CHAPTER IV

ESTABLISHING A CONCEPTUAL BACKGROUND OF SQM MODEL

The result of this chapter is derived from exploration of a range of published literature in service quality measurement (SQM) and it provides an analysis and comparison on the measurement methods, industrial analysis, service quality indicators and related factors that influence quality of service encounter. In addition, this article classifies service quality indicators with system concept (input-process-output) and develops a new integrated model of service quality indicators and system concept for service encounter.

4.1 RESEARCH THEME AND TREND

This study is started with the list of key research themes developed from previous research by Furrer (2004). According to figure 4.1, 453 Papers are classified into 19 themes, which are (1) Interaction in Service Encounter (2) After-Sale Service (3) Consumer Behaviors/Behavioral Intentions (4) e-Service/Technology (5) Innovation in Service (6) International Context (7) Service Quality Model (8) Service Failure and Recovery (9) Customer Retention (10) Customer Satisfaction (11) Service Quality Strategy (12) Servitization (13) Communication and Advertising (14) Ethics in service quality (15) Employees (16) Non-profit Services (17) Service Delivery Process (18) Information management (19) Competition. Figure 4.1 shows that SQM model is the major theme. Most research on SQM papers has strongly been influenced by the work of Parasuraman in the 1980s, which was called SERVQUAL (Parasuraman, 1985). It is designed to be a generic instrument which is applicable across service industries. A high number of papers adopts the concept of SERVQUAL and applies to various business contexts such as hospitals, restaurants, hotels and banks. SERVQUAL remains as a very popular and most SQM literature today is still referred to the concept of SERVQUAL. However, it has been challenged by many studies. Numerous studies criticize that SERVQUAL is not a generic instrument and that the dimensionality of SQ should be developed by referring to specific service industries.

The second largest percentage of SQM papers associate with customer satisfaction. Its variables will differ depending on what type of satisfaction is being researched. Customer satisfaction is a subjective and non-quantitative state, thus many papers using customer satisfaction survey method to identify opportunity for improvement. The third is employee dimension, related to the impact of employee behavior on customers' service quality perceptions. Around eight percent of selected papers relate to service encounter, which emphasize on how encounters can be measured through the effective use of SQM method.

