

# Innovative Service Delivery in Public Sector: An Empirical Assessment in Bahraini Public Organizations

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## Abstract

This research paper addresses the issue of innovation within the public sector. However virtually all organizations in general and service organizations in particular talk about innovation, and the importance of “doing” innovation, many actually try to “do it”, and only few actually succeed in doing it. Therefore measuring innovation in service organizations is very difficult task to perform. This research paper aim is to assess innovative service delivery in Bahrain’ public sector and in order to achieve this aim, a 400 top, middle level managers and supervisors are surveyed through utilizing and testing a Staged Service innovation model created by Song et al. (2009). This model is relating new product development (NPD) process; the five service innovation stages to proficiency of pre-launch service quality training programs. The empirical research results revealed that there is an impact relationship between the proficiency of new service development stage, proficiency of pre-launch service training and the service performance. Furthermore the research results provide new insights for public managers in order to enhance and improve service quality within their organizations by carrying out prelaunch training programs that will lead to more successful service innovation.

**Keywords:** Innovative Service, Empirical Assessment, Public Organizations

## 1. Introduction and Scope

In the context of service sector, the intangible nature of the final new delivered product gives both service managers and employees a very crucial factor in the innovation process of the new launched services. However, the level in which training programs affect the service performance from the provider’s perspective is still under research and very little is known about whether the public service performance differs based on the proficiency of: 1) new service development stages and 2) pre-launch service training programs. Hence, this research intends to empirically test A Staged Service Innovation Model created by Song, et al. (2009) and investigate whether service performance differs based on carrying out the five stages of developing new service (most of these stages are quite similar to the familiar NPD models). Furthermore, the researchers investigate the extent to which service performance differs based on carrying out pre-launch service training programs for service employees on the five service quality components (tangibility reliability, responsiveness, assurance, and empathy). Song et al. (2009) suggest that the prelaunch service quality training is one critical stage in the new service development process. This research is unique as it examines the Staged Service Innovation Model in a different context as it is tested in a public service sector and also in a different environment as it is tested in the Kingdom of Bahrain.

### 1.1 Applying the Concept of Open Innovation to the Public Sector

To answer all these questions, the authors offer a structural overview of the benefits of the joint principles of Crowdsourcing and open innovation, linked with the nearly ubiquitous use of Internet technology, to the governmental and public sphere.<sup>2</sup> A framework for Citizensourcing has to include the following three dimensions (see Figure 1): 1. Citizen Ideation and Innovation: This first tier focuses on the general potential of knowledge and creativity within the citizenry to enhance the quality of the common good by applying methods such as idea- and innovation-contests through open innovation platforms. 2. Collaborative Administration: The second tier explicitly addresses the integration of citizens for enhancing existing public administrative processes. Experiences from firms’ user innovation and user-generated-content indicate new tasks and processes for public organizations. 3. (http://c.ymcdn.com) Collaborative Democracy: This level summarizes new ways of collaboration to improve public participation within the policy process, including the incorporation of public values into decisions, improving the quality of decisions, building trust in institutions and educating and inform the public (e.g. structured by the model of Beierle & Cayford, 2002 concerning institutional settings/context, enhanced processes and improved results).<sup>2</sup> We still need to make note that there is (http://c.ymcdn.com)

Public sector innovation refers to “the introduction of new approaches to provide quality public services and better responses to society’s needs” (OECD Observatory of Public Sector Innovation). This concept involves three important components: (http://www.know-hub.eu/)

- Novelty (and not merely change);
- Implementation (and not just an idea);
- Utility (for society, beneficiaries and the public sector itself).

