



CHAPTER V

RESEARCH FINDING OF DELPHI STUDY

According to the purpose of this research, an expert in a Delphi panel needs to be a person that has practical experience in service quality area. The Delphi panel in this study consists of 5 expert areas, which are academic experts, service consultants, experience service providers, managements in mobile company, both quality and innovation consultants. The panel consists of 27 experts, who agree to participate and complete all rounds. As a result, there are 24 experts in the final round. The detail of the expert of the panel is given as below.

Table 5.1 Expert Category and Participants

Expert Categories	Required Qualification	No. of Participants			Overall % Response
		1st Round	2nd Round	3rd Round	
Academic experts,	More than 5 years of experience in academic area with PhD degree.	5	5	4	80%
Service consultants	More than 5 years of experiences as a service consultants	5	4	4	80%
Experience service providers	More than 5 years of experiences in the position of service providers in mobile service shops.	9	9	9	100%
Managements in mobile company	Managements who responsible for mobile service shop.	3	3	3	100%
Quality and innovation consultants	More than 5 years of experiences as a quality/innovation consultants	5	4	4	80%
Total		27	25	24	88%

5.1 RESULT OF THE FIRST ROUND

In the first round, the panelists are asked in open questions about SQ dimensions that need to be measured in order to represent the overall SQ level in mobile service shops. The result of 1st round questionnaire utilizes the affinity diagram, which is a tool that collects the large amount of opinion and organizes them into a group which based on their relationships (Anjard, 1995). The affinity diagram is shown in Figure 4. At least forty-five sub dimensions are grouped into ten categories, such as environment, personal moderator, leadership moderator, customer expectation, physical process, customer identification, human interaction, accomplished output, failed output and human competency. In this round, panelists are allowed to propose the SQ dimensions as their experiences and provide the additional comment and supporting reasons.

Affinity Diagram #1

An affinity diagram helps to synthesize large amounts of data by finding relationships between ideas. The information is then gradually structured from the bottom up into meaningful groups. Result from the panels can be grouped into ten categories. The first category is environment, consisting of 7 sub dimensions, which are ambient condition, facility, sign/symbol, location, information technology, cleanliness and sufficient staffs. The ambient condition of a service encounter normally affects the five senses such as temperature, lighting, noise and odors (Bitner, 1992). The sufficient staff is included in the environment category because increasing the level of accessibility requires sufficient staff support. The expert panel also recommends that customers need to be segmented because the requirement of customer groups are varied. In leadership category, the expert suggested management plays an important role in setting up the policy, monitoring the process and support the improvement initiatives. Human factor can be divided into three categories, which are (1) personal moderator, which consists of the factors that influence service providers, (2) human interaction, which refer to the moment of service delivery and (3) human competency, which requires communication skill, problem solving, product/service knowledge and emotional control. In the physical category, SQM

dimensions consist of reliability, assurance, tangible, speed of delivery, flexibility, short and easy process, queuing fairness. The experts highlight the important of queuing system and customer satisfaction. The quality of SQ requires the effective designed of queuing system. A summary of key finding from expert recommendation are summarized in ten groups, as seen in figure 5.1.

