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The Effect of Using Nonfinancial Performance Measures in Improving Hotel Performance: Using Balanced- Scorecard Perspectives Empirical Evidence From Egypt

Abstract

The number of international tourist arrivals to Egypt has increased significantly. With such increasing number of tourists, the hotel industry has made a vital contribution to the country's economy by creating large high numbers of employment and large revenues. It is argued that hotel managers require financial and nonfinancial performance measures to monitor how well hotels perform on their critical success factors, i.e. customer satisfaction, service quality, asset utilization, and employee capability. Once the managers obtain response, they are able to take corrective actions to improve hotel performance. However, research on the impacts of hotel managers' use of financial and nonfinancial performance measures on hotel performance is still limited, especially in Egypt. This study examines the relationships between (1) the use of financial performance measures and hotel performance; and (2) the use of non-financial performance measures and hotel performance. Data for this study were collected from 205 departmental managers of medium to large-sized hotels in Egypt, using a survey questionnaire. The results indicate that the relationship between the use of financial performance measures and hotel performance is positively and significantly. The results also disclose that increased use of nonfinancial performance measures in each perspective: (a) customer perspective; (b) internal business process perspective; and (c) learning and growth perspective, is associated with improved hotel performance.

Keywords: financial performance measures, nonfinancial performance measures, hotel industry, Egyptian hotels.

تأثير استخدام المقاييس غير المالية في تحسين مستوى أداء الفنادق باستخدام بطاقة الأداء المتوازن - دراسة عملية على الفنادق في مصر

ملخص البحث

إزدادت بصورة جوهرية أعداد السائحين في مصر، ومع هذه الزيادة في أعداد السائحين، فإن صناعة الفنادق تقوم بمساهمة فعالة في الإقتصاد القومي عن طريق خلق مستوى عالي من تشغيل العمالة وأيضاً زيادة مستوى الإيرادات.

ويعتمد مديري الفنادق على المقاييس المالية وغير المالية للرقابة على العوامل الرئيسية للنجاح وزيادة كفاءة الأداء، ومن ضمن هذه العوامل رضا العميل، جودة الخدمة المقدمة، معدل استخدام الأصول والقدرة العمالية.

وبمجرد حصول المديرين على إستثمارات الإستبيان من السائحين، فأنهم يستطيعون إتخاذ التدابير التصحيحية لتحسين مستوى الأداء وتقوم هذه الدراسة بفحص العلاقة بين:

١- استخدام المقاييس المالية ومستوى الأداء في الفنادق.

٢- استخدام المقاييس غير المالية ومستوى الأداء في الفنادق.

وقامت الدراسة بتجميع البيانات على مستوى ٢٠٥ من مديري إدارات الفنادق متوسطة وكبيرة الحجم باستخدام قائمة الإستقصاء. وأوضحت النتائج وجود علاقة معنوية إيجابية بين استخدام المقاييس المالية ومستوى الأداء في الفنادق.

وتوصلت النتائج أيضاً إلى زيادة استخدام المقاييس غير المالية على مستوى بُعد العميل، وبُعد العمليات الداخلية، وبُعد التعلم والنمو في تحسين مستوى أداء الفنادق.

الكلمات المفتاحية: مقاييس الأداء المالية، مقاييس الأداء غير المالية، نطاق الفنادق في مصر.

1. Introduction

The performance measurement system is imperative for organizations because it can provide useful information for managers' decision-making as well as direct the managers' behaviors to take actions in the best interests for the organizations (Abernethy, Bouwens et al. 2004, Abernethy and Vagnoni 2004, Dossi and Patelli 2008, Abernethy, Bouwens et al. 2010, Jensen 2010, Zimmerman 2011, Mahlendorf, Rehring et al. 2012) . It has been widely accepted among researchers and practitioners that in today's business environment, the performance measurement systems should include both financial and nonfinancial performance measures (Ittner and Larcker 1998, Ittner and Larcker 1998, Hoque and James 2000, McWatters 2000, Malina and Selto 2001, Malmi 2001, Kaplan and Norton 2005, Chen, Yang et al. 2010, Sundin, Granlund et al. 2010, Lueg and Julner 2014, Mihăilă 2014) . The use of financial performance measures can reflect the past and short-term performance, while the use of nonfinancial performance measures can reflect future-oriented and long-term performance of the organizations (Ittner, Larcker et al. 2003, Grafton, Lillis et al. 2010, Saunila, Pekkola et al. 2014) . In addition, the use of financial and nonfinancial performance measures can indicate how well organizations improve the capabilities of their tangible and intangible assets that are critical to organizations' success. The financial performance measures can be used to assess the abilities of tangible assets, while the nonfinancial performance measures monitor the abilities of intangible assets such as service quality, innovation, and employee skills (Speckbacher, Bischof et al. 2003, Kaplan and Norton 2005, Ittner 2008, Greiling 2010) .

