.

4.2 Location of Research and Observation of Customer Happenings

The model of simulation program (Figure 2) can be applied to perform at any location where the bank chooses to place ATMs. The location selected in this study is location of ATMs at 23 Phan Dinh Phung Street, Hai Chau I Ward, Hai Chau District, Da Nang City. There are 03 adjacent ATMs at this location. In order to ensure representation, 936 customers are reviewed within 6 days. The observation time in each day is classified into two ranges: outside the peak periods (from 7:00 AM to 11:00 AM or from 12:15 PM to 17:00 PM) and during peak periods. The peak period has the high density of customers using ATM system, usually the time when customers finish working hours from 11:00 AM to 12:15 PM or from 17:00 PM to 18:00 PM.

Table 2 shows that the arrival time of each customer is observed in the order of appearance in time. Moreover, the customers leaving, the transaction time of customers is also recorded specifically. The arrival time in minutes is the result of the difference between the arrival time of two consecutive customers. Customers can leave for many reasons such as not continuing to implement the transaction because of waiting too long or for other reasons. The transaction time is the time from the start of the transaction to the end of the transaction (Exiting the ATM system).

4.3 Probability Distribution of Arrival Time

Using the results of observing the situation of using customers' ATM services (Table 1), the probability distribution tables are developed in Table 2, Table 3 and Table 4.

The distribution rule of arrival time inside and outside the peak period and the distribution density function is estimated respectively (Figure 3). The arrival time of customers is a random quantity with a probability distribution table including 21 events. Table 2 shows: The outside the peak period, the arrival time of 0-minute with a probability of 0.023, this means that the probability of two customers arriving at the same time outside the peak period is 2.3%. The inside the peak period, the arrival time of one minute with a probability of 0.056, this means that the probability of the customer appearing after a minute from previous customer is 5.6%.

Table 1 Observed Data in Brief About the Situation of Using ATM System

No.	Arrival time	Arrival time (minutes)	Leave (×)	Transaction time (minutes)
Outside the peak period: From 7:00 AM July 10 th , 2018				
1	7:08	8		4
2	7:12	4		2
3	7:16	4		4
4	7:21	5		8
5	7:29	8	X	3
6	7:32	3		3
7	7:34	2		5
8	7:39	5		5
9	7:41	2		9
10	7:42	1		5
11	7:43	1		6
12	7:47	4		3
13	7:51	4		1
14	7:54	3		7
15	7:57	3		4
16	8:02	5		9
17	8:09	7		4
18	8:13	4		9
19	8:18	5		3
20	8:25	7		8
21	8:30	5		4
...
936	18:04	5		2

Source: Extracting from observation results at the ATM location.

Table 2 Table of Distribution Probability of Arrival Time

No.	Arrival Time (minutes)	Probability	
		Outside the peak period	During the peak period
1	0	0.023	0.116
2	1	0.082	0.056
3	2	0.114	0.129
4	3	0.109	0.185
5	4	0.212	0.198
6	5	0.202	0.233
7	6	0.038	0.052
8	7	0.156	0.030
9	8	0.038	0.000
10	9	0.006	0.000
11	10	0.006	0.000
12	11	0.000	0.000
13	12	0.000	0.000
14	13	0.000	0.000
15	14	0.001	0.000
16	15	0.001	0.000
17	16	0.001	0.000
18	17	0.000	0.000
19	18	0.001	0.000
20	19	0.001	0.000
21	20	0.007	0.000
Tổng		1.000	1.000

Source: Processing results from observation data.

Table 3 Table of Distribution of Probability of Leaving Ability (Arriving But Not Transacting)

No.	Customer status		Probability
1	X	Leaving	0.036
2		Not Leaving	0.964
Total			1.000

Source: Processing results from observation data.

The leaving ability of customers is a random quantity with a probability distribution table including two events (leaving, not leaving). The probability of leaving customers of 3.6%, not leaving 96.4%.

The transaction time of customers is a random quantity with a probability distribution table including ten events (Table 4). The probability of transaction time in one minute is 4.6%. The probability of transaction time in two minutes is 2.9%. The probability of transaction time in three minutes is 14.5%. Reviewing similarly, the probability of transaction time in ten minutes is 3.0%.

Table 4 Table of Distribution Probability of Transaction Time at ATM

No.	Transaction time (minutes)	Probability
1	1	0.046
2	2	0.029
3	3	0.145
4	4	0.161
5	5	0.182
6	6	0.119
7	7	0.081
8	8	0.143
9	9	0.064
10	10	0.030
Total		1.000

Source: Processing results from observation data.

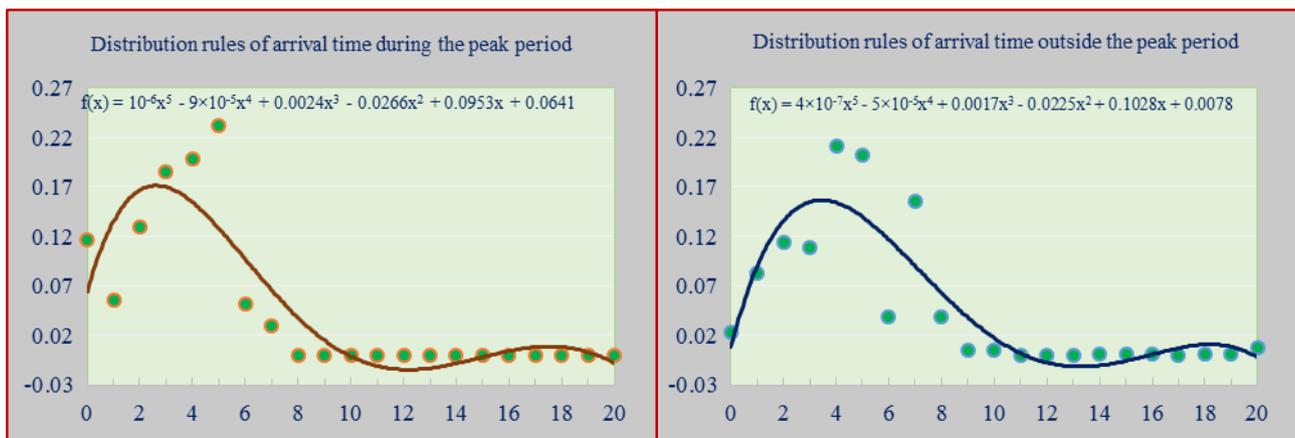


Figure 3 Distribution Rules and Estimating the Distribution Function of Arrival Time

4.4 Simulating the Situation of Using ATM Services for Alternatives

By setting up the simulation program as shown in Figure 2 on the computer (programming is done by using Visual Basic and Macro tools in Microsoft Excel software), the situation of using the service is stimulated for each

different alternative, each alternative corresponds to each assumption of the number of ATMs located in adjacent at 23 Phan Dinh Phung Street, Hai Chau I Ward, Hai Chau District, Da Nang City. The study reviews three alternatives including: (i) For one ATM; (ii) For two ATMs; and (iii) For three ATMs. The alternative of three ATMs is the current layout and may not need to run a simulation. However, in order to ensure uniformity of the method and calculate the results for comparison among alternatives, the simulation for the alternative of three ATMs still done. The results of the simulation program for the alternatives are shown in Tables 5, Tables 6 and Tables 7.

