



THE STUDY OF TOTAL QUALITY MANAGEMENT ON BUSINESS PERFORMANCE IN TOURIST HOTELS IN TAIWAN

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Abstract

Based on a novel perspective of dynamic capability, which refers to how well a business can react to changes happening in the environment in which it operates, this study investigates the relationship among market orientation (MO), total quality management (TQM), and organizational learning (OL) through a questionnaire survey on managers of hotels in Taiwan. The following conclusions have been reached: (1) Research constructs TQM and OL (but not MO) showed significant influence on business performance (BP); and (2) While TQM and OL exhibited mediating effects between MO and OL and between MO/TQM and BP, respectively, the effects of MO on BP were also mediated by a series of TQM- and OL- related mediators.

Key Words: business performance, total quality management, market orientation, tourist hotel, organizational learning

Introduction

In recent years, the central government and local governments in Taiwan have paid great attention to the development of tourism. To promote the development of tourist hotels, in 2012 the Tourism Bureau of the Ministry of

Transportation and Communications implemented the “Coordinating Plan on Quantitative Development of Tourist Hotels”. This initiative supports tourist hotels in accelerating improvements in terms of quantity and quality to help the hotel industry meet the future needs of tourists. Regarding the development of bed and breakfast (B&B) establish-

ments, the operators have been provided with official guidance for legalization and have been encouraged to align their businesses with regional tourism development by incorporating local characteristics and culture in their operations. The governments also have legislatively endowed B&B operators with enhanced operational flexibility to help them create greater economies of scale and better administrative and service quality. This has inspired some academic researchers in Taiwan to highlight the management modes of tourist hotels or B&Bs from theoretical and practical perspectives. However, according to the Tourism Bureau, in 2018, Taiwan was home to 108 tourist hotels with a collective revenue of 4,966 million NT dollars, 3,191 ordinary hotels with a collective revenue of 4,918 million NT dollars, and 4,118 B&Bs with a collective revenue of 175 million NT dollars. It is surprising that Taiwan's 108 tourist hotels could achieve collective revenue performance better than that of the 3,191 ordinary hotels, suggesting that the ordinary hotels have long been marginalized by governments and academia. Herein, the term "ordinary hotel industry" refers to profit-seeking enterprises that provide their guests with daytime and/or overnight accommodation and perform other related activities that have been approved by the central competent authorities but does not include any tourist ho-

tels. Compared to tourist hotels, most ordinary hotels suffer more from peer competition and thus need more support from government agencies.

As pointed out in some past literature, some researchers taking perspectives of competitive advantage, resources and core competence argue that enterprises should leverage their diverse resources to develop their own core competence and development strategies that add value for their customers and to maintain the competitive advantages of their organizations. Following such an argument, many enterprises have tried to establish competitive advantage on the basis of market orientation (MO) (Hult, Ketchen, & Slater, 2005; Li & Zhou, 2010) or total quality management (TQM) (Hendricks & Singhal, 2001; Tena, Llusar, & Puig, 2001). However, without considering the influence of changing external environments, these competitive advantages based on MO or TQM mechanisms are often not strong enough to provide enterprises with viable performance (Dayton, 2003; Mani Murugan, & Rajendean, 2003). As a remedy to this, some researchers have suggested that marketing concepts be included in the mechanism of quality management, but the effects of the hotel industry's TQM-based market orientation on hotels' performance are nevertheless subject to external factors (Wang, Chen, & Chen, 2012). Wu

(2006) also argued that the internal and external resources of enterprises in unstable environments do not have direct effects on their performance. It is thus obvious that competitive advantages depending on organizations' resources tend to be corroded in rapidly changing environments—market changes are neither linear nor predictable.

In changing and competitive business environments, what is the exact competence that can keep enterprises successful? Teece, Pisano, and Shuen (1997) amended the past perspectives based on resources and core competence by introducing the concept of dynamic capability. They also highlighted the importance of enterprises' paying close attention to external changes occurring around them, identifying market opportunities and threats, and accordingly coordinating, integrating, learning and reconstructing the internal and external techniques and resources they have to leverage the existing resources of their organizations to deal with the changing market. In addition to giving weight to monitoring external and internal environments, and integrating, reallocating and releasing resources, the concept of dynamic capability adopts approaches that value contingency and flexibility, enabling an organization to develop competitive advantages and create commercial value through appropriate business strategies and interaction with

the environment in which it operates (Eisenhardt & Martin, 2000; Teece et al., 1997; Wu, 2010). Hence, having valuable resources and assets is not a guarantee of corporate sustainability, and only organizations that respond to external changes with effective integration and coordination of internal and external resources are true winners (Teece, et al. 1997).

Since dynamic capability is the ability of an organization to adapt to and change with its changing environment, it allows the organization to respond to environmental changes and maintain competitive advantages. Herein, dynamic capability includes market awareness, organizational coordination/integration, learning and reconstruction of internal and external resources and capabilities. In other words, in a dynamic market, to satisfy discriminating customers, an enterprise should keep aware of its customers' demands, its competitors' dynamics and how its customers define quality, and communicate the information within its organization using an MO- based mechanism. The enterprise should also coordinate and integrate its divisions and staff to make improvements through internal processes and actions (such as implementing organization- wide quality management) (Griffith & Harvey, 2001), to effectively manage and maintain service quality (Teece et al., 1997; Zollo &

Winter, 2002), to develop new techniques and abilities, improve asset allocation (Helfat et al., 2007), to adjust and rebuild internal and external resources, and to progress and generate new knowledge (Cayla, 2008; Hodge, Anthony, & Gales, 2003). With the concept of dynamic capability in mind, organizations can better recombine their existing internal expertise to innovate and to strengthen their ability to incorporate external knowledge, thereby successfully adapting themselves to the changing market.

