

## Performance Measurement Systems in Quick Service Restaurant Chains

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**Abstract:** Measuring performance becomes a key issue in both academia and business, as organizations are challenged to obtain efficient and effective outcomes. This research explores the effectiveness of current PMSs in QSR chains. This research also identifies best practices and proposes a set of recommendations for QSR chains enabling them to enhance their management practices towards the proper use of PMSs to achieve their strategic plan and accomplish their objectives. To achieve this aim a self-administrated questionnaire was directed to a random sample of restaurant managers in the investigated QSR chains. A number of 200 forms was distributed, among them 124 forms (62%) were completed and valid for analysis. The major findings showed that the BSC and the KPIs systems are widely used by QSR chains and those were classified as systems that can be easily adapted to service organizations. Moreover, the results showed that the major barrier for implementing the PMS in QSR chains is the lack of employee and management support.

**Keywords:** Performance measurement systems (PMSs), performance measurement (PM), quick service restaurants (QSRs), balanced scorecard (BSC).

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### Introduction

The quick service restaurant industry QSR is an important element of the hospitality industry (Ashakiran and Deepthi, 2012). QSR must be viewed as providing adequate value for customers (Al-Saad, 2016). To do this, restaurants first need to focus on its performance. The concept of QSR is to provide quick and suitability eating experiences at a relatively low cost (Mason *et al.*, 2013). Donthi and Madhav (2019) stated that QSRs have special characteristics, such as they are everywhere as well as limited menus, inexpensive prices, very high sales volume, existence of unqualified labor and expert management. Hence, QSRs should have proper performance measurement system (PMS) to measure the progress towards the strategic plan and accomplish organizational objectives (Jamil and Mohamed., 2013).

Hospitality industry is lagging behind the level of PMS understanding, but they realize the importance of PMS for the organization (Alboushraet *al.*, 2015). Performance measurement (PM) is basically regarded as a component of the planning and controlling series that captures performance information, enables control and feedback as well as effects work behavior and track strategy development (Arena and Arnaboldi., 2014). Traditional PMS mainly supported by financial indicators (Persdotteret *al.*, 2019). However, the role of financial KPIs became insufficient for the current competitiveness due to many reasons e.g., needs for flexibility, shortened product cycle and accelerated changes in technology (Kaplan and Norton, 1996). Gradually, Performance Measurement Systems (PMSs) began to settle the use of financial and nonfinancial KPIs, e.g. integrated PM (Nanni *et al.*, 1992; Arena and Arnaboldi, 2014) and the balanced scorecard (BSC) which consider customer, process and people measures in addition to financial measures (Valmohammadi and Servati., 2011).

Jamil and Mohamed (2013) found that hospitality organizations rely only on financial approaches to measure its performance and the value of non-financial measures was ignored. In addition, the gap between what are wanted to be assessed and what can be assessed is the key factor for performance measurement and is a challenging task for the top management (Carlyle, 2013). This research explores the effectiveness of current PMSs in QSR chains. The research identifies best practices and proposes a set of recommendations for QSR chains enabling them to enhance their management practices towards the proper use of PMSs to achieve their strategic plan and accomplish their objectives.

### Literature Review

#### 1- The concept of performance measurement system (PMS)

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PMS can be defined as set of key performance indicators (KPIs) and processes that used for quantification of efficiency and effectiveness of historical actions to support decision making (Střiteská and Svoboda 2012). "Efficiency" can be described as the concept of doing things right, "Effectiveness" refers to the concept of do the right things (Carlyle, 2013). Such KPIs would present the strategic aspects and provide a balanced view of performance (Khatoon and Farooq, 2014).

### 2- The Development of PMSs

One of the difficulties of developing PM awareness is that researchers are not willing to cross their respective practical boundaries; observing that by reviewing the researches in the PMS field you will find references mainly of the accountants' work (Bititciet *al.*, 2016). Table 1 shows the development of the performance measurement systems.

**Table 1: The Development of PMS**

Period	Field of interest	Key issue
<b>The 1980s – Problems associated with PMSs</b> (Bititciet <i>al.</i> , 2016)	Organizational finance, traditional accounting systems, limited number of financial KPIs, emphasis was on financial measures (e.g. net profit, productivity) and short-term goal	<ul style="list-style-type: none"> <li>– What measures should an organization take into consideration?</li> <li>– Which financial measures are aggregated, complex and provide as many information as possible?</li> <li>– Should be the measures internal only or also external?</li> </ul>
<b>Early to Mid-1990s – Solutions to weaknesses of the 1980s PMSs</b> (Kaplan and Norton, 2007)	Developing performance measurement systems e.g. BSC	<ul style="list-style-type: none"> <li>– Should an organization take into consideration only a financial metrics or also nonfinancial?</li> <li>– What measures should an organization take into consideration?</li> </ul>
<b>Late 1990s and early 2000s</b> (Meyer, 2003)	Implement, improve and use the various PMSs – mostly the BSC, the integrated performance measurement framework - data on actual application of different PMSs became available.	<ul style="list-style-type: none"> <li>– How should deploy the organization the performance measurement systems?</li> <li>– What are the main reasons for difficulties appeared during the deployment process?</li> </ul>
<b>Late 2000s and 2010s</b> (Nudurupatiet <i>al.</i> , 2016)	Further improvement of performance measurement systems and assessment of benefits results from deployed performance measurement systems	<ul style="list-style-type: none"> <li>– How do organizations manage using measures?</li> <li>– How do organizations become the value from collected data?</li> <li>– Do organizations become expected benefits from deployed performance measurement systems?</li> </ul>
<b>Currently</b> (Lisiecka and Czyż-Gwiazda, 2013)	Searching for performance measurement and management systems; building performance in measurement in new areas of interests	<ul style="list-style-type: none"> <li>– How do organizations develop flexible performance measurement systems appropriate to changing environment?</li> <li>– How can organizations control and manage their changing PMSs?</li> <li>– Which fields of interest accrue nowadays and become important to performing the business?</li> <li>– How can organizations cover the new fields by appropriate measures?</li> </ul>