The relevant literature indicates that previous studies have examined the use of financial and nonfinancial performance measures in the hotel industry. Earlier studies on the use of financial and nonfinancial performance measures in the hotel industry have focused on specific hotel companies. Huckestein and Duboff (1999), For example, examined the implementation of financial and nonfinancial performance measures under balanced scorecard (BSC)

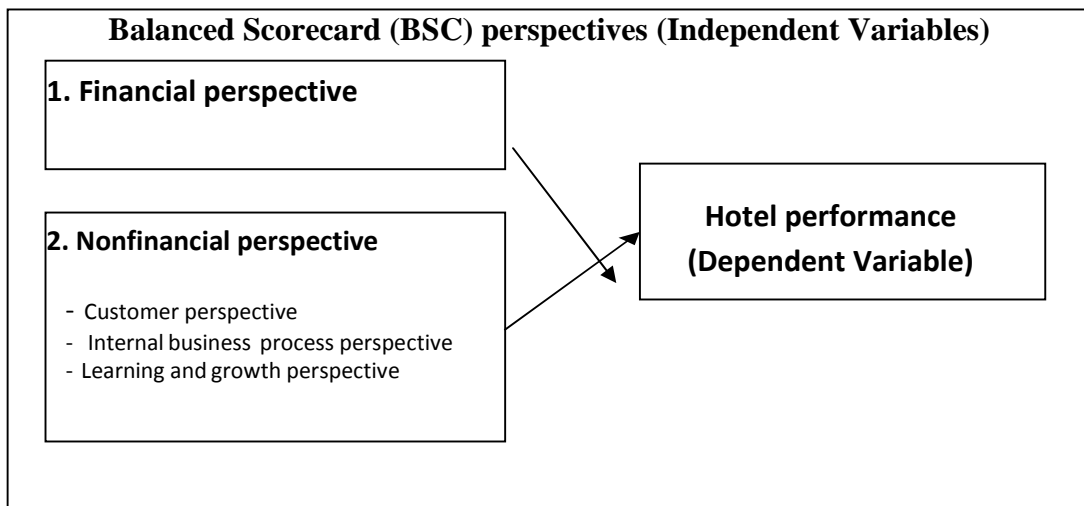
concept in Hilton Hotels, while Denton and White (2000) examined the application of financial and nonfinancial performance measures under BSC concept in White Lodging Service which handles the Marriott franchises, Courtyard, Fairfield and Residence Inn. Other studies have surveyed the extent of financial and nonfinancial performance measures usage in hotels. Evans (2005), for example, studied the frequency of financial and nonfinancial performance measures usage in 3–4 star hotels in the Northeast of England. Harris and Mongiello (2001) Examined the use of financial and nonfinancial performance measures in six chain-based hotels located in Europe: Regal, Radisson SAS, De Vere, Hilton, Sheraton and Star. Mia and Patiar (2001) Investigated managers' use of financial and nonfinancial measures in hotels located in Australia. The previous studies were mainly conducted in the advanced economies such as the United States, Australia and countries in Europe. A review of the literature suggests that there is limited empirical evidence on the use of financial and nonfinancial measures in hotels located in developing economies.

Over the past decade, the tourism industry in the developing economies has expanded rapidly. According to World Tourism Organization (2012), the number of international tourist arrivals in the developing economies has continuously grown from year 2000 (around 200 million per year) to year 2011 (up to 460 million per year). The rise of the tourism industry has improved the importance of the hotel industry in the developing economies. Mainly, in Egypt, the success of the hotel industry is vital for Egypt's economy. In 2018, this industry generated around 5% of the country's income and created more than 1 million jobs. The examination of the use of financial and nonfinancial performance measures in Egypt would explain whether financial and nonfinancial performance measures that have been widely used in the advanced economies are also accepted by hotels in Egypt, a developing economy country.

In addition, the previous studies have focused on the current use of financial and nonfinancial performance measures (Huckestein and Duboff 1999, Denton and White 2000, Harris and Mongiello 2001, Mia and Patiar 2001, Evans 2005). These previous studies highlight the usefulness of financial and nonfinancial performance measures for improving managerial capabilities in decision making and problem-solving, which may result in improved hotel performance. However, the empirical test on the relationship between hotel managers' use of financial and nonfinancial performance measures and the hotel performance is limited.

To contribute to the current literature, the present study is aimed at investigating the use of financial and nonfinancial performance measures in Egypt. It also seeks to examine the effect of the use of (a) financial performance measures and (b) nonfinancial performance measures in each BSC perspectives (i.e. customer, internal business process, and learning and growth) on hotel performance. The model of this study is shown in Figure 1. The results of this study will provide the practical evidence on the extent to which hotel managers in Egypt use financial and nonfinancial performance measures. This study will also offer an explanation on how hotel managers should use performance measures to improve their hotel performance.

The paper is organized as follow. Section 2 Literature review Section 3 discusses the relationships between (1) the use of financial performance measures and hotel performance, and (2) the use of nonfinancial performance measures and hotel performance. Section 4 describes research method, and Section 5 presents the results. Section 6 presents the discussion, conclusions and limitations.



2. Literature review

There are many studies showed the effect of financial and nonfinancial performance measures on performance. The marketing construct of customer satisfaction has received attention in the wider accounting literature with inconsistent results reported with respect to an association between customer satisfaction and financial performance.