Table 5 Summary of the First Simulation Result of Alternative 01 ATM

No.	Simulation of arrival time (minutes)	Arrival Time	Machine status at the arrival time	Number of idle machines	Customer leaving	Machine used	Time to start using	Time customers wait (minute)	Simulation of transaction time	End time	Time of idle machine (minutes)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	2	7:02	Idle	1		M1	7:02	0	7	7:09	2
2	3	7:05	Busy	0		M1	7:09	4	3	7:12	0
3	1	7:06	Busy	0		M1	7:12	6	5	7:17	0
4	7	7:13	Busy	0		M1	7:17	4	4	7:21	0
5	7	7:20	Busy	0		M1	7:21	1	7	7:28	0
6	5	7:25	Busy	0	X						0
7	4	7:29	Idle	1	X						1
8	4	7:33	Idle	1		M1	7:33	0	3	7:36	4
9	2	7:35	Busy	0		M1	7:36	1	3	7:39	0
10	1	7:36	Busy	0		M1	7:39	3	9	7:48	0
...
154	3	17:59	Busy	0		M1	20:14	135	6	20:20	0
Total					5			9520			18

Source: Extracting from the results of the first simulation

Table 6 Summary of the First Simulation Results of Alternative 02 ATMs

No.	Simulation of arrival time (minutes)	Arrival time	Machine status at the arrival time		Number of idle machines	Customer leaving	Machine used	Time to start using	Time customers wait (minute)	Simulation of transaction time	End time	Time of idle machine (minutes)		
			M1	M2								M1	M2	Total
(1)	(2)	(3)	(4a)	(4b)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12a)	(12b)	(12c)
1	8	7:08	Idle	Idle	2		M1	7:08	0	6	7:14	8	8	16
2	3	7:11	Busy	Idle	1		M2	7:11	0	2	7:13	0	3	3
3	3	7:14	Idle	Idle	2		M2	7:14	0	5	7:19	0	1	1
4	6	7:20	Idle	Idle	2		M1	7:20	0	3	7:23	6	1	7
5	4	7:24	Idle	Idle	2		M2	7:24	0	3	7:27	1	4	5
6	5	7:29	Idle	Idle	2		M1	7:29	0	6	7:35	5	2	7
7	3	7:32	Busy	Idle	1		M2	7:32	0	9	7:41	0	3	3
8	2	7:34	Busy	Busy	0		M1	7:35	1	5	7:40	0	0	0
9	3	7:37	Busy	Busy	0		M1	7:40	3	3	7:43	0	0	0
10	7	7:44	Idle	Idle	2		M2	7:44	0	6	7:50	1	3	4
...
163	2	18:00	Busy	Busy	0		M2	18:03	3	10	18:13	0	0	0
Total						7			124			232	235	467

Source: Extracting from the results of the first simulation

Table 7 Summary of the First Simulation Result of Alternative 03 ATMs

No.		(1)	1	2	3	4	5	6	7	8	9	10	...	139	Total
Simulation of arrival time (minutes)		(2)	4	7	19	3	4	7	0	6	5	7	...	4	
Arrival time		(3)	4:04	7:11	7:30	7:33	7:37	7:44	7:44	7:50	7:55	8:02	...	17:57	
Machine status at the arrival time	M1	(4a)	Idle	Busy	...	Busy									
	M2	(4b)	Idle	...	Idle										
	M3	(4c)	Idle	Idle	Idle	Busy	Busy	Idle	Idle	Idle	Idle	Idle	...	Idle	
Number of idle machines		(5)	3	3	3	2	2	3	2	3	3	2	...	2	
Customer leaving		(6)											...		4
Machine used		(7)	M1	M2	M3	M1	M2	M1	M3	M2	M1	M3	...	M3	
Time to start using		(8)	4:04	7:11	7:30	7:33	7:37	7:44	7:44	7:50	7:55	8:02	...	17:57	
Time customers wait (minute)		(9)	0	0	0	0	0	0	0	0	0	0	...	0	3
Simulation of transaction time		(10)	1	3	8	3	5	5	6	4	8	3	...	9	
End time		(11)	7:05	7:14	7:38	7:36	7:42	7:49	7:50	7:54	8:03	8:05	...	18:06	
Time of idle machine (minutes)	M1	(12a)	4	6	19	3	1	7	0	1	5	0	...	0	445
	M2	(12b)	4	7	16	3	4	2	0	6	1	7	...	0	425
	M3	(12c)	4	7	19	0	0	6	0	0	5	7	...	4	438
	Total	(12d)	12	20	54	6	5	15	0	7	11	14	...	4	1308

Source: Extracting from the results of the first simulation

The Tables include 12 columns marked from column (1) to column (12). The columns (2) onwards are explained as follows:

(2) Simulation of arrival time:

Based on the arrival time probability distribution (Table 2) and using random command “Rand ()” in Microsoft Excel Software to simulate the arrival time with results showed in Table 8, Table 9.

(3) Arrival time: the time when the customer arrives at the ATM location with the intention of using ATM service. The arrival time of a certain customer is determined by taking the previously defined arrival time plus the simulated arrival time.

(4a), (4b), (4c), (5) State of the first machine (M1), second machine (M2), third machine (M3). The status of each machine in either case “idle” or “busy”, thereby identifying the number of idle machines.

(6) Customer leaving: In some situations, customers will leave, even when the machines are available at the time of arrival.

(7) Machine used: the machine with the earliest available time, in case there are many machines available at the same time, customers can choose to use one of those machines.

(8) Time to start a transaction: is the time from when the customer starts trading on an ATM.

(9) Waiting time for customers: is the period of time from the time the customer arrives until the time of commencement of the transaction.

(10) Simulating the time to start using: the transaction time of customers on ATM based on the probability distribution table of the transaction time (Table 11).

(11) End time: the time when the customer finishes the transaction is determined by taking the time of starting the transaction plus the transaction time.

Table 8 Simulation of Arrival Time Outside Peak Periods

No.	Simulation results of arrival time (minutes)	Probability		Conditions for simulation results
		Outside the peak period	Accumulation	
1	0	0.023	0.023	$\text{Rand}() \leq 0.023$
2	1	0.082	0.105	$0.023 < \text{rand}() \leq 0.105$
3	2	0.114	0.219	$0.105 < \text{rand}() \leq 0.219$
4	3	0.109	0.328	$0.219 < \text{rand}() \leq 0.328$
5	4	0.212	0.540	$0.328 < \text{rand}() \leq 0.54$
6	5	0.202	0.742	$0.54 < \text{rand}() \leq 0.742$
7	6	0.038	0.780	$0.742 < \text{rand}() \leq 0.78$
8	7	0.156	0.936	$0.78 < \text{rand}() \leq 0.936$
9	8	0.038	0.974	$0.936 < \text{rand}() \leq 0.974$
10	9	0.006	0.980	$0.974 < \text{rand}() \leq 0.98$
11	10	0.006	0.986	$0.98 < \text{rand}() \leq 0.986$
12	11	0.000	0.986	Not occur
13	12	0.000	0.986	Not occur
14	13	0.000	0.986	Not occur
15	14	0.001	0.987	$0.986 < \text{rand}() \leq 0.987$
16	15	0.001	0.988	$0.987 < \text{rand}() \leq 0.988$
17	16	0.001	0.989	$0.988 < \text{rand}() \leq 0.989$
18	17	0.000	0.989	$0.989 < \text{rand}() \leq 0.989$
19	18	0.001	0.990	$0.989 < \text{rand}() \leq 0.99$
20	19	0.001	0.991	$0.99 < \text{rand}() \leq 0.991$
21	20	0.007	1.000	$0.991 < \text{rand}() \leq 1$