### 3- Performance Measurement Frameworks

Various universal performance measurement frameworks were established after the late 1980s to overcome the deficiencies of traditional measurement systems (Striteska and Spickova, 2012). A multi-dimensional approach was emerged, which seeks to make a balance between the financial and non-financial measures. Sorooshianet *al.*, (2016) demonstrated four features of performance measurement frameworks these are: KPIs should deliver a balanced picture of the business, KPIs should be multi-dimensional and cohesive across the organization's departments, and finally, PMS should provide data for monitoring past performance and planning future performance.

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### Balanced Scorecard (BSC)

BSC defined as a strategic planning and management system that used by organizations to communicate what they are attempting to achieve (Wu, 2013). BSC is the most known, important, and widely PMS used 20th century management theory that produced to overcomes the weakness of traditional frameworks, BSC also considered the most applicable framework that used by restaurants (James, 2009). BSC integrates financial and non-financial KPIs in one framework (Thananchayana and Gooneratne, 2018). BSC does not only review present performance, but also find data related to the application of the organization in the future (Sorooshian *et al.*, 2016). According to Thananchayana and Gooneratne (2018)

BSC offers managers the ability to monitor results in four dimensions, providing them with answers to four questions these are: how do customers see us? (e.g. quality, and service measures), what must we excel at? (e.g. operational excellence measures, quality, productivity), can we continue to improve and create value? (e.g. employee turnover), and how do we look to shareholders? (e.g. net profit growth).

### Integrated Performance Measurement System IPMS

Integrated refer to the development of a cohesive set of KPIs which support business objectives (Alfaro *et al.*, 2007). There are two considerations concerning to the structure of the IPMS: integrity of the system and deployment. Integrity can be described as the ability of PMS to enhance cohesion between different areas of the business. Deployment describes the ability to organize business goals and policies throughout an organization by using consistent KPIs (Bititciet *et al.*, 2016). The IPMS model is made up of four stages: - corporate, business units, processes and activities, at each level 5 key factors are considered, these are: - stakeholders, control criteria, external measures, improvement goals and internal measures (Harihayati *et al.*, 2018). The reference model emphasizes the development, transition and attenuation of performance goals between these stages (Bititciet *et al.*, 2016).

### Performance Measurement Questionnaire (PMQ)

PMQ aims to provide a tool for organizations to express its development needs, evaluate the current set of KPIs to identify any improvements, , and set an agenda for enhancing KPIs in order to support improvements (Harihayati *et al.*, 2018). The PMQ helps the organization to classify areas for development, to decide the effectiveness of current KPIs and to improve the performance measures, PMQ included four parts, these are:- gathers data about the company and the respondent, rate the value of business areas that need to be strengthened relative to the efficacy of current performance measures, performance indicators and the final part invite respondents to recommend performance measures that better assess their own performance (Jayant, 2017).

### The SMART Pyramid

The strategic measurement analysis and reporting technique (SMART) pyramid also known as performance pyramid, the primary goal of the performance pyramid is to communicate with operations through the organization's strategy by translating KPIs from the bottom up and goals from the top down (Sorooshian *et al.*, 2016). This model builds of four stages, first stage is an explanation of the business vision, second stage reveals short-term goals of cash flow and profitability and long-term goals of growth and market position, the third stage is operating systems which contain customer service, flexibility and efficiency, the final stage is the business unit which includes KPIs i.e. cycle time, quality, delivery, and waste (Watts and McNair-Connolly, 2012). The SMART pyramid is a holistic model that tests the satisfaction of stakeholder (Striteska and Spickova, 2012).

### Performance Measurement Matrix PMM

PMM assumed that KPIs must be extracted from strategy and converted downwards via an organization; these KPIs need to be followed by specific functional measures that can be developed throughout the process (Keegan *et al.*, 1989). The strength of the performance measurement matrix lies in the way it seeks to integrate various classes of internal and external business performance, and cost and non-cost (Khan and Shah, 2011).

### Result and Determinants Framework (RDF)

RDF was developed for service industries, it's a adapted system of the performance measurement matrix to address the matrix criticism that is not as well packaged as the BSC and does not clearly connect the various aspects of business performance, which is one of the greatest strengths of Kaplan and Norton's balanced scorecard (Ivankovičel *et al.* 2010). The framework classifies measures into two categories as mentioned by (Dewangan and Godse, 2014):

1. Results: - (Financial performance e.g. profitability - Competitiveness performance e.g. market share)
2. Determinants: - (Use of resource e.g. productivity - service Quality e.g. kindness, comfort - Innovation e.g. Performance of the innovation process - Flexibility e.g. specifications or volume flexibility).