Public sector innovation differs from “normal” activities in the public sector (Bason 2010):

Public sector « business as usual »	Public sector innovation
Random changes	Conscious and systematic approaches to public sector renewal
Managing human resources	Building innovation capacity at all levels of government
Running tasks and projects	Orchestrating processes of co-creation, creating new solutions with people, not for them
Administrating public organisations	Leading innovation across and beyond public sector

Public Sector innovation can take different forms (Windrum 2008):

- Service innovation: new or improved service;
- Service delivery innovation;
- Administrative and organisational innovation;
- Conceptual innovation (new views, challenging existing assumptions, e. g. shift from curative to preventive approach);
- Policy innovation (e.g. innovation voucher schemes);
- Systemic innovation (new ways of interacting with other organisations and sources of knowledge). (<http://www.know-hub.eu/>)

### 2.1: Service Quality in Literature

In essence, particular attention in service quality theory, as well as in practice, has always been given to: **1)** defining quality in service organizations and how services are different to manufacturing goods in terms of quality issues, **2)** how service customers expect and perceive service quality, **3)** how service providers (managers and service employees) deliver or perform service quality and finally **4)** the modeling of service quality between service providers and customers. In this respect, the service quality literature gives a focus with which to try to integrate organizational, managerial and marketing theories in order to fully understand what service quality means for both service provider and service customer (Cândido 2001; Gottfridsson 2012; Parasuraman *et al.* 1985; Wetzels, 1998; Zeithaml & Bitner 2003).

In this section, main aspects of service quality theory are discussed. To begin with, service quality measurement dimensions are presented. Secondly, conceptual models of service quality are addressed with special attention to the conceptual gap models. These models are considered as the most comprehensive representations of service quality theory (Cândido 2001; Parasuraman *et al.* 1985; Wetzels 1998; Zeithaml & Bitner 2003; Zeithaml *et al.* 1988, 1990).

### 2.2: Service Quality Dimensions

#### 1) Service Quality-Tangibles: Representing the Service Physically

Tangibles are defined as the physical facilities, equipment and appearance of service employees, and written materials. Service tangibles cover all the physical symbols and images of the service provider. Service tangibles are more important in high contact services such as hospitals and medical centers.

#### 2) Service Quality-Reliability: Delivering on Promises

Reliability is defined as the ability to perform and provide the promised service dependably and accurately. In its broadest sense, reliability means the service provider carrying out the service it has promised: promises about delivery, service provision, problem resolution, and pricing. Service customers want service providers to keep their promises about service outcomes and attributes.

#### 3) Service Quality-Responsiveness: Being Willing to Help

Responsiveness is the provider's willingness to help customers and provide prompt services. It emphasizes attentiveness and promptness in dealing with customers' desires, questions, complaints and inconveniences. Responsiveness is achieved by flexibility and having the ability to modify services to meet customers'

expectations and needs.

#### **4) Service Quality-Assurance: Inspiring Trust and Confidence**

Assurance is defined as the knowledge and courtesy of providers, in particular service employees, and their ability to inspire trust and confidence. This dimension is essential when services are characterized by uncertainty and high risks.

#### **5) Service Quality-Empathy: Treating Customers as Individuals**

Empathy is defined as the caring, individualized attention the service provider offers its customers. It is also about building a personal relationship with customers as individuals and this is often called personalized services.

### **2.3: Service Quality Models**

Parasuraman *et al.* (1985) argue that a service quality model requires a clear understanding of service quality concepts and dimensions. From this, conceptual models that show relationships between various service quality concepts and dimensions have been developed in order to guide service organizations/providers towards service quality improvements (Parasuraman *et al.* 1985; Zeithaml & Bitner 2003; Zeithaml *et al.* 1988). Seth *et al.* (2004) critically reviewed 19 service quality models and each of them is representative of a different point of view. This section discusses the most comprehensive conceptual model reported in the service quality literature, in general, and in Seth *et al.*'s work, in particular.

