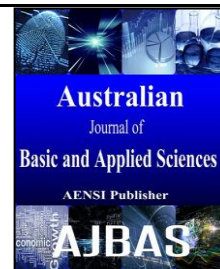




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### The Zone of trade-offs and Service Quality Dimensions: A Review on Concept and Models

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#### ABSTRACT

The study attempts to address the gap in the literature on the trade-offs using service quality dimensions particularly in the service factory. The study commences by explaining the concepts of trade-offs and service quality dimensions using previous studies. The papers uses a theory building approach to understand the trade-offs being practised by the service employees in the service factory. The paper reviews the literature on the trade-offs and service quality dimensions. It then, explains the trade-offs being practiced in the back stage operations at the service factory to uncover service employees performance gap when delivering various services to the customers. The body of literature is discussed on the rationale of studying the chosen topic from various perspectives of operational research. This section also critically reviews the early studies on this topic and justifies the importance of examining the trade-offs using service quality dimensions. Lastly, the study attempts to provide the framework for the future researchers to address the zone of trade-offs among service employees in the service factory.

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### INTRODUCTION

Service quality made an invaluable contribution to marketing theories and literatures by examining dimensionally, resolving arguments and identifying fundamental issues in the literature for future research. Numerous papers have highlighted the issues related to service quality along with those corresponding to customer satisfaction. However, very limited research has been done to recognize the variation of services from the service provider perspectives. The variation in service is due to the trade-offs being practised by the service provider during service delivery. Trade-offs can be conceptualized as the process of identifying where staff involved in service variation meets demand from various stakeholders. The absence of literature has given an opportunity to undertake further research to address the zone of trade-offs using service quality dimensions.

#### 2.2 Definition of the Concept:

##### 2.2.1 Trade-offs:

The Cambridge dictionary defines trade-offs as “a situation where you accept something bad in order to have something good (Cambridge, 2004). Similarly, many operations management articles

have used the word “compromises” to indicate the trade-off concept. This dictionary defines the word compromise as “something that is not actually what you want as agreed earlier”. Today, the concept of trade-offs is widely used in operational research to describe an operational compromise made by managers in their daily production activities.

The father of modern economies, Adam Smith (1776) in his article “Inquiry into the Nature and Causes of the Wealth of Nations”, argues that it is impractical for a nation to become rich simultaneously by focusing on both export and import of goods. In a dynamic context, he suggests that an economy needs to sacrifice one production in order to improve another by introducing absolute advantage in the system. Adam Smith addresses the concept of trade-offs in an economy by using a Production Possibility Frontier (PPF) curve. PPF shows all the possible combinations of two goods that can be produced at the same time during a given period of time. PPF represents how many units of a resource need to be sacrificed for a given increase in output of the product. In reality, economies always struggle to attain an optimal production capacity because of a lack of forces to give up one choice for another (Slack *et al.*, 2010).

Besides that, Johnston (1995) referring to Berry and Parasuraman in his article, states trade-offs as a “zone of tolerance” which mediates between customer desired level of service and adequate level of service. The researcher has also added that the tolerances are dynamic and may be adjusted during the process of delivering service quality and service productivity which may compensate for a poor performance.

### 2.2.2 Service Quality:

Johnston and Kong (2011) define service quality in two perspectives as ‘customer perceived quality’ and ‘operational Service Quality’. The operational service quality will be able to measure the service delivery effectiveness to its specification and customer perceived quality will measure customer service experience and the benefit perceived from the service delivered. The most widely reported set of service quality dimensions is proposed by Parasuraman and his colleagues. The researchers have identified initially 10 dimensions that reflect service attributes used by consumers in evaluating the quality from the service provider (Parasuraman et.al.1985). However, as a result of later research the 10 dimensions of service qualities were reduced to five dimensions. The five dimensions are tangibles, reliability, responsiveness, assurance and empathy as illustrated in Zeithmal *et al.*(1988).

Johnston and Kong (2011) stated that service quality in service operational perspectives can be measured using quality dimensions of Service Quality such as tangibility, reliability, responsiveness, assurance and empathy. Besides that, in the last three decades the service quality dimensions were widely used in the higher education industry to understand perceived experience by the students. Many researchers concentrated in developing service quality instruments to measure teaching effectiveness by investigating student

satisfaction level in the higher education sector (Li and Kaye, 2006).