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### European Foundation for Quality Management (EFQM)

The EFQM model of excellence is a non-prescriptive framework that helps guide an organization's success. According to Suárez *et al.* (2017) the model is based on eight basic concepts of excellence: (Results orientation - Customer focus, leadership and constancy of purpose - Management by processes and facts - People engagements- Continuous development - Innovation and growth - Partnership development - Corporate social responsibility CSR)

### Performance Prism (PP)

PP was developed based on the strengths of existing PMSs, PP focuses on value for shareholders (Neely *et al.*, 2002). The PP metrics serve four purposes: track strategies execution, communicate the strategies, encourage the implementation of strategy, and finally make it possible to evaluate the effectiveness of strategies (Neely, 2008).

According to Striteska and Spickova (2012) The PP consists of five perspectives of performance that pose specific important questions about:

1. Satisfaction of the stakeholder: who are the stakeholders and what do they want and need?
2. Strategies: the starting point must be to define stakeholders and their needs, and only then can strategies be formulated to meet those requirements.
3. Processes: what processes do we need to set up to allow our strategies to be delivered? such processes are typically cross-functional, and it is necessary to identify specific measures for each process.
4. Capabilities: this identifies the capabilities needed to operate the systems inside or outside the company. Measures must be implemented to ensure the right skills are in place.
5. Stakeholder influence: this describes the commitment of stakeholders to the company. The company and its stakeholders have mutual commitment that these need to be assessed.

### Kanji's Business Excellence Measurement System (KBEMS)

KBEMS consists of two parts, part one includes ten items (leadership, management by fact, process improvement, people-based management, people performance, continuous improvement, continuous improvement culture, performance excellence, customer satisfaction, and customer centricity,) and four items in part two (stakeholders satisfaction, organizational core values, process quality, and performance excellence) (Kanji, 2008).

According to Wu (2013) KBEMS has the following characteristics:

- The entire system is guided by the values of leadership and organization.
- The evaluation process includes both internal and external stakeholders.
- Promotes a balanced view of performance assessment.
- It highlights communication issues and highlights the need for information sharing and collaboration between various stakeholders.
- It is value-based, long-term driven, and dynamic in nature.

## 4- PMS in the hospitality industry

Hotels and restaurants still resist using the non-financial KPIs and insist to measure its performance using only financial measures which reflects their limit use of balanced approach that include financial and non-financial attitudes (Haktanir and Harris, 2005; Wadongo *et al.*, 2010). Kala and Bagri (2014) indicated that majority of managers track financial performance solely and pay limited attention to non-financial performance (e.g. customer obsession, people, innovativeness, and process).

PMS provides managers with two functions: first, to promote and organize communication among all departments (i.e. individuals, teams, processes, and functions); second, collecting and providing information on people's performance, behaviors, processes, and products (Phillips and Louvieris, 2005). Traditional PMSs were mainly profit based, short-term, unbalanced, unsatisfactory for competitive advantages, and past based (Lin and Lin, 2010). Therefore, the reliance on traditional KPIs is no longer the most suitable tool due to the growing competition among QSR chains. Hence, there is a growing need for balanced and integrated PMSs that consider financial and non-financial dimensions (Parizad, 2013). Limited research has been found about PMSs in QSRs.

## 5- Key performance indicators for the hospitality industry

KPIs can be described as measures used to calculate an action's efficiency and/or effectiveness (Shackleton, 2006). Kleijnen and Smits (2003) arguing that KPIs are a series of metrics that focus on those dimensions of organizational performance that are the most important to the organization's current and future success. KPIs should reflect performance reality and quality (Srivastava

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and Maitra, 2016). KPIs can be either financial or non-financial, quantitative or qualitative, internal or external, and lagging or leading as described by Rajnoha and Lesníková (2016), they added that KPIs should be linked to strategy.

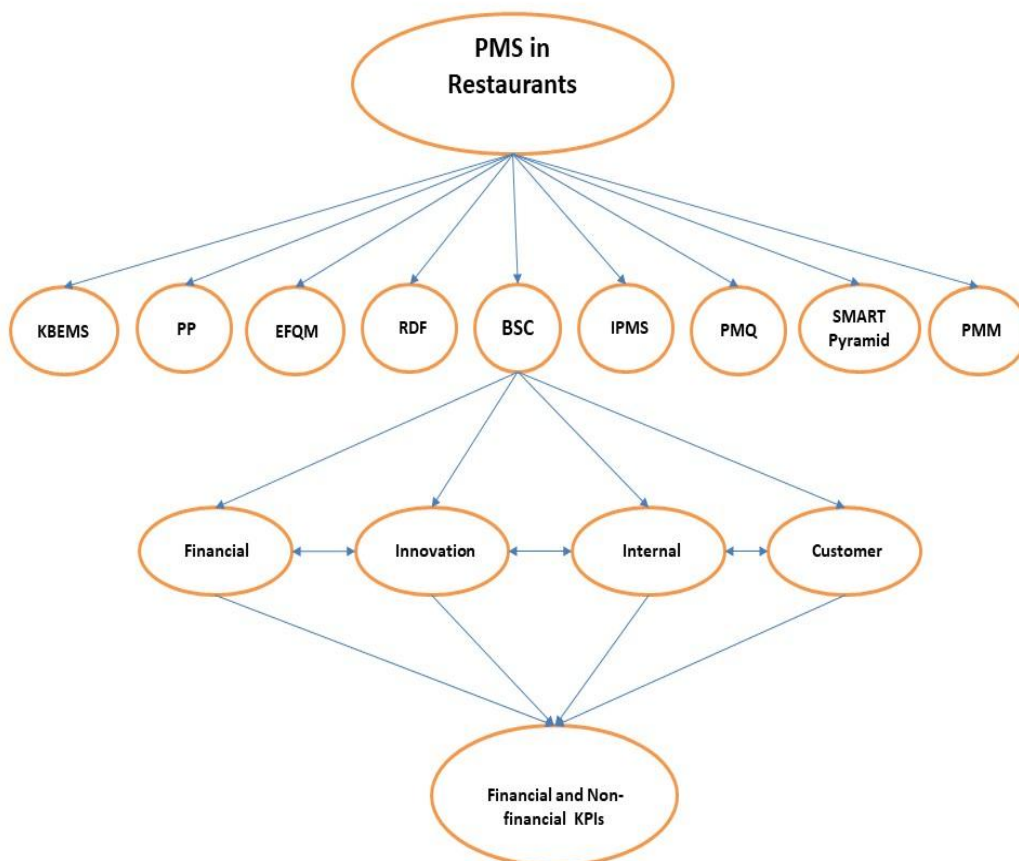
The hospitality industry uses a series of standard KPIs to track and measure performance (Failte, 2013). The purpose of KPIs is to provide decision makers in hospitality industry with data for judging their performance and for measuring the achieved objectives (Lai and Choi, 2015). The development and use of KPIs should be the basis for the analysis of the current performance of an organization, its future requirements and the improvement of strategies necessary for continued success (Bergin-Seers and Jago 2007).