#### **Parasuraman *et al.* Gap Model of Service Quality**

The Conceptual Gap Model as created by Parasuraman and his colleagues (Parasuraman *et al.*, 1985) has been seen as the “*standard*” model for service quality (Kasper 1999; Wetzels 1998). Parasuraman *et al.* (1985) give a dyad attention to service providers and customers. The gap model was build based on an empirical study concerning both provider and customer perceptions of service quality. In doing so, the study clarified that service quality is function of five gaps: four internal gaps on the provider side and one external gap on the customer side. In providing the five gaps of service quality, the gap model also describes how service customers' expectations are influenced by both external communications and the actual service delivery. The model also gives attention to how customer expectations lead to changes in provider's management ways, practices and behaviors, which in turn influence the development of the service quality. Fundamentally, this model consists of two dimensions:

1. Four internal gaps as service providers' gaps (Gaps 1 to 4).
2. Perceived service quality as external gap (Gap 5).

#### **Service Provider Gap 1 (Information Gap)**

is the difference between service a customer's expectations of service and the service provider's understanding of those expectations. As a result the service provider's top managers, senior executives and service employees may not fully understand (lack of information) what aspects indicate high service quality to a customer, which aspects services must have in order to meet customer expectations and needs. (Cândido 2001, Parasuraman *et al.*, 1985, 1988; Wetzels 1998; Zeithaml & Bitner 2003, Zeithaml, *et al.*, 1988, 1990).

#### **Service Provider Gap 2 (Specifications Gap)**

is the difference between the perceptions of the service providers as to the customers' expectations and the actual service standards and specifications that should be performed. (Cândido 2001, Parasuraman *et al.*, 1985, 1988; Wetzels 1998).

#### **Service Provider Gap 3 (Performance Gap)**

is the difference between the developed service specifications and standards and actual service performance. Even if specifications exist for performing services in a good manner and treating service customers right from first time, high-quality service performance is not certain. (Cândido 2001, Parasuraman *et al.*, 1985, 1988; Wetzels 1998; Zeithaml & Bitner 2003).

#### **Service Provider Gap 4 (Communications Gap)**

is the difference between what is promised and what the service provider is actually able to deliver for their customers. Promises made by a service provider through its advertising, sales force, and other communications may potentially raise customers' expectations to a level that serves as the standard against which customers access service quality (Cândido 2001, Parasuraman *et al.*, 1985, 1988; Wetzels 1998; Zeithaml & Bitner 2003, Zeithaml, *et al.*, 1988, 1990).

#### **Service Customer Gap 5 (Perceived Service Quality Gap)**

is the difference between service customer's expectations and their perceptions of the delivered service. This gap is a result, or a function, of all the other four internal provider gaps (Cândido 2001, Parasuraman *et al.*, 1985).

### **2.4: New Product Development (NPD) in Literature**

New product development is a multi-stage process (Cooper, 1985, 2001; Crawford and Di Benedetto 2006; Song and Di Benedetto 2009; Song and Parry 1997a). Many different models with a varying number of stages have been proposed in the literature. The researchers briefly review these models that are better suited to decision

making regarding service performance and specification. In this part the researchers start with a discussion of new product development stages as follows:

Stages in NPD: Several authors proposed different conceptual models for the NPD process, beginning from the idea screening and ending with the commercial launching. The model of Cooper, called the Stage-Gate System is one of the most widely acknowledged systems (Rejeb et al. 2008). The Stage-Gate System model (Figure 1) divides the NPD into discrete stages, typically five stages.

Each Stage gathers a set of activities to be done by a multifunctional project team. To enter into each stage, some conditions and criteria have to be fulfilled. These are specified in the Gates. A Gate is a project review in which all the information is confronted by the whole team. Some criticism of the method has surfaced, claiming that the steering group assessment in the stage and gate steps halts the project for an unnecessarily long time, making the process abrupt and discontinuous (Song et al, 2009). A closer integration of management through virtual team in the process might be a solution for avoiding such situations.