Table 9 Simulation of Arrival Time During Peak Periods

No.	Simulation results of arrival time (minutes)	Probability		Conditions for simulation results
		During the peak period	Accumulation	
1	1	0.116	0.116	$\text{Rand}() \leq 0.042$
2	2	0.056	0.172	$0.116 < \text{rand}() \leq 0.172$
3	3	0.129	0.301	$0.172 < \text{rand}() \leq 0.301$
4	4	0.185	0.486	$0.301 < \text{rand}() \leq 0.486$
5	5	0.198	0.684	$0.486 < \text{rand}() \leq 0.684$
6	6	0.233	0.917	$0.684 < \text{rand}() \leq 0.917$
7	7	0.052	0.969	$0.917 < \text{rand}() \leq 0.969$
8	8	0.030	0.999	$0.969 < \text{rand}() \leq 0.999$

Table 10 Simulation of Customer Ability to Leave

No.	Simulation results	Probability	Accumulation	Conditions for simulation results
1	Leaving	0.036	0.036	$\text{Rand}() \leq 0.036$
2	Not leaving	0.964	1.000	$0.036 < \text{rand}() \leq 1.00$

Table 11 Simulation of Customer Transaction Time

No.	Simulation results	Probability	Accumulation	Conditions for simulation results
1	1	0.046	0.046	$\text{Rand}() \leq 0.042$
2	2	0.029	0.075	$0.046 < \text{rand}() \leq 0.075$
3	3	0.145	0.220	$0.075 < \text{rand}() \leq 0.22$
4	4	0.161	0.381	$0.22 < \text{rand}() \leq 0.381$
5	5	0.182	0.563	$0.381 < \text{rand}() \leq 0.563$
6	6	0.119	0.682	$0.563 < \text{rand}() \leq 0.682$
7	7	0.081	0.763	$0.682 < \text{rand}() \leq 0.763$
8	8	0.143	0.906	$0.763 < \text{rand}() \leq 0.906$
9	9	0.064	0.970	$0.906 < \text{rand}() \leq 0.97$
10	10	0.030	1.000	$0.97 < \text{rand}() \leq 1$
Total		1.000		

4.5 Results of Synthetic Simulation, Evaluating and Selecting the Optimal Alternative

In order to ensure the reliability in the simulation results, the study carried out 30 simulation times for each alternative (Shown in Table 12).

From the results of 30 simulation times for each alternative, Statistical parameters are calculated as showed in Table 13.

Through the simulated statistical results in Table 13, an average of approximately 156 to 159 customers per day intending to use ATM services. However, for some reason, there are about 5 to 6 customers leaving per day on average, so there are about 153 customers transacting at ATMs. The total of time that customers have to wait because due to busy machines is difference between the alternatives (75.36 minutes for alternative of one ATM, 0.77 minutes for alternative of two ATMs, and 0.04 minutes for alternative of three ATMs). Thus, for the alternative of one ATM, the waiting time of customers is very large and this will not be possible in the practice. Considering another aspect of the idle time of ATMs, the average idle time of the alternative of three ATMs is very large, up to 1179.6 minutes per day, equivalent to 6.55 hours per day per ATM. For the alternative of two ATMs, the idle time of the machine is lower than 4.14 hours per day per ATM.

The results showed that although the bank currently has 03 adjacent ATMs at 23 Phan Dinh Phung Street - Hai Chau I Ward - Hai Chau District - Da Nang City has reduced the average waiting time of a customer (about 0.04 minutes) but did not exploit the efficiency of using ATMs due to the large idle time of ATMs, nearly 6.55 hours per day per ATM. Meanwhile, for alternative of one ATM, the average waiting time of a customer is very large (over 75.36 minutes), so customers may not be acceptable. So, the optimal number of ATMs should be the two adjacent ATMs. For this alternative of two ATMs, the average waiting time of a customer is low (0.04 minutes) and acceptable. The average idle time per day per ATM also is low in comparing with the current layout. Moreover, the bank will save the cost of investing in machinery and equipment due to reducing one ATM from current ATMs system.

Table 12 Simulation Results of Alternatives

No.	Alternative of 01 ATM				Alternative of 02 ATM				Alternative of 03 ATM			
	Number of Customers	Number of Customers leaving	Waiting time (minutes)	Idle time of ATM (minutes)	Number of Customers	Number of Customers leaving	Waiting time (minutes)	Idle time of ATM (minutes)	Number of Customers	Number of Customers leaving	Waiting time (minutes)	Idle time of ATM (minutes)
1	154	5	9520	18	156	6	12	595	139	4	3	1308
2	150	7	7950	7	151	9	1	573	168	7	4	1129
3	152	3	6991	14	153	4	14	602	167	7	1	1146
4	165	5	21844	5	166	4	9	486	152	6	3	1191
5	131	3	2445	21	144	3	7	566	163	8	5	1159
6	147	4	6936	28	166	4	4	486	155	4	10	1205
7	172	7	23794	3	163	5	14	462	162	4	2	1158
8	165	1	21371	5	149	2	6	589	162	4	2	1158
9	168	5	14997	13	152	3	0	559	156	5	3	1219
10	163	8	15454	10	155	3	4	560	149	6	6	1209
11	149	4	9600	8	161	5	9	534	160	3	25	1100
12	167	6	14634	10	149	5	6	584	150	4	1	1200
13	154	3	11408	3	147	3	4	580	160	6	9	1164
14	159	5	12299	6	145	6	7	616	156	3	4	1157
15	149	4	12908	7	144	5	6	650	165	5	2	1158
16	153	13	6826	4	159	6	11	516	153	3	11	1175
17	158	7	12990	6	161	10	3	581	164	7	1	1125
18	150	6	11374	5	161	2	8	525	151	1	8	1182
19	158	9	10951	10	166	4	13	500	161	4	14	1144
20	157	6	10905	7	161	4	7	522	168	10	12	1147
21	150	6	9776	19	162	6	4	511	143	5	3	1246
22	162	10	8630	12	155	7	21	569	151	7	2	1218
23	160	8	8975	13	152	7	1	590	152	9	9	1199
24	149	5	4723	8	160	5	7	557	155	7	8	1162
25	167	4	22470	4	150	7	9	626	159	3	4	1179
26	166	4	10176	23	156	2	4	492	148	5	0	1245
27	157	6	15158	18	148	7	7	573	146	4	3	1233
28	158	1	15935	4	158	5	0	582	156	9	1	1184
29	148	6	5451	17	146	6	3	602	176	5	27	1064
30	144	5	6359	9	167	6	7	517	142	8	5	1224

Table 13 Statistical parameters of Alternatives

Criteria	Unit	Alternative		
		01 ATM	02 ATMs	03 ATMs
Average number of customers using ATM services	Times/day	156.07	159.10	156.30
Standard deviation of the number of customers using ATM	Times/day	8.77	7.64	8.58
Average number of customers leaving	Times/day	5.53	5.27	5.43
Standard deviation of the number of customers leaving	Times/day	2.50	2.05	2.13
Average waiting time of a customer	Minutes/day	75.36	0.77	0.04
Standard deviation of waiting time of a customer	Minutes/day	30.98	0.39	0.04
Average idle time of ATMs	Minutes/day	10.57	497.30	1179.60
Standard deviation of the idle time of ATMs	Minutes/day	6.56	57.05	48.10
Average idle time of an ATM	Hours/day	0.18	4.14	6.55
Standard deviation of the idle time of an ATM	Hours/day	0.11	0.48	0.27

5. Conclusion

The simulation method is considered as one of the methods which reflects quite clearly the happenings of real-world situations. This method can be applied fully in the field of providing ATM services of banks. However, in order to successfully apply this simulation method, it is necessary for the researcher to make efforts in collecting observational data - not only to ensure the accuracy but also to ensure representations in order to reflect fully activities in practice. This study has built a general model and established a block diagram for simulating the use of capacity to help businesses determine their capacity to serve in the queue system. The article also concretized the application of general model and simulation program by studying a ATM system at 23 Phan Dinh Phung Street, Hai Chau I Ward, Hai Chau District, Da Nang City. Accordingly, the banks can use the simulation method to evaluate and make decisions the number of ATMs be used at the same location. In summary, not only in the banking sector, general businesses can apply the simulation method and see it as an effective tool in making decisions. In particular, the simulation method becomes more efficient and necessary for service-oriented production systems such as the ATM services, the gas stations, the medical system, the airline service and many other service systems.

