A Preliminary Analysis on the Connections between Technology Orientation, Organizational Learning, Market Conditions, and Growth of Small and Medium Size Hotels in Peninsular Malaysia

Azilah Kasim[a]*

* Corresponding author: Azilah Kasim, azilah@uum.edu.my

[a]*School of Tourism, Hospitality and Environmental Management, Universiti Utara Malaysia, Malaysia, azilah@uum.edu.my*

Abstract

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This paper presents a preliminary analysis on the interface of Technology Orientation, Organizational Learning, Market Conditions, and Growth of small and medium size hotels in Peninsular Malaysia. To test the hypotheses, 254 completed questionnaires from hotel representatives at managerial level were analyzed using regression analysis. Regression analysis results indicate that Technology Orientation has significant relationship with growth / performance of small medium hotels while Market Conditions has an enhancing effect on Technology Orientation. The role of Organizational learning as mediator in the relationship between Technology orientation with Growth was also confirmed. Implications of the findings are discussed at the end of the paper.

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Keywords: Small and medium size hotels; firm growth; technology orientation; organizational learning; market conditions.

1. Introduction

This study looks at strategic behavior-performance relationship of small and medium size hotels (SME hotels) in a developing economy. However, a new study context is introduced i.e. firms in the service industry. Understanding the strategic orientations of SMEs in the service industry is important because those orientations could influence the extent to which the SMEs would analyze its demand and competitive environments. Strategic orientations are also indicators of the way SMEs attain and exploit

information about market opportunities and employ product-market innovations that will bring growth (Aragon-Sanchez & Sanchez-Marin, 2005). This paper presents the results of a preliminary analysis on the following objectives:

1) To investigate the influences of Technology Orientation (TO) on Growth of Malaysian SME hotels;

2) To explore whether Organizational Learning (OL) mediates the relationships between Technology Orientation (TO) on Growth of Malaysian SME hotels;

3) To explore whether Market Conditions (MC) moderate the relationships between Technology Orientation on Growth of Malaysian SME hotels.

2. The Literature

Unlike "the customer-pull philosophy" of MO, TO reflects the philosophy of "technological push", which posits that customers prefer technologically superior products and services (Zhou, Yim & Tse, 2005). Accordingly, a technology-oriented Small and Medium size Hotel advocates a commitment to R&D, the acquisition of new technologies, and the application of the latest technology (Gatignon & Xuereb, 1997). Although both MO and TO promote openness to new ideas, MO favours ideas that better satisfy customer needs, whereas TO prefers those that employ the latest technologies in the development of new products and day-to-day operations on the grounds of 'customer appeal'.

OL represents the development of new knowledge that is interpreted and institutionalized into organizational routines (Jones & Macpherson, 2006), facilitating performance-enhancing organizational changes (Slater & Narver, 1995). Sinkula, Baker and Noordewier (1997) conceptualise OL as firm values (e.g., commitment to learning, open mindedness and shared vision) that influence the propensity to create and use knowledge. Such values, in turn, are seen to guide a Small and Medium size Hotel's behaviour and processes of acquiring diverse information, developing common understanding of information and generating new knowledge or organizational insights (Fiol & Lyles, 1985). OL is consequently viewed as an underpinning internal self-renewal which form an important aspect of Small and Medium size Hotel strategic activities.

In line with Voss and Voss (2000), Market Conditions (MCs) can be broken down into three categories: demand uncertainty, competitive intensity and market growth. Demand uncertainty refers to the notion of market turbulence, which is directly related to instability in consumer preferences. Competition intensity refers to the degree of competition that a firm faces within the industry. This may be characterized by severe price wars, heavy advertising, diverse product alternatives and added services (Porter, 1980). Market growth refers to additional demand for products due to existing customers' increasing purchasing power, new customers, new products or emerging needs for higher quality products.

Measuring Small and Medium size Hotel growth is a complex area, with no generally accepted definition of firm growth (Naman & Slevin, 1993). A variety of financial measures has been used to assess small business growth such as sales volume (Rue & Ibrahim, 1998; Basu & Goswami, 1999),

profit levels (Birley & Westhead, 1990), number of employees (Birley & Westhead, 1990), number of customers and market share (Baldwin, Chandler, Le & Papailiadis, 1994). This project utilises the number of employee as indictor because it is always recorded and have been found to be a good indicator of size and growth (Barkham, Gudgin, Hart & Hanvey, 1996). A new indicator is also proposed i.e. whether or not the hotel has gone through any renovation in recent years. As renovation of premise often requires huge capital, a hotelier's capability to undertake hotel renovation within recent years is a logical indicator of growth.