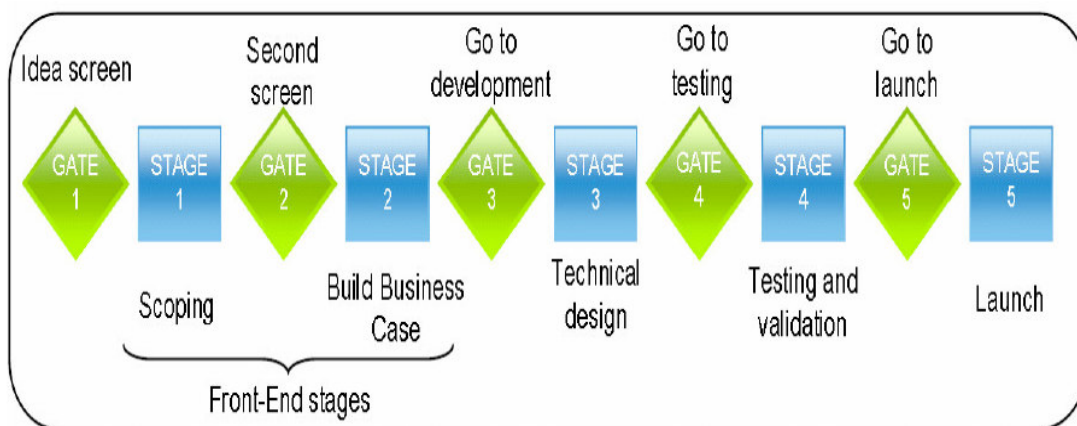


Figure 1. The stage-gate system model (source: Cooper, 2006).

**Idea Screen** : during the ideation step the team brainstorms to discover some of the many ways a product or service can solve the problem and meet internal goals. Ideas are evaluated and the most promising are selected for further investigation (Cooper, 1985, 2001; Crawford and Di Benedetto 2006; Song et al. 2009; Song and Parry 1997a)

**Market Opportunity Analysis** - the concept step sets basic direction and boundaries for the entire development process by clarifying the type of product or a service, the problem the product solves and the financial and technical goals to be achieved by the product. (Cooper 1985, 2001).

**Design** : it's in this step that the execution of the "best" way to create and construct the product happens. Engineering details are generated to flesh out the high level concepts from the ideation stage (Cooper 1985, 2001).

**Testing**: this stage verifies if the new product or service meets the original goals or if additional refinement is needed (Cooper 1985, 2001).

**Launch and Release**: once testing has confirmed that the product solves the problem and will meet the company goals; it is ready to start the new product introduction (NPI) process and get the product built (Cooper, 1985, 2001).

The researchers choose and tested the five – staged new product development process developed by Song, et al. (2009) that is considered the foundation of the Service Innovation Model (SIM). This multi facets process incorporates five stages: idea screening, market opportunity analysis, product design, product testing and product launch. At the early stages of the NPD model, good ideas are screened based on the anticipated market share, marketability and commercial potential (Crawford and Di Benedetto, 2006).

The market opportunity analysis stage is the precedent stage before starting the real product development; this stage aim is to assess the product potential market capabilities in terms of product appeal, acceptance and customer preferences that by its role highlight potential success and failures. (Song and Parry 1997a, 1997b; Song et al. 2009).

At stage three, the technical development is quiet differentiated by creating a prototyped design to enable the service provider with feedback on the extent of customer satisfaction levels regarding the product performance for the purpose of continuous refinement and improvement (Crawford and Di Benedetto, 2006). In the product testing stage, further efforts are underpinned to test the product against the anticipated promised value proposition including response towards product advertising, pre launch forecasting and test marketing.



(Song and Parry 1997a, 1997b; Song et al. 2009). Now reaching the final stage in the NPD process which is the product launch where the commercialization stage necessitates accomplishing the final manufacturing details, launching and introducing the product into the market place.

### **2.5: Service Quality and NPD Theories**

Due to that most of researches focuses on inspecting the relationship between service quality and performance, developing the service quality of the product after the launch, Tan (2001) has embedded quality management into the New Service Development process aiming to practice a direct impact on the product performance through pursuing a refined product design and development strategy. Furthermore the customer highly differentiate a service provider from another based on the provision of high quality (Parasuraman, Zeithaml & Berry, 1985). Due to the greater extent of interactivity between the service provider and the customer the New Service Development (NSD) can be greatly differentiated than the New Product Development (Johne & Store, 1998; Song et al. 2009).