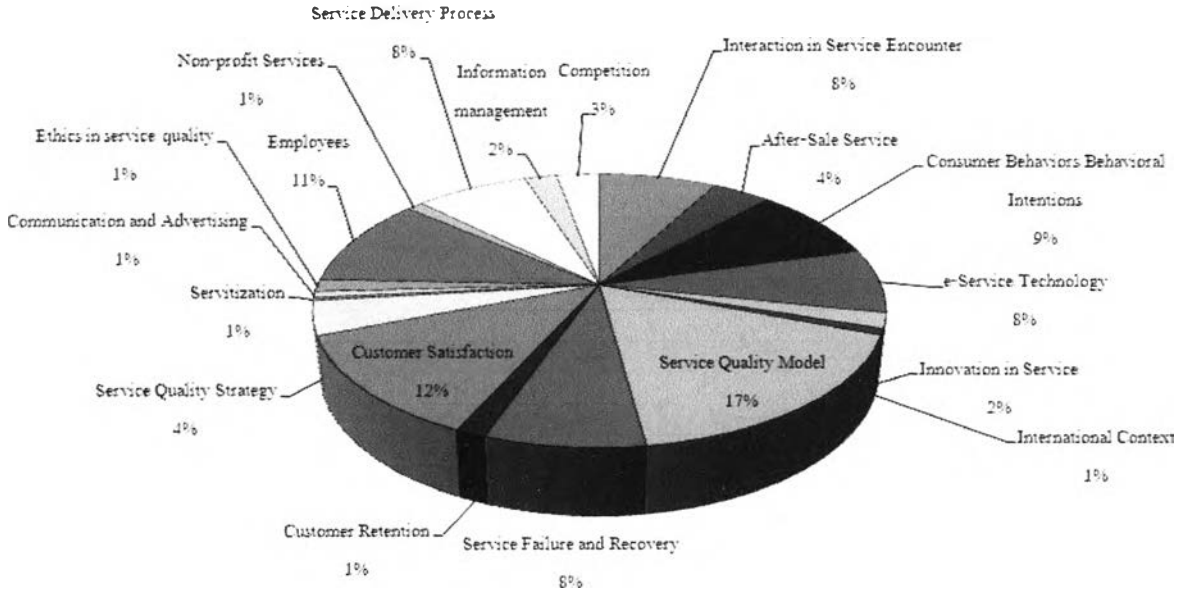

Figure 4.1 Research Themes

The trend of SQM papers is shown in figure 4.2. The number of published paper in SQM has reached its peak in 2008 which is up to 43 papers and it is steadily increasing. The investigation of SQM papers found that the study of SQM became apparent in 1989. The projection of SQM papers tends to grow radically because the development of SQM literature has been focused by the researchers for only a few decades and that the literature has not reached an agreement stage. Today, SQM has not been finalized. The concept and measurement method and it should be tailored to specific service area.

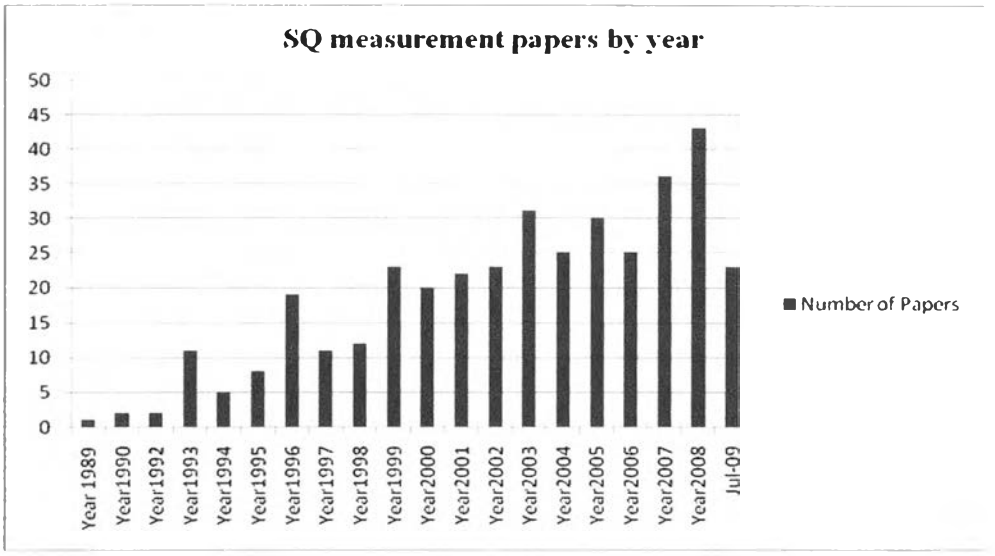

Figure 4.2 SQ research trends

The summary of key journals that contains the contents related to SQM is shown in table 4.1. The highest number of reviewed papers on SQM comes from managing service qualities journal alone consisting of 75 papers. This journal is a vital resource for researchers in the area of service quality measurement. The range of reviewed published papers could be found during 1992-2009. The second highest comes from Journal of service marketing, which comprises of 46 papers from 1989 to 2008.

Table 4.1 The comparison of the source of SQM papers

Journal Name	Years	No. of Papers
Managing Service Quality	1992-2009	75
Journal of Services Marketing	1989-2008	46
International Journal of Bank Marketing	1993-2008	24
International Journal of Quality & Reliability Management	1995-2009	22
International Journal of Service Industry Management	1994-2008	19
International Journal of Health Care Quality Assurance	1995-2009	18
European Journal of Marketing	1995-2009	17
Marketing Intelligence & Planning	1990-2009	14
International Journal of Contemporary Hospitality Management	1996-2009	11
Quality Assurance in Education	1997-2009	10
Others (Less than 10 papers)	1993-2009	197
Total		453

