

ID009 – Nation's Economic Development through Micro-enterprises

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Abstract

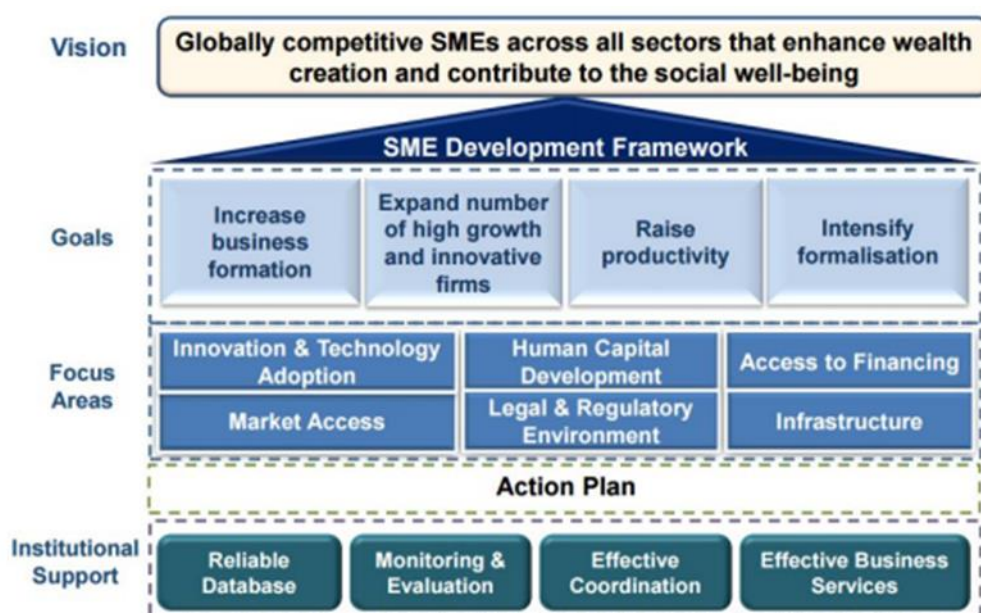
This essay intends to assess the roles of micro-enterprises and how they economically and financially help persons in Malaysia, particularly the unemployed graduates. The development of micro-enterprises began as early as 1970's. From 2010, Malaysia has witnessed a rapid growth of micro-enterprises and their contribution to the economy. Studies indicate that the micro-enterprises mostly did most transactions from 2010 to 2015. The micro-enterprise also contributed to most paid employment with the main sector being the service segment. Many nations view micro-enterprises as the core of their economies. They play the main role of income generation and employment creation for the economy. Due to their importance, micro-enterprises have experienced an exponential growth even though few scholars are interested in studying them because of the limited sources of finance. In Malaysia, micro-enterprises play the role of economic growth, employment creation, and poverty reduction which ultimately leads to economic development. Economic growth leads to the generation of a virtuous circle of prosperity and opportunities to the population of an economy. The role of micro-enterprises is viewed as a channel for addressing various social-economic issues, with the major issue being to generate employment opportunities and alleviation of poverty. Overall, economic growth, job creation, and poverty alleviation are the key indicators of economic development of a country.

Keywords: *Economic growth, job creation, poverty reduction, limited resources, prosperity*

1. INTRODUCTION

Micro-enterprises are exceedingly heterogeneous and with a diversity ranging from size, location, sex of the owner, and the segment of the activity. However, it is essential to recognize that a single person owns most micro-enterprises or operated by one individual or family which is the case in Malaysia. The economic growth contributed by micro-enterprises in Malaysia cannot be refuted. Apart from providing job opportunities, the micro-enterprises have contributed to the development of big and multinational companies (Katua, 2014). As of 2010, the MEs contributed 97.3% of the total transactions which represent 33.1% of the GDP of Malaysia (Madanchian et al., 2015). In the same year, MEs contributed 59.5% of the total employment and delivered 28.4% of the total export in 2010 (Jamak et al., 2012). Due to their importance to the economy of Malaysia, the government came up with Eleven Malaysian Plan (11MP) for the duration 2015 to 2020 which focuses on organizing and equipping MEs with the required capacity and capabilities to meet the problem of the ever-increasing competitive business environment (Madanchian et al., 2015). The plan is as shown below:

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Source: Madanchian et al. (2015)

Figure 1: MEs Development Framework

2. DEVELOPMENT AND PERFORMANCE OF MICRO-ENTERPRISE (MEs)

In many nations, micro-enterprises are viewed as the drivers of both the national and regional economies. They play a crucial role in the creation of employment and generation of income for the economy (Madanchian et al., 2015). The majority of nations, especially the developing economies such as Malaysia are implementing the support for micro-enterprises in their various programs and policies. According to the Malaysian government, micro-enterprises represent one of the four actors that drive the growth of the Economy (Madanchian et al., 2015). The roles of micro-enterprises are well recognized all over the globe because of their contribution to the gratification of various socio-economic goals such as growth in the employment rate, output, promotion a country's exports and fostering partnerships (Katua, 2014). As a result, there has been an exponential growth in the number of micro-enterprises in the 21st century. However, only a few scholars are interested in studying them due to various reasons such as lack of resources (Jamak et al., 2012). This study, therefore, intends to examine the roles of micro-enterprises and how they economically and financially help persons in Malaysia, especially the unemployed graduates.

Further, in 2015, the Malaysian government needed to make the country a high-income nation suitable in 2020 and created the New Economic Model (NEM) (Madanchian et al., 2015). The government realized that the domestic micro-enterprises are an essential factor of growth for so that the country can become high income in Asia and become more competitive and strong (Abdelmageed, 2017). The move was because the government realized that micro-enterprises had been the supporting sources of growth and establishment of structures for speedy economic growth and development of the nation (Katua, 2014). The Malaysian government's concern for the development of the micro-enterprises started as early as the 1970s (Madanchian et al., 2015). However, there is also evident that big enterprises are dominant in the nation while the micro-enterprises are undermined in respect to their significance and contribution to the economy of the country.

According to the Department of Statistics in Malaysia, micro-enterprises in the country are mainly found in the service sector. The sector has 97.3% micro-enterprises (Madanchian et al., 2015). The main business of the sector is the Distributive Trade that incorporates wholesale and retail as well as restaurants and hotels. The manufacturing sector represents 5.9% of the micro-enterprise. The textile, and Apparel, products of metal, food and beverages the three major subsectors that contribute 77% of the total output of micro-enterprise all put together (Madanchian et al., 2015). The agricultural sector contributes 1 percent and majorly involves crop plantations, fishing, and horticulture.

Three major contributions by the Micro-enterprises in Malaysia are namely economic growth, job creation and poverty reduction.

2.1 Economic Growth

Historically, the growth of Malaysian Economy transformed massively immediately after independence in 1957. There was an influx of Direct Foreign Investment (DFI) through qualified and skilled labor, which led the country to a fast developing economy globally (NSDC, 2015). The trend indicates that economic growth is the most paramount instrument for poverty reduction and helps to improve the quality of life in developing economies such as Malaysia (Hatta & Ali, 2013). Economic growth has the effect of generating a virtuous circle of prosperity and opportunities to the population of an economy (NSDC, 2015). Similarly, in market economies, micro-enterprises are at the core of economic development (Katua, 2014). Research shows that micro and small enterprises have significant contributions to the economic growth through many pathways that go beyond just job creation (Muridan & Ibrahim, 2016). They contribute to economic growth, as well as entrepreneurship, economic dynamism, linking value chains and community development. Consequently, studies indicate that countries with larger micro-enterprise sectors have more rapid economic growth in per capita income than their counterparts, even after the control of other sources of income economic growth (Muridan & Ibrahim, 2016). The same study also indicates that greater micro-enterprise prevalence causes a more rapid increase in per capita income.

Katua (2014) conducted to evaluate the roles played by micro-enterprises have shown that they play a significant role in driving economic development. The evidence indicates that micro-enterprises are crucial to the health of an economy in both the low and high-income economies across the globe (Osotimehin et al., 2012). In Malaysia, micro-enterprises have contributed significantly to the growth of national economy via the provision of various goods and services, thus, creating job opportunities while developing the regional economies and societies (NSDC, 2015). They also help bring competition in the, which in turn leads to innovation and improved service to the society (Abdelmageed, 2017). The micro-enterprises are also owned by entrepreneurs who are the prime movers of technology and innovation within the country.

2.2 Job creation

The role of micro-enterprises is perceived as a powerful medium for addressing various social-economic issues, with the major issue being to generate employment opportunities. They are the drivers of competition and innovations. In most developing economies, the micro-enterprises have remained innovative to survive the recently witnessed economic downturn and recession (Abdelmageed, 2017). Empirical findings show that new enterprises play a crucial role in employment creation, the growth of the economy, and reduction of the unemployment (NSDC, 2015). In a developing economy like Malaysia, where the supply of labor is higher than the demand, the role of micro-enterprises is much well essential (Katua, 2014). Recent studies show that there is a high correlation between the degree of poverty hunger, rates of unemployment, the well-being of an economy or living standards of the citizens of a nation and the degree of rapid development of micro-enterprises in the respective countries (Hatta & Ali, 2013).

The developments in entrepreneurship in developing economies such as Malaysia have given rise to economic independence via self-employment by the unemployed graduates. Studies show that creation of employment opportunities greatly rely on the economic growth of a country which is highly driven by the rise of micro-enterprises in developing countries (Osotimehin et al., 2012). Economic growth creates job opportunities and thus, increased demand for labor (Katua, 2014). In Malaysian, the number of jobless graduates continues to rise every year. The involvement of Malaysian government to promote SMEs has however produced positive results. The government promotes its youth to become entrepreneurs to create jobs for themselves and contribute to the building of the nation.