Critical KPI dimensions for hospitality performance measurement are employees, customers and finance (Komlósi and Gyurácz-Németh, 2014). Previously, Zigan and Zeglat (2010) highlighted the main performance dimensions for hotels and restaurants such as, competitiveness, service quality, and external environment. Organizational learning, innovation and creativity performance dimensions are essential for any organization irrespective of their operating situation and industry segment (Tung *et al.*, 2011). As business priorities change, KPIs should also be changed, especially in restaurant industry there is variety of products; however, quantitative indicators are most commonly used (Kosaret *al.*, 2016). Srivastava and Maitra (2016) concluded that organizations should establish KPI in reference to market forces and how the competition is carried out. This means that an understanding of standards is essential to make KPI's valuable to the organization.

### 6- Barriers of PMS Implementation

The implementation of PMS as a tool for organizational development still presents many challenges. Several causes have been detected, such as the absence of managers' commitment to the PMS process, lack of recognition for outstanding performance, lack of management support in terms of training, highly administrative management systems, and weak information system (De Waal and Counet, 2009). Resistance to PM is seen as another challenge of PMS implementation, the resistance to any new PMS may come from the lack of knowledge, training, and, personal risk fear (Karuhangaand Werner, 2013). In addition, Alboushraet *al.* (2015) highlighted other obstacle facing PMS implementation, such as unclear strategy, lack of a PM culture, and the low PMS priority.

### Research Conceptual Framework



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Based upon the literature review on PMSs which has been discussed above i.e. KBEMS, PP, EFQM, RDF, BSC, IPMS, PMQ, SMART Pyramid, PMM.

The most applicable framework to be used in restaurants is BSC (James, 2009). Hence, BSC has considered as a major part of the conceptual framework for current research (See Figure 1). BSC consists of four main aspects of a business to be measured: customers, finance, learning and development, and internal processes. This research focuses on the financial and non-financial KPIs of the QSRs.

### Methodology

A self-administered questionnaire was adapted to explore the effectiveness of current PMSs in QSR chains and identifies the best practices and proposes a set of recommendations for QSR chains enabling them to enhance their management practices towards the proper use of PMSs to achieve their strategic plan and accomplish their objectives. The questionnaire was designed and distributed to a random sample of managers who worked in QSR international chains. A number of 200 forms were distributed, of which 124 completed forms were valid which represents 62% response rate. Table 2 shows the number of questionnaire forms distributed to each QSR chain.

**Table 2: The Investigated QSR chains**

QSRs	Valid Forms	
	Freq.	%
KFC	35	70
Pizza Hut	40	80
Hardees	32	64
McDonalds	17	34
<b>Total</b>	<b>124</b>	<b>62</b>

**Note:** 50 forms for each QSR chain

The questionnaire consisted of two main sections. The first section dealt with restaurant manager's demographic data such as gender, age, marital status, education as well as experience. The second section focused on some questions related to effectiveness of PMS currently used in QSRs. For example, the responsibility of conducting the PMS within the restaurants; the barriers of implementing the PMS; PMS timescales; satisfaction with the PMS that currently in your restaurant.

The results obtained from the valid forms were statistically analyzed using SPSS version 25. The test of normality was measured using Shapiro-Wilk. The instrument yielded sig. level of 0.054 (normal distribution is above 0.050; Liang *et al.*, 2009). Also, the reliability of the scale was measured using Cronbach's alpha. The instrument yielded an alpha level of 0.920 (acceptance reliability is above 0.60; Hair *et al.*, 2016).

## Results and Discussions

### 1- Demographic data analysis

The profile data of the respondents included their gender, age, marital status, educational level, as well as the experience (See Table 3).