Furthermore, Zenithal *et al.* (1988) stated that previous research by Parasuraman and colleagues in 1985 initially discussed Service Quality dimensions which measure customer’s quality perceptions. However, Zeithmal *et al.* (1988) identified five gaps in service quality and classified them into customer perspectives and marketer’s perspectives as illustrated in figure 2.2.2.1 and figure 2.2.2.2.

From the five gaps illustrated above, the study will investigate number three, service delivery gap. The service delivery gap will be able to help the service provider to measure quality specifications and the service that is actually delivered (Gronroos, 2001). Furthermore, the service delivery gap will be applicable to discussion about trade-off issues faced by academicians as service providers. In the same time, the researcher referred to this as a “service performance gap” when the staff fail to perform at the desired level due to organizational procedures, rules, culture limitation and contact staff flexibility in serving customers.

Besides that, the authors Parasuraman *et al.* (1985) also explained that the managers or heads of departments have created demands and pressures on their staff in how they should carry out their jobs. The staff then experience difficulties in satisfying the managers and the customers when the expectations from both are incompatible and too demanding. The researchers also found that staff fail to perform at the desired level due to service dispersion among several organizational units. This makes the academicians prioritize and leads to trade-off of some activities. Moreover, some of the service organization managers create excessive paperwork or unnecessary workload for staff which causes conflict between meeting both customers’ preferences and managers’ preferences.

<b>Gap 1: The Management Perception Gap</b> Difference between consumer expectations and management perceptions of consumer expectations.
<b>Gap 2 : The Quality Specification Gap</b> Difference between management perceptions of consumer expectations and service quality specifications
<b>Gap 3 : The Service Delivery Gap</b> Difference between service quality specifications and the service actually delivered
<b>Gap 4: The Market Communication Gap</b> Difference between service delivery and what is communicated about service to consumers
<b>Gap 5: The Perceived Service Quality Gap</b> Difference between consumer expectations and perceptions

**Fig. 2.2.2.1:** The Gap Analysis Model

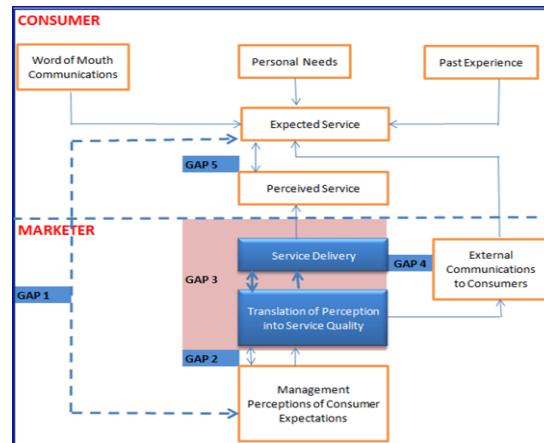
Source: Extracted from Parasuraman *et al.* (1985) & Zeithmal *et al.* (1988)

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**Fig. 2.2.2.2:** Conceptual model of Service Quality: Gap Analysis Model

In conclusion, service quality and customer satisfaction have been researched extensively in the service marketing literature. Many researchers have discussed service quality extensively in marketing perspectives and workload stress among academic staff in the human resource field as well as the working culture in organizational perspectives. This study will try to open up a new dimension by measuring trade-offs using service quality instruments in higher education perspectives.

### 3.0 Rationale:

The concept of trade-off is increasingly seen as a central issue of discussion among operational scholars since the last decade (Silveira and Slack, 2001). Today, the concept of trade-offs is widely used in operational research to describe operational compromises made by managers in their daily manufacturing production activities Slack and Lewis (2011). The concept of trade-offs was formally introduced by Wickham Skinner in 1969 (Skinner, 1996). As evident from this literature, many researchers contributed their ideas in developing manufacturing trade-offs in manufacturing operations since the 1960s. According to Silveira and Slack (2001), the concept of trade-offs was challenged in the 1980s and 1990s when investigating production compromises in manufacturing operations. Skinner (1996) identified seven criteria for trade-offs in manufacturing operations; flexibility for volume, flexibility for product change, quality, delivery cycle, cost, investment and reliability of delivering promises in meeting manufacturing operations objectives.

In the same article he pointed out that trade-off is able to influence competitive performance of a business unit if sufficient care is not taken. In his articles, he argued whether the tools, approaches and ideas were adequate and appropriate in overcoming trade-off challenges faced by managers in manufacturing. Before that, the author addressed this mismatch in his article "Production under Pressure" in Harvard Business Review (1966). Subsequently, Pagell *et al.* (2000) considered trade-offs as a production constraint which may challenge the performance of the production department.