Ittner and Larcker (1998) found significant relationships between customer satisfaction and customer retention, revenues and revenue changes within one large telecommunications firm, yet only a significant relationship between customer satisfaction and revenue for a financial services firm. Similarly, Banker et al. (2000) reported mixed results for the association between customer satisfaction and financial performance in a single hotel firm, and Smith and Wright (2004) found that in the personal computer industry, higher customer loyalty is related to higher average product price, sales growth and return on assets.

Some of the prior published works include Guilding et al. (2001) who elaborate on customer profitability analysis and customer asset accounting in a review of CA's potential in the hotel industry. In another conceptually based hotel paper, Quain (1992) outlines a hypothetical segmental customer

profitability analysis example in a hotel. The author illustrates the importance of including all revenues earned by a hotel's customer segments from all hotel activities when measuring segment profitability.

Moreover, Sainaghi (2010) provides a literature review of 20 years of research relating to hotel performance using the balanced scorecard as a model to summarize the main research areas of customer perspective, strategy and process perspective and according to the main functional areas of strategy, production, marketing and organization. Previous research has highlighted that accounting based measures are inadequate in service sectors (Phillips and Louvieris, 2005). Positive relationships have been found between hotel performance and external macroeconomic factors of market concentration (Pan, 2005); money supply (Barrows and Naka, 1994) and gross domestic product (Tang and Jang, 2009). Internal hotel traits of size, location, ownership and affiliation have been identified as having a positive association with hotel performance (Capó et al., 2007; Enz et al., 2001; Israeli, 2002; Pine and Phillips, 2005).

Particularly relevant study by (McManus 2013) showed that market orientation has been found to have a strong positive relationship with hotel performance (Sin et al., 2005; Cizmar and Weber, 2000; Gu and Ryan, 2008). Other factors that have been found to have a positive impact on hotel performance are service quality (Bowen and Shoemaker, 1998), destination and seasonality (Jeffrey and Barden, 2000), and indirect links have been identified with human resource management (Chand and Katou, 2007; Namasivayam et al., 2007; Harrington, 2004).

([Kasim and Minai 2009](#)) examined the relationship between CRM strategy and performance and determines whether the use of customer performance measures plays a mediating role in the relationship between CRM strategy and performance. Data were collected through a questionnaire survey of hotels in Malaysia. Hierarchical regression analyses on a sample of 95 hotels revealed that only the information technology dimension of CRM strategy has a significant and positive effect on performance.

On the other hand, there are a few studies have been conducted on the use of Non-financial performance measurements (NFPMs) by SMEs globally in general and in South Africa in particular. A single study conducted by Wadongo, Odhuno, Kambona & Othuon (2010), investigated the key performance indicators in the hospitality industry, and found that decision-makers give more attention to measures such as sales growth.

In a study conducted by Petzer, Steyn and Mostert (2009) on customer retention practices of small, medium and large hotels In South Africa. Small hotels in operating in Gauteng obtain an average of 41.2% retention rate, followed by 27.6% retention rate on medium hotels and large hotels retention rate of 20% of their customers. According to Choi, and Chu (2001) hotels that attract and maintain their customers are likely to have more repeat customers and survive in the industry. Therefore, it is significant that hotels understand guest demand so that they can fully satisfy them to entice them for a repeat purchase.

Also, the study conducted by (Cronin & Taylor, 1992; Hennig, Thureau & Klee, 1997) found a positive correlation between the level of guest satisfaction and the number of repeat customers. Another study on the significance of customer satisfaction was done by Melia (2010), confirming that customer care has direct relationship with repeat customers. This study concluded that customer care contributes to a percentage of 60% of repeat customers. This study highlights the significance of customer care and guest satisfaction as it contributes to repeat business and retention rate. Another significance of encouraging repeat customers through customer satisfaction is that, it facilitates the survival and growth of the organization.

Similarly, Wadongo, Odhuno, Kambona & Othuon (2010) revealed that customer satisfaction survey is very frequently used and found to be a one of the significant measures hotels use to measure performance. In light of the importance of internal business process for the financial and operational performance of the hotel, a study conducted by Ababa (2006) investigated measuring service quality in the hotel industry in Turkey. Akiba's (2006)

findings confirmed the importance of internal business processes since majority of the hotel respondents indicated that they render quality service to guests and also respond to guests' request within the required time.

Türüdüoğlu, Suner and Yıldırım (2014) identified the goals of the balanced score card (BSC) and the strength of the correlation between the financial perspective, customer oriented measures, internal business process and learning and growth perspective. They found that majority of the hotel decision-makers gave high priority to financial performance measures, followed by the customer perspective, with internal business process and learning and innovation following consecutively. However, when moderate highest priority was added to the highest priority, learning and growth perspective was found to have a strong effect on guests.

Hinkin (2001) reveals that employee turnover is a cost to the hotel. He found that there is a positive association between profits and employee turnover, consequently employee turnover drive out profits from the hotel. The higher turnover rate is also correlated with average room rate. It was concluded that the higher the room rate, the higher the employee turnover over. Strangely, the more the rooms the hotel has the higher the employee turnover rate.