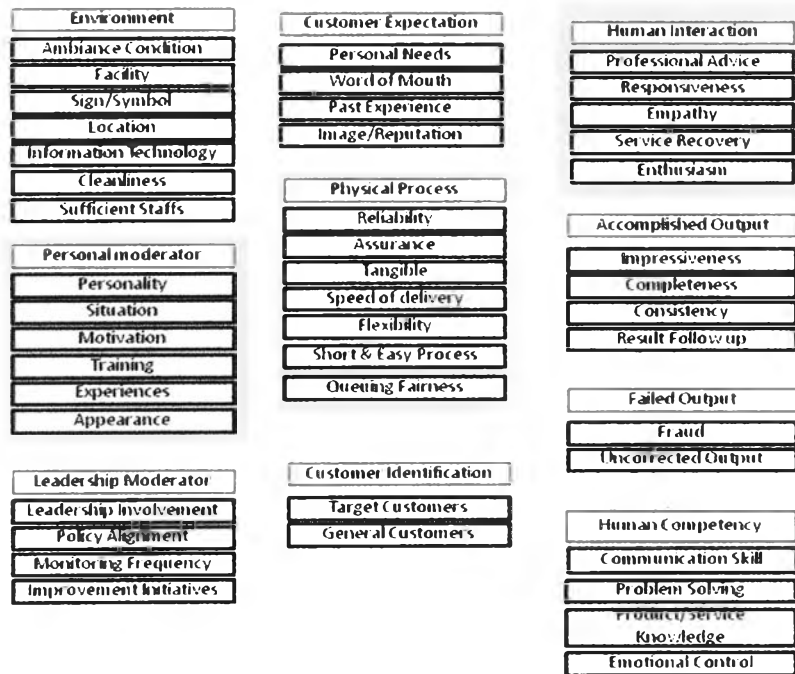


Figure 5.1 Affinity Diagram

Figure 5.2 shows the developed SQM model, which is derived from the contribution of expert panel. Lead indicator section contains a measurable parameter or metric, which will help to predict or give prior information about the SQ delivery, which comprises 4 categories, which are leadership moderator, personal moderator, environment and human competency. Lag indicator section is a set of measures that is used to reflect the result of an activity of service delivery by using system model, consisting of input process and output. Before entering to the service delivery process, customer segmentation should be systematically categorized because the way of deliver service and level of service quality might be diverged. Customers are the input of the process with their expectation that come from four influences factors, which are personal needs, word of mouth, past experience and image/advertising. In service delivery process, there are two main categories, which are physical process and human interaction.

In the physical process, eight SQM dimensions are proposed, which are reliability, assurance, tangible, speed of delivery, flexible, short & easy process, queuing fairness and queuing time. In human interaction, key SQM dimensions consist of professional advice, responsiveness, empathy, service recovery and enthusiasm. Finally, the output of service delivery can be possibly accomplished or fail.

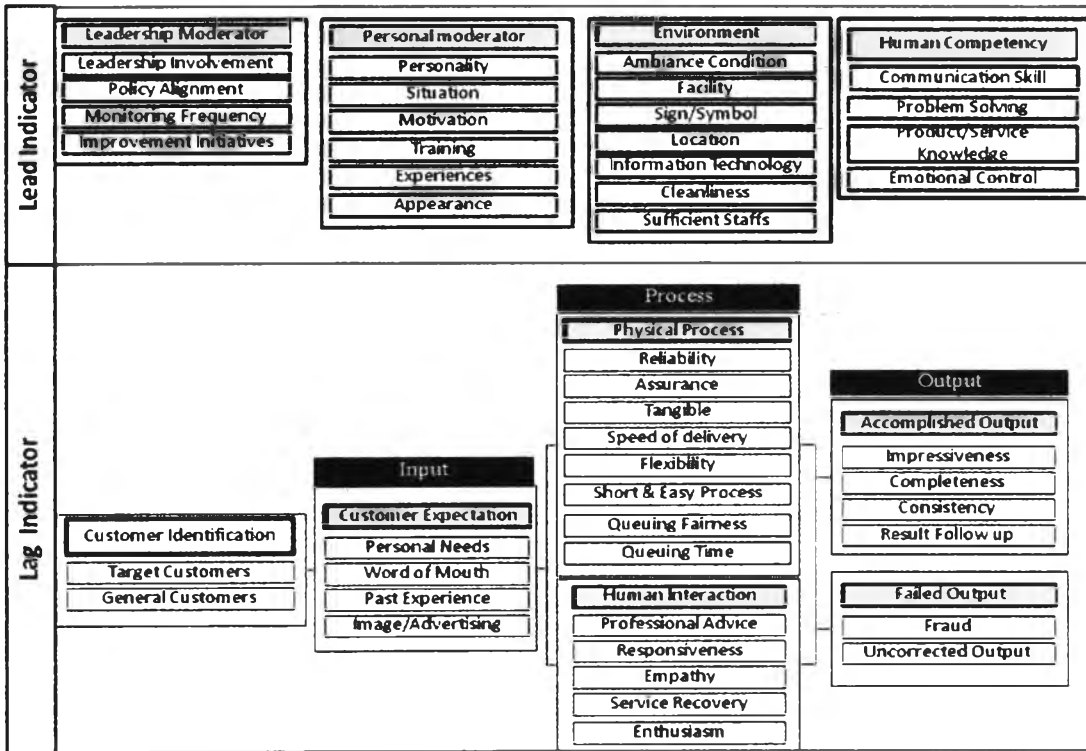


Figure 5.2 1st round developed SQM model

5.2 RESULT OF THE SECOND ROUND

For second round, the experts are asked to consider 46 SQM dimensions from previous round and also invited to comment on the SQM model. The questionnaires were circulated by email on 1 March for response by 15 March 2010. There are responses from 25 experts (92.6 percent), compared with 27 in the first round. Experts comment on round two in various and considerable details. The experts have responded strongly to lead and lag indicator that in all SQM dimensions can be both lead and lag indicators. In addition, SQM is needed to classify to tangible and intangible dimensions. Various dimensions are

collapsed and eliminate. The separation of attributes into various groups is the essential step for the developing SQM model.