Gardner and Siomkos (1986) revealed that enhancing the tangible aspects (neatness of the service provider appearance) is related to improved performance. In the same context Pan and Zinkhan (2006) revealed that improvements in responsiveness and assurance are liked to higher outcomes on service quality perceptions and service provider performance, while greater maximum empathy raise the extent of service performance (Anderson & Sullivan, 1993; Anderson et.al., 1994; Berry, Seiders & Grewal, 2002). Noting that; the service quality training is obviously missing from models of new service development (Song et al. 2009).

## **3. Research Conceptual Framework and Hypotheses**

### **3.1 The Five Service Innovation Stage Hypotheses**

According to Song, et al. (2009), service managers, supervisors and employees start a brainstorming process to provide new ideas based on screening criteria such as costs and time required and the risks involved, then better ideas are developed into concepts and explored in terms of fully formed ideas after moving it to later screening stages.

***H1a: The level of service performance in Bahraini public sector is positively related to the proficiency of idea development and screening stage.***

In case of identification of good ideas, managers moved toward the second stage which is examining the marketing opportunities for this new developed service concept aimed to transform the service concept into a marketable service (Song et al. 2009).

***H1b: The level of service performance in Bahraini public sector is positively related to the proficiency the business and marketing opportunity analysis stage.***

Proficiency at design is hypothesized to be related to improved performance (Song, et.al. (2009) during this stage service managers and supervisors develop a clear cluster of the values for the service as well as designing the service itself. A proper identification of the clear value propositions ensures that the service provider was competitively positioned to target the desired market segments (Crawford and Di Benedetto 2006).

***H1c: The level of service performance in Bahraini public sector is positively related to the proficiency of the service design stage.***

Proficiency at service testing is also related to improve performance (Song, et.al. (2009), Service testing provides the service provider with feedback on customer satisfaction levels with service performance so that service can be continuously improved before launch (Cooper, 2001; Crawford & Di Benedetto, 2006; Song et al. 2009)

***H1d: The level of service performance in Bahraini public sector the product-testing stage.***

Proficiency in the launch of the service product testing stage is also related to improved service performance, therefore marketing decisions should be taken to support the product launch including and not limited to appropriate pricing, distribution and promotion (Song et al. 2009).

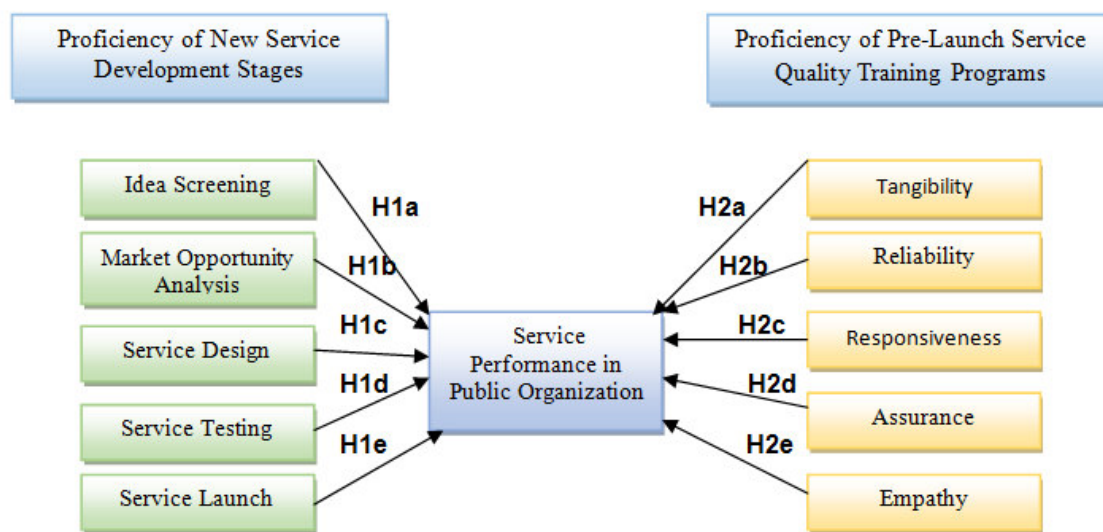


Figure 2: Service Innovation Model (Adopted from Song et al. 2009; page 577)