Table 4.2 shows the percentage of articles associated with the different research methods. The classification of research methods is applied from the study of Hendry and Nonthaleerak (2005). The definitions of these methods are adapted for this study. The papers containing case studies comprise of the analysis of SQM in different business context. 38% of the papers classified as SQM focus on contained case studies and 27% of the papers precede the survey method and provide mathematical analysis. The majority of survey papers refer to tools and techniques of SERVQUAL. 18% of the papers attempt to developed new concepts of SQM. Some papers adapt the concept of well-known SQM model, while some develop new concepts of SQM in different business context. Only six percent of the papers contain literature review methods. There is a debate in the concept of SQM in the literatures. A comprehensive review of SQM in specific context is a potential gap for future research and there are no SQM models or instruments that are specifically developed for service encounter.

Table 4.2 research method

Research Method	Description	No. of papers	%
Case Study	Describe various expect of SQ based on case study	172	38%
Survey	Interview and survey based on empirical use.	122	27%
Conceptual	employ a research framework to explain and propose new conceptual model	82	18%
Literature Review	Focus on reviewing the distribution of research papers	27	6%
Others	Includes technical paper, experimental research and other research type.	50	11%
Total		453	100%

4.2 INDUSTRIAL ANALYSIS

The evidence found in this review shows that SQM is applied across service industries. Some SQM instruments are influenced by SERVQUAL, some are developed to fit the specific service context and environment. Several papers point out that a simple adaptation of the SERVQUAL items is insufficient to measure service quality across a wide range of service industries (Carman, 1990). Figure 4-3 highlights the industries studied and the number of papers relevant to each. Twenty-three percent of the total number of SQM papers focuses on specific service industry. It is clear that the future trend of SQM papers would be more focused on specific service areas. From this study, papers relate to banking areas (25%), educational institutions (21%), hospitals (14%) and hotels (11%). Oppewal and Vriens (2000) highlighted that SQM is important to financial institutions. Core service of the banking sector is the human element of service delivery.

Numerous studies attempt to develop the SQ determinants to fit the banking industries. For example, Glaveli (2006) proposed that effectiveness, price, assurance, reliability, access and tangibility were to be the dimensions of retail banking service qualities. However, the development of SQM in banking area is not yet finished. Similar to other service sectors, SQM in educational institution is developed by researchers in many countries in order to suit the specific business context. Joseph and Joseph (1997) proposed seven dimensions, namely, programmed issues, academic reputation, physical aspects/cost, career opportunities, location, time and other factors while Sohail and Shaik (2004) proposed contact personnel, physical evidence, reputation, responsiveness, facilities' access and curriculum. In tourism industry, Narayan (2009) proposed dimensions of SQ in tourism industry, which were core tourism experience, information, hospitality, fairness of price, hygiene, amenities, value for money, logistics, food and security. Only a few studies focus on telecommunication and electronic sectors.