In addition, DiPietro & Condly (2007) complements previous studies which argued that employee turnover has been identified as an expensive measure of financial and operational effectiveness. On the other hand, employee performance appraisal has been regarded as one of the most vital non-financial performance measurement tool useful for accurate employee performance review (Boadu, Dwomo-Fokuo, Boakye, Frimpong, 2014; Frankling, 201; Toppo & Prusty, 2012; Kateřina, Andrea & Gabriela, 2013; Selvarasu & Sastry, 2014).

In a study conducted by Yee, Yeung & Cheng (2008) on the impact of employee satisfaction on quality and profitability, found that there is positive association between employee satisfaction, quality, customer satisfaction and profitability in the service industry. Yee et al. (2016) revealed that employee

satisfaction is a strong determining factor in operational performance. This study complements previous studies that showed that service quality and customer satisfaction can be compromised due to unsatisfied employee. Thus, employee satisfaction is critical in attaining high quality service and profitability in the service industry. In conclusion, employee satisfaction directly affects quality and customer satisfaction, which in turn affect profitability.

A similar study was conducted Brown and Lam (2008) investigating the link between employee satisfaction and customer satisfaction. The findings showed a substantive significant association between employee satisfaction and customer perception of the service quality. The results revealed that employee satisfaction is the driver of customer satisfaction.

In addition, ([Banker, Potter et al. 2000](#)) using time-series data for 72 months from 18 hotels managed by a hospitality firm, this study provides empirical evidence on the behavior of nonfinancial measures and their impact on firm performance. The results indicate that nonfinancial measures of customer satisfaction are significantly associated with future financial performance and contain additional information not reflected in the past financial measures. Furthermore, both nonfinancial and financial performance improves following the implementation of an incentive plan that includes nonfinancial performance measures.

3. Hypothesis Development

3.1 Definition of Balanced Scorecard (BSC) perspectives

According to Kaplan and Norton (1992) “(...) the balanced scorecard includes financial measures that tell the results of actions already taken (...) and it complements the financial measures with operational measures on customer satisfaction, internal processes, organization innovation and improvement activities (...) operational measures that are the drivers of future financial performance”.

3.1.1 Financial performance measures

The use of financial measures can indicate how well the organization's strategy implementation and execution contribute to improvement of its bottom-line (Kaplan and Norton 1996, Butler, Letza et al. 1997, Doran, Haddad et al. 2002, Rasoolimanesh, Jaafar et al. 2015). Examples of financial performance measures normally used in the hotel industry are operating income, return on investment (ROI), operating margin, revenue and cost compared to budget, revenue per available room and revenue growth (Denton and White 2000, Elbanna, Eid et al. 2015).

3.1.2 Nonfinancial performance measures

This study explains the use of financial and nonfinancial performance measures following the balanced scorecard (BSC) perspectives. BSC includes (a) financial performance measures and (b) nonfinancial performance measures in three perspectives (customer, internal business process, and learning and growth) (Kaplan and Norton 1996, Kaplan and Norton 2005).

A) Customer perspective

With increasing competitiveness, hotels are concerned with customer satisfaction and profitability, both in the short as well as in the long-term. Long-run profitability can be achieved in CRM through the new focus on customer retention which resulted from an effective management of customer relationships (Kasim and Minai 2009).

Thus, the hotels are expected to use strategy that focused on customers in order to sustain their competitive advantage.

The customer perspective indicates whether an organization is able to provide products/services to satisfy customers (Kaplan and Norton 1996, Kaplan and Norton 2005). This perspective focuses on how well an organization generates customer values in terms of price, product/service quality, and product image as well as the ability of an organization to provide products to meet customer needs. Customer-perspective measures usually include customer satisfaction, customer acquisition, guest retention, and market share.

B) Internal business process perspective

The internal business process perspective measures the ability of an organization's operational process to provide products and services that meet customer needs (Kaplan and Norton 2005). Examples of measures under this perspective are the number of new products/services generated, new markets identified, productivity rate, service error rate, maintenance of physical assets, and complaint response (Denton and White 2000, Evans 2005).

C) Learning and growth perspective

The learning and growth perspective refers to how well an organization can improve those capabilities that are important for an organization's long-term growth and improvement. This perspective examines performance in terms of employee capability and attitude. Examples of learning and growth perspective measures in the hotel industry are employee turnover; training hours, employee complaints/feedback, and employee satisfaction (Evans 2005, Haktanir and Harris 2005, Haktanir 2012).

3.2 Hotel performance and using of financial performance measures

Hotels generally have high level of fixed tangible assets, which cannot be easily changed. It is important to hotels to use their fixed tangible assets efficiently. The financial performance measures can be used to examine the capabilities of their organizations' tangible assets (Speckbacher, Bischof et al. 2003, Kaplan and Norton 2005) . The managers make a greater use of financial performance measures such as return on investment and revenue per available room; they are able to gain more understanding of how hotels efficiently utilize their tangible assets to generate income.

In addition, the hotels' operations generate a high level of fixed costs (e.g. depreciation expense, maintenance expense, and salary expense) (Atkinson and Brown 2001, Harris and Mongiello 2001, DEMİRTAŞ 2019)

. So, the managers of the hotel need to focus more on the revenue management to ensure that they are able to cover the fixed cost (Atkinson and Jones 2008, Agwor and Okafor 2018). By monitoring financial performance measures such as revenues and revenue growth rate, managers can indicate how well their departments can generate the revenues. At the same time, managers are required to focus on cost management to minimize their existing costs. By using financial performance measures such as cost variances, managers can identify whether their departments can efficiently use the resources.