The rural and urban-based micro-enterprises have helped in job creation and increased incomes for the people. According to Muridan & Ibrahim (2016), micro-enterprises in Malaysia have provided income and employment opportunities for a considerable proportion of both the rural and urban populations by producing basic goods and services for the fast-growing populations. In Malaysia, micro-enterprises account for 60 percent of all enterprises in the country and 50 percent of all paid employment. Consequently, the graduates can afford to further their education, cater for their health care needs and are empowered to get rid of the vicious circle of poverty in the society. Besides, the growth of micro-enterprises in Malaysia has contributed to the creation of human capital via the on the job training (Muridan & Ibrahim, 2016).

Abdelmageed (2017) states that with the increase in the demand for labor force in the micro-enterprise sector, graduate in Malaysia depends on the micro-enterprises in the formal sector for their survival. The trend indicates that there is an increase in the average employees of micro-enterprises every year. In Malaysia, the majority of the citizens' lives in the rural areas and are mainly engaged in agriculture. Importantly, micro-enterprises create technical innovation in the economy. In Malaysia, the majority of the jobs come from innovation and inventions which are as a consequence of entrepreneurial adventure offered by micro-enterprises (Osotimehin et al., 2012). Micro-enterprises can invest in new technological space and enhance high technology information networks that are vital to the economic growth. The micro-enterprises have created jobs for the graduates who are skilled in technology and business to compete in the current competitive world of business (Abdelmageed, 2017).

Currently, the development of micro-enterprises is viewed as an important ingredient in promoting abroad based economic growth as they improve the well-being of the poor population by offering considerable income and employment creation opportunities. As a consequence, Malaysia has adopted a policy that focuses on the need to strengthen entrepreneurship and the contribution of micro-enterprises to achieve economic growth with equity, while addressing the problem of gender inequality and reduction of poverty (Hatta & Ali, 2013). Research indicates that the micro-enterprises create four out five new positions in developing economies. However, more than 50 percent of the micro-enterprises lack access to finance, which prevents their growth (Muridan & Ibrahim, 2016). There is the need for developing economies to improve financial access by the micro-enterprises and finding innovative solutions to help in unlocking sources of capital.

2.3 Poverty Reduction

In 1984, a microcredit program was introduced in Malaysia as one of the strategies to poverty eradication initiative (Muridan & Ibrahim, 2016). Studies indicate that microcredit loans significantly increased the borrower's micro-enterprise's revenue, household incomes, and economic security (Hatta & Ali, 2013). Studies also indicate that the micro-enterprise play the main role of poverty reduction and enhancing women's role in development. According to Hatta & Ali (2013), this fact indicates that properly designed and managed micro-finance projects have a great impact on poverty and can reach the poor (Hussain et al., 2017). As such, developing economies need to ensure that they encourage the development of micro-enterprises to cater for all the poor by providing access micro-finance loans to the poor.

Besides, studies indicate that Malaysia has tremendously succeeded in the fight against poverty (Muridan & Ibrahim, 2016). From 1970, the level of poverty was 49.6 percent and was reduced to 8.1 in 1999. Further, in 2000, it was reduced by 5.5 percent.

The strategy employed to reduce poverty resulted in accommodating an effective poverty reduction enclosure and rapid economic growth with a continuous enhancement of its micro-economy. The statistics show that the hardcore poverty was lowered from 1.2 percent to 0.7 percent in 2009 (Hussain et al., 2017). And as a result, the incidence of overall poverty fell from 5.7 percent in 2004 to 3.8 percent in 2009. Currently, the overall poverty rate is 3.7 percent. This reduction in poverty levels was a positive outcome of rapid development programs targeting the micro-enterprises that implemented in Malaysia (Hussain et al., 2017).

Notably, the government sorted to promoting livelihood and growth-orient micro-enterprises as another approach to reduce poverty. About 71 percent of the programs that aim at livelihood activities have a reduction of levels of poverty as their main goal, and as research shows, the majority of micro-enterprises are livelihood enterprises (Hatta & Ali, 2013). The major benefit of such programs for existing livelihood enterprises is high turnover as well as the upgrade of productivity, which eventually lead to increased incomes. According to Montes & Baticados (2016), livelihood programs can reach the previously unemployed graduates by helping in setting up a variety of new livelihood enterprises that will result in both income generation and employment benefits.

3. CONCLUSIONS

Overall, micro-enterprises play a significant role in economic development in developing economies such Malaysia. As such, their contribution should not be overlooked. The micro-enterprises worldwide have registered phenomenal growth in number, their production capacity, employment and reduction of poverty over the years (Montes & Baticados, 2016). In Malaysia, the development and growth of micro-production have provided employment opportunities especially to a high number of unemployed graduates in the country. Similarly, it can be mentioned that micro-enterprises account for paid employment of more than half the employed population in Malaysia. Most importantly, via job and income generation, micro-enterprises help developing economies in their objective of poverty alleviation which in turn has a positive effect on economic growth and subsequent economic development. As such, micro-enterprise, therefore, are key to the attainment of national economic goals of job creation and reduction of poverty at low costs of investment while developing entrepreneurial capabilities. In short, micro-enterprises play a significant role since is they are the backbone of developing economies and main actor of economic development.

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ID033 – Determinants of Entrepreneurial Intention among Undergraduate Students

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Abstract

The purpose of this paper is to identify the factors that influence entrepreneurship intention among undergraduate students. This study combines two approaches in influencing entrepreneurial intention (attitude and aspirations) based on the theory of Planned Behavior. This study uses primary data of 260 sample size consists of final year students from the field of Social Science (SS) and the field of Science and Technology (ST). Selection of the sample study was based on those who has taken the subject of entrepreneurship in the educational curriculum at diploma level and has a solid foundation on business-related knowledge. Stratified sampling method was utilized for data collection, which is then analyzed using the descriptive and multiple regression analysis to achieve the objectives of the study. The findings showed that the relationship between all factors involved in the study towards entrepreneurial intention was significant but with the influence of different strengths. Although this study found a significant impact in explaining the factors that affect entrepreneurial intention, it only takes into account only undergraduate students. Proposed future research should consider more graduates and comparative studies between public university students and private

Keywords: *Entrepreneurship; intention; undergraduate; social science; science and technology*

1. INTRODUCTION

In the effort of empowering entrepreneurship and forming entrepreneurship society, various changes and programs have been developed not only in terms of education policies and curriculum but also involve large financial allocation in specialized entrepreneurship culture at university level. However, the involvement of graduates in entrepreneurship as a career is still far behind than what the government intends. The majority of graduates will see entrepreneurship as the second or final choice in choosing a career after graduation. (Mohd Salleh, 2002). According to a study conducted by Norasmah and Salmah (2011) on Universiti Utara Malaysia (UUM) graduates, less than 0.4% of graduates participate in entrepreneurship after graduation. The issue of reliance on permanent job with salary and the lack of involvement in entrepreneurship graduates not only occur in developing countries but also in developed countries. Recognizing that the problem is getting worse due to the increasing number of graduates as well as the economic inability to provide job opportunities, the government sees the involvement of graduates in entrepreneurship as the best solution. Entrepreneurial involvement not only creates job opportunities, solves unemployment

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problems and helps earn lucrative income, but also helps generate economic growth to the country.

Based on the importance of entrepreneurship to the country's economic development, the government has provided various support and assistance programs in the form of financial (capital loans and microcredit programs) and non-financial (advisory services and guidance, together with the establishment of various agencies related to entrepreneurship) to support the development of the sector. In order to realize the goal of creating more entrepreneurs among qualified and resilient graduates, and thus able to act as a catalyst for the transformation of the national economy, the Ministry of Higher Education (MOHE) has shifted the higher education policy to emphasize the application of entrepreneurial elements in the curriculum. The ministry has created three key components in applying entrepreneurial values among university students, namely entrepreneurial awareness component, entrepreneurial culture component and entrepreneurial strengthening component. The studies conducted by Mumtaz, et al. (2012) as well as by Turker and Selcuk (2009) prove that applying entrepreneurial values in education is the most effective and efficient way to equip students with knowledge about business management.

The involvement of graduates in entrepreneurship as a career option is largely influenced by the application of entrepreneurial values when they were in the university that were formed based on the education curriculum, student and university environments as well as government entrepreneurial policies. Their entrepreneurial intention is not only determined by attitude factors including the characteristics and entrepreneurial skills acquired from past experience, but also influenced by attitudes toward behavior, subjective norms and perceived behavioral control as explained by Theory of Planned Behavior Ajzen (1991). Compared to developed countries, studies on entrepreneurial intention among university graduates in developing countries are still lacking. Research findings in the context of developed countries are difficult to be adapting completely in the developing countries due to environmental differences. Therefore, the objective of this study is to identify the factors that influence entrepreneurship intention among undergraduate students. This study combines two approaches in influencing entrepreneurial intention (attitude and aspirations) based on the theory of Planned Behavior. The findings of this study will give significant contribution in supporting theories pertaining to entrepreneurial intention, especially in developing countries as well as providing information to policy makers in formulating a more effective action plan to realize the goal of creating more entrepreneurs among graduates.