In summary, it is important that the concept of dynamic capability incorporate the concepts of MO, TQM and OL, which have only applied to general management of merchandising concerns to date. This is because the hotel business is also deeply involved in enterprise management, and for the ordinary hotels in Taiwan that are facing fierce and changing market challenges, these concepts are crucial to their ability to regain their competitive advantages. It should also be noted that these concepts have been extensively discussed in past literature whether separately or in combination. To the best knowledge of the authors, however, there has not been any literature published integrating all three concepts. In view of this, the present study attempts to infer and verify the interaction among MO, TQM and OL from the perspective of dynamic capa-

bility. The question of whether the factors and paths that impact on business performance can be identified through establishment of dynamic capability when business performance is taken as the primary objective and evaluation metric of competitive advantages is investigated. To this end, a questionnaire survey of some managers from ordinary hotels has been conducted, with the aim of filling gaps in the past academic research with empirical results and providing ordinary hotels with a practical model to develop competitive advantages in dynamic environments.

Literature Review

Dynamic Capacities

In their conceptual and empirical research paper published in 1997—in which they took “innovation-based competition” as a theoretical basis and argued that enterprises should place importance on their resources and core competence—Teece, Pisano and Shuen introduced the concept of “dynamic capability”. Dynamic capability was defined as the ability of an organization to properly integrate, develop and reallocate its internal and external resources to adapt itself to rapidly changing environments. Teece, Pisano and Shuen emphasized that enterprises should adapt and transform their core competence

timeously in order to effectively respond to environmental changes and maintain competitive advantage (Teece et al., 1997). However, an enterprise cannot translate the external knowledge it acquires into its competitive advantage if there is no systematic cross-functional coordination, cross-functional integration, and efficient organizational learning and active transformation mechanisms for established operations in place within its organization (Nielsen, 2006). Therefore, “dynamic capability” is the right answer to the question of how an enterprise in dynamic environments can seek better competitive advantages, business performance and development (Teece et al., 1997). The fundamental elements of so-called “dynamic capability” include market awareness, coordination/integration, learning, and resource reconstruction (Teece et al., 1997). Taking the hotel industry for example, in changing environments, if a hotel is able to get market information using its market awareness, the hotel’s management will be more capable of tracking, understanding and acting on that information than the hotel’s competitors. This is the essence of market orientation (Day, 1994; Olavarrieta & Friedmann, 2007).

If all divisions in its organization can come to a common view on what its customers value, a hotel can combine internal resources (Griffith & Harvey,

2001; Helfat, et al., 2007) and use internal process and executive efforts to drive staff’s active engagement and cooperation with customers and upstream and downstream vendors, thereby coordinating and integrating the overall operations process while actively and continuously improving its actions (Anand, Ward, Tatikonda, & Schilling, 2009). In this way, quality can be well controlled and presented to generate the hotel’s dynamic capability (Teece et al., 1997; Zollo & Winter, 2002). This is all total quality management about. At last, by actively strengthening details of its services, an organization can effectively lower its costs (Koc, 2006). While it is argued that the combination of internal and external resources has not direct effects on the performance of enterprises in unstable environments (Wu, 2006), if they can continuously monitor environmental changes to learn and develop knowledge, they can better internally and externally gain knowledge of various fields and remold themselves, bringing themselves with opportunities to innovate (Slater & Narver, 1998), and competitive advantages that support them to survive the environmental changes. This is the basic idea behind organizational learning.

Market Orientation

The implementation of marketing concepts is known as marketing orientation, or market orientation (MO). MO is used to build competitive advantages through valuing customers and thereby creating added value for customers (Kohli & Jaworski, 1990; Narver & Slater, 1990). While the literature presents inconsistent ideas about MO, the cultural perspective that sees MO as an extension of marketing concepts and the behavioral perspective that sees MO as an implementation of marketing seem dominant (Noble, Sinha, & Kumar, 2002). From the cultural perspective, MO is regarded as an organization's culture, the objective of which is to encourage the organization to create excellent customer value and thereby achieve behaviors and activities that generate high enterprise profits. It is composed of three elements of action—namely customer orientation, competitor orientation, and cross-functional coordination. From the behavioral perspective, MO dictates that all members in an organization consider the enterprise's overall goal as their top priority and make great efforts to collect external information (including information about suppliers, customers, competitors and markets), to communicate the collected information throughout the organization, and to act on the information by executing marketing strategies (Kohli & Jaworski, 1990).

In dynamic environments, to create superior value for customers, an enterprise needs more extensive inter-division coordination. Customer orientation helps operators to be aware of any change in customer demands, and guides operators to invest sufficient resources in development of merchandise and services that customers desire and to refine workflows and service processes. On the other hand, competitor-oriented hotels are more active in investigating and monitoring their competitors' business activities, and after evaluating their competitors in terms of resources, costs, and performance, realize their own strengths and weaknesses and take reactive measures. Therefore, in this study, the cultural perspective addressed by Menguc and Auh (2006) is adopted to define market orientation as the practice through which an organization collects information about its customers and competitors and performs cross-functional coordination to provide its customer with superior value in the most efficient way. As for evaluation, MO is measured by considering all three elements—customer orientation, competitor orientation, and cross-functional coordination.

Total Quality Management (TQM)

The concept of total quality management lays emphasis on plenary in-

involvement of every division in an enterprise and, with support from executives, continuous improvement of quality to enhance organizational effectiveness and meet customers' needs, thereby achieving the ultimate goals of overall excellence and continuous customer satisfaction (Han, Chen, & Ebrahimpour, 2007). TQM guides an organization to transform in terms of normal framework, process and system, and thus it is often recognized as a strategic orientation and approach for an organization to embrace thoroughgoing and foundational changes (Chin, Pun, & Lau, 2003). In addition, TQM is about actively driving changes in the organization through continuous improvement. It is a process that enhances organizational capacity (Yam, Tam, Tang, & Mok, 2005) and has been extensively applied by the manufacturing industry, the service industry and government agencies.