Also, by using financial performance measures can direct hotel managers to improve performance in terms of assets utilization, revenue generation and cost control (Kaplan and Norton 1996, Atkinson and Brown 2001, Kaplan and Norton 2005). This will therefore enhance the hotel overall performance.

Hypothesis 1 (H₁): There is a positive relationship between using financial Performance measures and hotel performance

3.3 Hotel performance and using of nonfinancial performance measures

In today's business environment, the competitive advantages of hotels are driven by their abilities of their intangible assets such as customer satisfaction, service quality, process efficiency, and employee skills (Atkinson and Brown 2001, Harris and Mongiello 2001, Evans 2005, Kaplan and Norton 2005) . Hotels require the nonfinancial measures to evaluate the process in building the capabilities of such intangible assets (Kaplan and Norton 1996, Speckbacher, Bischof et al. 2003, Kaplan and Norton 2005).

Especially, the hotel industry is a market-oriented industry (Harris and Mongiello 2001, Kala and Bagri 2014). To survive in the market-oriented

industry, hotels need to improve their capability in building the intangible assets in terms of customer satisfaction (Kala and Bagri 2014). Hotels have to provide products and services that meet customer needs and expectation (Baloglu, Erdem et al. 2010, Assaf, Josiassen et al. 2017). By monitoring nonfinancial measures from the customer perspective i.e. number of customer complaints and customer satisfaction index, managers are able to understand how well the hotels deliver products/services that can fulfill customer needs and expectation (Denton and White 2000, Evans 2005, Elbanna, Eid et al. 2015).

In addition, in the hotel industry, the production, delivery and consumption processes occur almost at the same time (Harris and Mongiello 2001, Sharma 2002, Auzair 2011, Tsai, Pan et al. 2011). It is difficult to check the quality of products/services before delivery to customers (Dopson and Hayes 2016). It is important for hotel managers to monitor the nonfinancial measures from the internal business process perspective (number of errors and time required to complete tasks) to ensure that production/service provision processes are working efficiently.

Moreover, in the hotel industry, employees normally have a direct contact with customers (Mia and Patiar 2001, Kala and Bagri 2014); their performance directly affects service quality and customer satisfaction (Dopson and Hayes 2016). So, the competency of human resources is very critical to a hotel's success. The use of nonfinancial measures from the learning and growth perspective (training hours, employee complaint/feedback, and employee skills) enables managers to indicate whether the hotel employees have sufficient competencies to understand and satisfy customer needs and expectations (Haktanir and Harris 2005, McPhail, Herington et al. 2008, Haktanir 2012, Elbanna, Eid et al. 2015).

By continuously monitoring the nonfinancial measures from each of the three perspectives, managers are able to obtain feedback information on how well their hotels perform in critical success areas. They can identify a root cause of the problem and then take corrective actions. Managers can improve

the following capabilities: 1) providing customer values; 2) the efficiency of internal business processes such as research and development, production; and after sales service; 3) investing in human resources (learning and growth) (Malina and Selto 2001, Lueg and Julner 2014).

Many previous studies in the manufacturing industry reported that the use of nonfinancial performance measures is related with organizational performance. For example, a study made by Hoque (2005) in the manufacturing industry in New Zealand suggested that under highly uncertain environment, the use of nonfinancial performance measures is positively associated with organizational performance. Moreover, a study made by Hoque (2005) in the manufacturing industry in Australia also found that the use of financial and nonfinancial performance measures under BSC concept is related to improved organizational performance.

Following the above discussion, the second hypothesis is thus proposed below.

Hypothesis 2 (H₂): There is a positive relationship between using of nonfinancial performance measures and hotel performance

3.4 Control variable: Intensity of Market Competition

It was argued that increased market competition negative affects the hotel performance (Ruet 2001, Patiar and Mia 2009). In the competitive environment, hotels have the limited available customers; they need to share these customers with more competitors (Patiar and Mia 2009). Hotels may try to reduce prices and provide additional services in order to attract the customers. In this situation, the hotels are not able to increase revenue or decrease costs. Particularly, in the hotel setting, it is difficult for hotels to reduce their fixed costs (depreciation expense and maintenance expense). So, overall hotel performance may decline. The results of Patiar and Mia (2009) indicate a negative relationship between market competition and hotel performance.

4. Research method

4.1 The sample

Data collected from the departmental managers of medium to large hotels located in top tourist destinations of Egypt. These top destinations include thirteen provinces, having an average number of tourists between the years 2018 and 2019 greater than 1 million people. Medium-sized hotels refer to hotels having 100–400 rooms, while large-sized hotels refer to hotels having more than 400 rooms. The database of Ministry of tourism indicates that there are 441 medium to large hotels located in those provinces. All of them were selected.