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References

- Anderson D. R. (Ed.) (2014). *An Introduction to Management Science: Quantitative Approaches to Decision Making* (2nd ed.), Andover: Cengage Learning EMEA.
- Cliff T. R. and Jonathan P. C. (2013). *Decision-Making under Uncertainty: An Applied Statistics Approach*, Caregie Mellon University.
- Gross and C. M. Harris (1974). *Fundamentals of Queuing Theory*, John Wiley, New York.
- Hira D. S. and Gupta P. (2004). *Simulation and Queuing Theory: Operation Research*, S. Chand and Company Ltd., New Delhi.
- Hồ Tấn Tuyền and Nguyễn Huy Tuân. (2014). “Ứng dụng mô hình toán tối ưu trong bố trí mạng lưới ATM (Applying the optimal model in the ATM network layout)”, *Tạp Chí Công Nghệ Ngân Hàng (The Journal of Banking Technology)*, Vol. 90, No. 42.
- Jacobs F. R. and Chase R. B. (2008). *Operations and Supply Management: The Core*, Boston: McGraw Hill/Irwin.
- Jacobs F. R. and Chase R. B. (2017). *Operations and Supply Management*, McGraw Hill/Irwin.
- Kimita K., Tateyama T. and Shimomura Y. (2012). *Process Simulation Method for Product-Service Systems Design*, Procedia CIRP, pp. 489-494, doi: <https://doi.org/10.1016/j.procir.2012.07.084>.
- Kos S., Hess M. and Hess S. (2006). “A simulation method in modeling exploitation factors of seaport queuing systems”, *Pomorstvo*, Vol. 20, No. 1, pp. 67-85.
- Lavenberg S. (1989). “A perspective on queueing models of computer performance”, *Performance Evaluation*, Vol. 10, No. 1, pp. 53-76, doi: [https://doi.org/10.1016/0166-5316\(89\)90005-9](https://doi.org/10.1016/0166-5316(89)90005-9).
- Vasumathi A. and Dhanavanthan P. (2010). “Application of simulation technique in queuing model for ATM facility”, *Applied Engineering Research*, No. 1, pp. 470-482.
- Zeng L., Ma L. and Qi H. (2010). “The research of modeling and simulation method on limited resources queuing system in bounded rationality environment”, *IEEE*, pp. 290-294, doi: <https://doi.org/10.1109/GCIS.2010.119>.
- Zhang T., Chen X., Yu Z., Zhu X. and Shi D. (2018). “A monte carlo simulation approach to evaluate service capacities of EV charging and battery swapping stations”, *IEEE Transactions on Industrial Informatics*, Vol. 14, No. 9, pp. 3914-3923, doi: <https://doi.org/10.1109/TII.2018.2796498>.

Innovative Startup Investment Funds in Viet Nam

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Abstract: In order to promote national innovative startups, it is necessary to encourage individual and institution to invest in this field, in which innovative startup investment funds play very important role. The problem is that how to establish, manage and use these funds to ensure its effectiveness. Moreover, whether governments should invest the state budget in innovative startup firms at the beginning, then move gradually to non-governmental funds. In Vietnam, start-up and innovative startup investment fund have been new concepts. This paper has discussed about problems related to innovative startup investment funds such as establishment, management, using mechanisms in Viet Nam based on current regulations and suggest several solutions to develop this type of fund.

Key words: innovative startup investment fund; innovative startup firms; finance sources

JEL codes: O3

1. Introduction

There are many definitions of investment. In an economic sense, an investment is the purchase of goods that are not consumed today but are used in the future to create wealth. In finance, an investment is a monetary asset purchased with the idea that the asset will provide income in the future or will later be sold at a higher price for a profit.

In board meaning, investment is the sacrifice of current resources to implement activities with the aim of achieving higher results than the beginning capital. The resources could be money, natural resources, labor, and intelligence while the results could be the increase in financial assets, physical assets, intellectual property and other resources. In narrow meaning, investment includes activities that use current resources to gain higher profits for the economy and society in the future over invested resources.

Any business activity needs invested capital, including innovative startup — a highly risky business. What are financial sources and mechanism for effective innovative startup business? This problem should be considered and solved to promote innovative startup activities. In the context of the market economy and the 4.0 revolution, regulations and policies for innovative startup and innovative startup investment funds should be set up to ensure investment willingness of all investors.

In Viet Nam, Decree 38/2018/NĐ-CP regulates that investment in small and medium sized innovative startup enterprises refers to financing that investors provide to do business activities via capital contribution to establishment of startups, or purchase of shares or stakes of startups which are not public companies. It is clear

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that Viet Nam just had regulations of investment in small and medium innovative startup enterprises. As a result, if innovative startup firms are not small and medium, it could be difficult to manage and foster investment.

Furthermore, “innovative startup” term should be understood clearly before setting any rules to develop this business model. According to Clause 2, Article 3 in Law on provision of assistance for small and medium-sized enterprises (2017), small and medium sized innovative startup enterprise is an SME that is established to implement its business ideas based on the exploitation of intellectual property, technology and new business models and is able to grow quickly. Article 17 in this law also determine conditions that small and medium sized innovative startup enterprises receive the assistance as the following:

- The startup has been put into operation for up to 5 years from the day on which its first enterprise registration certificate is issued
- The startup has not initiated public offering of its securities (in case of a joint-stock company)

Moreover, Decision 844/QĐ-TTg on approval for assistance policies on national innovative startup ecosystem to 2025 point out the beneficiaries include individuals or groups having startup projects or startups that may be potential for rapid growth by utilizing propriety assets, technology and new business initiatives; or startups operating for not exceeding 5 years from date on which the first enterprise registration certificated is issued.

It is a problem that what new idea is and how to implement new idea by exploiting propriety assets, technology (intellectual property rights problems). How is new business model? How are projects or startups that may be potential for rapid growth? So, it is necessary to make as many details as possible in definition of innovative startup in order to distinguish from other types of startup and business activities.

Nowaday, many countries have joined new free trade agreements, leading to new development spaces, required each country to choose and change. It creates opportunity for the development of innovative startup investment funds. This paper analyses innovative startup in Vietnam and innovative startups investment funds to find out some problems that need to be changed to stimulate the growth of startup firms.

2. Literature Review

2.1 Researches on Startup Companies and Funding Sources

Maurya (2012) pointed out that the startups’ life cycle includes 3 stages of development. The first stage is the Problem/solution fit, starting from a problem that needs to be solved. It is necessary to find out solutions for this problems and implement these ideas. The second phase Product/ Market fit is a step to test whether these solutions really fit to the demand. The last stage is Scale when startup companies expand and grow, increase market shares and could earn higher income. In this model, time for raising fund is after phase 2 or when the market has been tested to see the potential startup growth. On the other hand, Marmer et al. (2012) point out that startups’ development includes 6 stages: discovery, validation, efficiency, scale, prfit maximization, and renewal or decline. At the last stages, the company could cease to be a startup and go to public.