Regarding evaluation of total quality management, different major dimensions are to be considered depending on the industry to which TQM is applied. For the hotel industry, good quality is the key to gaining guests' trust, which in turn means loyal guests and hotels' sustainable business and development. Therefore, when pursuing good quality, hotels must meet their customers' needs through their staff's plenary involvement and teamwork. At the same time, hotel executives must also exercise their

influence by giving commitment and support to quality improvement and high-quality organizational culture, so as to encourage everyone from the management to grass-roots staff to seek self-education and improvement by means of comprehensive and efficient education and training. While some literature has argued that process management as a dimension of total quality management is less significant in the context of the service industry, many traditional hotels have improved their service processes to improve customer satisfaction and refined their administrative operations for enhanced competitiveness (Yam et al., 2005). Therefore, in this study, the concepts of process management, management commitment and leadership, education and training, staff engagement and involvement, teamwork, continuous improvement and customer focus are incorporated into total quality management for hotels. Since the seven concepts are similar to the dimensions of TQM proposed by Fuentes et al. (2006), the present study evaluates total quality management using the scale developed by Fuentes et al. (2006).

Organizational Learning

While learning is in human DNA, organizational learning is an ability gained from the learning of all members of an organization. OL involves learning

behaviors at the levels of individuals, groups, and the whole organization (Crossan & Berdrow, 2003). OL as a theory has been applied to research in many disciplinary fields and has thus been endowed with divergent definitions and contents from different perspectives, making this theory somewhat “blurry”. Existing theories of organizational learning may be divided by their perspectives into awareness- focused (Lipshitz & Popper, 2000), rational- choice- focused (Watkins & Marsick, 1993), practice- focused (Swieringa & Wierdsma, 1992), and knowledge- focused (Helleloid & Simonin, 1994). Organizational learning may be realized in the process of knowledge conversion. This conversion may be driven by cognitive methods or by behavioral methods (Christensen & Knudsen, 2010), and uses continuous monitoring of the environment to generate new ideas and strategies, thereby actively addressing impacts from the environment (Hodge et al., 2003) and enabling overall development that is based on knowledge and contributes to ongoing improvement (Song, Jeung, & Cho, 2011). Therefore, organizational learning is actually a dynamic cyclic course that helps an organization to adapt the environment and achieve goals, and is essential for an organization to achieve equilibrium between endogenous and exogenous knowledge and to support continuous

evolution (Cayla, 2008). OL is so important because it is the most effective tool to reach alignment with increasingly complex and rapidly changing environments and to allow an organization to correct its behavior and act appropriately (Wijnhoven, 2001).

This study is about performance of hotels in Taiwan and is thus focused on organization- level organizational learning. Whether an organization can earn core competitiveness depends on whether it can effectively acquire, disseminate and accumulate knowledge (Earl, 2001). Also, dynamic capability is about building competitive advantages on the basis of knowledge resources (Eisenhardt & Martin, 2000). Therefore, knowledge acquisition, sharing, and effective application form a vital part of an enterprise’s core competitiveness. In this study, therefore, OL is discussed from the knowledge- based perspective and OL is defined as a process through which members of an organization acquire endogenous or exogenous knowledge by means of their mutual trust and cooperation and help the organization to develop new knowledge or new thinking, thereby sharing the created new knowledge across the organization and applying the same to affairs related to the organization. This is similar to the concept addressed by Lin and Lee (2005) that evaluated organizational learning from three dimensions (knowl-

edge abstraction, knowledge sharing and knowledge application).

Business performance

An organization's performance is measurable in terms of customer performance and financial performance (Luo, Slotegraaf, & Pan, 2006). For hotels, the literature suggests the use of objective metrics (such as average room occupancy, gross margin, and average gross margin per room) and awareness (such as competitive performance, and stakeholder satisfaction) (Claver-Cortes, Pereira-Moliner, Tari, & Molina-Azorin, 2008; Haber & Reichel, 2005), business and non-financial metrics (such as customers' average time on site, and room occupancy) (Banker, Potter, & Srinivasan, 2000, 2005), or financial metrics (such as return of investment, sales profit, and market share) for performance evaluation.

Adoption of market orientation may help a hotel to develop and offer a service portfolio catering for its core customers, and this is favorable for the hotel's financial performance (e.g., sales growth and market share) as well as non-financial performance (e.g., customer retention and customer satisfaction) (McManus, 2013; Wang et al., 2012). Hotels highly committed to implementing total quality management seem to have significantly higher aver-

age gross margin per room, competitive performance, and stakeholder satisfaction (Kaynak, 2003). However, no businesses can survive without financial support, and in order to maximize long-term business performance, a mutually beneficial relationship with buyers is also essential (Narver & Slater, 1990). In order to evaluate business performance in a more robust way and to prevent supervisors' personal preferences from interfering with their evaluation of staff performance, customer performance and financial performance are taken into consideration in this study when discussing business performance and in the design of the questionnaire for perception-based answers.

Construct relationship and hypotheses formulation

(1) Relationship between market orientation and business performance

MO is focused on target customers and involves outside-in information processing, regarded as marketing philosophy believing that an organization can obtain competitive advantages by offering more efficient customer value than its competitors (Baker & Sinkula, 1999). With effective use of MO, enterprises can efficient customer value good business performance or competitive advantages (Mavondo & Farrell, 2003; Wei & Morgan, 2004). In particular,

high- MO organizations tend to have superior competitive advantages and excellent value (Li, Sun, & Liu, 2006), which in turn lead to improved business performance (Li, Zhao, Tan, & Liu, 2008; Wang et al., 2012). Since hotel management is a part of enterprise management, this study arrives at an inference that:

H1: MO has positive effects on BP.

(2) Relationship between market orientation and organizational learning

Organizational learning is achieved through organizations' inside- out and outside- in learning cycles and is regarded as a management philosophy that emphasizes creating knowledge and continuously growing organizations' internal capabilities. Although MO and OL both attach importance to information processing, MO is more concentrated on market information about customers and competitors (Narver & Slater, 1990), and OL looks more into the issues raised in the processes by which an enterprise reacts to environmental changes (Baker & Sinkula, 1999). Since MO is supportive of a cultural framework on which a learning- oriented organization can develop and is the basis of organization value (Slater & Narver, 1996), it facilitates OL (Yi- ping Lin, Jun- ying Huang, Yu- Chuang Tung, 2004; Jiménez- Jiménez & Cegarra-

Navarro, 2007; Lee & Tsai, 2005; Wilson, 2011). Accordingly, this study arrives at an inference that:

H2: MO has positive effects on OL.