**Table 3: Respondents' Profile**

Table 3: Respondents' Profile		Freq.	%
<b>Gender</b>	Male	118	95.2
	Female	6	4.8
<b>Age</b>	25 years or under	2	1.6
	From 26 to 35 years	46	37.1
	From 36 to 45 years	70	56.5
	Over than 46	6	4.8
<b>Marital Status</b>	Single	18	14.5
	Married	102	82.3

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Table 3: Respondents' Profile		Freq.	%
	Divorced	2	1.6
	Other	2	1.6
Educational level	Secondary school	4	3.2
	Institute Graduate	28	22.6
	Bachelor's degree or the equivalent	82	66.1
	Postgraduate studies	10	8.1
Experience	Less than 5	2	1.6
	From 6 to 10 years	24	19.4
	From 11 to 15 years	44	35.5
	From 16 to 20 years	36	29
	Over than 21	18	14.5

Table 3 shows that 95.2% of the respondents were males and only 4.8% were females, which reflect that males prefer to work in QSRs than females. This could be explained in terms of the fact that the work in such premises is noticeably hard as well as the night shifts are not allowed for females.

In terms of age, 56.5% of respondents aged between 36 to 45 years, followed by 37.1% between 26 to 35 years, 4.8% over 45 years, and only, 1.6% at 25 years or under. This result reflects that restaurant managers are rational and experienced.

As for marital status, it was found that 82.3% of respondents were married, and, 14.5% were single. On the other hand, 1.6% of respondents were divorced and 1.6% had others marital status. Moreover, it is noticed that 66.1% of the respondents were university or high institute graduates, 22.6% were institute graduates, 8.1% were at the postgraduate level, and only 3.2% had high school or diploma.

Concerning the experience, 35.5% of respondents had 11-15 years, 29.0% between 16 to 20 years, and 19.04% between 6-10 years. Respondents working more than 21 years have been noticed i.e., 14.5%, while a very small ratio i.e., 1.6% had an experience less than 5 years. This reflects high employee retention rate and loyalty.

### 2- Existence of the performance measurement system

All the respondents i.e. 100% confirmed that the PMS is existing and applied in their organizations; this may because the selected QSR chains were international chains. This is not surprisingly because any international QSRs in the highly current competitive market should have its own PMS. The performance measurement system in organizations is an integral part of managerial success by measuring key performance indicators and identifying the success of achieving the pre-determined goals. The existence of a performance measurement system is an important indicator that leads to organization sustainability. Measurement of organizations is more like a medical examination of the health of organizations. This result concurs with Mura *et al.*, (2019) who concluded that the performance measurement may increase the organizational performance.

### 3- The performance measurement model or tools used by QSRs.

The result shows that the BSC and the KPIs systems are widely used by QSR chains. The BSC system is used by 63.2% and the KPIs system is used by 36.8%. Those were classified as systems that can be easily adapted to service organizations. It is obvious from the literature review that service organizations need a tailored PMS that matches its rapid changes environment (Hudson *et al.*, 2001). This result is agreed with Dolasinski *et al.* (2019) who stated that almost all service organizations may be using the BSC.

### 4- Clarity of performance measurement system

Measurement system should be clear, concise, and easy to understand (Shackleton, 2006; Brazet *et al.*, 2011). Therefore, this question was designed to illustrate the respondents' opinions toward the clarity of PMS that currently used. The results showed that 67.7% of managers confirmed that the PMS used is clear. On the other hand, 19.4% stated that the PMS was difficult to understand, while 12.9% were neutral concerning the clarity of the PMS. It can be noticed from the previous findings that most managers have been well trained on the PMS, also the top management support the PMS regarding to training. This finding meshes with Kaplan and Norton (2007) who implied that PMS should focus on clarity and usefulness of its measures to evaluate

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the organization effectiveness. Briefly, when the concept of measurement is unclear, measurement is unclear as well (Micheli and Mari, 2014). Previously, Nanniet *al.* (1992) mentioned that PMS should provide KPIs that allow all employees to know how they affect positively the overall business. Recently, Baird (2017) concluded that PMS must meet the needs of the operations and should be easy to recognize and execute.

### 5- *Aligning individual objectives with the organizational objectives.*

The results showed that top management was not able to align individual objectives with organizational objectives (mean 3.27). This meshes Bourne *et al.* (2003) who indicated that one of the most observed shortcomings of PMSs is lack of connection with organization's mission and strategy. In this essence, David and Jenson (2014) implied that PMS process should link strategy to department, team and individual goals. In the hospitality industry, KPIs should provide employees with clear goals assigned with an understanding of how they support the overall success of the organization (Srivastava and Maitra, 2016).

### 6- *Responsibility of conducting the PMS within the restaurants.*

The data obtained showed that 44.3% of the investigated managers confirmed that the operation department takes the responsibility of conducting the PMS. On the other hands, 31.1% stated that the training and human resources department is responsible for conducting the PMS. Moreover, 17.1% confirmed that the quality department is responsible for conducting the PMS. However,, only 7.5% stated that a third party can conduct the PMS. In summary, the operation and training and human resources departments within restaurants should be fully aware of the requirements of PMS to conduct and implement it successfully.

### 7- *PMS Timescales.*

PMS process should follow timeframes (Hudson *et al.*, 2001; Pun and White 2005). The results show that 51.6% of respondents confirmed that the PMS is conducted twice a year, 41.9% four times a year, 6.5% once a year. This finding concurs with Stříteská and Svoboda (2012) who implied that PMS may periodically measure and review the organizational performance. Moreover, Kolibáčová (2015) stated that the evaluation of performance may be done quarterly. Therefore, QSRs should set and follow timescales for PMS.

### 8- *The overlap and integration between PMSs.*

The data shows that 60.3% of respondents confirmed that there is integration between the PMSs applied in their restaurants. On the other hand, 21.0% of them stated that there is no integration between the various PMSs, while 17.7% of the respondents stated that the relationship between the PMSs may exist. This finding consents with Bititciet *al.* (2016) who indicated that the integration of PMSs should exist, and therefore the relationships between various KPI are understood. Hence, QSRs should ensure having a high degree of integration between various PMSs to produce successful results, i.e. the mystery shopper report used in the BSC as a KPI for the customer dimension in the PMS system.