Innovative startups could gain capital from insider, outsider and other funding sources like financial bootstrapping, crowding funds, IPO (Čalopa, Horvat & Lalić, 2014). Insider funds include founders, family and friends (Bygrave & Hunt, 2008; Campbell & De Nardi, 2009). Outsider funding comes from grants and public debt, commercial debt, business angle, venture capital. Another source of capital for startups is crowd-funding that are going to be more popular all over the world. In 2011, the global crowd-funding market increased by 10-times

in 2011-2015 period (Veselovsky et al., 2017). Angel investors or venture capital funds may have more knowledge than other investors. However, the opinion of a group of investors could be more efficient than that of smaller groups based on the argument “wisdom of the crowd”.

It is well known that there are limited number of startup companies succeed. Most startups are difficult to get bank loans because of complex procedures and evaluation based on credit history and property (Söderblom & Samuelsson, 2014). A research of Brown et al. (2012) using panel data of 9715 startup companies in period 2007-2009 shows that high-tech startups could not get bank loans compared to other field startups. This type of startups due to higher potential growth can exploit seed investments via private investors who want to invest their capital into potentially successful businesses.

Čalopa, Horvat and Lalić (2014) cited in their study that financial sources for startup companies could be divided to 5 phases. In the experimental phase, entrepreneurs often use their own funds or funds from their family and friends. In initial phase, startups could collect funds from loans, angel investors, and venture capital funds. In the expansion phase, the most common sources of funds are venture capital funds and loans. In the last phase, private equity funds are the main source. Söderblom and Samuelsson (2014) research Croatian startup companies and showed that they prefer traditional and informal financial sources like family and friends. When moving to expanding phase, they could collect money from other funding sources such as business angles, and seed investments.

2.2 Researches on State Budget for Innovative Startups

As can be seen, innovative startup companies could receive funds from the state budget. Many countries pay attention to high-tech startups and entrepreneurship. In 1999, the Singapore government set up the US\$1 billion Technopreneurship innovation fund (TIF) to implement the new Technopreneurship 21 programme in order to promote entrepreneurship in technology by improving the environment for business. To foster innovation and entrepreneurship, Singapore government has implemented a national programme, named National Framework of Innovation and Enterprise (NFIE) in 2008, to commercialise leading-edge technologies created by the public research institutes and institutes of higher learning of Singapore (Cheah, Ho and Lim, 2016). Many investors started to pay attention to startups and startup community was built including researchers, innovators, entrepreneurs, investors, incubators and accelerators. In Singapore, public funds are the popular sources of fund for the very first stage of startups, the venture capital funds play increasingly important role in the early stages of the startups.

Similarly, in America, state governments provide funds to new science and technology companies. Fairlie (2012) showed that in US, high-technology startups have created most of new jobs in the period of 2000-2010. This paper tests the effect of state R&D grants on startups by using data collected from Michigan government, from 2002-2008. It is showed that state funds play important role to the commercial viability of recipient firms. At present, in Russia, funding sources for innovative startups could be own funds, loans, grants, funds from investors, crowding funds, and Russian Federation (Veselovsky et al., 2017). Startups could receive funds from state grants. It also attracts other non-profit organizations.

There are some reasons that governments need to support innovative startup firms (Zhao & Ziedonis, 2012). Firstly, without intervention of government, the R&D field is under-invested (Griliches, 1992; Jaffe, 2002). Government pays attention to this field because R&D products is similar to public goods when it could be used by many people or many firms. It means the social benefits of R&D investment can exceed the private returns to private companies. Secondly, capital markets are not perfect. It could decrease incentives to invest in R&D of

private sector (H. Hall & Lerner, 2010). Startups need financial support to develop and commercialize new technology products while it is difficult for investors to find good projects to invest due to imperfect information. It could lead to higher cost of capital (H. Hall & Lerner, 2010). Lack of R&D financing from the state makes difficult for innovative startups to run business (Zhao & Ziedonis, 2012). Government attend to the market to facilitate the supply of financing to startups. The participation of government could correct the market failures that result in the under-capitalization of innovative projects or firms. However, it is required that governments need to maintain balancing act when correcting for these types of market failures to limit inefficient investment (Georghiou, 2002). State government pursue more parochial interest to develop state economy and diversify the tax base (Acs et al., 2011). As a result, state budget for R&D is spent only on startups that have headquarters of major R&D facilities within the state.

The assistance of government could be in the form of tax exemption, patent laws, credit ceilings, loan guarantee schemes and other benefits (Mason and Harrison (2003); Revest and Sapio (2012)). It also be direct in form of grants, public fund invested in firms. Grants are funds that do not have to be paid back but which must be used for predefined purposes. Public debt could be used by state governments to support innovative startups. Public funds provided by governments are common source for Swedish ventures, especially in very first stage of firms. It's also right in Ailen when study of Hogan and Hutson (2011) determines the significant source of capital for startup firms comes from government.

3. Innovative Startup Investment Funds in Viet Nam

3.1 Innovative Startup Investment Funds in Viet Nam

With the aim of encouraging individual and institution to invest in innovative startups and innovative startup investment funds, the Government needs to create suitable environment for investment, including legal environment. In Viet Nam, there are many regulations on funds, however lack of regulations on innovative startup investment funds.

Based on the Law on provision of assistance for small and medium-sized enterprises (2017), investors in creative startups shall include creative startup investment funds and domestic and foreign organizations and individuals doing business via contribution of capital to establish startups, purchase of shares or stakes of startups. A creative investment fund which is created from capital contribution of private investors aims to invest in startups according to the following principles:

- The amount of investment in a small and medium sized creative startup shall not exceed 50% of charter capital of the post-investment startup
- The private investor who contributes capital to the fund shall be financially capable and take the responsibility for his/her stakes.

In addition, according to Decree 38/2018/NĐ-CP, innovative startup investment fund means a fund which is established from investments made by private investors to invest in startups. This fund does not have legal status and is established by capital contributed by not more than 30 investors according to the fund's Charter. An innovative startup investment fund is not entitled to make investments in other innovative startup investment funds.

An innovative startup investment fund shall be managed under at least one of the following models:

- General meeting of investors, the fund management company;

- General meeting of investors, the fund's Board of representatives or Director, the fund management company;
- General meeting of investors, the fund's Board of representatives and Directors, the fund management company.

The fund's investors may either establish or hire a company to take charge of managing the innovative startup investment fund. The fund management company shall carry out procedures for establishment of this fund and apply for registration of its additional business sector, which is management of venture capital fund, in accordance with the law regulations on company registration when taking charge of managing the innovative startup investment fund. The management of this fund prescribed herein shall be done according to the fund's charter and agreements or contracts signed with the fund (if any), and not be governed by regulations of the Law in securities.

It is a problem because these regulations could limit the activity of innovative startup investment funds. In fact, investment funds usually exist in 2 forms of contracts and firms. Corporate investment funds are legal entity. The Board of directors is elected by the shareholders, who are investors of fund, acts as the fund management agency, selects fund management company and supervises the investment activities of the fund management company. In Viet Nam, this type of fund is not existed because Viet Nam has stipulated investment funds don't have legal entity. Another type of fund is contractual investment fund. It is an investment fund without a legal entity status and investor is a person who contributes capital to the fund and entrusts the investment to the fund management company. According to the current regulations in Viet Nam, the innovative startup investment funds would be established and operate under this form.