(3) Relationship among market orientation, organizational learning, and business performance

Market orientation facilitates organizational learning (Yi- ping Lin, Jun- ying Huang, Yu- Chuang Tung, 2004; Jiménez- Jiménez & Cegarra- Navarro, 2007; Wilson, 2011), and organizations can cultivate customer- oriented culture through learning (Jia- Jeng Hou & Yueh- chin Chung, 2009) to improve vendors' marketing capabilities and make contributions to market development and customer value creation (Hult, Hurley, & Knight, 2004; Santos- Vijande, Sazo- Pérez, Álvarez- González, & Vázquez- Casielles, 2005). However, when MO is used to improve performance and profit, some mediators may be important. In particular, for an enterprise paying less attention to learning, the use of MO for the purpose of improved performance is less efficient than it would be for a competitor with a learning orientation (Baker & Sinkula, 1999). Therefore, organizational learning is an important mediator (Jiménez- Jiménez & Cegarra- Navarro, 2007; Matsuno et al., 2002) that has positive effects on organizations' performance

(Jiménez- Jiménez & Sanz- Valle, 2011; Santos- Vijande, Lopez- Sanchez, & Trespalacios, 2012).

H3: OL has positive effects on BP.

H4: OL has mediating effects on MO-BP relationship.

(4) Relationship between market orientation and total quality management

In the current dynamic environment, hotel guests' increasing expectation has made hotel operators recognize how import knowing customers and markets is to their success. While market orientation requires hotels to meet customers' needs and expectations through "doing things right", quality management, on the other hand, requires continuous improvement of hotels' internal processes that make the whole organization capable of "doing things right". However, solely focusing on "doing things right" may lead to an enterprise merely meeting its management requirements but failing to improve its competitiveness. MO stresses external environments and sees customers as a driver of business. When an organization implements TQM as a solution to dynamic environments, MO plays an important role in improving quality management (Rahman, 2004). TQM is an import mediator that helps to strengthen the relationship between

market orientation and performance (Demirbag, Koh, Tatoglu, & Zaim, 2006). Market orientation has significant influence on quality orientation (Lai & Cheng, 2005; Mokhtar & Yusoff, 2009). Hence, this study arrives at an inference that:

H5: MO has positive effects on TQM.

(5) Relationship between total quality management and organizational learning

Total quality management involves quality- related education and training, staff engagement, and group discussions on diverse issues for solutions, thereby raising quality awareness. Continuous TQM helps hotels to develop new techniques and capabilities, and facilitates organizational learning (Ruiz- Moreno, García Morales, & Llorens- Montes, 2005). An enterprise's organizational learning reflects its TQM efforts (Hung, Lien, Yang, Wu, & Kuo, 2011; Martínez- Costa & Jiménez- Jiménez, 2008, 2009). Therefore, TQM strategies are actually useful tools for prompting organizational learning and growing enterprises' competitive advantages (Hendricks & Singhal, 2001; Martínez- Costa & Jiménez- Jiménez, 2008, 2009). One such a basis, this study arrives at an inference that:

H6: TQM has positive effects on OL.

(6) TQM's mediating role in the MO-OL relationship

Consumers' demand for quality depends on their personal desires. Therefore, to implement quality management, hotel operators have to listen to the "customers' voice" or they can never serve their guests with the expected quality. This is the concept of MO. By adopting market orientation, hotels can better understand customers' needs and competitors' information. MO is of much importance to effective quality management (van Birgelen, Ruyter, & Wetzels, 2001). It acts as a guide in the journey of quality improvement and as a window to customers, ensuring organizations "do things right" throughout the process of quality improvement. In addition, with implementation of TQM, MO can also act as a bridge between divisions in an organization, which facilitates the enterprise's teamwork and communicates a roadmap of quality management to staff of all levels for a common consensus on quality management (Slater & Narver, 1996). Thus, this study arrives at an inference that:

H7: TQM has mediating effects on the MO- OL relationship.

(7) OL's mediating role in the TQM- BP relationship

Continuous TQM helps hotels to develop new techniques and capabilities,

while facilitating organizational learning (Ruiz- Moreno, García Morales, & Llorens- Montes, 2005). An organization not adopting a learning orientation tends to fall behind its competitors in terms of performance improvement (Baker & Sinkula, 1999) and tends to get itself occupied by customers' short-term demands. Therefore, organizational learning is an important mediating process, which makes an organization more responsive to the market (Jiménez- Jiménez & Cegarra- Navarro, 2007; Matsuno et al., 2002), and this has positive effects on organization performance (Jiménez- Jiménez & Sanz- Valle, 2011; Santos- Vijande, Lopez- Sanchez, & Trespacios, 2012). Therefore, TQM-based strategies are good for organizational learning and building competitive advantage (Hendricks & Singhal, 2001; Martínez- Costa & Jiménez- Jiménez, 2008, 2009). Based on the principle that hotel management is a part of business management, this study arrives at an inference that:

H8: OL has mediating effects on the TQM- BP relationship.

Method

According to the previous inference about the relationships among MO, TQM, OL and BP, a conceptual framework has been established. For evaluat-

ing these variables, the scales developed by Menguc and Auh (2006), Fuentes et al. (2006), Lin and Lee (2005), Luo et al. (2006) and Karimi et al. (2004) were used. The sub- dimensions, operational definition, number of items and literature reference of each variable are listed in Table 1. These scales were first translated into Chinese and properly reworded according to the potential respondents' characteristics by the authors. Then the translation was proofread and amended by doctors in the field of language, management, and psychology who obtained their degrees in the

US and are proficient in both Chinese and English to form the test scales used in this study. The items are in the form of a 7- point Likert scale. For preventing common method variance caused by single- source bias, the questionnaire was designed and made up following the recommendations from Podsakoff and Organ (1986) and Podsakoff, MacKenzie, Lee, and Podsakoff (2003), and using concealment of respondents' information, concealment of item meaning, and reverse- order items, so as to minimize errors coming from common method variance.