The questionnaire was pre-tested in a pilot study; the author uses the questionnaire because he cannot collect actual data from financial statements for hotels in Egypt for a relevant time of years. Three academics and three departmental managers participated in the pilot study. These managers were not included in the sample used in the survey. The final-version of the questionnaire was adjusted based on the feedback from the pilot study.

4.2 Data collection

The questionnaire package including a cover letter explaining the objectives of this study, the questionnaire, and a reply-paid envelope was mailed to (a) front-office manager and (b) food- and-beverage manager of each of the 441 hotels. After three weeks, each manager was contacted by phone and encouraged to complete the questionnaire. A total of 205 returned questionnaires were complete and usable for testing the hypotheses. Of these, 112 questionnaires were from front-office managers, while 93 questionnaires were from food-and-beverage managers. The average experience of the departmental managers was 12 years. Fifty-five percent of the departmental managers held a bachelor's degree; 19% of them held a diploma. Table 1 presents the demographic details of the hotels.

Table 1: Demographic details of the respondent hotels

Hotel		N	%
Number of employees	≤ 100 employees	65	31.7
	101-200 employees	56	27.3
	201-300 employees	27	13.2
	301-400 employees	24	11.7
	401-500 employees	14	6.8
	≥ 501 employees	19	9.3
Number of bedrooms	< 200 rooms	78	38.0
	201 - 400 rooms	92	44.9
	401 - 600 rooms	24	11.7
	601 - 800 rooms	9	4.4
	≥ 801 rooms	2	1.0

4.3 Measures of Variables

4.3.1 Financial performance measures

The managers were asked to indicate the extent to which they use each of the six items to measure departmental performance on a five-point Likert scale ranging from 1 “little” to 5 “a great extent”. These items were 1) revenue per available room, 2) net operating profit, 3) total revenue, 4) cost per available room, 5) cost vs. budget, and 6) revenue growth. The use of financial measures was taken as the average of each manager’s scores for the six items in the instrument. A check of reliability test produced a Cronbach’s Alpha of 0.805, indicating a satisfactory reliability level (Hair et al., 2010; Nunnally and Bernstein, 1994). The construct validity was confirmed by a factor analysis with a single factor accounting for 51.966% of the variance. Appendix 1 presents the factor loadings for this instrument.

4.3.2 Nonfinancial performance measures

The use of nonfinancial measures from each of the three perspectives were developed based on previous studies, such as (Huckestein and Duboff 1999, Banker, Potter et al. 2000, Denton and White 2000, Banker, Potter et

al. 2005, Evans 2005, Haktanir and Harris 2005, Phillips and Louvieris 2005, Abdallah and Alnamri 2015). The departmental managers were asked to indicate the extent to which they use each item to measure departmental performance on a five-point Likert scale ranging from 1 “little” to 5 “a great extent”.

A) Customer perspective

The items for the measuring the customer perspective include 1) customer satisfaction, 2) number of returning guests, 3) number of customer complaints, 4) market share, 5) mystery guests, and 6) occupancy rate. The score for the customer perspective was the average of the sum of the scores for to each of the six items. The reliability was tested using Cronbach alpha to estimate the internal consistency of the six items. Cronbach's alpha coefficient was 0.799, suggesting a satisfactory reliability level (Raykov and Marcoulides 2011, Jobson 2012). Factor analysis yielded a single factor with an eigenvalue greater than one, suggesting that this measure was one-dimensional. The factor accounted for 52.112% of the total variance. The factor loadings are presented in Appendix 2.

B) Internal business process perspective

The items for the measuring the internal business process perspective were 1) product/service quality, 2) maintenance of physical assets, 3) time required to complete key tasks, 4) number of new products, and 5) salary and wages as a percentage of revenue . The score for the internal business process perspective was taken as the average of each manager's scores for the five items in the instrument. The reliability check produced a Cronbach's alpha coefficient of 0.768, indicating a satisfactory reliability level (Raykov and Marcoulides 2011). The factor analysis yielded a single factor with eigenvalue greater than one, suggesting that this measure is one-dimensional. The factor explained 52.330% of the total variance. Appendix 3 presents the factor loadings.

C) Learning and growth perspective

The items for the measuring the learning and growth perspective were 1) training hours/training courses completed, 2) employee multiskilling, 3) employee satisfaction, 4) employee appraisals, and 5) number of employee suggestions. The score for the learning and growth perspective was the average of the sum of the scores for each of the five items. The Cronbach's alpha coefficient of this instrument was 0.850, indicating a satisfactory internal reliability. A factor analysis of the five items in the instrument was conducted and yielded a single factor with an eigenvalue greater than one. This factor accounted for 63.268% of the total variance. The factor loadings are presented in Appendix 4.

4.3.3 Organizational performance

The instrument measuring organizational performance was adapted from (Hoque and James 2000). The departmental managers were asked to indicate their hotel performance on six items relative to those of their competitors on a five-point Likert scale ranging from 1 (lower) to 5 (higher). These items were: 1) capacity utilization, 2) margin on sales, 3) customer satisfaction, 4) market share, 5) development of new services/products, and 6) service quality. The organizational performance score was taken as the average of the scores given by the managers for each of the six items. A check of internal reliability yielded a Cronbach's alpha coefficient of 0.791 for this measure. Moreover, a factor analysis of the scores yielded one eigenvalue greater than unity, suggesting that the measure is one-dimensional. The factor accounted for 49.348% of the variance. The factor loadings are presented in Appendix 5.