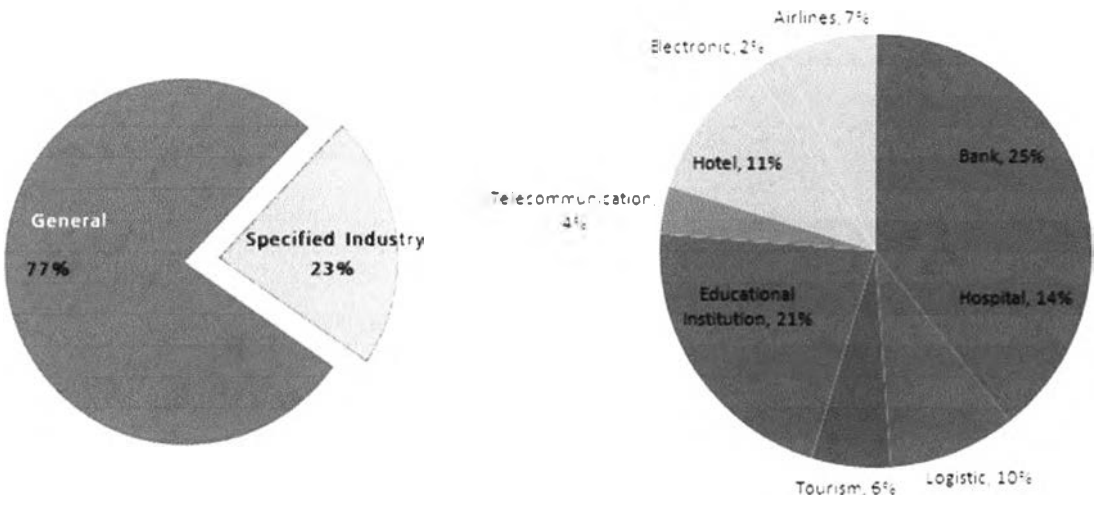

Figure 4.3 Industrial analysis of papers reviewed

4.3 A COMPARISON OF SQ MEASUREMENT MODELS

Various papers have suggested a number of SQM models. Table 4.3 summarizes the review of SQM literatures on the concepts and proposed models. Over a decade, various SQM instruments have been developed in order to find the complete solution for measuring SQ in particular service area. In the early stage, SQM model was developed by Gronroos in 1984, called the two-dimensional model, which contains technical (outcome) quality and functional (process) quality in service delivery process. In 1985, SERVQUAL was developed by Parasuraman based on gap theory. Initially, SERVQUAL measures in ten dimensions, which include reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding customers and tangibles. It measures the gap between customer expectations and experience. In 1988, SERVQUAL was refined to five dimensions, which were reliability, assurance, tangibles, empathy and responsiveness. SERVQUAL has been the most widely used SQM instrument.

In 1987, the service provider dimensions became more important. The model of service success, developed by Beddowes (1987) shows the relationship between customer and staff expectation and links employees attitude and behavior with customer royalty and profit. In addition, Cadotte (1987) developed disconfirmation model, which was explained that consumers use pre-consumption expectations in a comparison with post-consumption

experiences to form an attitude of satisfaction. In 1988, Service quality trade off continuum was developed by Haywood-Farmer. This model highlights appropriate mixture of three dimensions, which are physical facilities, personal behavior of service providers, and professional judgment. Cronin and Taylor (1992) attempted to simplify the SQM model by developed SERVPERF, which gave an idea about the expectations playing a less significant role in satisfaction formation. Moreover, Teas (1994) utilized standard of performance (what should happen) instead of predictive expectation (what will happen). Dabholkar (1996) linked the concept of SQ to customer satisfaction and developed the attribute and overall effective models. This model discovered that consumers use three factors to determine attribution's effect in satisfaction, which are locus of causality, stability, and controllability. From mid 1990s, various papers attempted to develop new SQM model that could be applied to specific industry. In 1997, P-C-P attributed model in form of the hierarchical structure, which contained Pivotal, Core and Peripheral level. Philip and Hazlett (1997) believed that every service sector consisted of these three levels, which could be defined as the inputs, processes and outputs of a service organization. In addition, the P-C-P model proposes to give diverse weights to each of its three levels of attribute groupings.

In 1988, Johnston proposed customer processing framework. This model using service blueprinting tool, is designed for documenting and analyzing the customer process. This model defines the generic stage and identifies the role of customers in engaging the service delivery process. Since 2000, many studies have focused on the importance of internal service quality. Frost and Kumar (2000) applied the concept of original gap model to internal service quality. In addition, Soteriou and Stavrinides (2000) developed internal service quality DEA model, which wss a linear programming-based technique for evaluating the performance of internal units. Recently, the research theme has paid attention to specific service context such as Broderick and Vachirapornpuk (2002) – internet banking model; Zhu et al. (2002) IT-based model; and Santos' (2003) model of e-service quality. In summary, approximately 24 SQM methods have been developed and used in several service industries. Their indicators are discussed in the following sections.