Table 1. Operational Definitions And Measurements

Variable	Sub- dimension	Operational Definition	Item	Literature Ref.
Market Orientation	Customer orientation	The hotel is willing to listen to and satisfy its customers' needs	3	Menguc and Auh (2006)
	Competitor orientation	The hotel continuously monitors its competitors' dynamics. The hotel maintains its market position through cross- functional coordination	3	
	Cross- functional coordination		3	
Total Quality Management	Customer focus	The hotel satisfies its customers' needs.	3	Fuentes et al. (2006)
	Teamwork	The hotel works with its managers and staff, divisions, customer and suppliers as a team.	5	
	Continuous improvement	The hotel is committed to continuously process improve in terms of management and technology.	3	
	Management commitment and leadership	The hotel's executives create, commit and lead throughout the TQM process.	4	
	Staff engagement and involvement	The hotel's staff engages in the process and continuously refines their works so as to improve quality.	3	

	Education and training	The hotel endows its staff with necessary knowledge and skills, and trains them for self-control and problem solving.	4	
	Process management	The hotel's process covers all TQM elements and serial administration management	6	
	Knowledge abstraction	It is a process to get knowledge through talent, experience, knowledge transportation and search.	4	
Organizational Learning	Knowledge sharing	It is a process to learn new knowledge through sharing knowledge inside and outside the organization.	3	Lin and Lee(2005)
	Knowledge application	What is learned is disseminated, becomes available, and is applied to new scenarios.	3	
Business performance	Customer performance	The hotel achieves the level expected by its customers.	3	Luo et al. (2006)
	Financial performance	The hotel achieves the level expected by its shareholders.	3	

For data collection, the subjects are 754 ordinary hotels that have more than 50 guest rooms officially listed in the hotel register of the hotel and homestay information system maintained by the Tourism Bureau as of November 8, 2012. Among these hotels, 551 have an open email address, while 203 do not. Copies of the questionnaire were distributed via email (where possible) or by post. For the hotels that did not respond within 3 days (in the case of emails) or 7 days (in case of postal correspondence), "favor request calls" were made by telephone. After 7 weeks, those who did not respond were followed up for recovery. The aim was to recover the questionnaire in four weeks in order to minimize questionnaire-lost cases. With

the view that hotel executives possess professionalism and expertise about inter-division workings and business operations, their answers to the questionnaire were deemed to be true representations of the actual business status of their hotels (Guthrie, 2001). Thus, the questionnaire used in this study was designed to be answered by hotel managers based on their own perceptions. The data were analyzed using SPSS18 and AMOS Ver. 19.0.

Before full issuance of the questionnaire, 150 samples were drawn from the subject matrix as a test of the questionnaire. In this stage, there were 58 valid copies. After item analysis was conducted in various ways, 3 items with lower item-total correlation (item-total

correlation below 0.3) were removed. After removal, the result of exploratory factor analysis showed the KMO values of all constructs to be greater than 0.7, and all the constructs reached the level of significance in Bartlett's sphericity test. The factor loadings between any two items were all greater than 0.4, and the total variance explained exceeded 70%, indicating that the scale had preliminary validity. Besides, as proofed by Cronbach's α for internal consistency reliability, every construct had reliability greater than 0.7, meaning that the questionnaire had high reliability.

Findings

Tests for non- response bias and common method variance

The questionnaire survey was performed from March 16 to April 12, 2013, and 172 copies of the questionnaire were recovered, in which 158 were determined valid. This number satisfied the number of samples suggested by Hair, Anderson, Tatham, and Black (1998)—namely 120 (20 times of the number of the dependent variable items, i.e., 6)—and reaches the basic requirement of 100 samples determined by Boomsma (1982) and Loehlin (1992). The valid recovery rate was 20.95%. Therein, 141 valid copies were recovered before the follow- up calls, includ-

ing 98 through email and 43 through postal mail, and 17 valid copies were recovered after the follow- up calls. As indicated by the results of one- way variance analysis, the result of Levene's test for the three sample groups was 0.469 and $P=0.626>0.05$, suggesting that the samples exhibited homogeneity of variance. According to ANOVA results (F- test value=0.537, $P=0.586>0.05$), the groups showed no significant differences in business performance, meaning that the data were not dependent on different sampling methods. In other words, response and non- response had no significant effects on the result.

In detection of common method variance using analysis of confirmatory factors in structural equation modeling, it was found that in a single- dimension model, the fitness indexes of the model were $\chi^2=6,857.167$ ($P<0.000$), $df=1,485$, $\chi^2/df=4.618$, $RMR=0.295$, $GFI=0.331$, $AGFI=0.281$, $PGFI=0.308$, and $CFI=0.380$. All indexes failed to meet the standards of $\chi^2/df <3$, $RMR<0.08$, $GFI, CFI>0.90$, $AGFI>0.9$, and $PGFI>0.5$ (Hair et al., 1998), indicating that the dimension structure was not matched and lacked good construct validity. This suggested that the respondents' perception- based answers from the samples had no notable signs of common method variance.

Analysis of confirmatory factors

As shown in Table 2, the 56 observational variables all had factor loadings higher than 0.45 and reached the level of significance, meaning that the scale had convergent validity. The component reliability (CR) and average variance extracted (AVE) of each dimension were greater than or equal to 0.60 and 0.50, respectively, as recommended by

Bagozzi and Yi (1988), so the internal consistency was deemed acceptable. It was learned from Table 3 that the square root of AVE of the individual dimensions was 0.87~0.91, all greater than the correlation coefficients between the dimensions, so the scale used in this study did have discriminant validity.