4.3.4 Control variable: Intensity of Market Competition

The instrument for measuring intensity of market competition is adopted from (Patiar and Mia 2009). The departmental managers were asked to indicate how difficult their departments compete on (1) price of competitors' products and services, (2) quality of competitors' product and

services (e.g. comfort, atmosphere, efficient service), and (3) market efforts of competitors (e.g. sales promotions, advertising and loyalty programs). All three items were measured using a five-point Likert scale, ranging from 1 “not at all difficult” to 5 “very difficult.” The score for the intensity of market competition was the average of the sum of the scores for to each of the three items. The Cronbach’s alpha coefficient of this instrument was 0.790, indicating a satisfactory internal reliability (Raykov and Marcoulides 2011). A factor analysis yielded a single factor extracted with eigenvalue greater than one, and this factor explained 70.666% of the variance. Factor loadings are presented in Appendix 6.

5. Results

The descriptive statistics for all variables are presented in Table 2, while and correlations between the variables appear in Table 3. Regression analysis was performed to test the hypotheses. The regression equation is presented below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$$

Where: Y= hotel performance.

X_1 = the use of financial measures.

X_2 = the use of nonfinancial measures. X_{2a} = the customer perspective.

X_{2b} = the internal business process perspective. X_{2c} = the learning and growth perspective.

X_3 = Intensity of market competition (control variable).

The assumptions of the regression analysis (i.e. adequacy of sample size, normality, linearity, absence of outliers, and absence of multi-collinearity, homoscedasticity, and independence of errors) were tested (Tabachnick, Fidell et al. 2007, Jobson 2012). These assumptions were not violated.

Table 2: Descriptive statistics

Actual	Mean	S.D.	
Variable	Range		
X ₁ The use of financial measures	1.83– 5.00	3.574	.641
X _{2a} The customer perspective	2.33– 5.00	3.698	.625
X _{2b} The internal business process perspective	1.60– 5.00	3.461	.643
X _{2c} The learning and growth perspective	1.20– 5.00	3.312	.709
X ₃ Intensity of market competition	1.00– 5.00	3.065	.920
Y Hotel performance	2.00– 4.83	3.361	.536

Table 3: Correlation coefficients

Variable	Correlation					
	X ₁	X _{2a}	X _{2b}	X _{2c}	X ₃	Y
X ₁ The use of financial measures	1.00					
X _{2a} The customer perspective	.474*	1.00				
X _{2b} The internal business process perspective	.379*	.698*	1.00			
X _{2c} The learning and growth perspective	.361*	.635*	.664*	1.00		
X ₃ Intensity of market competition	.053	-.014	-.040	-.093	1.00	
Y Hotel performance	.312*	.434*	.460*	.493*	-.172*	1.00

* p<0.01

Table 4: Results of Regression

Variables	Coefficient value	t-value	p-value	
Panel A: Customer perspective				
$Y = \beta_0 + \beta_1 X_1 + \beta_{2a} X_{2a} + \beta_3 X_3$				
X_1 The use of financial perspective	β_1	.151	2.144	.033
X_{2a} The use of the customer perspective	β_{2a}	.360	5.122	.000
X_3 = Intensity of market competition	β_3	-.174	-2.817	.005
Dependent variable: hotel performance (X_3). $R^2=23.3\%$; Adjusted $R^2 = 22.2\%$; $F_{(3,201)} = 20.355$; $p < .001$; $n = 205$				
Panel B: Internal business process perspective				
$Y = \beta_0 + \beta_1 X_1 + \beta_{2b} X_{2b} + \beta_3 X_3$				
X_1 the use of financial perspective				
X_{2b} the use of the internal business process perspective	β_1	.174	2.651	.009
	β_{2b}	.388	5.904	.000
X_3 = Intensity of market competition	β_3	-.165	-2.716	.007
Dependent variable: hotel performance (X_3). $R^2=26.1\%$; Adjusted $R^2 = 25.0\%$; $F_{(3,201)} = 23.667$; $p < .001$; $n = 205$				
Panel C: Learning and growth perspective				
$Y = \beta_0 + \beta_1 X_1 + \beta_{2c} X_{2c} + \beta_3 X_3$				
X_1 the use of financial perspective	β_1	.169	2.621	.009
X_{2d} the use of the learning and growth perspective	β_{2c}	.419	6.488	.000
X_3 = Intensity of market competition	β_3	-.141	-2.346	.020
Dependent variable: hotel performance (X_3). $R^2=28.3\%$; Adjusted $R^2 = 27.2\%$; $F_{(3,201)} = 26.450$; $p < .001$; $n = 205$				

After controlling the effect of the intensity of market competition on the organizational performance, the results of the effects of the use of (1) financial measures and (2) nonfinancial measures were examined. The overall results presented in Table 4 (Panel A, B and C) indicate that the use of financial performance measures is significantly and positively related to the hotel performance, and the use of nonfinancial performance measures in all three perspectives is significantly related with the hotel performance. Therefore, hypothesis H₁ and hypothesis H₂ were supported.