Table 4.3 The development of SQM model

SQM Model	Description	Source	Year
Technical & Functional Quality Model	The author identified three components of service quality, namely; technical quality, functional quality, and image	Gro nroos,	1984
Gap Model (SERVQUAL)	It is based on Gap theory, SQ is calculated by the differences between perception and expectation. (factor analysis of 22 pairs of items)	Parasuraman et al.	1985
Behavioral Service Quality Model (The model of service success)	This model focuses on inflating customer expectations through marketing efforts without balancing this with what the organization can offer through appropriate development of staff and systems. This model balances between customer and staff expectation.	Beddowes et al.	1987
Disconfirmation Model	The confirmation/disconfirmation paradigm evaluates customer satisfaction by comparing actual performance with a standard or baseline. The performance is then classified as equal to, better than, or worse than the standard.	Cadotte, E.R., Woodruff, R.B. and Jenkins, R.L	1987
Attribute service quality model (Service Quality Trade Off Continuum)	Services have three basic attributes physical facilities and processes; people's behavior; and professional judgment. Each attribute consists of several factors. Each set of attributes forms an apex of the triangle	Haywood-Farmer	1988
Two way Model	The evaluation of service quality from two perspectives. The first "objective" involved the presence or absence of a particular quality dimension, and the second "subjective" involved the users' resulting sense of satisfaction or dissatisfaction.	Schvaneveldt et al.	1991
Weighted SERVQUAL	Dimension's importance x perceptions' of (Performance – Expectation)	Parasuraman et al	1991
SERVPERF	SQ is evaluated by perception only without expectation and important weight.	Cronin and Taylor	1992
Weighted SERVFERF	Dimension's importance x perceptions' of Performance	Cronin and Taylor	1992
Non-difference score measure	SERVQUAL with a non-difference score, measurement would be more desirable with higher reliability.	Brown et al.	1993
Normative quality model (NQ model).	In this model service quality is measured by the gap between perceived performance and the ideal amount of a feature, rather than the customer's expectations.	Teas	1994

SQM Model	Description	Source	Year
Attribute and overall affect model	The author proposed two alternative models of service quality for technology-based self-service options.	Dabholkar	1996
Model of perceived service quality and satisfaction	This model attempts to enhance the understandings of the construct perceived service quality and consumer satisfaction. These are measured through set of ten *attributes of* advising.	Spreng and Mackoy	1996
PCP attribute model	The authors propose a model that takes the form of a hierarchical structure. Every service consists of three, overlapping, areas where the vast majority of the dimensions and concepts which have thus far been used to define service quality. These ranked levels are defined as – pivotal (outputs), core and peripheral (jointly representing inputs and processes).	Philip and Hazlett	1997
Retail service quality and perceived value model	Functional service quality perceptions directly influence consumers' willingness to buy. Functional service quality perceptions also influence technical service quality perceptions, which in turn influence product quality perceptions	Sweeney et al.,	1997
Modified Service Journey Model	The experience at a given stage and the expectations formed prior to purchase help to shape the expectations for the next stage. "Service journey" is initiated by "need".	Nash	1988
The Customer Processing Operations Framework	The model identifies the important points prior to, during, and at the end of the service delivery where experiences at each point shapes expectations for the next stage.	Johnston	1988
Service quality, customer value and customer *satisfaction model*	The proposed model focuses mainly on post purchase decision process and repurchase decision making. *The model incorporates key variables* such as perceptions, service quality, consumer satisfaction, customer value and intentions to repurchase.	Oh	1999
Antecedents and mediator model	This model examines some conceptual issues in service quality as the relevant factors related to service quality better conceived as components or antecedents and the relationship of customer satisfaction with behavioral intentions.	Dabholkar et al.,	2000
Internal service quality model	The model evaluated the dimensions, and their relationships, that determine service quality among internal customers (front-line staff) and internal	Frost and Kumar,	2000

