How do Technology Orientation, Organizational Learning, Market Conditions, and firm Growth Connect? A Preliminary Analysis on Small and Medium Size Hotels in Peninsular Malaysia

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ABSTRACT

This paper presents a preliminary analysis on how organizational learning (OL) and market condition (MC) affect the relationship between technology orientation (TO) and growth of small and medium size firms. Using hotels in Peninsular Malaysia as context, the study tested its hypotheses using responses from 254 hotel managers. Regression analysis results indicated that MC has an enhancing effect on the positive and significant relationship between TO and growth/performance of small medium size hotels. Meanwhile, OL only partially mediates the relationship between TO with growth of those hotels. Implications of the findings are discussed at the end of the paper.

Keywords: Organizational Learning, Market Conditions, Technology Orientation
JEL Classifications: M10, M14

1. INTRODUCTION

A business’s strategic orientation has been the primary focus of many entrepreneurship scholars. It has been proposed in the entrepreneurship literature that businesses generate value and growth by actively taking on entrepreneurial activities (Spicer and Sadler-Smith, 2006) such as determination and manipulation of business opportunities by being innovative, proactive, and making bold and risky decisions (Covin and Slevin, 1989, 1991; Spicer and Sadler-Smith, 2006). Nevertheless, entrepreneurial activities can only provide temporary competitiveness. To sustain in the long run, businesses also need to be creative and adopt long term strategic actions through planning, acquisition and environmental scanning that could help improve decision-making (Cohen and Sproull, 1996; Morgan and Strong, 2003).

This study looks at strategic behavior-performance relationship in small and medium sized hotels (SMHs) in a developing country. Understanding the strategic orientations of small and medium enterprises (SMEs) is important because those orientations could influence the extent to which 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 and Sanchez-Marín, 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 SMHs;
2. To explore whether organizational learning (OL) mediates the relationships between TO on growth of Malaysian SMHs;
3. To explore whether market conditions (MC) moderate the relationships between TO on Growth of Malaysian SMHs.

Understanding SMHs’ growth factors can lead to better policies that could help ensure the segment’s own economic sustainability.
and ability to reap benefits from the growth of the global tourism industry. They play a significant role in the economic sustainability of any given destination. Evaluating the SMH performance is also important because tourism is Malaysia’s second foreign exchange earner and international tourism arrival is set to grow to 1.6 billion in 2020 with expected tourism receipts of USD 2.0 trillion (UNWTO, 2013). Therefore SMHs were chosen because the accommodation sector is an integral component of the travel and tourism industry. Within this component, SMHs represent the biggest segment of the accommodation sector.

In the following sections, the review of the literature is presented, where the key concepts involved are discussed. This is followed by presentation on the methodology involved in the study. Then, the findings are detailed out to show how much of the research objectives are answered. Lastly, the discussion of findings and conclusion are provided to show the implications of the findings to the real world.

2. THEORETICAL BACKGROUND

There are three types of strategic orientation that could affect the growth of business firms. They are market orientation (MO), TO, and entrepreneurial orientation (EO). Focusing on TO, this type of orientation reflects the philosophy of “technological push,” which unlike “the customer-pull philosophy” of MO, posits that customers prefer technologically superior products and services (Zhou et. al., 2005). Accordingly, a technology-oriented small and medium size hotel advocates a commitment to R and D, the acquisition of new technologies, and the application of the latest technology (Gatignon and Xuereb, 1997). Although both MO and TO promote openness to new ideas, MO favors 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.

Organizational learning (OL) represents the development of new knowledge that is interpreted and institutionalized into organizational routines (Jones and Macpherson, 2006), facilitating performance-enhancing organizational changes (Slater and Narver, 1995). Sinkula et al. (1997) conceptualize 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 an small and medium size hotel’s behavior and processes of acquiring diverse information, developing common understanding of information and generating new knowledge or organizational insights (Sinkula et al., 1997). OL is consequently viewed as underpinning internal self-renewal, and forming an important aspect of small and medium size hotel strategic activities.

Another variable that this study looked at is MC. As proposed by Voss and Voss (2000), MC 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.

The focus of this study i.e., the small and medium size hotels (SMHs) in a developing country is a rather new context of study for understanding strategic behavior-performance relationship of small and medium enterprises. While the novelty may be immense, measuring SMHs growth is a complex area, with no generally accepted definition of firm growth (Naman and Slevin, 1993). A variety of financial measures has been used to assess small business growth such as sales volume (Rue and Ibrahim, 1998; Basu and Goswami, 1999), profit levels (Birley and Westhead, 1990), number of employees (Birley and Westhead, 1990), number of customers and market share (Baldwin et al., 1994). This project utilizes employee as indicator because it is always recorded and have been found to be a good indicator of size and growth (Barkham et al., 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 TO on small and medium size hotel growth