### 3.2 The Pre-launch Service Quality Training Programs Hypotheses

The service managers and supervisors should execute training prior to the pre-launch to assure that the service tangible aspects are used and delivered effectively. (Anderson et al. 1994). Reinforcing the tangible facets through prelaunch service quality training will have greater outcomes on performance (Song, et.al. 2009):

**H2a: The level of service performance in Bahraini public sector is positively related to prelaunch service quality training on the tangibles component**

According to Parasurman et al. (1991), the reliability component of service is considered the most important in improving service performance; otherwise the service manager and supervisor will not recognize its importance. (Song, et.al. 2009):

**H2b: The level of service performance in Bahraini public sector is positively related to prelaunch service quality training on the reliability component**

In terms of service responsiveness, (Parasurman et al. 1991) reported that exact time of service delivery, willingness by service providers to help customers in a prompt way is positively related to service quality and customer satisfaction. Therefore conducting training programs for service providers greatly enhance the relationship between the service performance and pre-launch service quality training on responsiveness component (Song, et.al. 2009):

**H2c: The level of service performance in Bahraini public sector is positively related to prelaunch service quality training on the responsiveness component.**

Building trust and confidence in the service provider from the customer perception relies on the assurance component of the service quality that is fundamentally based on conducting training program to assure that service providers are acquiring the required knowledge to enable them answering customers inquires with courtesy. Furthermore when adapting appropriate training program, service providers gain much competencies in instilling customer confidence (Song, et.al. 2009).

**H2d: The level of service performance in Bahraini public sector is positively related to prelaunch service quality training on the assurance component.**

From a marketing orientation perspective, service providers should deal based on a customer-centric approach in terms of customer commitment, convenience plus empathetic behavior. Therefore it is crucially important to conduct proper training program that will raise the empathetic behavior of the service provider and consistently disseminate to their customers (Song, et.al. 2009):

**H2e: The level of service performance in Bahraini public sector is positively related to prelaunch service**

*quality training on the empathy component.*

#### **4. Research Methodology**

##### **4.1 Instrument**

The researchers used a survey-based questionnaire that was designed to answer the proposed hypotheses. It was developed in two parts. The Song, Song and Di Benedetto (2009) questionnaire was used and adopted to test: firstly, the relationship between proficiency of new service development stages and service performance. Secondly the relationship between proficiency of pre-launch service training programs and service performance. The questionnaire adopted a Seven - Likert scale from strongly disagree to strongly agree for the purpose of data collection

##### **4.2 Sample**

The population (Top, middle level service managers and supervisors) was drawn randomly from diverse public service organizations in the kingdom of Bahrain. A total of 475 self-administrated questionnaires were distributed within these service organizations and the response was 400 complete questionnaires. The high response rate was attributed to the presence of the researchers at the organizations ensuring the completeness of the questionnaires.

##### **4.3 Data Analysis**

The SPSS used in this research paper was version 16 with which different statistical techniques were employed to analyze the data. Also the researchers used the regression model as a statistical methodology that permits a set of hypothesized relationships between variables to be examined. The intention was to investigate whether there is positive relationship among the research variables.

#### **5. Results**

After the responded questionnaire has been completed and returned, the researchers then compile it together and arranges in an order that will enable me to analyze it. In this section will be presenting the findings from the survey and analyze the result based on the findings to state the research results. The very important step in the analysis is estimating the regression model which has been employed in this research. The results of hypothesis testing are presented in tables and the discussion is presented below:

##### **In general the are two main directions of hypothesis**

**H1:** The level of service performance in Bahraini public sector is positively related to the proficiency of new service development stages.

**H2:** The level of service performance in Bahraini public sector is positively related to the proficiency of pre-launch service quality training programs.