1.1 Literature review

Various studies have been conducted to identify factors that can influence the intention of a graduate to choose entrepreneurship as a career. This includes entrepreneurship as a career (Hisrich, 2000), entrepreneurial skills (Koe, 2016) education factor (Mohammad Ismail et al, 2009), community (Kibler, 2013), and relational factors (Baughn et al., 2006). According to Krueger et al. (2000), the theory of entrepreneurial intention consists of three elements namely acceptable intentions, tolerance and intention to act, while The Theory of Planned Behavior introduced by Ajzen (1991) is a theory that describes human behavior. The theory is a revised model that was modified due to some limitations in the Theory of Reasoned Action model developed by Fishben and Ajzen (1975). This theory also focuses primarily on the level of desire that encourages behaviour of interest to be presented (Ajzen, 1991). It also explains and predicts how the cultural and social environment affects human behavior. Ajzen (1991) has linked the individual intention as a motivating factor affecting behavior, in which the decision depends on three main elements i.e. (1) Attitude toward the behavior (personal value) which refers to the level of support for a behavior in which the individual will evaluate whether or not they wish to perform such behavior; (2) subjective norms (social pressures which are felt whether they will do something or not); and (3) perceived behavioral control which is to see how far the individual is able to control the behavior.

1.1.1 Attitude

Attitude is an abstract value in each person so that it can shape a person's perception (Mohd Osman, 2007). A person's attitude will be more prone to entrepreneurship when it is influenced by his belief in entrepreneurship (Mohamed Idris, 2009). This is very important because the attitude of entrepreneurs can be demonstrated through the behavior of an entrepreneur. Sylvia and Dayang (2016) in their study show that the most significant factor in influencing the intention of students to engage in entrepreneurship is attitude. The results of this study are in line with the findings of the study conducted by Mumtaz et.al. (2012). The results of this study are consistent with the findings by Zairon et al (2016) which showed that the main factors influencing entrepreneurial intention among Community College students in Malaysia are personal attitudes. While the second and the third factors are subjective norms and behavioral controls. Therefore, this study presents hypotheses as follows:

H1: Student attitudes towards entrepreneurial activity have a significant positive influence on entrepreneurial intention.

1.1.2 Entrepreneurial values

The personality traits of a person can directly influence many entrepreneurial activities including the intention to start a business venture, succeed in the business and grow the business further (Shaver & Scott, 1991). These entrepreneurial characteristics are referred as individual entrepreneurial skills. There are many studies and writings conducted by Koe (2016), Linan and Chen (2009), Phelan and Sharpley (2012), Ferrington and Venter (2012), explaining the relationship between entrepreneurial skills possessed by students with the intention of their involvement in entrepreneurship. These features include creative and innovative, leadership, risk taking, independent, hardworking, initiative, self-motivation, ability to predict and make the right decisions, fast action and with high commitment (Megginson et al, 1997)). Most previous studies explained that these factors are among the most important elements in influencing someone's interest in entrepreneurship. For example, Linan (2008), found that skills and value perceptions factors were significant and very important in determining entrepreneurial intention among university students. Accordingly, this study proposes the following hypothesis:

H2: Entrepreneurial values have a significant positive influence on entrepreneurial intention.

1.1.3 Educational

According to Mumtaz et al. (2012), entrepreneurship education is an efficient way of equipping students with appropriate knowledge related to entrepreneurship. Elements related to education include the terms of generating creative thinking, the influence of university entrepreneurship curriculum on knowledge, skills, interest in entrepreneurship and problem solving ability. The study by Norfadhillah and Halimah (2010) also notes that attraction factors from outside of the university are more influential than university's internal attraction factors (entrepreneurship subject exposure, university colleagues, entrepreneurial courses attended, previous entrepreneurial experience and entrepreneurship activities organized by the university) - 51% to 60%. The study by Mohammad Ismail et al (2009) shows that students who have taken entrepreneurship subject are reported to have greater intention to engage in entrepreneurship as compared to other students. This shows that the experience and knowledge they got when enrolled this subject has stimulated their interest and dreams to become entrepreneurs. The importance of educational factors on entrepreneurial intention is consistent with the findings conducted by Turker and Selcuk (2009). The finding of the study shows that education is among the factors that influence the intention of a university student to engage in entrepreneurship. Based on the discussion above, the following hypotheses have been established:

H3: Educational factors have a significant positive influence on entrepreneurial intention.

1.1.4 Societal

Community refers to respondents' environment that can influence entrepreneurship development among students. According to the European Commission (2012), government and entrepreneurial experts admit that cultural factors constitute a intention to engage in entrepreneurial processes. Linan and Chen (2009) found that there was a difference between the student's intentions towards entrepreneurship caused by cultural differences. Students in Spain are more likely to conduct entrepreneurial activities due to personal attraction. Meanwhile, students in Taiwan are more prone to entrepreneurship because of their self-efficacy. The study by Marina et al. (2014), revealed that students who are prioritizing perceived desirability and perceived feasibility for entrepreneurship, have initiative to take culture and participation in ESE (entrepreneurship-specific education) have a higher intention for entrepreneurship. However, students who hold only to the cultural beliefs factor reported to have much lower intensity of intention. This study has suggested the following hypotheses:

H4: Societal factors have a significant positive influence on entrepreneurial intention.

1.1.5 Relational

Relationship factor refers to the role of various parties in students' surrounding in sowing their interest in entrepreneurship. Support and encouragement from family members, relatives and friends has shown that it is closely related to the development of an entrepreneur (Davidson & Honig, 2003; Baughn et al., 2006). Their support will affect expectations and the extent of the entrepreneur's effort in business. The relationship factors that are considered include the involvement of immediate family members in business, support by family and friends as well as advisory and coaching from lecturers. According to a study by Mohammad Ismail et al (2009), the support from immediate individuals received by the respondents is closely related to their intention to engage in entrepreneurship. This factor is supported by Sylvia and Dayang (2016) who found out that the support received from those who are connected with the prospect entrepreneurs is the third factor that most influences the intention of students to engage in entrepreneurship. Support from parents, family members and friends can increase the intention of a person to become an entrepreneur. Therefore, this study proposes the following hypothesis:

H5: Relational factors have a significant positive influence on entrepreneurial intention

2. RESEARCH METHOD

2.1 Sample

In this study, the population consists of final year students from the field of Social Science (SS) and the field of Science and Technology (ST). Selection of the sample study was based on those who has taken the subject of entrepreneurship in the educational curriculum at diploma level and has a solid foundation on business-related knowledge. Through a staged proportion sampling method, the population is divided according to strata, which is based on the respondents' program of study. The samples for each strata were determined according to the proportion of the strata population in the whole population (779). Based on the sample size the study sets the number of samples at 260. The population and sample size of each strata are shown in Table 1.

Table 1: Sample distribution for programs and areas of study

No	Program	N	S	Field	Total
1.	Diploma in Investment Analysis	30	10	Social Science	111(42.7%)
2.	Diploma in Accountancy	33	11	Social Science	
3.	Diploma in Office Management and Technology	60	20	Social Science	
4.	Diploma in Hotel/Tourism	209	70	Social Science	
5.	Diploma in Engineering (Electrical/Mechanical/Chemistry)	276	92	Science Technology	

6	Diploma in Computer Science	171	57	Science Technology	149(57.3%)
Total		779	260		

Notes: *N* is population size, *S* is sample size

2.2 Measures

For independent variables, based on past studies on factors affecting entrepreneurial intention, this study presents five independent variables. The factors involved are student attitudes, entrepreneurship skills, education factors, social factors and relational factors. The measurement of the attitude in the study was made using a five-point scale with the frequency of "1 = very low" to "5 = very high". The measurement of entrepreneurial skills variables, is measured using a five-point scale with a frequency of "1 = very low" to "5 = very high". Educational factors variable are measured by the scale between "1 = strongly disagree" to "5 = strongly agree". Social factors are measured using a five-point scale with a frequency of "1 = very disagreeable" to "5 = strongly agreed". While relationship factors measurements are based on the importance with frequency "1 = very insignificant" to "5 = very important" items in influencing respondents' intention toward entrepreneurship. Table 2 shows the Cronbach's Alpha coefficient for all variables has a high alpha value and exceeding 0.7. This shows that all the items used in the relevant research variables are reliable, as Nunally (1978) states.

Table 2: Variable Reliability Analysis

Variables	Number of Item	Cronbach's Alpha coefficient
Students' attitude	9	0.83
Entrepreneurial value	14	0.72
Education factor	6	0.90
Societal factor	7	0.86
Relational factor	4	0.83
Entrepreneurial intention	8	0.93

3. RESULT AND DISCUSSION

The descriptive analysis in Table 3 shows the mean value, standard deviation and correlation between all variables. Based on Collinearity Statistics in Table 4, tolerance values (> 0.2) and variance of inflation - VIF (less than 10) clearly indicate that there is no multicollinearity problem in the data.

Table 3: Descriptive and Correlation Statistics

Variables	Min	Standard Deviation	1	2	3	4	5	6
1. Attitude	3.7385	.47950	1.000					
2. Entrepreneurial values	3.6258	.61885	0.664***	1.000				
3. Education	3.7853	.62045	0.452***	0.472***	1.000			
4. Societal	3.6940	.59120	0.384***	0.406***	0.503***	1.000		
5. Relational	3.8442	.70763	0.333***	0.328***	0.476***	0.390***	1.000	
6. Entrepreneurial intention	3.5712	.72396	0.480***	0.507***	0.553***	0.460***	0.402***	1.000

Note: *N* = 260; ****p* < 0.01

Multiple regression analysis is used to involve influence of each variable on entrepreneurial intention. The analysis is done on a comparative basis based on the data in the field of social sciences (SS), science and technology (ST) and overall (SS + ST). The multiple regression analysis results show that the power of the rays (*R*²) for the three data is in the range of 40 to 50 percent and was significant at one percent (< 0.01). This explains that all five independent variables are capable of significantly explaining the variation in entrepreneurial intention. The findings of multiple regression analysis that used to clarify all the research hypotheses are shown in Table 4.