### 9- *Barriers of PMS implementation. PMS Barriers*

**Table 4: Barriers of PMS implementation**

PMS Barriers		%
PMS Barriers	Lack of employee and management support	30.60
	No enough knowledge of performance measurement system	23.50
	inconspicuous arising from large number of KPIs	19.40
	No time and no resources to do them	14.30
	The PMS is complex.	8.20
	PMS is not useful	4.10
<b>Total</b>		<b>100</b>

Table 4 shows the barriers of PMS implementation in QSR chains. The major barrier was "lack of employee and management support" with a percentage of 30.60%. This result meshes with Pun and White (2005) who concluded that PMS implementation process should be supported from senior management and employees. Moreover, the barrier "no enough knowledge of performance measurement system" ranked as the second major barrier of PMS implementation with percentage 23.50%.

Table 4 also shows that 19.40% of respondents agreed that "unclarity that emerged from large number of KPIs" is the third barrier of PMS implementation. This result concurs with Brazet *al.* (2011) who confirmed that KPIs should be simple to



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understand. Hence, it is important to re-assess and discard the KPIs that not related to the business. Finally, it is necessary to carefully select KPIs because of the variety of the hospitality products, and services.

The respondents ranked the barrier “no time and no resource to do the PMS” as the fourth barrier of PMS implementation with a percentage of 14.30%. Hence, top management should support employees in terms of time and other resources needed to implement the PMS. This barrier can be also avoided during the design stage of the PMS by making the system simple as much as possible. Moreover, “performance measurement tools or models are complex” was found to be another PMS barrier that was considered by 8.20% of respondents. This finding agrees with Srivastava and Maitra (2016) who implied that KPIs should be designed to be as accurate as possible and easy to understand. Nevertheless, the minor barrier was “PMS is not useful” with a percentage of 4.10%.

In conclusion, for a successful application of PMS, the management support is very important especially for the long-term performance, PMS should be cascaded to all employees and should be clear, KPIs should be business related and to be designed as accurate as possible and easy to understand.

### 10- Management practices while introducing the PMSs.

Table 5 illustrates the respondents’ level of agreement in relation to management practices. Five-point Likert-type scaling method ranging from “1” to “5” was used to measure the importance of each of these elements.

**Table 5: Management practices while introducing the PMS**

Management Practices	1 Strongly disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly agree		Mean	Std. Deviation
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
PMS stimulates employees to be more efficient	12	9.7	14	11.3	34	27.4	54	43.5	10	8.1	3.29	1.088
Senior managers support PMS in terms of training	16	12.9	16	12.9	26	21	50	40.3	16	12.9	3.27	1.225
PMS used in giving feedback to the managers.	18	14.5	12	9.7	28	22.6	52	41.9	14	11.3	3.26	1.222
The strategy is developed, reviewed and updated periodically based on the PMS.	24	19.4	16	12.9	16	12.9	52	41.9	16	12.9	3.16	1.352
Senior management supports PMS in terms of incentives.	22	17.7	20	16.1	16	12.9	52	41.9	14	11.3	3.13	1.319
Appropriate PMS tools are employed.	12	9.7	22	17.7	36	29	46	37.1	8	6.5	3.13	1.089
Training is enough so that leads to achieve the desired	24	19.4	18	14.5	26	21	38	30.6	18	14.5	3.06	1.348

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result from the PMS.												
Restaurants managers are involved in selecting KPIs.	28	22.6	26	21	18	14.5	30	24.2	22	17.7	2.94	1.441

Table 5 shows that 44% of respondents agreed that “PMS stimulates employees to be more efficient in their jobs” and, 27% of them were neutral. In the hospitality industry, Mitrović (2016) observed that employee motivations for performance, to develop capabilities and to improve future performance are affected by the PMS.

The effective PMS requires training regarding the process implementation and the reporting of KPIs (Bird *et al.*, 2005). In that sense, Table 5 shows that 40% of respondents reported that they agreed that “senior management support PMS in terms of training”; while, 21% were found to be neutral.

Moreover, it was discovered that 23% of respondents strongly disagreed that “training is sufficient so that leads to achieve the desired result from the PMS” while, 21% of them were disagreed.

Most respondents were detected to be neutral concerning the point “PMS used in giving feedback to the managers in the organization”. In that essence, Ivankovič *et al.* (2010) concluded that feedback from PMS should be reported at numerous levels of the hospitality organizations. Additionally, Taticchiet *et al.* (2012) implied that PMS should support the communication between senior managers and employees to allow a balanced performance.

Most respondents were neutral concerning the factor “strategy is developed, reviewed and updated periodically based on PMS”. In that essence, Phillips and Louvieris (2005) clarify that PMS process should include a periodic update structure especially in hospitality industry. Since the environment develops dynamically, the organizational strategies need to change over time and some KPIs need to change when a strategy changes too. Therefore, there is a need for flexible PMS in QSR chains.

Most of respondents were neutral concerning the point “senior management supports PMS in terms of linking performance with incentives”. Regarding this issue, Möller *et al.* (2011) implied that PMS process should set the incentives for the fulfillment of objectives. Therefore, PMS must make a link to reward system.