A similar statement has been made by Mapes *et al.* (1997) when he said that the early manufacturing research viewed trade-offs as a constraint to competitiveness and that it focuses only on a narrow set of aims and tasks. This view is supported by Silveira (2005) who viewed trade-offs as a constraint to performance, suggesting a need to prioritize and devote resources to improve the performance in operations.

However, by the beginning of the 2000s, the concept of trade-off started getting attention from scholars in service operations perspectives. Bitran and Lojo (1993) stated that the development in the service sector has brought many manufacturing operations concepts to management operations in the service firms. Many firms enthusiastically started to apply manufacturing operational concepts into service firms' operations activities with the aim of improving efficiency and improving their service quality.

The notion has triggered some researchers to study the trade-offs on service firms' operational

perspectives. According to Yee *et al.* (2008) operations management has advocated the optimization of operational processes as an effective way to deliver value and meet customer expectations. Substantial research has been dedicated to studying such topics as designing, managing and optimizing different service delivery systems in the hope of achieving higher service quality and operational efficiency Yee *et al.* (2010). In the last few decades, the importance of the trade-off concept has been noted by a few scholars in line with current development of service activities and its contribution to economic growth (Johnston, 1994). Some notable publications in this field include the works of Parasuraman (2010); Johnston and Kong (2011); Johnston (1995;2005) and Silveira (2005).

Ghobadian *et al.* (1994) by referring to Haywood-Farmer, stated that quality trade-off failed to offer a practical method to help the management to identify problems in Service Quality. This is because of characteristics of service itself such as service intangibility, participation of the customer in service delivery, heterogeneous nature of the process, lack of predictability and repeatability of the service process, diverse customer base sharing the same processing facilities and process, lack of visibility, difficulties in identifying source of quality, productivity, the trade-off problems and the time required to improve service operation.

Johnston (2005) as an active service operations scholar, has suggested that the need for further research in trade-offs and service operations performance has not been explored extensively by researchers. He also applied the theory of trade-offs in service firms' perspectives in his articles published in 1995. Along similar lines, the concept of trade-off has increasingly been used in recent years within academia. Johnston and Kong (2011) argued that previous studies only focused on customer service experience and limited coverage was given to incorporate service quality improvement with operational techniques. The researchers discussed how an institution's staff should understand customer experience from service delivery perspectives. The research provides a clear and concise guideline to the organization on how to embrace service delivery gap and provides empirical evidence to effect improvement in service firms. The findings provided evidence that after identifying the area for improvement, staff were making fewer mistakes, were better engaged, improved efficiency and were able to observe things from the customer's point of view. However, the authors of this article also noted that many organizations did not have a clear picture of how to deal with improving customer experience from service provider perspectives.

It is also recognized by Johnston (2005) that very little research has been done to discuss service quality on operational aspects since service quality always become synonymous with customer

satisfaction. In the same article the researcher refers to Johnston and Jones article in 2004, stressing the need for a mechanism to control service specification with employees' behaviour when delivering service to the customer. A study by Ali and Musah (2012) provides empirical evidence by introducing a modeling causal relationship between quality culture and workforce performance which leads to improved work performance among academic staff in higher education in Malaysia. The researcher also found that quality of teaching in higher education is an essential factor in meeting student demands and needs to be taken into account. The researcher refers to previous work done by Fichtner in 2003 when emphasizing the importance of understanding staff in higher education. This can enrich instructional effectiveness, enhance continuous improvement and help to provide quality teaching. In this article the researchers also discussed a survey conducted among Scottish hotel assistants which addressed the importance of a balanced environment to help achieve organizational vision.

Acknowledging this, Grebennikov and Shah (2012) empirical research evidence revealed that higher education institutions still struggle to meet desired expectations from customers. The researchers suggest that academicians should view quality from students' perspectives. Additionally, the research also suggested that the quality of academicians in higher education has a significant impact on service quality delivery. Subsequently, the findings also revealed that academicians should possess desired attributes when involving themselves in academic activities without losing rigor in the classroom. Clearly, there is an agreement among researchers on student desires, expectations and satisfaction. Some studies in particular Chebat and Kollian (2000) and Fuhrmann and Geyer (2003) discuss more generic factors associated with student satisfaction and expected service from the academicians

Johnston (1999) developed a model to study service transaction, addressing the need for managers to engineer their service process by analyzing the root causes of improvements. His research article triggered service managers to consider inappropriateness of their customer process. The study also indicated the mismatch between actual service concept and service delivered to the customer. Johnston asked service firms to see the process from a customer's point of view and increase "customer orientation." The researcher also strengthens existing models by providing structural methods to service process evaluation based on service concept, service process, transaction quality assessment and messages. Before arriving at this conclusion, the researcher has referred to current models from Fitzsimmons and Fitzsimmons (1994); Stauss and Weinlich (1995);Stauss, 1993; Stauss and

Weinlich 1995); Danahar and Mattsson (1994) and King Man-Brundage (1991).