Model 1 involves two control variables (business experience and number of training), and the analysis find that both variables describe 3 percent (SS), 4.1 percent (ST) and 2.0 percent (SS

+ ST) variations in determining entrepreneurial intention. In model 2, all five factors involved in the study were simultaneously included. The value of R² for SS field is 48.4 per cent, ST 41.8 per cent and overall is 43.4 per cent. Referring to Table 4, it is clear that for SS field, the attitude factor has no significant relationship with the intention of entrepreneurship. The same situation is described for samples under the ST field. However, the overall analysis of both categories of the sample clearly indicates a significant positive relationship ($\beta = 0.135$, $p < 0.05$) between attitude factors and entrepreneurial intention. Based on these findings, studies confirm that H1, which explains attitude factors including self-confidence, patience, diligence, responsibility, honesty and trust are among the key elements that can influence entrepreneurial intention among undergraduate students. These discoveries are consistent with some of the findings of the previous study including research conducted by Sylvia and Dayang (2016); Mumtaz et.al (2012); Soutaris et al (2007); and Zairon Mustapha et al (2016).

The results of the multiple regression analysis in Table 4 also show empirically that there is significant positive relationship between the three sample groups, SS ($\beta = 0.174$, $p < 0.01$), ST ($\beta = 0.174$, $p < 0.01$) and overall ($\beta = 0.174$, $p < 0.01$). Based on the overall analysis the H2 study confirmed that the entrepreneurial values (include leadership, risk-taking, creative and innovative, emphasizing high-quality work, information seeking and communication skills.) possessed by undergraduate students can influenced their intention toward entrepreneurship. This result supports the findings of the study conducted by Shaver and Scott (1991); Koe (2016); Linan and Chen (2009); Phelan and Sharpley (2012); Ferrington et al. (2012).

Educational factors refer to the impact of the learning process in particularly related to entrepreneurial courses that they have learned in the university. The findings for educational factors explain that there is a significant influence of this factor on entrepreneurial intention among students. In fact, this factor is the most important element among the five factors involved in the study. The significant positive correlation between the three sample groups, SS ($\beta = 0.274$, $p < 0.01$), ST ($\beta = 0.304$, $p < 0.01$) and overall ($\beta = 0.286$, $p < 0.01$), confirming H3 which clarifies the relationship between educational factors and entrepreneurial intention among pre-graduate students. This finding is consistent and supports the findings conducted by Norfadhilah and Halimah (2010); Mohammad Ismail et al (2009); Turker and Selcuk (2009). The education system received by students is a catalyst for generating creative ideas, knowledge, skills, experience, enhancing confidence and increasing their interest in entrepreneurship.

Referring to Table 4, model 2 shows the relationship between the variables of societal factors and the intention of entrepreneurship. Empirically, the analysis of the study shows that only SS group sample ($\beta = 0.195$, $p < 0.05$) and overall ($\beta = 0.145$, $p < 0.05$), have a significant positive influence on entrepreneurial intention. While for the ST group sample, the analysis of the study found that the factor had no significant relationship with dependent variable. Based on the overall analysis, the study confirmed that H4 explaining that societal factor such as opportunities and support provided by the government, university roles; technological developments and informational sources related to entrepreneurship have significant influence on entrepreneurial intention among undergraduate students. The findings are consistent with the discoveries of the study conducted by Linan and Chen (2009); Marina et al. (2016).

The multiple regression analysis in Table 4 also shows the influence of the relational factor on entrepreneurial intention. These factors include family involvement in business, family support, encouragement from friends and the role of lecturers. Referring to model 2, the finding shows that both sample groups (SS and ST) have no significant influence over entrepreneurial intention. However, the combination of both data (SS + ST) indicates that the factor have a significant positive influence ($\beta = 0.101$, $p < 0.1$) on entrepreneurial intention among undergraduate students. Hence the study confirms H5 which explains that student engagement and their inclination to engage in entrepreneurial activity are strongly supported by the role of those parties either in the form of moral support, guidance and words of

encouragement or financial assistance. This outcome empirically supports the findings of a study conducted by Mohammad Ismail et al (2009); Sylvia and Dayang (2016).

Table 4: Results of the multiple regression analysis

Variables	Collinearity Statistics		Model 1			Model 2		
	Tolerance	VIF	SS	ST	SS + ST	SS	ST	SS + ST
Control factor								
Experience	0.947	1.056	0.190*	0.010	0.071	0.062	0.039	0.003
Training	0.967	1.034	0.056	0.202**	0.113*	0.016	0.141**	0.094*
Determinants factor								
Attitude	0.526	1.902				0.154	0.114	0.135**
Skills	0.508	1.967				0.174*	0.216***	0.182***
Education	0.583	1.714				0.274***	0.304***	0.286***
Societal	0.683	1.465				0.195**	0.077	0.145**
Relational	0.715	1.400				0.085	0.091	0.101*
R ² (changed)			0.030	0.041	0.020	0.454	0.377	0.414
R ²			0.030	0.041	0.020	0.484	0.418	0.434
R ² (adjusted)			0.012	0.028	0.013	0.449	0.389	0.419
F			1.693	3.102**	2.643*	13.814***	14.455***	27.646***

Note: N = 260; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

4. CONCLUSION

This study is an attempt to analyze and evaluate entrepreneurial intention among undergraduate students. This involves a review of factors influencing entrepreneurial intention as well as comparative analysis in terms of entrepreneurial intention based on the field of study. These factors are identified from previous studies based on Ajzen's Theory of Planned Behavior (1991). Based on the multiple regression analysis, the study found that the relationship between all factors involved in the study towards entrepreneurial intention was significant but with the influence of different strengths.

Discussions on factors affecting entrepreneurial intention in the research framework give a clear picture of the importance of each factor involved. From a policy perspective, students should be exposed to self-development and entrepreneurial development programs that are closely linked to the development of student entrepreneurial attitudes and skills. They need to be equipped with the right of entrepreneurial features such as dare to take risks, possess endurance and high competitiveness, creativity and innovative to act on entrepreneur roles, good at taking opportunities, communication skills with customers, suppliers and business environment and have systematic planning. Based on the importance of entrepreneurship curriculum on entrepreneurial intention and business performance, it should be updated accordingly to the needs of global environmental shift. To complement the need for entrepreneurship culture among students, the university should provide a conducive business environment including infrastructure, capital assistance, mentoring and advisory services to students.

5. LIMITATION AND FUTURE RESEARCH

The study only conducted simple tests on the influence of some factors on entrepreneurial intention among undergraduate students. There is still room for further study involving more graduates. In addition, comparative studies between public university students and private universities can also be conducted to get more knowledge on the inclination factors of entrepreneurship among the two different institutions of higher learning. Thus, the possibility of different focus will give more meaningful information about the factors that influence entrepreneurial intention among university students.

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**ID059 – Intrinsic and Extrinsic Rewards as factors influencing Entrepreneurship
Intention Among Malaysian Students**

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Abstract

The main aim for this research paper is to examine the effects of Intrinsic and Extrinsic Rewards on entrepreneurship intention among students. Conducted by collecting data among 200 students aged from 21 to 30 years old in Universiti Teknologi Mara Terengganu (UiTMT), this study applied a quantitative approach. Findings discovered that extrinsic rewards and intrinsic rewards appeared to be essential in inspiring students to start up a business. Additionally, the findings of this study also do not only show great impacts on students' entrepreneurship intention, but also have crucial implications for educational and political reforming in order to develop entrepreneurship in terms of quality and quantity for individuals to succeed in an entrepreneurship future. Recommendations and future research are made based on the findings of the study.

Keywords: *Intrinsic rewards, extrinsic rewards, entrepreneurship intention, students*

1. INTRODUCTION

Entrepreneurship activities had undergone a major transformation where it appears almost everywhere in Malaysia. The entrepreneurship development has emerged to several number of forms and diversity scales that turn it into a driving force of Malaysia economy. Entrepreneurship can be seen as a new paradigm in stimulating the country's economic growth to be a full develop nation by year 2020 (Hoe, Keat, Ahmad & Hashim, 2014). In year 2012, entrepreneurship has been highlighted as the main agenda in Malaysia with the introduction of various entrepreneurship programmes and mechanisms that cater for the advancement of entrepreneurship activity (Hoe *et al*, 2014). The government to promote more people, in particular students at institutions of higher learning, to become entrepreneurs, had executed several efforts. Much attention and concerns about entrepreneurship have been identified by, amongst others, looking for talents in entrepreneurship to start a business. Organizations are looking for young talents to assist them to accomplish their goals. Talents in entrepreneurship are looked for to initiate a business, champion the business ideas as well as enhancing entrepreneur's potential and socio-development. In assisting entrepreneurs, Aileron (2013) highlighted that it is crucial to identify the potential of entrepreneurs based on their characteristics and their basic needs in order to be successful. Currently in year 2018, the entrepreneurship environment has a significant impact on Malaysia's economy and the role of entrepreneurship has been recognized (Khuong & Huu An, 2016). In Universiti Teknologi Mara (UiTM), one of the local institutions of higher learning in Malaysia, entrepreneurship education is the main focus of Malaysian Academy of SME & Entrepreneurship Development (MASMED). UiTM Terengganu has won three consecutive times for being an entrepreneur campus. Entrepreneurship starts when an individual decides to pursue a new venture. In order

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to cultivate strong entrepreneurship, it is therefore necessary to understand just how individuals especially students reach the decision to pursue on a new venture.