Table 2. Analysis of Confirmatory Factors

Construct	Measured Variables	SFL	SE	SMC	EV	α	CR	AVE
Market Orientation	Customer orientation					0.89	0.89	0.81
	Our hotel sets our goals on customer satisfaction.	0.91*	0.49	0.84	0.42			
	Our hotel satisfies our customers' needs through close monitoring and evaluation.	0.88*	0.50	0.78	0.58			
	Competitor orientation					0.90	0.90	0.82
	Our hotel's salespersons share our competitors' information with our staff in other divisions.	0.95*	0.51	0.90	0.28			
	We respond promptly to competitors' promotional campaigns.	0.86*	0.50	0.74	0.66			
	Cross-functional coordination					0.92	0.92	0.79
	Our hotel carries out functional integration according to the demands in our target market.	0.92*	0.44	0.84	0.39			
	Our hotel has an inter-division resource sharing culture.	0.88*	0.43	0.77	0.51			
	I recognize our staff's contribution to customer value.	0.87*	0.42	0.75	0.52			
Total Quality Management	Customer focus					0.92	0.92	0.80
	Our hotel holds every event with our customers in mind.	0.89*	0.41	0.80	0.42			
	Our hotel's management supports any event that helps to increase customer satisfaction.	0.87*	0.41	0.76	0.49			
	To satisfy our customers and fulfill their expectations is our top priority.	0.91*	0.42	0.82	0.40			
	Teamwork					0.96	0.96	0.81
	Our hotel's management does not care about our customers.	0.90*	0.43	0.81	0.45			
	In our hotel, the supervisors and the staff work for the goals of their own divisions.	0.93*	0.39	0.86	0.30			
	In our hotel, we do things with teamwork.	0.91*	0.44	0.83	0.42			
	Every employee in our hotel is committed to improve products, services and processes.	0.88*	0.40	0.77	0.46			
	Employees hesitate to speak out, make suggestions, or challenge our organization's activities.	0.88*	0.42	0.78	0.51			
	Continuous improvement					0.93	0.93	0.81
	Our hotel's staff seldom has opportunities to make suggestion or change to our existing work processed.	0.91*	0.42	0.82	0.40			
	Our hotel encourages staff to continuously challenge and improve our products, services and processes.	0.87*	0.41	0.76	0.49			
	Our hotel has recently been recognized by our customers for our improved products/services/processes.	0.91*	0.40	0.83	0.34			
	Management commitment and leadership					0.95	0.95	0.83
	The members of our senior management have similar visions to the future of our hotel.	0.89*	0.44	0.79	0.53			
	Our management is less supportive to events and investments that need long-term waiting before earning money.	0.91*	0.43	0.83	0.41			
	Our management seldom delegates autonomy of work processes to the staff.	0.92*	0.42	0.84	0.38			
Our senior management foresees changes and plans for responses.	0.93*	0.43	0.86	0.35				
Staff engagement/involvement					0.93	0.93	0.83	
My job seldom allows me to deliver quality products or services.	0.92*	0.43	0.84	0.37				

	I love my job because it allows me to do things I want to do.	0.89*	0.41	0.79	0.45			
	Our hotel's staff works all-out.	0.92*	0.41	0.84	0.35			
	Education and training					0.93	0.93	0.78
	Our top management supports an environment where continuous education is encouraged.	0.89*	0.40	0.80	0.40			
	Our management and officers engage in professional training on hotel operation, labor relations, or customer relationship management.	0.87*	0.41	0.76	0.49			
	Many people in our hotel have sufficient essential expertise.	0.90*	0.41	0.82	0.39			
	Only a few people in our hotel understand the basic process of creating a product/service.	0.86*	0.41	0.75	0.51			
	Process management					0.95	0.95	0.75
	It's our commitment to ensure our hotel does not deliver defective products/services.	0.87*	0.39	0.75	0.46			
	Our hotel checks quality without reviewing the existing operational processes.	0.89*	0.38	0.78	0.39			
	Our hotel develops new products/services to ensure quality.	0.87*	0.39	0.76	0.44			
	We seldom use processes as a factor of analysis.	0.88*	0.41	0.77	0.48			
	Our hotel's management looks closely at the gross costs of products/services, including overhead costs.	0.86*	0.38	0.74	0.46			
	Our hotel's management and officers know how to energize our staff for excellent work performance.	0.83*	0.40	0.69	0.57			
	Knowledge abstraction					0.95	0.95	0.90
	Our hotel has ways to get information and knowledge about vendors.	0.91*	0.42	0.81	0.38			
	Our hotel has ways to get information and knowledge about consumers	0.91*	0.41	0.80	0.37			
	Our hotel has processes that use existing knowledge to generate new knowledge in place.	0.90*	0.45	0.81	0.50			
	Our hotel has processes for acquiring knowledge required by development of new products (services) in place.	0.89*	0.44	0.85	0.51			
	Knowledge sharing					0.93	0.93	0.90
Organizational Learning	Our hotel has internal processes for transmitting knowledge in place.	0.91*	0.42	0.78	0.40			
	Our hotel has a set of standardized incentive systems for inspiring our staff to share knowledge in place.	0.88*	0.41	0.82	0.46			
	Our hotel has a set of inter-division knowledge-sharing mechanisms in place.	0.90*	0.43	0.82	0.45			
	Knowledge application					0.93	0.93	0.90
	Our hotel has processes for transmitting organizational knowledge to our staff in place.	0.88*	0.41	0.78	0.47			
	Our hotel has processes for applying experiential knowledge in place.	0.91*	0.43	0.83	0.41			
	Our hotel has processes for using knowledge to solve new problems in place.	0.92*	0.45	0.83	0.40			
Construct	Measured Variable	SFL	SE	SMC	EV	α	CR	AVE
1. Business performance	Customer performance					0.93	0.93	0.91
	Our products (services) have earned good customer loyalty.	0.91*	0.44	0.83	0.41			
	Our customers are satisfied with the services/products we delivered.	0.89*	0.43	0.79	0.49			
	Our customers are willing to have long-standing business relationship with us.	0.92*	0.41	0.85	0.34			
2. Business performance	Financial performance					0.92	0.92	0.89
	In the past three years, our hotel has seen its market share growing.	0.91*	0.42	0.83	0.37			
	In the past three years, our hotel has continuously increased its turnover.	0.87*	0.47	0.76	0.64			
	In the past three years, our hotel has reduced its operating costs.	0.87*	0.42	0.76	0.50			