Effects of TO on SMHs’ 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 consumer’s preferences and change consumers’ basic behavior. Sometimes the changes are so fundamental that soon after they are implemented, people cannot imagine living any other way (Hamel and Prahalad, 1994). Therefore, innovations can contribute significantly to SMHs’ 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 et al., 2005). Therefore;

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

2.1.2. OL as a mediating process

OL enhances an organization’s strategic performance (Fiol and Lyles, 1985). OL can be described as knowledge creating within an organization; knowledge distribution and sharing (Jones and Macpherson, 2006), it will improve an organization’s future performance and strengthens staff skills and knowledge (Fiol and
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Lyles, 1985; Baker and Sinkula, 1999). Erikson (2003) proposed that there are three mainstream sources of learning i.e., mastery experiences, vicarious experience and social experience. Mastery experience refers to experiences gain through the past experiences and it may contribute positive estimation of future performance. Vicarious experience was referring observation and reflection learning. Social experience was classified as social persuasion to receive positive encouragement. Meanwhile Cope (2005) suggests that entrepreneurial learning could be divided into learning prior to start-up and learning during the entrepreneurial process. Entrepreneur preparedness was the first requirement for each prospective entrepreneur at the start-up of his or her business (Reuber and Fischer, 1999). With the different experiences, skills, knowledge each prospective entrepreneur will shape the learning task once they enter into a new venture and creation (Cope, 2005).

2.1.3. MC as a moderating process
Solberg and Olsson (2010) proposed that a competitive environment has a significant relationship with TO of the organization. They argued that organizations need to conduct a continuous research and development (R and D) activities and development of technological strategies to lead the market. Their results showed that in the competitive environment, TO could drive the organization growth. (Voss and Voss, 2000) have also empirically proved that high degree of technology-oriented organization will perform better compare to low-degree of technology-oriented organization. In other words, TO were moderated by competitive market.

Ngakmroekjoti and Speakce (2008) conducted a study on SMEs food processing development and suggested that technology turbulence MC are moderating TO. Technology turbulence refers to change of product, services and process technologies used to transform inputs into outputs to the end user. It is believed that technology turbulence is higher for technology-oriented organization. However, their finding was not clear that technology turbulence moderated TO (Ngakmroekjoti and Speakce, 2008; Kohli and Jaworski, 1990; Jaworski and Kohli, 1993). Thus a study need to be conducted to examine TO and SMEs growth are moderated by MC. The hypothesis drawn is as the following: $H_3$: TO and SMEs growth are moderated by MC

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 and 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:

$H_3$: MC moderate the relationships between EO, MO, TO and small and medium size hotel growth

3. METHODOLOGY

The study uses quantitative data collected through questionnaires. The instrument was designed in English but conducted in either Bahasa Malaysia, English and Mandarin or mixed. Language experts were consulted to check the content accuracy of the translated version of the instrument. The target population of the study sample consists of SMHs 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 SMHs in the three selected destinations.

4. FINDINGS

From the 254 useable questionnaires returned and analyzed, 31.9% of the hotels were rated as no star, while 39.4% 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 SMHs. As the study only considered the small and medium hotels, all of the hotels employed <50 employees. 49.6% of the hotels were sole proprietorship hotels, while 10.8% were General Partnership, Limited Partnership (6.0%), Private Limited (28.8%) and others (4.8%). 88.1% of the hotels were independent hotels. 82.1% of the hotels were operated <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.

Outlier detection using Mahalanobis Chi-square ($D^2$) 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. As demonstrated in Table 1, TO have the greatest significant effect on SME growth ($B = 0.359$, $t = 7.142$, $P < 0.01$).

TO explained 42.04% of SME Growth ($R^2 = 0.420$, $F = 60.365$, $P < 0.01$). Table 2 shows 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 ($B = 0.208$, $t = 6.076$, $P < 0.01$).

4.1. Effect of OL

Two steps hierarchical regression was carried out to examine the effect of OL in the relationship between TO and SME growth. Result indicates that the present of OL only increase the $R^2$ to 57.80% ($R^2 = 0.578$, $F = 85.247$, $P < 0.01$) with TO ($B = 0.259$, $t = 5.232$, $P < 0.01$) found to be significantly predicting small and medium hotel growth. As shown in Table 3, the effect of OL on the relationship between TO and SME growth showed that the presence of OL in the model had decrease the effect of TO ($B = 0.259$, $t = 5.232$, $P < 0.01$) on SME growth. It can be concluded that OL only partially mediated the relationship between TO with SME growth.

4.2. Effect of MC

To test the hypothesis that the MC are the function of SME growth, and more specifically whether MC moderate the relationship between TO and SME growth, a hierarchical multiple regression analysis was conducted. As shown in Table 4, TO ($B = 0.329$, $P < 0.01$) was found to be a significant predictor to SME growth. Next, the interaction term between TO and MC was added to the regression model (Step 3), which accounted for a significant proportion of the variance in SME growth ($R^2$ change = 0.020, $F$ change = 4.145, $P < 0.01$). Examination of the interaction plot showed an enhancing effect that as TO (Figure 1) became larger, so was SME growth. This finding indicated that the moderation effect of MC occurred in the relationship between TO and SME growth.