2.1 Hypothesis Development

2.1.1. Effects of Technology Orientation (TO) on Small and Medium size Hotel Growth

Effects of TO on SME hotels' growth are proposed from two perspectives: technology based innovations and successful adaptations of new technology. A technology-orientated firm is proactive in acquiring new technologies and uses sophisticated technologies in the development of its new products. It therefore excels in technical proficiency and flexibility, which are critical drivers for market based and breakthrough innovations (Ali, 1994). In such firms, creativity and innovation are the organizational norms and values that guide its activities and strategies. They tolerate and often encourage employees with "crazy ideas" or an instinctive interest in inventing something new. Such innovations have potential to create markets, shape customer's preferences and change consumers' basic behaviour. Sometimes the changes are so fundamental that soon after they are implemented, people cannot imagine living any other way (Hamel & Prahalad, 1994). Therefore, innovations can contribute significantly to SME hotels' growth. Furthermore, in a technology-oriented firm, the implementation of the latest technology in day-to-day operations becomes a strategic priority. Accordingly, technology oriented SMEs can improve profitability through higher efficiency (e.g. employee productivity and customer loyalty) in its activities (Reinartz, Jacquelyn & Kumar, 2005). Therefore;

H1: Technology orientation has a positive effect on Small and Medium size Hotel growth

2.1.2 Organizational Learning (OL) as a Mediating Process

According to Buhalis and Murphy (2009) small and medium size hotels need technology support such as the Global Distribution System (GDS). GDS has been widely adopted by the large chain hotels but not smaller hotels due to the cost involved. Other than GDS, Information Communication Technologies (ICT) can be adopted as well, which will affect their competitiveness and their ability to grow. It is suggested SMEs hotel should use GDS systems such as Fidelio systems or Amadeus system to enhance their organizational learning (Buhalis & Murphy, 2009). The purpose of these systems is to make the hotel operational more effective and also to collect data for marketing study. Information or data collected normally is classified as tacit knowledge and need to be transformed into explicit knowledge and technology plays an importance role to store the information for later retrieved (Kumarasamy & Chitale, 2012). Therefore:

H2: Organizational learning mediates the relationships between technology orientation and Small and Medium size Hotel growth

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2.1.3 Market Conditions as a Moderating Process

Solberg & Olsson (2010) proposed that a competitive environment has a significant relationship with technology orientation of the organization. They argued that organizations need to conduct a continuous research and development (R&D) activities and development of technological strategies to lead the market. Their study results showed that in a competitive environment, TO could drive organization growth. Voss and Voss (2000) have also empirically proven that organizations with a high degree of technology-orientation will perform better compared to those with low degree of technology-orientation. This means that technology orientations can be moderated by a competitive market.

Ngamkroeckjoti and Speece (2008) conducted a study on SMEs food processing development and suggested that technology turbulence market conditions can moderate technology orientation. Technology turbulence refers to change of product, services and process technologies used to transform inputs into outputs to the end user (Kohli & Jaworski, 1990; Jaworski & Kohli, 1993). Ngamkroeckjoti and Speece (2008) believe that technology turbulence is higher for technology-oriented organization. However, their finding was not within the context of the service industry. Thus there is a need to examine whether the relationship between TO and SMEs growth within the service industry are moderated by market conditions. The hypothesis proposed is as the following: -

H3: The relationship between Technology Orientation and SMEs growth is moderated by Market Conditions

The success of a Small and Medium size Hotel is not independent of the market in which the firm operates. Indeed many MCs have a direct influence on the performance of the firms. The effectiveness of a firm's orientation is conditioned by the nature of its market (Kohli & Jaworski, 1990). Furthermore, the competitive-force suggests that competitive advantage lies in a firm's correct positioning in a market (Porter, 1985). The sustainability of the competitive advantage that stems from such a position critically depends on the relative influence of the MCs that the firm encounters (Porter, 1980). Therefore:

H4: Market conditions moderate the relationships between entrepreneurial orientation, market orientation, technology orientation and Small and Medium size Hotel growth

3. Methodology

The study uses quantitative data collected through questionnaires. The instrument was designed in English but the personally-assisted survey was conducted in either Bahasa Malaysia, English and Mandarin or mixed. Translated version was verified by language experts to ensure accuracy of content. The target population of the study sample consists of SME Hotels operating in three of the most famous tourism destinations in Peninsular Malaysia i.e. Penang, Langkawi and Kuala Lumpur. Using cluster technique sample was proportionately drawn using information from business directories, the Department of Statistics Malaysia and any other relevant documentation. Exploratory interviews were conducted to test the face validity of the conceptual model and help design the research instrument. Using expert opinions from both the academic and the industry sides, and pilot testing the instrument

on a small group of target respondents also helped determine the validity of the instrument. The instrument was later revised and finalized based on the pilot results. The study used personally assisted questionnaires to collect data from managers and owners of SME hotels in the three selected destinations.