SQM Model	Description	Source	Year
	suppliers (support staff) within a large service organization.		
Internal service quality DEA model (data envelopment analysis)	The model does not aim to develop the service quality measures, rather guides how such measures can be incorporated for service quality improvements. Data Envelope Analysis (DEA) model compares branches on *how well they transform these resources (inputs) to* achieve their level of service quality (output) given the client base.	Soteriou and Stavrinides,	2000
Model of e-service quality	The e-service quality has incubative (proper design of a website, how technology is used to provide consumers with easy access, understandings and attractions of a website) and active dimensions.	Santos	2003
Importance-satisfaction model (I-S model)	All quality attributes were mapped into the performance control matrix, and improvement strategies are then determined according to the region of each attribute.	Yang	2003
Travel Agency Service Quality Model	The first dimension is "personal interaction". The second dimension is "physical environment". The third dimension of travel agencies service quality is "outcome".	Caro L. M.,	2008

The finding from the reviews indicates that there are no models that are universal and that can be applicable to all service sectors. There are three main themes in SQM knowledge. Firstly, various SQM models were developed based on Gap theory. Although the name of SQM is different, these models compared customer expectation and customer perception. Secondly, various papers attempt to develop SQM model for specific business context. Finally, the number of SQ determinants is proposed depending on service context.

4.4 SQ DETERMINANTS COMPARED WITH SYSTEM MODEL

The development of SQM indicators can be viewed as an input, process and output system. Input of service delivery process is the form of resources and expectation that comes with customers and enters into the system. The service delivery process contains the interaction between service provider and customers. Output of service delivery process provides mainly intangible output. SQM indicators vary, depending on the service context.

Even the same service industries, the constructed SQM indicators may be different. The criteria used to evaluate service quality differ among customer groups and circumstances. Despite Parasuraman et al.'s (1988) initially claimed that their five service quality dimensions were generic. Many studies argued that the number and definition of the dimensions varies depending on the context. A number of researchers have suggested that there are no unique dimensions but the different determinants are more appropriate for measuring SQ.

Table 4.4 SQ determinants compared with service encounter dimension

SQ Model	No. of Dimensions	SQ Determinants	Service Encounter		
			Input	Process	Output
Gro¨nroos, (1984)	4	• Technical quality • Functional quality • Image	▲	▲	▲
SERVQUAL Parasuraman et al. (1991)	5	• Tangibility • Reliability • Assurance • Responsiveness • Empathy		▲ ▲ ▲ ▲ ▲	
SERVPERF Cronin and Taylor (1992)	5	• Tangibility • Reliability • Assurance • Responsiveness • Empathy		▲ ▲ ▲ ▲ ▲	
Norm Quality Teas (1994)	5	• Tangibility • Reliability • Assurance • Responsiveness • Empathy		▲ ▲ ▲ ▲ ▲	
Sasser *et al.*[27]	7	• security • consistency • attitude • completeness – ancillary services available; • condition / facilities; • availability – access, location and	▲ ▲ ▲ ▲		▲

SQ Model	No. of Dimensions	SQ Determinants	Service Encounter		
			Input	Process	Output
		frequency; and • Training.	▲		
Grönroos (1990)	6	• professionalism and skills; • attitudes and behavior; • accessibility and flexibility; • reliability and trustworthiness; • recovery; reputation • credibility	▲ ▲	▲ ▲ ▲ ▲	
Lehtinen and Lehtinen[	3	• Physical Quality i.e. products and/or services, • Corporate Quality, i.e. the company image, and • Interactive Quality in the interaction between the consumer and the service organization.	▲	▲	▲
Albrecht and Zemke (1985)	4	• care and concern, • spontaneity, • problem solving • Recovery.		▲ ▲ ▲ ▲	
Johnston and Silvestro (1990)	5	• attentiveness/helpfulness, care, commitment, functionality, integrity;		▲	
Web Qual (Loiacono, Watson, 2000)	12	• Information fit • Interaction • Trust • Respond time • Design • Intuitive • Virtual Appeal • Innovativeness • Flow emotional appeal • Integrated Communication • *Business Process* • Substitutability	▲ ▲ ▲	▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲	
Walker (1990)	3	• Service reliability, • a quality environment • staff attitude (knowledge and	▲	▲	▲