1.1 Problem statement of the study

Many academicians and industry practitioners have investigated the entrepreneurship studies, with thousands of literatures conducted over the past decades (Khuong *et al*, 2016). In addition, several researchers highlighted the entrepreneurship effects on the business world today (Hoe *et al*, 2014; Ghazali, Ibrahim & Zainol, 2013 & Aileron, 2013). While the development of entrepreneurship in Malaysia is increasing, there have been few studies on the factors influence intentions of becoming entrepreneurs among students (Khuong *et al*, 2016). This is supported by Nabi and Linan (2013) that highlighted minimal studies being conducted to factors affecting Entrepreneurship Intention in developing countries. It is interesting to discover what are the factors that encourage people to leave their comfort zone and abandon the high-income jobs to pursue their own business and what are the factors that influence students to pursue entrepreneurship careers instead of looking for fixed salary received jobs. What really makes them give up the normal life to choose the uncertain future to start a new business venture? Knowing more about factors affecting the entrepreneurship intention becomes necessary especially in Malaysia context. Scholars in different cultures with a diversity of aspects examined all the entrepreneurship motivation factors that have been highlighted in the literatures. It is evident that there are huge differences in the way entrepreneurs implement their business and the formation of their entrepreneurship intentions across countries and regions (Chu, Benzing & McGee, 2007). Additionally, a meta-analysis of the determinants of Entrepreneurship Intention that had been done by Schlaegel and Koenig (2014) indicated that two-thirds of the study took place in developed countries opposed to developing economies. Hence, this research is conducted to investigate the entrepreneurship intention in Malaysia, specifically in Universiti Teknologi Mara Terengganu (UiTMT) students, with the main focus to provide greater understanding about the entrepreneurship field and to practically provide vital implications for educational reforming to help policy makers in entrepreneurship training and support new business founders.

1.2 Literature review

Entrepreneurship has becoming more and more enticing for individuals who are about to make their career choice, due to this perspective allows participation in the labor market while keeping personal freedom (Martinez, Mora & Vila, 2007). A large segment of the population highlighted that they intend to pursue on entrepreneurial career while they are relatively young (Shirokova, Osiyevskyy & Bogatyreva, 2016). Thus, student entrepreneurship is crucial since this stage of life entrepreneurial conscience and attitude towards entrepreneurial career are formed. Student entrepreneurship is defined as any attempt to launch a new venture undertaken by one or several students (Reynolds, 2005). On the other hand, Chigunta (2012) highlighted that young entrepreneurship can be defined as the practical application of enterprising qualities, such as initiative, innovation, creativity and risk-taking into the work environment either in self-employment or employment in small start-up firms, using the suitable skills necessary for success in that environment and culture. Students' involvement in entrepreneurial activity depends on their career plans and attitude toward self-employment, which are contingent on various factors. Rusteberg (2013) postulated that, parents, friends and teachers can be seen as graduates role model in motivate them to start up a business. Additionally, they want to be one's own supervisor, more independent and flexible, to take challenge in order to earn money and have better quality of life are also the main motivation to engage in business (Ghazali *et al.*, 2013). In conjunction with that, Ibrahim *et al* (2015) identified six element that motivate students entrepreneurs; change, challenge, creativity, curiosity, control and cash. Each of laments is vital to keep pursuing their business aggressively and successful. These laments were considered intrinsic and extrinsic rewards.

1.2.1 Rewards

Rewards act as a foundation to encourage students engaging in entrepreneurship. It can be viewed positively as the earning outcomes from individual's performance. Rewards can be divided into two categories of intrinsic and extrinsic rewards. Intrinsic reward consists of internal interest or enjoyment in the work itself. It includes personal achievement, professional growth, sense of pleasure and accomplishment (Baporikar, 2016). On the other hand, Ciavarella, Buckholtz, Riordan, Gatewood and Stokes (2004) have identified personal traits as intrinsic rewards. They highlighted that personal traits have received strong supporting evidence and been applied as factors to predict entrepreneurial intention by many research experts. Khuong *et al* (2016) postulated that there is a relationship between personal traits and entrepreneurship activities where the stronger an individual prefers decision-making autonomy, the higher they intent to entrepreneur. Another example can be viewed as the higher risk-taking propensity, energy level, creativity and need for achievement for individual, the higher they intent to entrepreneur (Mai & Anh, 2013). Intrinsic rewards are much influential in increasing employee motivation than financial rewards as claimed by Douglas (2013). This point met the entrepreneur's goal, which they are more concern about investment of their business. While extrinsic motivation is based on tangible rewards which also can be defined as external to the individual (Demers, 2014). These include recognition awards, performance goals and compensation increases and bonuses. Extrinsic motivation may also be driven by the fear of failure or punishment. For this point as an entrepreneur for sure they want their business operated well and gain some profit from their investment.

1.2.2 Entrepreneurship intention

Entrepreneurship intention can be viewed as the growing conscious state of mind that individual desires to start a new enterprise or create new core value in existing organization (Remeikiene & Startiene, 2013). This is also supported by Rani and Hong (2013) that highlighted entrepreneurial intention as the conscious state of mind that precedes action direct attention toward a goal such as starting a new business. People do their business intentionally and how they become entrepreneurs is a result of decision making (Krueger, Reilly & Carsrud, 2000). Intention then has been proved as the best predictor of entrepreneurial behavior in several literatures conducted over past decades (Krueger *et al*, 2000). Entrepreneurship intention has been recognized as an epistemology that lead an individual to an attention and action of an entrepreneurship behavior, thus taking an entrepreneurship concept and venture into the entrepreneurship business (Wan Kamarudin, Abas, Mohd Kamal, Mat Ghani, Abd. Shattar & Wan Nawawi, 2016). To be a successful entrepreneur, students need to have entrepreneurial intention. Entrepreneurial intention of university students in various cultural contexts postulated that the encouragement from university environment affects the entrepreneurial confidence of university students (Ghazali *et al*, 2012). Universities provided several entrepreneurial programs to enhance the graduate's entrepreneurship intention. An intention is an anticipated outcome guided by planned actions. The famous theory of planned behaviors linked attitudes and behaviors (Ajzen, 1991). Intentions predict deliberate behaviours because behaviour can be planned. Ajzen (1987) further displayed that intention can predict the behavior and, intention itself is predicted by "certain specific attitude". To sums up, intention plays a role as a bridge between business venture creating and "exogenous influences".

2. METHOD AND MATERIAL

This study mainly focused rewards influence entrepreneurship intention. A quantitative research approach was applied for this study. A convenient sampling method was utilized as the key method. This type of sampling suits the current study as it can cover the large number of survey quickly and cost effective. A self-administered questionnaire was distributed to 200 students in UiTMT. This study involves students in the Faculty of Hotel & Tourism Management, UiTMT. The questionnaire was used to obtain students perceptions with regards

to the factors: intrinsic and extrinsic rewards that influence students towards entrepreneurship intention. The questionnaires comprised of dual languages, English and Malay. The questionnaire designed based on the basic of literature review. It consist of three (3) sections that includes section A, B and C. Section A contains demographic information such as gender, marital status, age, occupation, and level of education. Section B gathers the intrinsic and extrinsic rewards factors and Section C gathers information on entrepreneurship intention. Respondents were asked to rate based from a five-point Likert scale with 5 being strongly agree and 1 being strongly disagree.

2.2 Data collection method

The data collected was one time data collection among bachelor students of Faculty Hotel & Tourism Management, UiTMT. The data obtained from the Department of Academic Affairs indicated that there were roughly 400 bachelor students. According to Krejcie and Morgan (1970) table, the sample size for this study is only 196 respondents. However, researchers distribute 200 questionnaires to avoid any discrepancies. Researchers approach respondents before they willing to participate in this study. Researchers got an authorization letter from the management of the faculty to conduct this study.

3. ANALYSIS AND RESULTS

The Demographic Data of Respondents can be viewed in Table 3.1 below. Most of the respondents' age ranged between 23-26 years old (69 %) while 27-30 years old is (14.55%). The majority of respondents were males (61.5%) compared to females only (38.5%). This is interesting as female students conquered most universities. On top of that, most respondents are still single (61.5%) than married (38.5%). A total of (65.0%) of the respondents were renting outside compared to those staying with family (35.0%). Results also shown that respondent's parent's guardian occupation dominated working in public sector (41.0%) followed by private sector (31.5%) while parents who already retired are only (27.5%). Majority of respondent that have people living in house including respondents ranges between 6-10 people (55.5%) compared to 1-5 people in house (26.0%) more than 11-15 that only 18.5% from 200 respondents. The highest total monthly income for the whole family is between RM 3000 – RM 5999 (42.5%) followed by income between RM9000 and above (40.5%). The less income for whole family is between RM1000-RM2999 only 3.5%. The focus of this study is to determine the intrinsic and extrinsic rewards as the factors to influence entrepreneurship intention among UiTMT students.

Table 3.1: Demographic Data of Respondents

Variables	All	
	N	%
Age		
19-22	33	16.5
23-26	138	69
27-30	29	14.5
Gender		
Male	123	61.5
Female	77	38.5
Status		
Single	123	61.5
Married	77	38.5
Education Level		
Certificate	15	7.5
Diploma/college	106	53.0
Bachelor	79	39.5
Others	0	0
Occupation		
Student	84	42.0
Employee	116	58.0
Entrepreneur	0	0

Current Residents		
With Family	70	35.0
Renting at the outside	130	65.0
Current occupation		
Private Sector	52	26.0
Public Sector	64	32.0
Unemployed	84	42.0
Parents		
University	52	26.0
SPM	79	39.5
Others	69	34.5
Family Sector		
Private sector	63	31.5
Public sector	82	41.0
Retired	55	27.5
People living in house including yourself		
1-5	52	26.0
6-10	111	55.5
11-15	37	18.5
Total monthly income		
RM1000-RM2999	7	3.5
RM3000-RM5999	85	42.5
RM6000-RM8999	27	13.5
RM9000-Above	81	40.5
Working experience		
Yes	129	64.5
No	71	35.5

Illustrated below is the Intrinsic and Extrinsic Rewards table (3.2 & 3.3) that act as factors influencing student's entrepreneurship intention (Table 3.4). Factors analysis was performed by grouping the items into three categories; intrinsic rewards, extrinsic rewards and intention to start up a business. Data analysis indicated that intrinsic and extrinsic rewards achieved 95% of confidence level; where it postulated that it strengthen the student's entrepreneurship intention. This is in line with what have been discussed previously in the literatures chapter. Supportive augmentation can be found in Molly, Arijs and Lambrecht (2015) study where intrinsic and extrinsic rewards influence entrepreneurship intention.