It is suggested that in Viet Nam, there should be regulations and mechanisms for the diversifications of the organization and operation of funds for investment in creative startups. So it is possible to encourage individuals and institutions to contribute capital to this highly risky investment fund because there are more suitable choices for different kinds of investors. Furthermore, it would be easier for innovative startup investment funds to raise capital of qualified and expert investors if these funds exist in form of corporates. So creative startup firms could receive better consultant and administration from owners of the investment, supporting to the successful start-up business.

In case of applying only contractual investment funds, some regulations in Decree 38/2018/NĐ-CP should be reconsidered.

- Firstly, the management of innovative startup investment fund shall be done according to the fund's charter and agreements or contracts signed with the fund (if any). A problem is that creative startup investment funds are not legal entity. It means these funds are not independent of fund's investors. Consequently, these funds could not a part of contracts.
- Secondly, innovation startup investment fund is the fund which is established from investments made by private investors to do creative startup. Could this regulation limit the participation of other types of investors? It is suggested that the definition of private investors should be made clearly and the Government should consider the regulation of limited investors. Besides, it is necessary to stipulate the finance sources being used to contribute to innovative startup investment funds due to its highly risky feature. For example, the state budget should not be used to invest in these funds.

3.2 Problem of Using Local Government Budgets for Small and Medium Sized Innovative Startup Enterprises

The Law on provision of assistance for small and medium-sized enterprises (2017) and the Decree 38/2018/NĐ-CP provides guidelines for using of local government budgets to make investments in startups besides innovative startup investment funds. Based on the reality of local government budget, each People's Committee of the province shall send the People's council of the province a request for the decision on assigning state-owned finance organizations of the province, including the local financial agency is organized and operates in the form of an extra-budgetary fund or in the form of an enterprise, to invest in startups according to the following principles:

- The eligible innovative startup investment funds shall be selected to invest in creative startups;
- Investments from the local budget shall not exceed 30% of total capital raised from eligible innovative startup investment funds selected by the startups;
- The investments shall be transferred to private investors within 5 years from the day on which the stakes is contributed. The transfer of investments shall comply with regulations of law on management and use of the state capital invested in business operation activities at premises of enterprises.

The local financial agency shall select innovative startup investment funds to jointly make investments. An innovative startup investment fund to be selected must: (1) make a commitment with the local financial agency to jointly make investments in small and medium creative startups, (2) have at least 01 year of experience in investing in startups; (3) be financially capable of making investments and (4) satisfy other requirements (if any). The local financial agency shall annually evaluate, amend and publish the list of selected innovative startup investment funds on its website and the website of Provincial People's Committee. Within 5 years form the investment date, the local financial agency may carry out procedures for transfer of its shares or stakes in the invested startup to a private investor. Innovative startup investment funds that jointly make investments in a startup and existing shareholders of the invested startups shall be given priority to such transfer of invested capital.

However, it is recommended that the Vietnamese government should not utilize the state budget to invest directly in creative startup firms via state-owned finance organizations. The state budget should be used only to support and create better environment and conditions for creative startups, along with suitable tax incentive. The reasons are as the following:

- All state budget expenditures don't have direct refund feature. As a result, investing state budget directly in small and medium creative startup firms may lead to the inequality among investors of creative startups.
- Because investing in creative startups is risky, it is difficult to impute the blame to somebody if the state budget is used to invest in unsuccessful creative startups.
- The local governments investing in creative startup firms need a state-owned finance organizations of the province. However, what a state-owned finance organization is has not been shown clearly.
- The local financial agency shall annually evaluate, amend and publish the list of selected innovative startup investment funds on its website and the website of Provincial People's Committee. But what are criteria to evaluate and choose? If the specific criteria could not be set up, there would be unequal among creative startup investment funds.

In the market economy, international integration and the 4.0 revolution context, in order to promote creative

startups for sustainable development, it is necessary to support small and medium sized startup enterprises by the state government, but based on the market economy rule, such as consulting intellectual property (exploitation and development), support for applying technology transfer, support for creating criteria to measure and evaluate, support for testing new products and new business model, support for educating and providing information, support of infrastructure....Clearly, the state budget should be used to support innovative startup firms, instead of investing capital directly in firms. Direct investment could be executed by other investors, including creative startup investment funds.

4. Conclusion

Innovative startup investment funds provide essential financial source for creative startups. With investment specialists, it is easy for these funds to collect money from investors, including nonprofessional investors. When suitable mechanism for the development of creative startup investment funds is stipulated, it is possible for all investors putting their money in creative startups. The reason is that investors could invest in these funds without too much money and could diversify portfolio to reduce risks. Moreover, investors' rights and benefits could be protected under legal system.

References

- Acs Z. J. et al. (2011). "Entrepreneurship and urban success: Toward a policy consensus", *SSRN Electronic Journal*, doi: 10.2139/ssrn.1092493.
- Brown M. et al. (2012). "How do banks screen innovative firms? Evidence from start-up panel data", *SSRN Electronic Journal*, doi: 10.2139/ssrn.2065395.
- Bygrave W. D. and Hunt S. A. (2008). "For love or money? A study of financial returns on informal investments in businesses owned by relatives, friends, and strangers", *Regional Frontiers of Entrepreneurship Research*, available online at: <http://ssrn.com/paper=1269442>.
- Čalopa M. K., Horvat J. and Lalić M. (2014). "Analysis of financing sources for start-up companies", *Management (Croatia)*, Vol. 19, No. 2, pp. 19-44.
- Campbell J. R. and De Nardi M. (2009). "A conversation with 590 Nascent Entrepreneurs", in: *Annals of Finance*, pp. 313-340, doi: 10.1007/s10436-008-0113-7.
- Cheah S., Ho Y. P. and Lim P. (2016). "Role of public science in fostering the innovation and startup ecosystem in Singapore", *Asian Research Policy*, Vol. 7, No. 1, pp. 78-93.
- Fairlie R. W. (2012). "Kauffman index of entrepreneurial activity by veteran status 1996-2011", *SSRN Electronic Journal*, doi: 10.2139/ssrn.2172941.
- Georghiou L. (2002). "Impact and additionality of innovation policy", in: *Innovation Policy and Sustainable Development: Can Innovation Incentives Make A Difference*, pp. 57-65, available online at: http://www.6cp.net/downloads/02brussels_review.pdf#page=57.
- Griliches Z. (1992). "The Search for R&D Spillovers", *The Scandinavian Journal of Economics*, Vol. 94, p. S29, doi: 10.2307/3440244.
- Hall H. B. and Lerner J. (2010). "The financing of R&D and innovation", in: Hall B. H. and Rosenberg N. (Eds.), *Handbook of the Economics of Innovation*, pp. 609-639, doi: 10.1016/S0169-7218(10)01014-2.
- Hogan T. and Hutson E. (2011). "Capital structure in new technology-based firms: Financing in the Irish software sector", *SSRN Electronic Journal*, doi: 10.2139/ssrn.498283.
- Jaffe A. B. (2002). "Building programme evaluation into the design of public research-support programmes", *Oxford Review of Economic Policy*, Vol. 18, No. 1, pp. 22-34, doi: 10.1093/oxrep/18.1.22.
- Marmer M. et al. (2012). "A new framework for understanding why startups succeed", Startup Genome Report, available online at: <http://www.systemmalfunction.com/2011/08/startup-genome-compass-behind-scenes.html>.