It is obvious from the table (1) the validity of the model test hypotheses of the research, due to the high value of (F) calculated over it tabulated value at significant ( $\alpha=0.05$ ), whereas the service performance illustrate what rate (0.47) of the variance to be after the proficiency of new service development stages and proficiency of pre-launch service quality training programs.

a. Predictors: (Constant), proficiency of new service development stages, proficiency of pre-launch service quality training programs.

b. Dependent Variable: service performance.

a. Predictors: (Constant), proficiency of new service development stages, proficiency of pre-launch service quality training programs.

As can be seen the proficiency of new service development stages is positively and significantly correlated with the service performance at significant value ( $\alpha=0.05$ ), which can be seen in the figure 1.

The multiple regression with the two predictors (proficiency of new service development stages and proficiency of pre-launch service quality training programs) Produced R square =0.468 , F (2,385) ,  $p<0.05$  . As can be seen in tables (2.b) , the proficiency of new service development stages had significant positive regression weights , indicating the service with design stage , and the service with launch stage , after controlling for the other variables in the model.

##### **For partial hypothesis:**

a. Predictors: (Constant), ideal screening, business opportunity analysis, service design, service testing, service launch, tangibles, reliability, responsiveness, assurance, empathy.

a. Predictors: (Constant), ideal screening, business opportunity analysis, service design, service testing, service launch, tangibles, reliability, responsiveness, assurance, empathy.

b. Dependent Variable: service performance.

Based on the results in above table , this research find that there is a significant relationship between the factors (Ideal screening , business and market opportunity analysis , tangibles , Reliability ... and so on ) and the level of

service performance at significant value=0.05. Also, Adjusted R-square value able to explain 50% of changes in the service performance on other variables, which is it can seen in the above table

## 6. Discussions and Conclusions

The researchers empirically tested the Song, et al. (2009) model in the Bahraini public service sector. The research results indicate that the service performance is increased in the case that service providers conduct prelaunch training especially on the reliability and empathy components of service quality. Furthermore, the results also indicate that service performance is positively related to the proficiency of both the service design and the service launch stages. In the following section all the proposed hypotheses are discussed in more details:

**H1a:** The results contained in the statistical table (3.b), and follow up-coefficients (beta), (t) this research finds that all of the service performance models have a no significant t-value for the proficiency of the idea development and screening stage, greater than the sig. value. It means that this research does not find relationship between the level of service performance and the idea development and screening stage.

**H1b:** The results in table (3.b) indicated that this research finds all of the service performance models don't have a significant t-value for the proficiency of the business and marketing opportunity analysis stage greater than the significance level. Which means the level service performance does not positively related to the proficiency business and marketing opportunity analysis stage at ( $\alpha=0.05$ ).

**H1c:** As it can be seen from the results in the above table, there is a statistically effect of the proficiency for the service design stage in service performance in terms of the high value (t) which higher than tabulated value at the significant level ( $\alpha=0.05$ ).

**H1d:** The results contained in the statistical table (3.b), and follow up-coefficients (Beta), (t) this research finds that all of the service performance models have a no significant t-value for the product-testing stage, greater than the sig. value. It means that this research does not find relationship between the level of service performance and the product-testing stage.

**H1e:** The results in table (3.b) indicated that this research find all of the service performance models have a significant t-value for the proficiency of the service launch stage lesser than the significance level ( $\alpha=0.05$ ). Which means the level service performance is positively related to the proficiency of the service launch stage at ( $\alpha=0.05$ ).

**H2a:** As it can be seen from the results in the above table, there is no a statistically effect of the proficiency for the service design stage in service quality training on the tangibles component in terms of the high value (t) which higher than tabulated value at the significant level ( $\alpha=0.05$ ).

**H2b:** It can be seen from table 3.b, this research finds that all of the service performance models have a significant t-value for the prelaunch service quality training on reliability component lesser than the significance level. It means that this research will be find there is a significant positively relationship between the service performance and the prelaunch service quality training on reliability component at ( $\alpha=0.05$ ).

**H2c:** Based on the statistical results in the above table, this research find that all of the service performance models have no significant t-value for prelaunch service quality training on responsiveness component greater than the significance level ( $\alpha=0.05$ ). It means that this research does not find the positively relationship between the service performance and prelaunch service quality training on responsiveness component.