Most of respondents were neutral concerning the point “appropriate PMS tools and skills are employed”. In that essence, David (2016) concluded that one of the most observed shortcomings of PMSs is inability in addressing the way of measurement and lack of systematic method for prioritizing KPIs.

Most of respondents were neutral concerning the point “restaurant managers are involved in selecting KPIs in the organization”. In this regard, Niven (2005) concluded that managers may choose KPIs that are easily achieved, and hence not appropriate for the strategy, moreover, KPIs that selected bottom-up are more likely to be well-targeted if the objective is driven improvement. Conversely, a top-down approach (or at least strong top-down review) may be more appropriate if the objective is accountability. On the other hand, Tangen (2004) suggested that PMS should translate objectives from the top down and KPIs from the bottom up. In contrast, Fwaya *et al.* (2010) suggested that KPIs need to be strategically derived and translated downwards through an organization. Additionally, Bird *et al.* (2005) concluded that design of KPIs by advisory group can be more effective, such a group can help to ensure the validity of KPIs. In conclusion, QSR chains should involve the restaurant managers in choosing or designing the KPIs.

### Independent Samples Test

**Table 6: Independent samples Test**

Independent Samples Test				
	t-test for Equality of Means			
	T	Sig. (2-tailed)	Mean Difference	Std. Error Difference
PMS that applied are clear and easy to understand	-1.95	0.053	-.576	.295

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The strategy is developed, reviewed and updated periodically based on the information from the PMS.	1.547	0.125	.870	.563
Strategy is clearly translated into company, department, and individual goals.	1.879	0.063	.972	.517
Employees know how to measure their performance.	2.1	0.038*	1.271	.605
Employee knows his/her job goal and the contribution to the whole strategy and objectives.	-0.056	0.956	-.028	.506
Appropriate performance measurement tools and skills are employed.	1.852	0.066	.836	.451
Restaurants managers are involved in selecting KPIs in the organization	-0.692	0.49	-.418	.604
Senior management supports PMS in terms of linking performance with incentives	1.523	0.13	.836	.549
Senior management supports PMS in terms of training	1.248	0.215	.638	.512
PMS used in giving feedback to the managers in the organization.	0.529	0.598	.271	.513
Training is enough so that leads to achieve the desired result from the PMS	2.668	0.009*	1.469	.551
The KPIs of PMS are effective and business related	3.309	0.001*	1.492	.451
PMS is effective so that it stimulates employees to be more efficient in their jobs.	0.669	0.505	.305	.456

\*Significant at >0.05

As shown in Table 6, as it presents the results of the independents-samples T test, that there were significant differences between male and female with regard to three issues, they are; “employees know how to measure their performance” with (Sig= 0.038), “training is enough so that leads to achieve the desired result from the PMS” with (Sig= 0.009), and “KPIs of PMS are effective and business related” with (Sig= 0.001). Males have higher mean score than female which means that they are supporting the above mentioned three issued than female. This may because the vast majority of respondents were males due to the males' dominance of the Egyptian hospitality sector; especially restaurants (Sobaih, 2015). There is no significant variance between males and females in the rest of issues since they are approximately equal in performance.

### 11- Restaurant Managers' satisfaction regarding the PMS.

More than half of respondents i.e. 51.6% confirmed that they were satisfied with the PMS currently used. 24.2% were not satisfied or they don't know. In this essence, Boswell and Boudreau (2000) found that employees were more likely to be satisfied with the PMS if it was used for career advancement and training for development. Therefore, QSRs should make sure that existing PMS aiming for career advancement. On the other hand, Huatucoet *al.* (2014) implied that PMS is becoming a tool to discipline or firing staff and used for restructuring. This suggests that PMS is seen as a tool to control employees, and sadly according to Edmonstone (2013) empirical evidence suggested that this is true, and that development of staff is often ignored.

### 12- Financial and non-financial KPIs rated as the most important by the respondents.

This question was designed to explore the importance of each KPI for QSRs. Table 7 shows this issue. Five-point Likert-type scaling method ranging from “1” very unimportant to “5” very important, was used to measure this element.

**Table 7: KPIs for QSR chains**

KPIs	Mean	Std. Deviation	Rank
Sales Per Labor Hour (SPLH).	4.92	0.277	1
Transaction Per Labor Hour (TPLH).	4.85	0.376	2
Sales Achievement (Sales to Budget)	4.77	0.599	3
Sales Growth (Beat Year Ago)	4.77	0.439	4
Net Profit Achievement	4.69	0.63	5

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Food Cost Achievement	4.38	0.768	6
Net Profit Growth (Beat Year Ago)	4.31	0.751	7
Mystery Shopper Results	4.23	0.725	8
HD (Home Delivery) Sales Achievement	4.15	0.801	9
Employee Turnover	4.08	0.641	10

The results showed that none of the KPIs were found to be very unimportant, unimportant, or neutral. Two categories of KPIs based on their importance including (A) very important and (B) important were identified.

A) The top eight KPIs had means between 5.00-4.20 in likert-type scale. Most of those KPIs were financial. Such KPIs respectively are:

1. Sales Per Labor Hour (SPLH).
2. Transaction Per Labor Hour (TPLH).
3. Sales Achievement (Sales to Budget)
4. Sales Growth (Beat Year Ago)
5. Net Profit Achievement
6. Food Cost Achievement
7. Net Profit Growth (Beat Year Ago)
8. Mystery Shopper Results

It's not surprisingly that almost all those KPIs were financial. Thus, reflects the importance of the financial KPIs towards QSRs. Table 7 illustrates that "SPLH" and "TPLH" considered the most important KPIs for almost all QSR chains. Therefore, financial KPIs considered the primary focus for almost all QSR chains. The importance of non-financial KPIs was also confirmed by the interviewees, since it was assorted in place 8 between the first eight highly important KPIs.