Table 3.2: Intrinsic rewards Mean & standard deviation

	N	Mean	Std. Deviation
I want to enjoy the excitement of starting up a business	200	4.08	0.940
I want to meet the challenges of starting up a business	200	3.92	0.725
I want to achieve my own mission when starting up a business	200	4.03	0.712
Starting up a business encourage my creativity and problem solving skills	200	4.14	0.723
I want to gain public recognition when starting up a business	200	4.38	0.588
I want to be my own boss	200	4.45	0.591
I want to allow early retirement	200	3.82	0.919
I want to maintain my personal freedom	200	4.36	0.609

From the table 3.2 displayed above, it indicated that the respondents, in general, scores high in intrinsic rewards. Among the two highest score are statement/ item for question they 'want to be my own boss' (M=4.45; SD=0.59) closely followed by 'want to gain public recognition when starting up a business' (M= 4.38; SD= 0.588). Student's perceptions on entrepreneurship are positive as they would like to be their own boss, materials wealth and want to increase personal income. Based on intrinsic reward, individuals have their own ego that leads them to be own boss and drive to make profit besides enjoying what they do.

Table 3.3: Extrinsic rewards Means & standard deviation

	N	Mean	Std. Deviation
Starting up a business can increase my personal income	200	4.41	0.541
Starting up a business can increase my business opportunities	200	4.27	0.640
I want to acquire my personal wealth	200	4.48	0.539
I want to build business to pass on	200	4.00	0.698
I want to develop networking and making professional contacts	200	4.43	0.554
I want to help solving problems of my community	200	4.01	0.694

From the table 3.3 shown above, in general respondents viewed extrinsic rewards as the main drive in influencing entrepreneurship intention such as 'starting up a business can increase my personal income' (M=4.41; SD=0.541) and closely followed by 'I want to acquire my personal wealth' (M=4.48; SD=0.539). Probably, the current economic conditions had influenced students wanting to increase and having their own wealth. Carswell and Roland (2004) further supports this that Gen-Y are now always looking for the opportunities to make and change their life for more freedom and better way of life. In this study, respondents agreed that they want to maintain their personal freedom as paralled with study of Yeng Keat and Shuhymee (2012) who discovered that students are always looking for better of life and more freedom that no others can control their life.

Table 3.4: Entrepreneurship Intention Mean & standard deviation

	N	Mean	Std. Deviation
I will start up a business after completing my study	200	4.00	0.680
I will participate in business training program	200	3.99	0.783
I am ready to do anything to be an entrepreneur	200	4.11	0.719
My professional goal is becoming an entrepreneur	200	4.22	0.649
I have serious thoughts in starting a business	200	4.14	0.692
I will make every effort to start and run my own business.	200	4.10	0.626

Table 3.4 displayed above indicated the entrepreneurship intention among students. Generally, most of the respondents stated that "I will make every efforts to start up and run my own business" (M=4.10; SD=0.626) and followed by "my professional goal is becoming an entrepreneur" (M=4.22; SD=0.649). This indicates that students already have serious thoughts in starting a business. These students' intention is capable of predicting career towards entrepreneurship. When the students have a goal and serious about what they will be in the future, it will give positive implication and best result.

4. DISCUSSION

Generally, students have various perceptions getting involve in a business or becoming a new venture. Probably, intrinsic and extrinsic rewards are crucial to influence students with entrepreneurship intention although they know the challenges and obstacles waiting in entrepreneurship field. From intrinsic rewards point of views, professional goal appeared to be an entrepreneur strongest influence on intention followed by items that they already have serious thoughts in starting a business. While for extrinsic rewards, overall respondents gave a good respond. The items/ questions that scores the top three highest are they want to gain personal wealth, increase personal income and want to develop networking and also making professional contacts. The current economic conditions may contributed to students determine wanting to increase and having their own wealth. Liang and Dunn (2007) further support this and highlighted Gen-Y is now always looking for the opportunities to make and change their life for more freedom and better way of life. Moreover, Yeng Keat *et al* (2012) discovered that students are always looking for life betterment and freedom. Entrepreneurship intention is crucial for student's future prediction since it's capable to predict student's future career. When the students have a goal and serious about what they will be in the future it will give positive implication involving in entrepreneurship. The actual motivational factors of the university students are also comparable with study Moly *et.al* (2001) stated that they are motivated to start up a business due to the intrinsic rewards, extrinsic rewards and also several intention to be an entrepreneurs.

Interestingly from the findings above, organizations especially university can emphasize on developing entrepreneurial activities to assist students with their entrepreneurship skills. Thus indirectly can influence students in term of choosing business as their future endeavor. Yeng *et al* (2012), highlighted that university and government play more special motivators for

students to enter this entrepreneurship field and have knowledge to start up business. University and government can offer short courses to students especially for final year students and give guidelines to assist inexperienced students to set up a business. From government perspectives, these agencies provide guidance Centre, information sources like funding as well as procedures to start up business and investors. It's seemed that both university and government are able to develop and train these Gen Y to launch a business after graduated. Among the effort by government are promotions and campaigns conducted by the Ministry of International Trade and Ministry of Higher Education to inspire students to become entrepreneurs in the future (Arinatul, Zainol, Adura & Zakiyah, 2016). These agencies have responsibility in giving support and provide financial incentives that students will know the available and resources easily to access. If students involve in entrepreneur programmes during their study time, they will tend to behave more entrepreneurial than other students due to the knowledge that they gain in classes or their related subject and experiences in doing business at their university (Tong, Tong & Loy, 2011). Currently, the participation among students in entrepreneurship activities is quite low after graduation due to lack of experiences in starting up a business. The Employment Package introduced by European Commission that launched a Youth Employment Package is indeed attractive. It includes the Youth Guarantee Actions and interventions of continued guidance on entrepreneurship for young people that can be supported by the ESF. Measures under the Youth Guarantee can range from providing training to supporting young people through enrolment in further education or the provision of concrete apprenticeships, traineeships or jobs. One specific aim of the Youth Guarantee is to foster youth entrepreneurship and to ensure greater availability of start-up support services. Perhaps, government can adopt and adapt the practice as part of the entrepreneurship initiatives among students.

As Malaysia is transforming from middle-income economy to a high-income economy in 2020, entrepreneurship has been identified as the key drive to help young people especially fresh graduates to become an entrepreneur (Arinatul *et al*, 2016; Yeng Kiat *et al*, 2012). In entrepreneurship, there are several reasons why people open up their own business; some of them are; to secure business to trusted people, to secure future for family members, to build business to pass on. Family members have to believe in the business and show a sense of responsibility towards it. The level of family support given to the business, including money and labor, might be critical in assuring it is success (Yadav & Goyal, 2015). It is shown that the foundation stage requires strong support from all family members or all members must at least acquiesce.

5. CONCLUSIONS AND RECOMMENDATIONS

To conclude, collaboration between institutions of higher learning and successful entrepreneurs are most welcome to unleash the potential project (Wan Kamarudin *et al*, 2016). A sharing session, tour and campaign from the collaboration might assist and motivate students with real success definition from these role models. Future research can be improve by expanding the number of respondents among universities students and extend the survey questionnaires to more universities in Malaysia, as well as adopting other sampling techniques. Additionally, future study can utilize other factors that encourage students to start up business such as family background including number of years involved in business, identifying students from self or non self-employed family. The results of this study do not only show great impacts on students' entrepreneurship intention, but also have crucial implications for educational and political reforming in order to develop entrepreneurship in terms of quality and quantity for individuals to succeed in an entrepreneurship future. This study contributes to the study of entrepreneurship around the globe and provides recommendations to assist policy makers in entrepreneurial training and support new business founders in the fields of entrepreneurship (Khuong *et al*, 2016).

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ID060 – Business Intelligence Adoption by Small-Medium Enterprises in Food Service Industry: A Case Study of Corm Cafe

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Abstract

Data driven decision-making using Business Intelligence (BI) applications has attracted great attention and recently many organizations have adopted BI into their business operations. However, due to various issues, small-medium enterprises (SMEs) are still behind in BI adoption. With increased competition and greater demands from consumers, SMEs are forced to respond to these changing conditions. This paper reports the adoption of Business Intelligence tool by Corm Cafe in food service industry through the implementation of market-basket analysis and dashboard presentation. The work follows CRISP-DM methodology that comprises of six phases. Two datasets were created from 1026 order sheets collected earlier. Appropriate minimum support and confidence values were applied to both datasets. The results of association rules produce ideal menu associations for Corm Café. A visual presentation in dashboard form was also provided for business owner to view the result. Consequently, this menu association feature recommended by BI tool enables business owner to employ the new marketing strategy for Corm Café to attract more customers and also potentially increase profits. The improvement in the marketing strategy will assist greatly in sustaining the café business in the future.