Note 1: *When $\alpha=0.05$, the statistical significance level was reached. Note 2: SFL is the standardized factor loading; SE is the standard error of the factor loading; SMC is the value of squared multiple correlation; EV is error variance; α is Cronbach's α value; CR is component reliability; AVE is average variance extracted

Table 3. Discriminant validity chart of various dimensions

Dimension	Correlation Coefficient														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
A	0.90														
B	0.56	0.91													
C	0.51	0.53	0.89												
D	0.39	0.14	0.25	0.89											
E	0.31	0.19	0.18	0.67	0.90										
F	0.35	0.15	0.25	0.48	0.45	0.90									
G	0.33	0.23	0.24	0.63	0.76	0.50	0.91								
H	0.34	0.19	0.30	0.61	0.50	0.49	0.57	0.91							
I	0.36	0.21	0.24	0.58	0.62	0.44	0.62	0.51	0.88						
J	0.33	0.26	0.28	0.55	0.52	0.44	0.49	0.52	0.52	0.87					
K	0.49	0.38	0.42	0.43	0.39	0.26	0.41	0.33	0.41	0.41	0.90				
L	0.48	0.36	0.40	0.43	0.45	0.32	0.46	0.43	0.48	0.45	0.66	0.90			
M	0.41	0.40	0.37	0.24	0.34	0.28	0.36	0.26	0.36	0.32	0.53	0.64	0.90		
N	0.15	0.17	0.14	0.22	0.20	0.15	0.12	0.13	0.08	0.19	0.23	0.20	0.19	0.91	
O	0.26	0.28	0.19	0.25	0.19	0.17	0.22	0.20	0.22	0.24	0.27	0.35	0.28	0.37	0.89

Note 1: A. customer orientation ; B. competitor orientation ; C. cross- functional coordination ; D. customer focus; E. teamwork ; F. continuous improvement G. management commitment and leadership ; H. staff engagement and involvement; I. education and training; J. process management ; K. knowledge abstraction ; L. knowledge sharing M. knowledge application ; N. customer performance ; O. financial performance ; P. dynamics; Q. rivalry. Note 2: The average of variables is the average of the sum of all the items in the scale.

All the items listed in Table 2 had their standardized factor loadings (SFL) fall in the range of 0.83~0.95, not exceeding or being too close to 1. The factor loadings also reached the level of significance. The values of measurement error variance (EV) were between 0.27 and 0.90 and were all positive. The results of tests for absolute fit, incremental fit and parsimonious fit. 2. Almost all indexes were within the acceptability range, meaning that the structural equation modeling overall fit was good. The dimensions that had the greatest factor loadings were “customer orientation” for MO, “management commitment and leadership” for TQM, “knowledge sharing” for OL, and “financial performance” for business performance.

Structural analysis of model is a model path graph obtained through structural analysis. The path coefficient from MO to BP is 0.14, but $P = 0.438 > 0.05$ (not significant). The path coefficient from MO to OL is 0.52; the path coefficient from OL to BP is 0.42; the path coefficient from MO to TQM is 0.48; the path coefficient from TQM to OL is 0.40; and all the P values for these coefficients are smaller than 0.05 (significant). Thus, in this study, all the hypotheses are supported except for H1.

Testing of mediating effects

This study used Bayesian estimation to measure the mediating effects of total quality management and organizational learning, and the results

are reflected. For the path coefficients from MO to OL, from OL to BP, from MO to TQM, and from TQM to OL, neither the upper limit nor the lower limit of the 95% confidence interval includes 0, meaning that OL and TQM exhibited mediating effects between the constructs of the dynamic capability and on the relationship with business performance, respectively. Thus, this study's hypotheses H4, H7 and H8 are supported.

Since indirect utility and grand utility cannot be measured using the maximum likelihood method, this study used Bayesian estimation and MCMC sampling, and calculated the posterior probability of each path. Then we wrote custom estimands as required, so as to determine whether indirect utility and grand utility were significant. As shown in Table 5, the estimate of indirect utility for MO \rightarrow TQM \rightarrow OL \rightarrow BP is 0.052, and its 95% confidence interval does not include 0, meaning that the MO- BP relationship was mediated by series mediators of TQM and OL. Overall, the estimate of grand utility of the model built in this study is 0.284, and its 95% confidence interval is also of the same sign, meaning that developing dynamic capability has significant effects on business performance.

Conclusions

The theoretical model's rationality is supported

For an enterprise, the resources it possesses and the competition it faces are never static. In dynamic environments, an enterprise's competitive advantages are not constant, but transient. In contrast with past literature that focused solely on static capacity, this study intended to close the research gap from the perspective of dynamic capability by building a conceptual model showing how a hotel's dynamic capability variables such as MO, TQM, and OL affect its performance, and thereby gain insight into the possible sources of its competitive advantages.

According to analysis of structural equation modeling, the scales for measuring various variables showed good validity and reliability. The fit index of the conceptual model also supported rationality of this study theoretical model. Regarding the relationship among these variables, MO had no effect on BP, MO had positive effects on both TQM and OL, and TQM had positive effects on OL, while OL also had positive effects on BP. This also proved that TQM and OL have mediation effects on the MO- OL relationship, and the MO- BP relationship or the TQM- BP relationship, re-

spectively. The MO- BP relationship was also serially mediated by TQM and OL.

How dynamic capability variables (MO, TQM, and OL) affect business performance

From the perspective of dynamic capability, this study argues that MO, QM, and OL form dynamic capability that allows a hotel to possess competitive advantages in changing environments. According to structural equation modeling, the effects of MO on BP are significant (H1). However, MO has positive effects on OL (H2), and OL has positive effects on business performance (H3), while OL has mediating effects on the MO- BP relationship (H4). It is thus apparent that although market orientation does not affect business performance directly, it positively affects business performance with mediation of organizational learning. The result indicates that hotel operators who pay attention to environmental changes about their customers or competitors and perform cross-functional coordination are better positioned to have members of their organizations acquire endogenous and exogenous knowledge, share knowledge, apply the knowledge they acquired to problem solving, react to

changing customer needs, and develop competitive strategies, thereby leading to improved business performance. This also means that through continuous organizational learning based on existing knowledge, hotels can make good use of external resources and capability. In addition, it is also clear that only when market orientation is implemented with other internal resources that transfer the competitive value of their organization, hotel operators can use market orientation and organizational learning to generate competitive advantages of new forms that are adaptive to changing environments.