Along similar lines, the importance of service delivery by staff was extensively emphasized within academia. Furthermore, existing academic literature support the view that many service firms are highly dependent upon the ability of staff to deliver services to the customer. The behaviour and attitude of the staff can significantly influence customers' service perceptions. By managing staff effectively, it will help the organization to deliver superior quality service. Moreover, the researcher also addressed the need to manage heterogeneity of service in service firms. The researcher also asked future researchers to consider service quality determinants proposed by Parasuraman, Zeithaml, and Berry in 1985 to manage service employees (Chebat and Kollian, 2000)

Johnes (2006) has examined pressure exerted on teaching staff in higher education. The researcher demonstrated substantial evidence of variation in quality of teaching and suggests that staff in higher education should improve their individual efforts in order to perform better. The study also encourages future researchers to examine factors affecting teaching efficiency in higher education. Shafti *et al.* (2003/2006) clarified the need for further research into service operation in particular to investigate the trade-off and its consequences. The authors state that the demands for productivity, time, and quality and customer service cannot all be fulfilled at the same time. This forces sacrifices and compromises when delivering service to the customer and they suggest that more research needs to be done to clarify the precise nature of trade-offs in service operations.

Many researchers have conducted research extensively in higher education service quality focusing on the student's view on satisfaction and quality. However, very limited research has empirically tested service quality on the teaching process in higher education. The same research also examines current higher education practices to focus on improving external customer's perceptions while ignoring internal customers such as academicians and administrative staff. This may provoke negative reaction among internal customers and discourage accountability approaches in responding to external scrutiny by introducing a feeling of being manipulated (Trivellas and Dargenidou, 2009).

Hwang and Teo (2001) provide a review based on empirical studies conducted in the Business School at the National University of Singapore. The researchers have requested future researchers to view quality issues in operational perspectives. They also recognize many potential areas and also would like to extend research scope to other service industries. The researcher also requested university management should not only focus on external customers such as students; but must also provide equal importance to other stakeholders, such as academicians and

administrators, in striving for excellence in higher education.

Silveira (2005) has referred to "path of improvement" across the performance frontier, suggesting that enhancing or repositioning trade-offs require a sequence of improvements. Therefore, improving trade-offs requires the identification, scheduling and implementation of a series of coordinated initiatives. The debate concerning trade-offs in service operations is still incomplete because of the lack of a viable model to explain the scenario. Taking account of the wider environment, Flett *et al.* (2008) discussed service aspects in health care organizations by incorporating information technology. The research highlighted the key success of these organizations, depends on staff utilizations and how efforts are taken to close the loop. The proposed framework involves eliminating waste and producing high quality, more dependable and faster services to the customer.

Besides that, Parasuraman *et al.* (1985) stated that, service quality is a complicated and difficult task to measure due to the nature of the concept of quality and characteristics of service. He also added that further research is needed to enrich current frameworks in various disciplines. The aim of this study is to make theories about trade-offs work in practice by using a service quality model as suggested by Parasuraman *et al.* (1985). The impact on trade-offs in service operation perspectives is still vague and unknown in the sense that there is an absence of evidence from literature for work in the service industry.

#### 4. Concluding Remarks:

As evidenced from existing academic literature from a number of different bodies, several broad conclusions can be drawn. Firstly, there is a need to revisit the concept of trade-offs using service quality from the perspective of service organizations. Secondly, there has been considerably less research on practical aspects and knowledge development such as identification and improvement of the trade-offs (Silveira, 2005: 29). Thirdly, the present literature does not provide any quantitative methodology to model the trade-offs using Service Quality instruments in higher education. Keeping this in mind, this research will model the zone of trade-offs using service Quality dimensions and fill the knowledge gap. The next chapter will provide a methodological approach to model trade-offs on SBS using service quality dimensions.

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