5. DISCUSSION AND CONCLUSION

This study found that TO has a significant effect on SME growth. This finding is consistent with the findings of many previous literature (Chatzoglou et al., 2011; Miller and Friesen, 1983; Covin and Slevin, 1989; Lumpkin and Dess, 1996; Zahra et al., 1999). This indicates that the strong role of TO on firm growth as found in previous studies also applies in the context of small and medium size hotels in a developing country like Malaysia. However, the analysis showed that OL only partially explained the relationship between TO with firm growth. This indicates that OL failed to fully mediate the relationship between TO and SMHs growth. Therefore the notion that OL improves an organization’s future performance and strengthens staff skills and knowledge (Fiol and Lyles, 1985; Baker and Sinkula, 1999) cannot be supported. In contrast, regression analysis on whether MC moderates the relationship between TO and SMHs growth has revealed that MC has an enhancing effect on TO, indicating that moderation effect of MC 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 Ngamkroeijjoti and Speece (2008).

In terms of theoretical implications, the findings provided empirical support to the theory on the influence of TO on firm growth and on the moderating effect of MC on TO-firm growth relationship. On the other hand, this study could not support the theory on the mediating role of OL on TO-firm growth relationship. In terms of managerial implication, it can be confirmed that technology has become a very relevant factor in the growth of small and medium size hotel firms. Therefore this type of firms can no longer take technology for granted. Instead, SMHs should strive to become technology savvy and focus on adopting better technology to help grow the business. For example, they could work together with local app developers to develop their own booking app. In this manner, they would not have to rely on mediators such as booking.com and save money from not paying fees to such provider.

Meanwhile, from policy perspective, the government could do more to ensure a positive and supportive MCs for SMHs to operate in whilst motivating them to become more tech-savvy so that they could become more competitive. Conducting IT awareness workshops and providing tax incentives to small and medium size hotels that engage in new technology adoption are some of the ways to encourage them. Future research could focus on using qualitative approach to further understand why OL has little influence improving
Table 1: Effect of strategic orientation on SME growth

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>t</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technological orientation</td>
<td>0.359</td>
<td>7.142</td>
<td>0.000</td>
</tr>
<tr>
<td>R²</td>
<td>0.512</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>87.387</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significant</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SME: Small and medium enterprises

Table 2: Effect of technological orientation on SME growth

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>t</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competition intensity</td>
<td>0.098</td>
<td>3.188</td>
<td>0.002</td>
</tr>
<tr>
<td>Improvising product and services</td>
<td>0.251</td>
<td>7.295</td>
<td>0.000</td>
</tr>
<tr>
<td>Leveraging the green</td>
<td>0.208</td>
<td>6.076</td>
<td>0.000</td>
</tr>
<tr>
<td>R²</td>
<td>0.420</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>60.365</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significant</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SME: Small and medium enterprises

Table 3: Summary of mediating effect of organizational learning on the relationship between technological orientation and SME growth

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta Direct effect</th>
<th>Beta Indirect effect</th>
<th>Mediating Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technological orientation</td>
<td>0.359**</td>
<td>0.259**</td>
<td>Partially</td>
</tr>
</tbody>
</table>

**P<0.01; *P<0.05. SME: Small and medium enterprises

Table 4: Moderation effect of in the relationship between technological orientation and SME growth

<table>
<thead>
<tr>
<th>Variable</th>
<th>B (model 1)</th>
<th>B (model 2)</th>
<th>B (model 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technological orientation</td>
<td>0.413**</td>
<td>0.329**</td>
<td>0.315**</td>
</tr>
<tr>
<td>Moderating variable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market condition</td>
<td>0.407**</td>
<td>0.413**</td>
<td></td>
</tr>
<tr>
<td>Interaction term</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TechOxMC</td>
<td></td>
<td></td>
<td>0.172*</td>
</tr>
<tr>
<td>R²</td>
<td>0.512</td>
<td>0.578</td>
<td>0.598</td>
</tr>
<tr>
<td>F</td>
<td>87.387</td>
<td>85.270</td>
<td>52.354</td>
</tr>
<tr>
<td>Significant</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>R² change</td>
<td>0.512</td>
<td>0.066</td>
<td>0.020</td>
</tr>
<tr>
<td>F change</td>
<td>87.387</td>
<td>39.036</td>
<td>4.150</td>
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<tr>
<td>Significant F change</td>
<td>0.000</td>
<td>0.000</td>
<td>0.007</td>
</tr>
</tbody>
</table>

**P<0.01; *P<0.05. SME: Small and medium enterprises

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