The results are quite consistent with those of previous studies, such as that market orientation facilitates organizational learning (Jiménez- Jiménez & Cegarra- Navarro, 2007; Lee & Tsai, 2005; Wilson, 2011), that market- orientation strategies need mediation to lead to better performance and profits, and that organizational learning is the key mediator during this process (Jiménez- Jiménez & Cegarra- Navarro, 2007; Matsuno et al., 2002). Organizational learning adapts business strategies to changing environments (Mavondo et al., 2005) and responds to the market (Jiménez- Jiménez & Cegarra- Navarro, 2007; Matsuno et al., 2002), thereby positively affecting the organization's perform-

ance (Jiménez- Jiménez & Sanz- Valle, 2011; Santos- Vijande et al., 2012).

Relationship among dynamic capability variables (MO, TQM, and OL)

This study tries to outline the contents of hotel dynamic capability and extend its application from marketing into the contexts of quality management and organizational learning to clarify how to use this dynamic capability to improve business performance in changing environments, and to in turn identifying the source of hotels' competitive advantages. The empirical results proved that market orientation has a positive effect on total quality management (H5), agreeing with the research of Lai and Cheng (2005), and Mokhtar and Yusoff (2009). However, some other researchers argue that total quality management provides a comprehensive and systematic way to develop a market- oriented working environment and enables organizations to extensively engage in planning and implementation of continuous improvement, thereby making changes in the cultural tendency of customer satisfaction. These researchers argued that market orientation will perform better when supported by total quality management, or that total quality management has effects on market orientation (Lam, Lee, & Ooi, 2012; Santos-

Vijande & Álvarez- González, 2009; Wang et al., 2012). However, this study is based on dynamic capability and instead proposes that market orientation shall be first focused on external environments and have customers taken as the driving force for business performance. In other words, market orientation plays an important role in improvement of quality management, and it acts as leader and a customer window during quality improvement to guide the entire organization to know what quality customers expect and convert customer expectation into quality strategies, thereby achieving the goal of customer satisfaction and, in particular, ensuring that the organization “does things right” during its quality improvement.

TQM also has positive effects on OL (H6). OL and TQM have mediating effects on the TQM- BP relationship and the MO- OL relationship, respectively (H7, H8). In addition, along the path of MO → TQM → OL → BP, the effects of MO on BP are serially mediated by TQM and OL. Thus, in changing environments, with the dynamic capability of MO, TQM and OL, hotels can have better insight into customers' needs and competitors' dynamics and create an environment that supports teamwork and communicates the roadmap for quality management across the organization, so as

to align the hotels with the market and answer to customers' needs properly and consistently. This also means that total quality management can drive the staff to actively engage in hotel operations and value customers' needs, thereby improving organization cohesiveness. Furthermore, knowledge-based organizational learning (such as collection, sharing, and use of knowledge) also contributes to mutual trust, cooperation and mutual learning among a hotel's members so that they can help the hotel to develop new thinking or new knowledge and apply the same to hotel affairs. In this way, organization performance can be further improved (García- Morales et al., 2009).

Management implications and practical recommendations

In MO- BP relationship, TQM and OL not only have their respective mediating effects but also jointly exhibit serial mediating effects. Besides, dynamic capability in highly uncertain environment includes all the three variables - MO, TQM and OL. This study recommends:

1. According to factor loadings of the three MO dimensions, customer orientation is the dimension most correlated to MO, and there is positive correlation between customer performance and financial performance

(Kaplan & Norton, 2004). Hence, strengthening customer performance is favorable to improved financial performance. For example, Hotel Royal- Nikko Taipei and Hotel Royal Hsinchu are of the same hotel group that is famous for its customer orientation. These two hotels have been highly responsive to market pulses, and accordingly introduce promotional campaigns welcomed by their customers. In particular, it is recognized by Hotel Royal- Nikko Taipei that their major customer base is Japanese travelers who think highly of quality and security, so the hotel employs Japanese staff in every customer-facing division to provide the most welcoming services and offer products and services similar to those of hot- spring hotels in Japan. On the other hand, Hotel Royal Hsinchu is the temporary home of many business travelers working in the high-technology industry, so they provide their room guests with high-speed internet access and "to- go" breakfast, perfectly addressing their customers' concerns. In summary, this study recommends ordinary hotel operators focus on customers' satisfaction and demands, and actively develop long- term relationships with customers. For example, hotels can investigate the data of

individual guests and accordingly communicate with guests by offering customized services and promotional campaigns to effectively attract repeat customers.

2. Good quality is the foundation of customer trust, and customer trust is the promise of long-term customer retention, which gives a hotel more opportunities for sustainable business and future development. TQM supports OL and has mediating effects on the MO- OL relationship and serially mediating effects on the MO- BP relationship. Apparently, in changing environments effective organizational learning is not automatically achieved merely by knowledge provision, and hotel operators must create a TQM- supportive environment to ensure the results of OL. It is thus recommended that ordinary hotel operators and executives shift their focus from reducing costs and increasing revenue to investing in and developing dynamic capability. For example, it is necessary to let the entire organization know the importance of TQM to their business and ensure that changes related to this process are not a burden to the staff or the organization. In the event that an organization is not budgeted to implement all the seven TQM con-

tents, it is recommended to put priority on management commitment and leadership, teamwork, and customer focus in terms of investment and improvement.

3. Organization learning facilitates effective use of internal and external resources, so it is a process of continuous learning and progress rather than a one-off event. However, ordinary hotels are usually limited in money and resources, so we recommend the authorities and local governments hold training courses, lectures, seminars and contests about hotel affairs using official budgets and manpower with the support of academic and industrial partners, so as to allow hotel staff and executives to gain professional skills and management experience through interaction and sharing, and to apply what they learn to routines and related affairs such as working processes and administration systems for improvement, thereby helping hotel operators to develop OL capability.

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