- Mason C. M. and Harrison R. T. (2003). "Closing the regional equity gap? A critique of the Department of Trade and Industry's regional venture capital funds initiative", *Regional Studies*, Vol. 37, No. 8, pp. 855-868, doi: 10.1080/0034340032000128767.
- Maurya A. (2012). "Running lean: Iterate from plan a to a plan that works", *Science of Aging Knowledge Environment*, doi: 10.1126/sageke.2002.20.nw68.
- Revest V. and Sapio A. (2012). "Financing technology-based small firms in Europe: What do we know?", *Small Business Economics*, pp. 179-205, doi: 10.1007/s11187-010-9291-6.
- Söderblom A. and Samuelsson M. (2014). "Sources of capital for innovative startup firms: An empirical study of the Swedish situation".
- Veselovsky M. Y. et al. (2017). "The development of innovative startups in Russia: The regional aspect", *Academy of Strategic Management Journal*, Vol. 16, Special Issue1, pp. 197-208.
- Zhao B. and Ziedonis R. H. (2012). "State governments as financiers of technology startups: Implications for firm performance", *SSRN Electronic Journal*, doi: 10.2139/ssrn.2060739.
- National Assembly (2017). The Law on provision of assistance for small and medium-sized enterprises.
- The Government (2018). Decree 38/2018/NĐ-CP investments in small and medium sized startup companies.
- The Government (2016). Resolution 35/NQ-CP on enterprise development policy to 2020.
- The Prime Minister (2016). Decision 844/QĐ-TTg on approval for assistance policies on national innovative startup ecosystem to 2025.

Attitudes of the Czech Majority Towards Minorities — Comparison of Year 2006 and 2016

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Abstract: Migration represents a highly discussed topic in recent EU. With the flows of migrants from African and Near East countries, the European countries face many challenges, especially in aspect to maintain stability of territory and confidence of their own citizens. The Czech Republic, although it might be seen as a transfer station on the way to the West, is increasingly becoming a terminus and this trend will probably continue. However, in the case of the Czech Republic, which is formed by relatively homogeneous population of one nation, the relation of the Czech majority towards Roma minority is not yet sufficiently solved, therefore the arrival of other minorities might not be viewed as favorable by the Czech citizens. This article aims at attitudes of the Czech majority in the South Bohemia Region towards minorities and evaluate the attitude and its development within years 2006 and 2016. Last, but not least, it also provides a suggestion to solve problems among nations.

Key words: majority; minorities; comparison

JEL codes: Z18

1. Introduction

The European Union member states face sustained immigration flows of immigrants from totally different socio-cultural environment in recent years. Even if migration used to be a part of European history (Heřmanová & Faryad, 2012), only when state borders were defined, sharper distinction between citizens started, so between us and them, citizens of other states. However, with increasing integration of different parts of the world, these states lose control over migration flows and also the possibility to influence the composition and number of immigrants (Sales, 2007). In spite of current migration crisis, migration is viewed as a new challenge and also as a new opportunity considering demographic decrease, population ageing and declining of the European economy. In the future, it can be expected, that flows of migrants from different parts of the world will increase, with the growing population in these countries, global warming and further pressures (European Commission, 2017).

Civil disturbances, military conflicts or poor economic situation can be seen as significant pressures leading to migration (Pána, 2007). Migration crisis at such a level as it was in year 2015 is unprecedented until the time of the World War II. Growing terrorist attacks and range of immigration lead to citizens' concerns about safety and also to political debates regarding border management and free movement inside Europe, which result in reestablishment of checks at some of the border crossing points for the first time until the fall of Berlin Wall

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(European Commission, 2017). Massive strains of migration flows make European open society face a test (Pána, 2007). Even if ethnic diversity can be beneficial for the society because of the fact that individuals coming from different environment can bring unique contribution, it can also become a subject of misunderstanding and disagreement within such a society arising from differences in values and interests (Huo, Smith, Tyler & Lind, 1996).

It is therefore no surprise that there are different attitudes of politicians, academics, media and public considering acceptance of immigrants, which is on one hand viewed as inevitable considering population ageing and labor market with all the consequences including the effects on economic efficiency and pension schemes, on the other hand it can be viewed as undesired with focus on safety and cultural unity of European states (International Organization for Migration, 2009). Meanwhile people belonging to minorities often strongly identify with the relevant group and tend to be unwilling to assimilate to major society, majority members expect them to assimilate (Horenczyk, 1996). The attitudes of major society towards immigrants and minorities can significantly influence their willingness to assimilate (van Oudenhoven, Prins & Buunk, 1998). From the results of the public opinion survey in the Czech Republic results that mainstream society has no warm relationship with different ethnic groups living in the territory. Not receiving the Roma minority is significant (Burjanek, 2001). From the point of view of the current migration crisis, the Czech Republic, together with the other states of the Visegrád Group, is often criticized by the European Union, because of the negative attitude towards the immigrants and unwillingness to accept them. While the current situation is the reason why xenophobic parties and opposition groups become more popular even in other member countries for example in Sweden, the Netherlands or even Germany, in case of the Visegrád Group their governments carry anti-immigrant rhetoric and extreme opinions (The Economist, 2016).

In relation with problematic co-existence with minorities that have been living on the territory of the Czech Republic for a long time, mainly with the Roma minority, the negative attitude towards the new minorities is not surprising.

2. Methodology

The aim of this report is to compare attitudes of the majority of people in the South Bohemia Region towards minorities.

The analysis comes out from the data evaluation from 2016, from its following comparison with data from 2006 and final evaluation of the development of the attitude of the majority towards minorities. The data were obtained from a questionnaire within the South Bohemian Region. The technique of summary estimate and semantic differential was used to evaluate the attitudes of the majority towards minorities. The sample from 2016 dealt with 501 respondents, while the sample from 2006 dealt with 874 respondents. The respondents were people older than 15 years old.

3. Results

Not only the attitudes were examined within the questionnaire, but also experience with minorities regarding intensity and also the social and spatial framework.

The questions were chosen to cover all the varieties of possible attitudes from hostility, mistrust, unwillingness to accept minorities up to willingness to accept minorities, indeed even to respect usefulness and

benefits flowing from their adoption and inclusion into the majority. 91 per cent of the respondents had experience with members of minorities in 2006, while in 2016, 94 per cent of the respondents had the experience.

Regarding getting the experience, job and then neighbourhood were the most common spatially social framework in both examined years.

Job was the main source of experience with members of minorities for 33 per cent of respondents in 2006, while in 2016, 40 per cent of respondents introduced just the same framework. 22 per cent of respondents introduced neighbourhood as the second most significant category in 2006, but in 2016, 19 per cent of respondents chose this category. In 2016, categories shops (14 per cent) and school (12 per cent) were also significant enough. The majority of respondents, 85 per cent in 2006 and 86 per cent in 2016, had multiple experience, the rest of the respondents had only disposable experience.

From the point of view of overall evaluation of a personal experience with members of minorities rather negative category prevails. Half of the respondents described the experience as negative. Even if from the point of view of positive and completely negative experience, the state was identical in particular years, negative perception of personal experience with members of minorities increased by 10 per cent.

Most of the respondents had the experience with the Roma minority in both years, it was 65 percent of respondents. Other most described minorities were the Vietnamese, Slovak and Ukraine minorities.

In the original data from 2006 experience with the Russian minority (7 percent) and the German minority (6 percent) became still significantly evident, but in 2016 only 1 per cent of respondents indicated experience with the Russian minority and 2 percent of respondents with the German minority. A completely insignificant number of respondents had experience with members of the Greek, Polish, French and Arabic minority. Although, considering current events, we may expect the Czech majority to be more interested in the issue of minorities, regarding migration crisis and how much it is presented in media, on the basis of the research data we can say that the interest has decreased slightly. However, from the point of view of collecting data about minorities a shift has occurred, when in 2006 mass media, mainly the television, played the main role, while information adopted from interpersonal communication was in the background and wasn't so reflected, in 2016 interpersonal communication as a source of information about the minority issue increased significantly. The communication took place among friends, family, at school but also during hobby activities most frequently.