SQ Model	No. of Dimensions	SQ Determinants	Service Encounter		
			Input	Process	Output
		skills)			
SITEQUAL (Yoo and Donthu, 2001)	4	• Ease of Use • Aesthetic Design • Processing Speed • Security	▲ ▲ ▲	▲	
E-S Qual (Parasuraman and Valirie, 2005)	4	• Efficiency • Fulfillment • System Availability • Privacy	▲ ▲		▲ ▲

SERVQUAL's five dimensions are not universal. It mainly focuses on service delivery process. Table 4.4 shows that most studies focus on service delivery process. Few studies pay attention to service outcomes. However, the SQM determinants in various models could be good representatives of SQ in some situation, but there is a difficulty of creating the generic set of determinants. It can be observed that many determinants relate to service provider (Human Interaction), while the method of measuring human activities is not a simple process. Consequently, the unique method could not be enough for measuring SQ. The analysis of SQM methods will be provided in the next topic.

4.5 CONCLUSION OF SQM CONCEPTUAL BACKGROUND

Svensson (1993) indicated that SQM in service encounter took place at operation level. Services are produced, distributed and consumed in the interaction between service providers and customers. The construct of SQM is a multi-dimension structure that contains various SQM indicators. The existing SQM models normally consider the involved parties without consideration of interactive actions in service encounter (Svensson, 2001). The crucial element of SQ in service encounter is the emotions, which occur in both input and output of a service encounter. To create a good experience input, it requires understanding what factors create positive emotion as the input (Chase, 2001). The literature on SQM provides conceptual foundation for understanding SQM in service industries, but the less support is available for studies in service encounter. Although encounters between

customers and employees are a critical component of service quality, few studies attempt to develop the SQM model that appropriate for service interaction. Chandon (1997) added that sociological approaches were also important in the interactive process of service encounter. Bowen and Pearson (1990) added determinants for service interaction in service encounter such as listening, ability to explain, understanding, personalization and psychological proximity. However, the concept of service quality is so far unidirectional construct in its measurement (Dabholkar, 1996). This review of SQ literature clearly highlights the following research gaps, which are

- Very few studies focus on SQM model for service encounter, which requires deeper understandings of service interaction process and measuring human responding to customers.
- The emotional and behavioral approaches should be considered in service interaction process.
- The measurement method should reflect specific dimensions and provide real time monitoring.
- SQM of service encounter in different types of service industry should be specifically developed because the context of business impacts the expectation of customers and organizations.
- The utilization of technology would provide the effective measuring methods in the future.

4.6 PROPOSED SQM MODEL

The review of previous service quality models leads to the integration of strength of each models and is compared with the system theory, which consists of input process and output. Sirgy, (1984) stated that the general systems theory was a research paradigm that explained how inputs, processes, and outputs each played an important role in the

successful operation of the firm. In addition, Johnson et al. (1995) supported that the systems approach was particularly relevant to the study of services and service quality.

Figure 4.4 shows the conceptual model of SQM model that covers the end to end process of service delivery. The SQ attributes in the conceptual framework are derived from all SQ dimensions from synthesis of literature review. In the input category, SQM indicators are designed to measure both physical and emotional factors that lead to the expectation of customers before they enter to the service encounter. The expected service is derived from word of mouth, personal need, facility, location, past experience and image. The expected service is compared with the perceived service, which comes from process and output categories. The process category refer to the quality of interaction between service encounter and customer, which consists of reliability, assurance, tangible, speed of delivery, flexibility, empathy and responsiveness. The service outputs category is a measure of what is produced as a result of providing the service, which contains both physical and emotional dimensions. The output indicators contain impressiveness, completeness of service, consistency, and follow up results.