Figure 5.3 is the developed service quality measurement for mobile service encounter (SQM-ME Model), which comprises of 4 important categories, which are input, process, output and influencers. The model shows that a service organization should manage the influenced factors in order to achieve high service level. In the top cell, the influencers are simply a set of factors focusing on critical aspects of management, which contribute to service delivery process. There are five areas of influencers, which are policy, customer, process, human resource and infrastructure. The measurement method for this category can be seen in the form of self assessment. In the input category, customer dimension bases on customer expectation and customer behavior. Although some customers have not yet experienced the service, the expectations of customers are difference, which are learned through word of mouth, advertising or through other media communications. In addition, a customer is an important input for the service delivery, which requires customers to participate in service process. Customer behavior could be subdivided into market segments based on product lines or features, business volume, geography, or other factors that organization uses to define related customer characteristics.

In process categories, the key service delivery involves the process design and organization workforce. According to the model, SQM dimensions are grouped into 4 matrixes, which are Tangible-Process, Perception-Process, Tangible-People and Perception-People. The detail of SQM dimensions in these 4 matrixes will be described in 3rd round result. There are two dimensions in the output category, which are physical result and customer experiences.

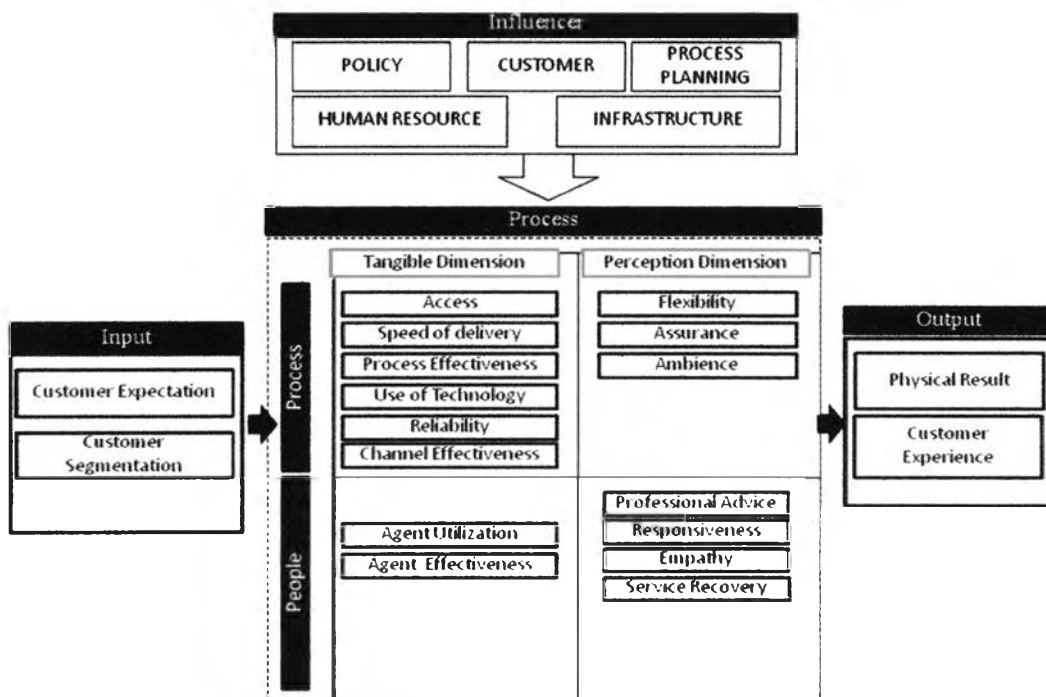


Figure 5.3 2nd round developed model: SQM-QE Model

5.3 RESULT OF THE FINAL ROUND

In the final round, significant changes in consensus are found. In this stage, experts are asked to comment on 2nd round SQM model and provide detail of key quality indicators in each SQ dimensions. The result shows that process still contains two main dimensions, which are tangible and intangible. The panel suggests that measurement of SQ should be focused both customer perspective and organizational perspective. For customer perspective, the difference between customer perception and expectation will show the level of service quality. However, in some situation, the firms cannot offer the service as customer expected