Keywords: *business intelligence, small-medium enterprise, food service industry, business analytics, menu planning*

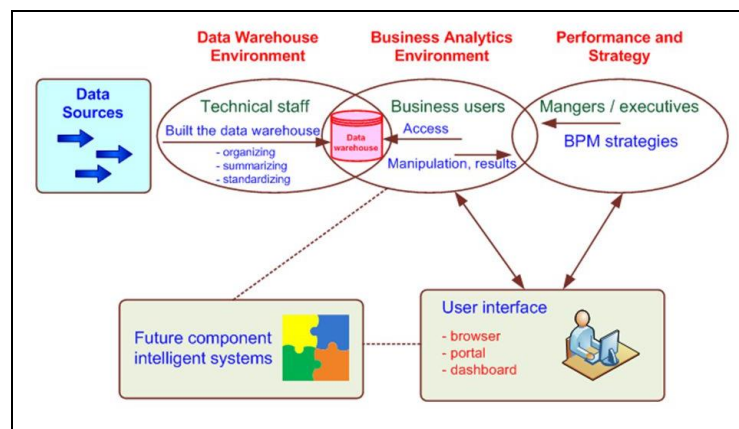
1. INTRODUCTION

Recently, in this highly competitive market, small-medium enterprises (SME) face challenges in making effective and timely business decisions. With increased competition, greater flexibility of products and more demands from customers, SMEs are required to operate their business in highly complex and dynamic environments (Boonsiritomachai, McGrath, & Burgess, 2014). As business environment is constantly changing and becoming more complex, enterprises, small or large are under great pressure that force them to quickly respond to these changing conditions (Sharda, Delen, & Turban, 2014). In this situation, it is important to seek ways to provide useful information that support decision makers and add value to business organization. As many SME business owners lack access to the information they need, many tend to make decisions based on instinctive knowledge that can result in flawed decision-making.

In order to improve decision-making, SMEs are now dependent on the advancement in information technology and its tools. Business Intelligence (BI) is now universally considered as an essential tool to significantly aid in business decision making process particularly in

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predicting current and prospective views of business operations (Hatta et al., 2015). BI is defined as a conceptual framework for decision support that consists of architecture, data warehouses, analytical tools and applications (Sharda et al., 2014). The analytical tools in BI enable the application of models directly to business data in order to assist decision makers. Figure 1 shows the BI architecture which consists of four components: (1) a data warehouse; (2) business analytics; (3) business performance management and (4) user interface. Data sources are obtained from multiple independent legacy systems. Relevant data are extracted and properly transformed during the extraction, transformation and loading process before finally loaded into a data warehouse (Sharda et al., 2014). Business analytics environment refers to a collection of tools for manipulating, mining and analyzing data in the data warehouse. Next, business performance management performs monitoring and analyzing the business performance. Finally, a user interface in the form of a dashboard allows the business owner to view the results of business operation.



Adopted from Eckerson (2003).

Figure 1: A Business Intelligence architecture

BI adoption has given benefits in terms of improved data and decision support and cost saving, as experienced by many German SMEs (Wirtschaft, Schieder, Kurze, Gluchowski, & Böhringer, 2010). To increase efficiency, these organizations have implemented BI tools in their business operations to collect, combine, access and analyze massive amounts of data. With BI, data are turned into information and then into knowledge that enables business owners to make timely and effective decisions. BI enables SMEs to quickly respond to changes such as in financial conditions, customer preferences and supply chain operations (Johnson & Lordeon, 2002).

Despite these benefits, nevertheless most SMEs still fail to take advantage from BI (Bruque & Moyano, 2007). While large enterprises use BI to assist in their operations, many SMEs on the other hand, are still left behind (Boonsiritomachai et al., 2014). Lack of resources is one of the main hindrances among SMEs that include finance, technology, knowledge and human resources (Bhaird & Lucey, 2010). These limitations might have made SME owners hesitant to invest in new technologies involving IT (Nguyen, 2009). Nevertheless, in the aspect of sustainable development of their business, SME owners are aware of the responsibility and as a result they prefer to participate in activities dominated by economic interests (Mikusova, 2017). Yet, SME owners cannot afford to ignore the significant effect that consumers and market have on their business performance (Mamun, 2018).

Undoubtedly, most SMEs are in great need of BI applications to create value added and competitive edge (Nyblom, Behrami, Nikkilä, & Sjöilen, 2012). One of the SMEs in our focus is in food service industry. Business owners who operate restaurants or cafes are constantly seeking paths toward quality improvement (Jia, 2018). This paper highlights a case study on

BI adoption by Corm Café. Established since 2012, Corm Café is located in Jasin, Malacca. Corm Café faces challenges in making sure that it is still able to survive in the competitive environment. With diverse customer base and their dynamic demands, Corm Café needs to find ways in order to stay competitive. Preliminary investigation has been carried out by the researcher to better understand the current scenario faced by Corm Café. Corm Café provides a variety of menus ranging from cakes, pastas, tortillas, local snakes and drinks.

1.2 Literature review

Malaysia's food service industry has witnessed vigorous development, as is evident from the growth of local and international businesses operating in the sector (Lee, Lee, Chua, & Han, 2017). Like other industries, the restaurant or café business comes with its challenges for business owners to face. Customer satisfaction is a primary goal of any establishment, especially ones that provide food and beverages (Cousins, Lillicrap, & Weeks, 2014). Lack of specification in determining target markets, poor advertising and promotional activities are the most commonly known factors associated with restaurant business failures (Kwansa & Parsa, 1990).

Various studies have been conducted on menu planning or menu items assortment. A menu planning process was conducted by considering important details such as guest profiles, budget and sufficiency of their facilities (Seyitoglu, 2017). Often, when it comes to menu planning, food pricing becomes a major issue (Filimonau, Lemmer, Marshall, & Bejjani, 2017). Nevertheless, still, menu planners must know the culture and eating habits of their guests in order to prepare the right menu and satisfy their guests. From the restaurant or café owners' point of view, it is considered as strategic to understand customers' preferences in order to provide a service to suit the customers' requirements. In the context of menu planning, Scozzafava et. al (2017) confirm on the existence of conditions for developing strategies based on a "sustainable" menu. In another study, menu design and price presentation have focused primarily on attitudinal effects on consumers (Yang, Kimes, & Sessarego, 2009).

Previous studies mentioned above however did not adopt any of business intelligence tools in their works. Recently, an implementation of menu items assortment was illustrated using a simplified version of market basket analysis (Ting, Pan, & Chou, 2010). The authors analyzed 3,727 meal transactions that combine 24 entrees and 49 side dishes in a Japanese-style restaurant. The intended task was to determine the 'ideal' menu items assortment to better understand customers' preferences. Another attempt was carried out to gain quality improvement hints from customers using text mining (Jia, 2018). Specifically, the approach enables business owners to identify specific reasons why customers like or dislike dining in the restaurant. However in these studies, the use of dashboard which is one of the BI elements was not found. An existence of a dashboard would assist business owners to easily view the findings from the business data and finally make decision for their businesses.

2. METHOD AND MATERIAL

This work followed the Cross Industry Standard Process for Data Mining (CRISP-DM) methodology which consists of six phases i.e. (1) Business understanding, (2) Data understanding, (3) Data preparation, (4) Model building, (5) Evaluation and (6) Deployment. The consistent strengths of CRISP-DM over other methodologies such as Knowledge Discovery in Database (KDD) and Sample-Explore-Modify-Model-Assess (SEMMA) illustrates that the CRISP-DM model is practically applicable to the SMEs (Rapantzikos, Avrithis, & Kolias, 2011). Briefly, in the context of Corm Cafe the phases involved are described as follows.

a) Business Understanding

In business understanding, the task was focused on understanding the objective and the business process of Corm Café. It was then learnt that Corm Café lacks of marketing strategy. Figure 2 shows the coupon used by Corm Café. Using the coupon, a customer needs to collect ten stamps to get a free coffee drink or a slice of cake.

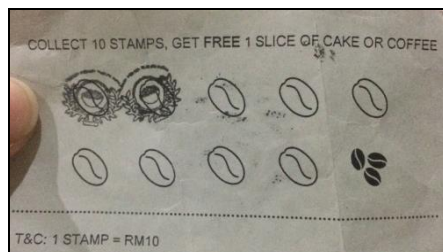


Figure 2: The use of coupon at Corm Cafe

However the current use of coupon was not effective since it could not attract new customers. The coupon was focused on maintaining the existing customers and not for attracting new customers. Therefore, a new marketing strategy must be in place for Corm Café to attract new customers.

b) Data Understanding

Next, in data understanding phase, the researcher must understand the data sources and identify relevant data. The data sources were the order sheets of Corm Café. A total of 1026 order sheets were collected from May until September 2017, which consists of data such as order date, order identification no, name of food and drink, category, quantity and price for each food. Data from all order sheets were then keyed-in into Microsoft Excel as shown in Figure 3.