4. Findings

From the 254 useable questionnaires returned and analysed, 31.9 percent of the hotels were rated as no star, while 39.4 percent were rated as 2 stars, 3 stars (15.0%), 4 stars (3.9%) and others (9.8%). Majority of the hotels were medium hotels in city area (45.7%) and small hotels in city area (33.9%). More than half of the hotels indicated that they have less than 50 rooms (70.1%). Only small number of them has 50 to 100 rooms (20.5%), 101 to 150 rooms (6.3%), 151 to 200 rooms (0.8%) and more than 200 rooms (2.4%), indicating that there were the SME hotels. As the study only considered the small and medium hotels, all of the hotels employed less than 50 employees. 49.6 percent of the hotels were sole proprietorship hotels, while 10.8 percent were General Partnership, Limited Partnership (6.0%), Private Limited (28.8%) and others (4.8%). 88.1 percent of the hotels were independent hotels. 82.1 percent of the hotels were operated less than 10 years. Majority of the hotels did not offer meeting space (75.8%) and considered as family business (60.4%). Only 28.7 percent of the hotels were managed by hotel management company.

Outliers detection using Mahalanobis Chi-square (D2) method found no outliers. Skewness and kurtosis values for each variable shows the variables were normally distributed. Internal consistency confirmation was checked using Cronbach's alpha coefficient and found to be satisfactory. Regression Analysis was performed to establish linear relationships between the variables to predict values of dependent variable from values of the independent variables. This analysis was also attempted to examine the effect of mediating and moderating variables on the relationship between strategic orientation and SME Growth. Results indicated that Technological orientation have the greatest significant effect on SME growth (B=0.359, t=7.142, p<0.01).

Table 1. Effect of Strategic Orientation on SME Growth

	B	t	Sig.
Technological Orientation	.359	7.142	.000
R^2	0.512		
F	87.387		
Sig.	0.000		

Technological orientation explained 42.04 percent of SME Growth (R2=0.420, F=60.365, p<0.01). All three dimensions successfully predicted SME Growth as follows; competition intensity (B=0.098, t=3.188, p<0.01), improvising products and services (B=0.515, t=7.295, p<0.01) and leveraging the green (B=0.208, t=6.076, p<0.01).

Table 2. Effect of Technological Orientation on SME Growth

	B	t	Sig.
Competition Intensity	.098	3.188	.002
Improvising Product and Services	.251	7.295	.000
Leveraging the Green	.208	6.076	.000
R^2	0.420		
F	60.365		
Sig.	0.000		

4.1 Effect of Mediating Variable

Two steps hierarchical regression was carried out to examine the effect of organisational learning in the relationship between Technology orientation and SME growth. Result indicates that the present of organisational learning only increase the R2 to 57.80 percent (R2=0.578, F=85.247, p<0.01) with Technological orientation (B=0.259, t=5.232, p<0.01) found to be significantly predicting small and medium hotel growth. The effect of organisational learning on the relationship between Technology orientation and SME growth showed that the presence of organisational learning in the model had decrease the effect of technological orientation (B=0.259, t=5.232, p<0.01) on SME growth. It can be concluded that organisational learning only partially mediated the relationship between Technological orientation with SME Growth.

Table 3. Summary of Mediating Effect of Organisational Learning on the Relationship between Technological Orientation and SME Growth

	Beta		Mediating
	Direct Effect	Indirect Effect	Effect
Technological Orientation	0.359**	0.259**	Partially

Notes: **p<0.01; *p<0.05

4.2 Market Condition

To test the hypothesis that the market condition are the function of SME growth, and more specifically whether market condition moderate the relationship between Technological orientation and SME growth, a hierarchical multiple regression analysis was conducted. Technological orientation: (B=0.329, p<0.01) was found to be a significant predictor to SME growth. Next, the interaction term between Technological orientation and market condition was added to the regression model (Step 3), which accounted for a significant proportion of the variance in SME growth (R2 change=0.020, F change=4.145, p<0.01). Examination of the interaction plot showed an enhancing effect that as Technological orientation (Figure 11) became larger, so was SME growth. This finding indicated that the moderation effect of market condition occurred in the relationship between Technological orientation and SME growth.