**H2d:** The results contained in the statistical table (3.b),and follow up-coefficients (Beta),(t) this research find that all of the service performance models have a no significant t-value for the prelaunch service quality training on assurance component, greater than the significant value ( $\alpha=0.05$ ). It means that this research does not find relationship between the level of service performance and the prelaunch service quality training on assurance component.

**H2e:** As it can be seen in table 3.b, the statistical results for this research find that all of the service performance models have a significant t-value for the prelaunch service quality training on empathy component lesser than the significance level. It means that this research finds the level of performance is positively related to prelaunch service quality training on empathy component with significant level at ( $\alpha=5\%$ ).

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Table 1:

Model Summary					
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.684 <sup>a</sup>	.468	.465		.935

a. Predictors: (Constant), proficiency of new service development stages, proficiency of pre-launch service quality training programs.

Table 2.a:

ANOVA <sup>b</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	295.917	2	147.958	169.346	.000 <sup>a</sup>
	Residual	336.377	385	.874		
	Total	632.293	387			

Table 3.b:

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.733	.175		9.900	.000
	proficiency of new service development stages	.560	.077	.560	7.237	.000
	proficiency of pre-launch service quality training programs	.140	.078	.138	1.785	.075

Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.715 <sup>a</sup>	.511	.498		.913

Table 3.a:

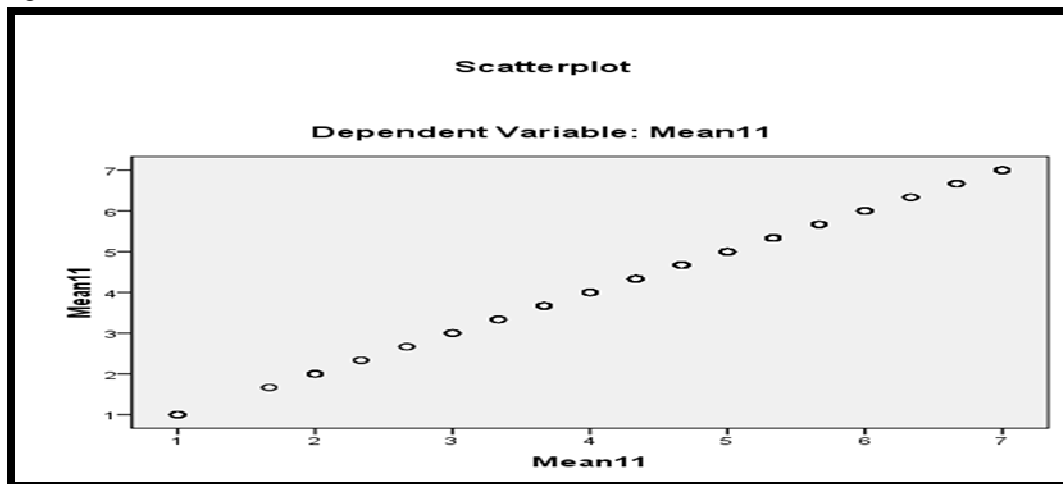
ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	321.328	10	32.133	38.557	.000 <sup>a</sup>
	Residual	307.516	369	.833		
	Total	628.843	379			

Table 3.b:

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.560	.182		8.590	.000
	Ideal screening	.084	.065	.093	1.280	.201
	Business opportunity analysis	-.096-	.086	-.106-	-1.113-	.266
	Service design	.234	.089	.243	2.627	.009
	Service testing	.162	.083	.166	1.952	.052
	Service launch	.261	.070	.278	3.752	.000
	Tangibles	-.044-	.086	-.045-	-.513-	.608
	Reliability	-.224-	.106	-.226-	-2.118-	.035
	Responsiveness	.119	.098	.116	1.217	.224
	Assurance	.012	.090	.013	.133	.894
	Empathy	.222	.096	.238	2.317	.021

a. Dependent Variable: service performance.

Figure. 3



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