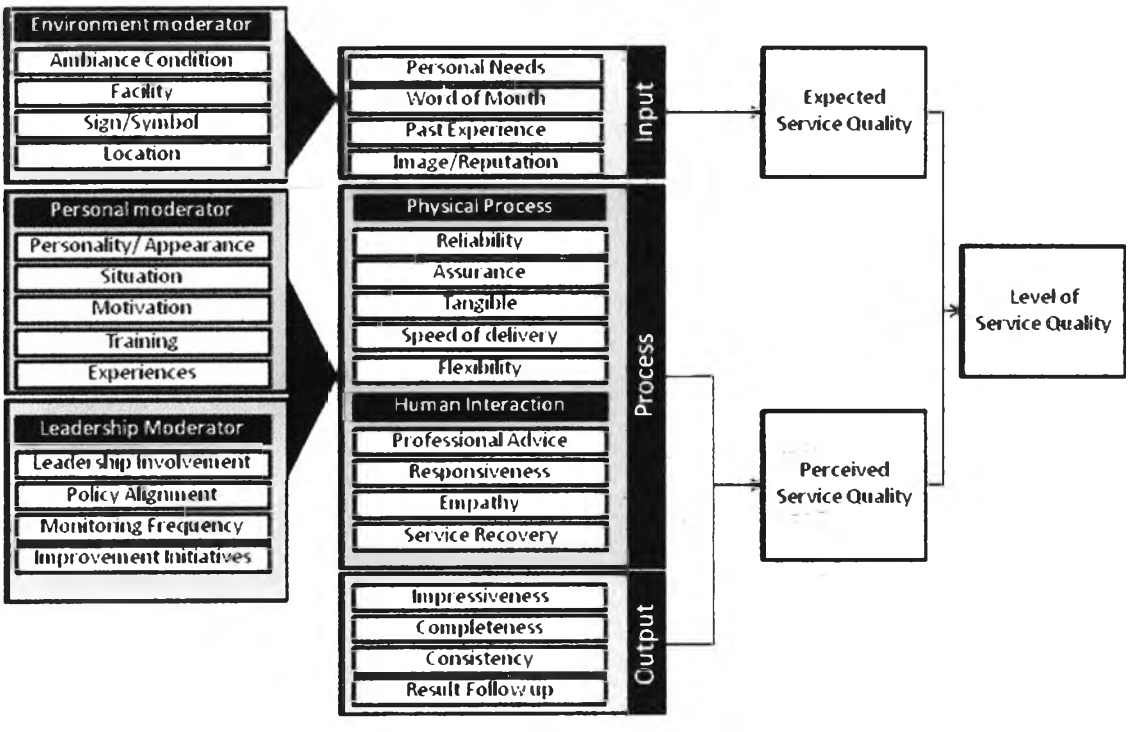

Figure 4.4 Conceptual Model of SQ Measurement Model

4.7 CONCLUSION

The literature on SQ provides various conceptual foundations for understandings SQ measurement in service industries, but the less support is available for studies in service encounter area. This study deploys the systematic literature review method by constructing the inclusion, and identifying relevant primary literature and using the screening method to select relevant papers. The result of the review found that the projection of SQM papers tends to grow radically because today the concept and measurement of SQM has not been finalized. The vital SQM resource for researchers is recommended such as Managing service quality journal and Journal of service marketing. The evidence found in this review shows that SQM is applied across service industries. The SQM indicators from previous study are categorized by using the concept of system approach. A new model of SQM for service encounter is proposed based on input process and output categories. This model is focused on the involved parties both service providers and customers. The SQM indicators contain both physical and emotional dimensions. This study also provides the research gap

for future study in service encounter area that the studying of SQM Model is hardly found in telecommunication Industry. In addition, the result shows that there is no generic SQM model; the specific industry requires the development of particular SQM model in order to measure SQ accurately. For this reason, it was a great opportunity to do the research of service quality in this kind of Industry. Before applying a new SQM model to service encounter, qualitative study will be undertaken for future research to gain comprehensive detail in specific industry. Next chapter, the author utilizes conceptual background from literature review for conducting a Delphi study in order to develop a comprehensive SQM-ME model for mobile service encounter.