Table 4. Moderation Effect of in the Relationship between Technological Orientation and SME Growth

Variable	B (model 1)	B (model 2)	B (model 3)
Dependent variable			
Technological Orientation	.413**	.329**	.315**
Moderating Variable			
Market Condition		.407**	.413**
Interaction Term			
TechOxMC			.172*
R²	*0.512*	*0.578*	*0.598*
F	*87.387*	*85.270*	*52.354*
Sig.	*0.000*	*0.000*	*0.000*
R² change	*0.512*	*0.066*	*0.020*
F change	*87.387*	*39.036*	*4.150*
Sig. F Change	*0.000*	*0.000*	*0.007*

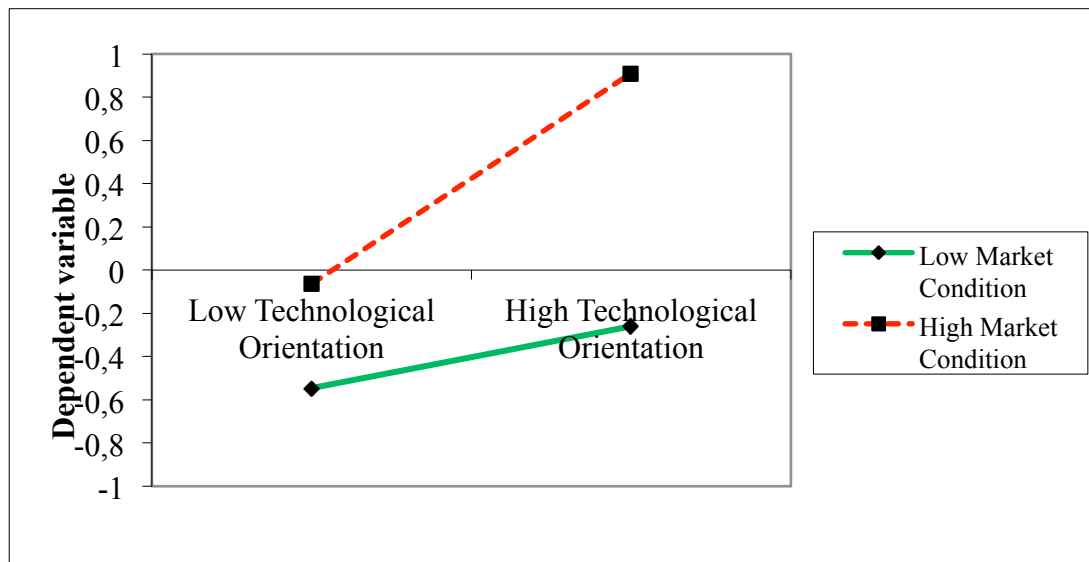*Notes: **p<0.01; *p<0.05*

Fig. 1. Moderating Effect of Market Condition on the Relationship between Technological Orientation and SME Growth

5. Discussions and Conclusion

This study has found that TO have the greatest significant effect on SME growth which is consistent with the literature (Chatzoglou, Diamantidis, Vraimaki & Vranakis, 2011; Miller & Friesen, 1983; Covin & Slevin, 1989; Naman & Slevin, 1993; Lumpkin & Dess, 1996; Zahra, Kuratko & Jennings, 1999). However, the analysis shows that OL only partially explained the relationship between TO with Firm Growth. This indicates that OL did not mediate the relationship between TO and SMHs Growth within the study context. Therefore the notion that OL improves an organization's future performance and strengthens staff skills and knowledge (see Fiol & Lyles, 1985; Baker & Sinkula, 2009) cannot be supported. In contrast, regression analysis on whether Market condition moderates the relationship

between TO and SMHs Growth has revealed that Market condition has an enhancing effect on TO, indicating that moderation effect of Market condition occurred in the relationship between TO and SMHs Growth. This is consistent with the findings of Solberg and Olsson (2010), Voss and Voss (2000) and Ngamkroeckjoti and Speece (2008).

In terms of theoretical implications, the findings have provided empirical support to the theory on the influence of TO on Firm growth and on the moderating effect of Market conditions on TO-Firm growth relationship. On the other hand, this study could not support the theory on the mediating role of OL. In relations to managerial implication, we can infer that technology can play a significant role in the growth of a service-oriented firm such as hotels. Therefore, it is suggested that perhaps SME hotels could focus on adopting better technology to help grow their businesses. From policy perspective, the government could do more to ensure a positive and supportive market conditions for SMHs to operate in whilst motivating them to become more tech-savvy so that they could become more competitive. Free or subsidsed training workshops, subsidesed adoption of new technology and other initiatives could help more small and medium size hotels adopt more and better technology.

Finally, it is recommended that future research could focus on using qualitative approach to further understand why OL has little influence improving an SMH performance. This crucial information could provide better understanding on how to drive SMH business in Malaysia.

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