B) Important KPIs had means between 3.40-4.19 in likert-type scale. Such KPIs respectively include:

1. HD (Home Delivery) Sales Achievement
2. Employee Turnover

It could be noticed that important KPIs are financial and non-financial. Most of the mentioned KPIs are financial; only Two non-financial KPIs have been noted in both group which reflects the less importance of the non-financial KPIs to QSR.

It can be concluded that QSR chains tends to use financial KPIs rather than the non-financial one, and the focus of top management is on financial KPIs only. This not in line with Braz *et al.* (2011) who confirmed that KPIs should provide a 'balanced' view of the business.

These results support the notion that hotels and restaurants are reluctant to use balanced KPIs and rely solely on financial KPIs (Wadongoet *al.*, 2010). Therefore, the omission of non-financial KPIs will negatively affect the internal and external customer satisfaction as well as the sales in the long-term. Therefore, top management should pay equal attention to both financial and non-financial KPIs.

### 13- Empirical Framework for QSRs

**Table 8: Empirical framework for QSR chains**

Dimension	Sub- Dimension	Focus	KPIs
Non-Financial	Customer	Customer satisfaction	Mystery Shopper Results %
	Internal Processes	Business Efficiency	Transaction Per Labor Hour (TPLH).
	Learning and development	Knowledge and Innovation	Employee Turnover %
Financial	Financial	Financial Performance	Sales Per Labor Hour (SPLH)
			Sales Achievement (Sales to Budget) %
			Sales Growth (Beat Year Ago) %
			Net Profit Achievement %
			Food Cost Achievement %
			Net Profit Growth (Beat Year Ago) %
Home Delivery Sales Achievement %			

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As highlighted earlier, respondents agreed that BSC is the most suitable tool for measuring the performance of QSR chains. Hence, the BSC was modified based upon respondents' recommendations (See Table 8). There was a need for developing a modified BSC that suits the nature of the QSRs. It will help manager better effectively measure his performance and achieve business success.

The integrated framework aims to assist QSRs chains properly measure the performance and achieve their business success. The newly proposed framework has been divided into four major dimensions: Customer, Financial, Internal Processes, and Learning and development. The customer dimension includes one indicator: mystery shopper results whereas the financial dimension includes seven indicators: SPLH, sales achievement, sales growth, net profit achievement, food cost achievement, net profit growth, and home delivery sales achievement. The internal processes dimension includes one indicator: TPLH whereas the learning and development dimension includes one indicator: employee turnover (see Table 8). As it can be noticed, the 10 KPIs for QSR chains identified were distributed among the four dimensions of the BSC in the proposed empirical framework or PMS.

### Conclusions and Recommendations

PMS is the key tool for successful organization. Measurement of organizations is more like a medical examination of the health of organizations. This article has investigated the perceptions of restaurant managers regarding the PMS and its requirements. The research findings showed that the BSC and the KPIs systems are widely used by QSR chains. BSC and the KPIs were classified as systems that can be easily adapted by service organizations. KPIs almost are the same in all QSR chains, financial KPIs are the first choice for almost all QSR chains. It is necessary for QSRs to combine the financial and non-financial KPIs in one framework. In these regards, Zhang and Enemark (2016) declared that financial records only do not satisfy restaurants shareholder unless it comes with non-financial factors, such as customer retention, and internal customer satisfaction. Therefore it's very important for the QSR chains to focus on both financial and non-financial KPIs.

The results also showed that SPLH and TPLH KPIs were the most important KPIs for almost all QSR chains. The omission of non-financial KPIs will negatively affect the internal and external customer satisfaction as well as the sales in the long-term. Therefore, the top management should pay equal attention to both financial and non-financial KPIs.

This paper also showed that QSR chains are less likely to use the non-financial KPIs to measure its performance. Most QSR chains believe that non-financial indicators are not important for business.

According to the obtained findings, the following recommendations could be suggested to increase the effectiveness of PMSs in QSR chains. The recommendations are as follows:

1. QSR chains should support the PMS in terms of training and incentives.
2. QSR chains should design a simple PMS template, which saves much paperwork and combine PMS process with daily plan work.
3. QSR chains should assure that PMS design involve the restaurant managers not just the financial controllers.
4. QSRs should set and follow a timescale for PMS (e.g. monthly, quarterly).
5. QSR should regularly identify the requirements of PMS through a tool (e.g. survey) which can be organized by HR department. This will help QSRs to periodically assess and update the PMS in order to meet its requirements to achieve effective PMS.
6. It is necessary to use and combine financial and non-financial indicators in one framework, especially in the hospitality industry, which depends mainly on customers.
7. QSR chains may assign one indicator for the entire company, one indicator for departmental objectives and a maximum of five indicators for personal performance evaluation. Adding more than 6 to 8 goals will likely have a negative impact on productivity and derail progress on achieving any of them.
8. Due to the male dominance of the Egyptian hospitality sector, QSR chains should try to balance the gender mix.

### Limitation and opportunities for further research

This research was limited to international QSR chains in Egypt. A sample of four international QSR chains were selected, i.e. KFC, Pizza Hut, Hardees, and McDonalds to explore the PMS. Further research may consider a wider research sample. The research may also consider managers of other categories, i.e. local QSR chains.

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