Even if the Czech majority considers assimilation of minorities as required, only the third of the majority considers members of minorities capable of assimilating. Even if in 2006, 44 percent of respondents considered members of minorities unable to assimilate, in 2016, 59 percent of respondents considers them so. Even if the third of the respondents is ready to accept minorities as their fellow citizens, nearly half of the respondents is ready to accept only selected minorities, mainly members of the Slovak (94 percent), German (58 percent), Vietnamese (57 percent), Polish (41 percent) and Ukraine (40 percent) minorities.

Compared to 2006, there is a positive shift mainly for the Vietnamese minority, which has been shifted to the third place of the imaginary ranking of minorities, which the Czech majority is able to accept. On the contrary the Greek minority declined, which originally was on the third place, but in 2016 dropped down behind the Russian minority, which originally was on the eighth place. The Polish minority experienced a similar drop, which originally shared the third place with the Greek minority, but in 2016 it was replaced by the Vietnamese minority. However willingness to cooperate with the Poles and Germans still prevails, surprisingly the majority still has a tendency not to accept the Hungarians, in spite of the membership in the Visegrád Group.

From the point of view of considering the possibility that ethnic minorities have a beneficial effect on the

major population, in 2006 the answer to this question was ambivalent, in 2016 there was a significant shift towards a negative attitude expressing a disagreement with this statement.

A similar shift towards a negative attitude turned out in the case of a statement that it is not desirable to adopt anything from national and ethnic groups, because our cultural heritage would be in danger. In 2006, 57 per cent of respondents didn't agree with this statement, while in 2016 "only" 37 per cent of respondents didn't agree.

In 2006, 32 per cent of respondents agreed with a statement "We can learn a lot from minorities", 22 per cent of respondents didn't know and 46 percent of respondents disagreed. In 2016, 23 percent agreed with the statement, 25 percent didn't know and 51 per cent disagreed. In general the attitude towards national and ethnic minorities changed into the negative one too, when in 2006, 43 percent of respondents had a negative attitude towards minorities, while in 2016, already 62 percent of respondents had a negative attitude.

In the issue of socio-economic position of members of minorities compared to the majority, in 2006, more than 2/3 of respondents believed that members of minorities are in a worse position, while in 2016, only 1/3 of respondents believed so. Evaluation regarding less chance for economic success of the members of minorities turned out the same way.

It is interesting, that even though the number of respondents who believe that minorities are in a worse economic position decreased compared to 2006, viewing of the Roma minority is completely different. They are in a better economic position than the majority according the opinions, that is mainly because of a positive discrimination and because of the opportunity to gain social benefits and state support. On the contrary, the majority sees a worse economic position of the Ukraine minority. Completely negative attitudes of the majority towards the Roma minority appeared in the data collection from 2006 and this tendency appeared in the data from 2016 too. As it wasn't possible to exclude the influence of negative attitudes towards all minorities on the basis of experience and decided opinions about the Roma minority in the original data, similarly it wasn't possible to exclude the influence in the data from 2016 either.

Nevertheless, regarding some detailed questions, some minorities, significantly for example the Vietnamese minority, succeeded in gaining favor with the majority, in case of the Roma minority still negative attitudes prevail, whose intensity doesn't decrease, but rather increases.

Whole 86 per cent of the Czech majority believes, that members of the Roma minority don't need help regarding their possible integration among the majority, because a lot of concessions have already been made. In connection with current migration crisis a lot of people reflect that they don't mind accepting anybody, not regarding nationality or the ethnic group, if they are ready to integrate into the majority and take part in functioning.

Regarding the Roma minority, respondents' opinions are more negative, they perceive members of the Roma minority as parasites of the current social system of the Czech Republic, without willing to participate in the development process of the major society, in which they have been living for generations.

Considering the process of solving the minority problems, the South Bohemia Region should express and implement the conception of the policy in relation to minorities proceeding not only from historical experience, but also with respect for current tendencies of European integration.

To create such a conception, it would be suitable to communicate and cooperate with representatives of these minorities. The final suggestion of the conception should be discussed with the Education Committee of the South Bohemia Region, the public, minority representatives and finally representatives of the South Bohemia Region.

Direct participation of the minorities in common life with the majority is one of the characteristics of a democratic society and a precondition for making the integration of the minorities easier. Such kind of involvement in public life can help significantly to prevent conflicts and national intolerance.

4. Discussion

From the point of view of the data collecting through the questionnaire, in 2016 there were fewer respondents than in 2006, but representativeness of this sample wasn't weaker in any way. Regarding current situation of migration crisis, it was considered to add some more questions to the questionnaire, but for the purpose to be able to compare the data, we decided not to extend the questionnaire and keep it in the original form. Conscious of the fact, that the most of the respondents have experience with the Roma minority, it is clear, that just this minority influences attitudes of the majority towards other members of minorities to a certain extent and it is nearly impossible to filter the influence out.

5. Conclusion

In spite of current migration crisis the interest in migration issues slightly decreases, even if they get into the area of interpersonal communication among friends, acquaintances and family because of the crisis.

Even if most of the respondents consider assimilation of members of minorities into the majority desired, there are doubts about abilities of minorities to assimilate. From the point of view of a development of attitudes of the Czech society towards minorities, a shift towards a negative attitude is perceived, except attitudes towards the Vietnamese minority, which the majority is willing to accept as their fellow citizens and respect them fully. On the contrary the Czech majority has a very negative attitude towards the Roma minority, within there is a shift towards the negative pole and frequent decided opinions in comparison with 2006.

For the purpose to prevent national conflicts and make integration of minorities easier, it is necessary to involve the members of minorities into public life, of which the first step could be creating a political conception towards minorities, which will be discussed with members of minorities and which they will be able to take part in.

References

- Burjanek A. (2001). "Xenofobie po Česku- jak si stojíme mezi Evropany?", *Sociální studia*, No. 6.
- European Commission (2017). *White Paper on the Future of Europe*, Brusel.
- Heřmanová E. and Faryadová K. (2012). "Efektivnost integrace muslimských minorit v zemích EU (se zaměřením na situaci v Česku)", *Současná Evropa* 01/2012.
- Horenczyk G. (1996). "Migrant identities in conflict: Acculturation attitudes and perceived acculturation ideologies", in: Breakwell G. & Lyons E., *Changing European Identities: Social Psychological Analyses of Social Change*, Oxford: Butterworth-Heinemann.
- Huo Y. J., Smith H. J., Tyler T. R. and Lind A. (1996). "Superordinate identification, subgroup identification, and justice concerns: Is separatism the problem: is assimilation the answer?", *Psychological Science*, Vol. 7.
- International Organization for Migration (2009). *Postoje verejnosti k cudzincom a zahraničnej migrácii v Slovenskej republike*, Bratislava.
- Pána L. (2007). *Vztah české majority a národnostních menšin v Jihočeském kraji*, České Budějovice: Vysoká škola evropských a regionálních studií, o.p.s.
- Sales R. (2007). *Understanding Immigration and Refugee Policy: Contradictions and Continuities*, Bristol: Policy Press.

The Economist (2016). “Big, bad visegrad”, available online at: <https://www.economist.com/news/europe/21689629-migration-crisis-has-given-unsettling-new-direction-old-alliance-big-bad-visegrad>
van Oudenhoven J. P., Prins K. S. and Buunk B. P. (1998). “Attitudes of minority and majority members towards adaptation of immigrants”, *European Journal of Social Psychology*, Vol. 28.