The results, presented in Table 4 (Panel A), indicate that the relationship between the use of financial measures and hotel performance was significant ($\beta_1 = .151$, t-value = 2.144, $p < 0.033$), and the relationship between the use of customer perspective and hotel performance was also significant ($\beta_{2a} = .360$, t-value = 5.112, $p < 0.001$).

The results, demonstrated in Table 4 (Panel B), indicate that both relationship between (a) the use of financial measures and the hotel performance ($\beta_1 = .174$, t-value = 2.651, $p < 0.009$), and (b) the use of internal business process perspective and hotel performance ($\beta_{2b} = .388$, t-value = 5.904, $p < 0.001$) were positive and significant.

The results, presented in Table 4 (Panel C), indicate positive and significant relationships between (a) the use of financial measures and the hotel performance ($\beta_1 = .169$, t-value = 2.621, $p < 0.009$), and (b) the use of the learning and growth perspective and the hotel performance ($\beta_{2c} = .419$, t-value = 6.488, $p < 0.001$).

6. Conclusions and limitations

The present study pursued to examine the relationship between use of financial and nonfinancial performance measures and hotel performance in Egypt. The results revealed that the use of financial performance measures was positively related with the hotel performance. In addition, the use of performance measures in each perspective of the nonfinancial performance measures was positively related to the hotel performance.

The results reported in this study extended prior studies (Huckestein and Duboff 1999, Denton and White 2000, Atkinson and Brown 2001, Harris and Mongiello 2001, Evans 2005) that focused on the examination of the existing use of financial and nonfinancial performance measures by providing empirical research evidence on the impact of such use on the hotel performance. The results are consistent with prior research in the manufacturing industry that the greater reliance on financial as well as nonfinancial performance measures is related to improved organizational performance (Hoque and James 2000, Hoque 2005, De Geuser, Mooraj et al. 2009, Grafton, Lillis et al. 2010).

Hotel managers should place more emphasis on (1) financial performance measures to emphasis on improvement in improving financial outcomes, and (2) nonfinancial performance measures to emphasis on increasing the capabilities in providing products/services to meet customer needs, improving the efficiency of service delivery process, and increasing in employee competency (Malina and Selto 2001, Kaplan and Norton 2005). In overall, the hotel performance will thus increase.

There are at least three limitations to this study. First, the present study is a cross-sectional study. The effect of the use of nonfinancial performance measures may need to be observed over a longer period of time. The examination of the model of this study in a longitudinal study may lead to further understanding of the issues. Second, this study investigated the direct relationship between the use of performance measures (management control systems) and the hotel performance. There are variables (organizational size, strategy and structure) that may affect the relationship investigated in this study. The examination on the effect of such variables could help further explain the relationship. Third, the present study is conducted in the hotel industry. The examination of the proposed model of this study using data from other industries would make a significant contribution to the literature.

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Appendix 1: Factor Loadings for Instrument Measuring the Use of Financial Measures

Items	Factor Loadings
1. Revenue per available room	0.710
2. Net operating profit	0.821
3. Total revenue	0.790
4. Cost per available room	0.546
5. Cost vs. Budget	0.692
6. Revenue growth	0.735
Eigenvalue = 3.118, Variance explained = 51.966 per cent	

Appendix 2: Factor Loadings for Instrument Measuring the Use of Customer-related Measures

Items	Factor Loadings
1. Customer satisfaction	0.806
2. Number of returning guests	0.685
3. Number of customer complaints	0.691
4. Market share	0.740
5. Mystery guests	0.681
6. Occupancy rate	0.720

Eigenvalue = 3.127, Variance explained = 52.112 per cent

Appendix 3: Factor Loadings for Instrument Measuring the Use of Internal business process-related Measures

Items	Factor Loadings
1. Product/service quality	0.792
2. Maintenance of physical assets	0.740
3. Time required to complete key tasks	0.643
4. Number of new products	0.730
5. Salary and wages as a percentage of revenue	0.704

Eigenvalue = 2.617, Variance explained = 52.330 per cent

Appendix 4: Factor Loadings for Instrument Measuring the Use of Learning and Growth-related Measures

Items	Factor Loadings
1. Training hours/training courses completed	0.823
2. Employee multiskilling	0.809
3. Employee satisfaction	0.843
4. Employee appraisals	0.783
5. Number of employee suggestions	0.713

Appendix 5: Factor Loadings for Instrument Measuring the Organizational Structure

Items	Factor Loadings
1. Return on investment	0.747
2. Margin on sales	0.647
3. Capacity utilization	0.722
4. Customer satisfaction	0.746
5. Service quality	0.677
6. Development of new products/service	0.671
Eigenvalue = 2.961, Variance explained = 49.348 per cent	

Appendix 6: Factor Loadings for Instrument Measuring the Intensity of Market Competition

Items	Factor Loadings
Price of competitors' products and services	.823
Quality of competitors' product and services (Comfort, atmosphere, efficient service)	.865
Market efforts of competitors (Sales promotions, advertising and loyalty programs)	.833
Eigenvalue = 2.120, Variance explained = 70.666 per cent	