	A	B	C	D	E	F	G
1	date	Order ID	Name of food/drink	Category	Quantity	Price	
2	02/05/2017	1	Coklat 77000 panas	Coklat	2	RM5.00	
3	02/05/2017	1	Epai	Krush/Jus	2	RM5.00	
4	02/05/2017	1	Brownies	Kek	1	RM5.00	
5	02/05/2017	1	Tortilla ayam	Tortilla	1	RM6.00	
6	02/05/2017	2	Pink Guava	Krush/Jus	1	RM3.00	
7	02/05/2017	2	Mango	Krush/Jus	1	RM3.00	
8	02/05/2017	2	Epai	Krush/Jus	1	RM5.00	
9	02/05/2017	2	Carbonara	Pasta	2	RM8.00	
10	02/05/2017	2	Tortilla ayam	Tortilla	1	RM6.00	
11	02/05/2017	3	Mango	Krush/Jus	1	RM3.00	
12	02/05/2017	3	Keju	Kek	1	RM5.00	
13	02/05/2017	3	Pink Guava	Krush/Jus	1	RM3.00	
14	02/05/2017	3	Carbonara	Pasta	1	RM8.00	
15	02/05/2017	3	Bolognese	Pasta	1	RM8.00	
16	02/05/2017	4	Caramel Latte	Kopi	1	RM6.00	
17	02/05/2017	4	Coklat 77000 sejuk	Coklat	1	RM6.00	
18	02/05/2017	4	Keju	Kek	1	RM5.00	
19	02/05/2017	4	Aglio e olio	Pasta	1	RM8.00	
20	02/05/2017	4	Carbonara	Pasta	1	RM8.00	
21	02/05/2017	4	Brownies	Kek	1	RM5.00	
22	02/05/2017	5	Brownies	Kek	1	RM5.00	
23	02/05/2017	5	Keju	Kek	2	RM5.00	
24	02/05/2017	5	Latte	Kopi	1	RM5.00	
25	02/05/2017	5	Mocha	Kopi	1	RM6.00	

Figure 3: Order sheets in Microsoft Excel

c) Data Preparation

In this phase, the task involved all the activities to construct a dataset based on the initial raw data. Relevant data were identified and properly handled by removing all the inconsistencies that might result from missing or incomplete values. Two different datasets were prepared for this task.

d) Model Building

The objective of this work was to develop a menu association model for Corm Café. For this purpose, market basket analysis was used to build the model, assisted by Rapid Miner tool.

e) Evaluation

During evaluation phase, the researcher used a different set of support and confidence threshold values. With two different sets of data, different types of association rules were produced. In this task, only rules with high support and confidence were considered.

f) Deployment

In this phase, the knowledge gained from the previous phase must be organized and presented properly so that the end user can understand and benefit from the findings.

3. ANALYSIS AND RESULTS

During the evaluation phase, different values of minimum support and confidence were set up for both datasets. In Table 1, the researcher set the value of support to 0.10 while the confidence value was set to 0.40. From the result, it was learnt that customers who ordered cake and local snack would also order Krush.

Table 1: Ideal menu associations

	Main dish	Side dish	Support	Confidence
1.	Kek, Snek lokal	Krush	0.140	1
2.	Kek, Coklat	Kopi	0.140	0.857
3.	Krush, Tortilla	Pasta	0.116	0.833
4.	Kopi, Snek lokal	Pasta	0.116	0.833
5.	Coklat	Kopi	0.186	0.727
6.	Kek, Tortilla	Krush	0.116	0.714
7.	Kopi, Tortilla	Pasta	0.116	0.714
8.	Tortilla	Kopi	0.163	0.700
9.	Tortilla	Pasta	0.163	0.700
10.	Krush	Pasta	0.302	0.684
11.	Kopi, Krush	Pasta	0.140	0.667
12.	Snek Lokal	Krush	0.186	0.667
13.	Snek Lokal	Pasta	0.186	0.667
14.	Coklat	Kek	0.163	0.636
15.	Pasta, Kek	Krush	0.116	0.625

With the above food associated model, the café owner as a decision maker should be able to utilize the knowledge gained from the business data. To assist the café owner, the knowledge is then visualized in the form of a dashboard as shown in Figure 4. The dashboard application contains the data description of Corm Café, the market basket analysis, the association rules and the recommended marketing strategy for Corm Café.

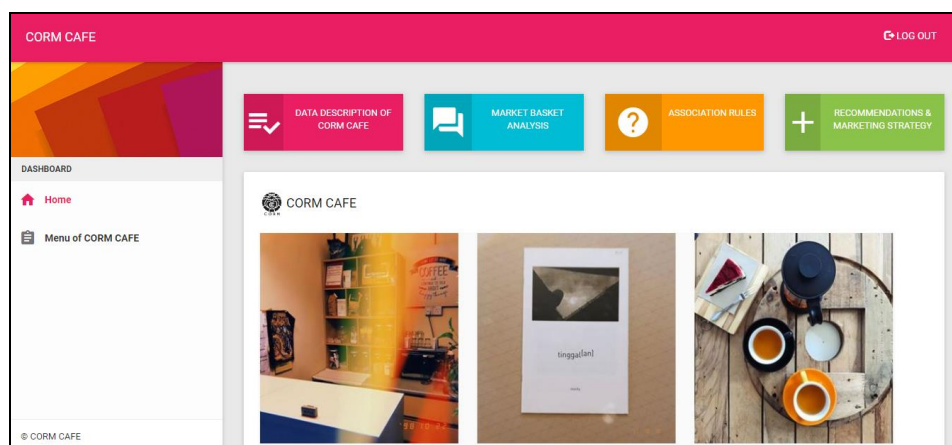


Figure 4: Home dashboard of Corm Café

In this dashboard, the results of the association rules produced by the model will be visualized via chart and people representation, as shown in Figure 5. From the visualization, the decision maker can understand better in terms of the summary of the analysis provided at the lower

end of the dashboard. New data on the categories of food and drink can also be added and updated easily by the café owner.

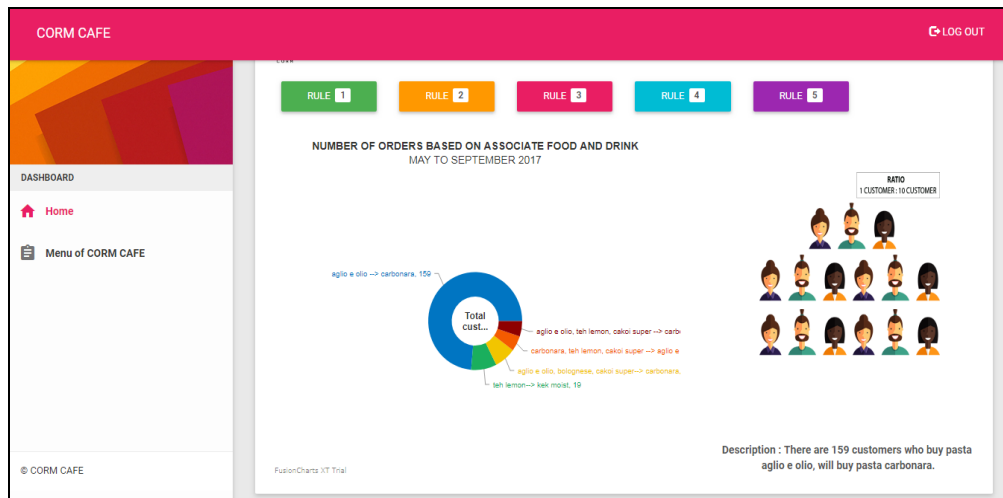


Figure 5: Visualization of associated food and drink

4. DISCUSSION

Previously, the café had implemented a coupon-based strategy in order to maintain existing customers and attract new customers. However, the use of coupons was not effective in the long run. The implementation of dashboard enables the café owner to come up with a new marketing strategy for CORM Café. Based on the datasets that originated from 1026 order sheets, relevant association rules were gathered. Findings from these rules revealed possible promotional marketing strategy for the café. For example, it was learnt that customers who ordered Kek and Coklat would also order Kopi. Consequently, the dashboard then makes recommendation for a “Buy 1, FREE 1” promotion on Coklat and Kopi. Figure 6 shows the promotional marketing strategy.

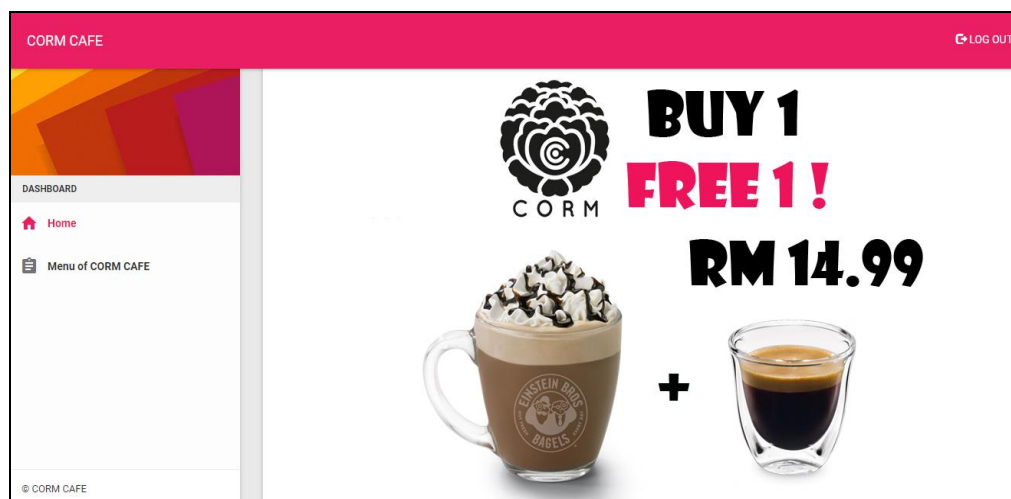


Figure 6: Marketing strategy based on promotion

The association rules generated by the BI tool enable the business owner to focus on ideal food menu items that indicates the popularity of the available menu at the café. With the ability to recommend popular menu that would attract more customers, this could lead to a greater profit for the café. As more data are collected, newer trend could be learnt based on the

association analysis. Recommendations from the dashboard could greatly assist the business owner to make decisions in order to improve business operations.

5. CONCLUSIONS AND RECOMMENDATIONS

This paper has highlighted the adoption of BI tool by Corm Café in a food service industry, illustrated through an ideal food menu item assortment for the café. The implementation of BI tool follows the popular CRISP-DM methodology with six phases i.e. (1) Business understanding, (2) Data understanding, (3) Data preparation, (4) Model building, (5) Evaluation and (6) Deployment. During the evaluation phase, different values of minimum support and confidence were set up for both datasets. The result from the association rules suggests that customers ordering a given main dish would most likely then choose a particular side dish to go with it. A dashboard application enables the business owner to view the recommended marketing strategy resulted from the association rules generated earlier. Future work will involve the utilization of appropriate data mining technique on the growing datasets.

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