by many reasons such as the operation cost, corporate policy and strategy. Thus the measurement of service quality should balance customer perspective with the organizational perspective that compare corporate SQ policy and standard with the tangible result. Figure 5.4 illustrates the SQM-ME model, which is derived from the consensus of experts. It is notable that input for tangible process is the quality policy and standard rather than customer perception. The expert highlights that tangible indicators should compare to quality standard, while the intangible indicators should compare with customer expectation. Respondents also strongly agree that there are six SQM factors,

which are facility, speed, reliability, professional competence, agent utilization and responsiveness. Each contains SQ attributes that reflect overall performance.

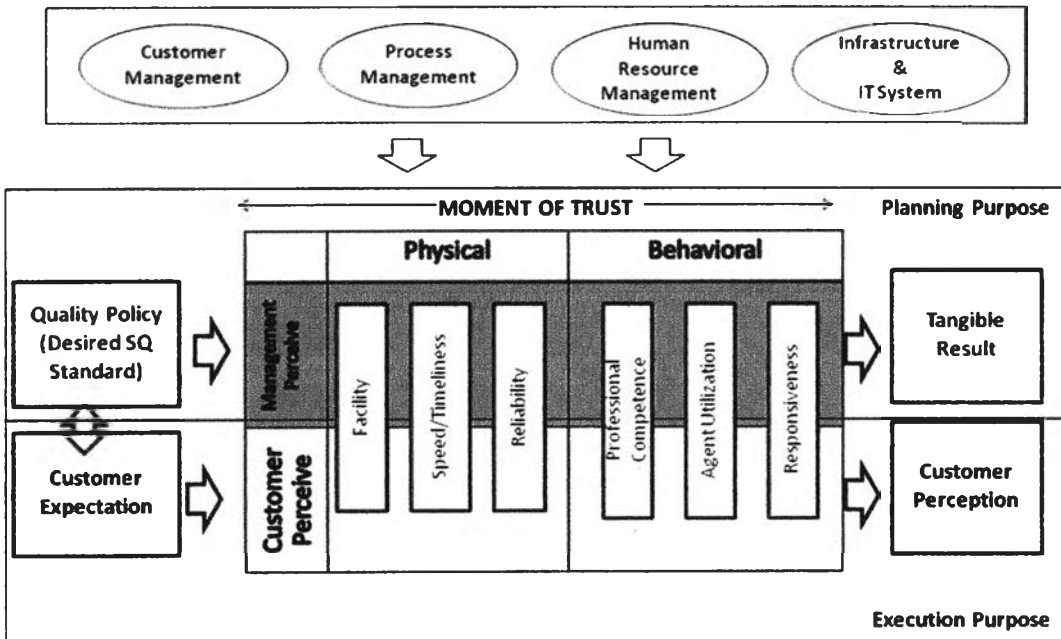


Figure 5.4 The Service Quality Measurement for Mobile Encounter (SQM-ME Model)

The influencers are collapsed to four key dimensions, which are customer management, process management, human resource management, and infrastructure. Respondents also strongly agree that tangible indicators are designed by planning purpose, which can be monitored before delivering service. In addition, the result from tangible dimensions can reflex overall performance and imply the level of customer perception on service quality.

The Figure 5.5 shows the service delivery process, which contains input process and output. The generalized concept for the implementation of a service quality measurement system cannot focus only on output, but should monitor both process and output. Several organizations attempt to monitor service quality by using customer survey after finishing the service delivery process, but the result is already the output of the process, which is the customer perception. However, service quality can be monitored during the process and customer might not recognize that they receive some error service

deliver, but the measurement sensor 1 should be able to monitor it. For sensor 1, it is the service performance that is mainly related to tangible indicators from the system. The sensor 2 is the customer perception derived from customer perception survey. The information from sensor 1 and sensor 2 go to the measurement and control box. The executives will use the service quality balance bar in the topic 5.5 to improve service delivery process and/or set up new service standard.

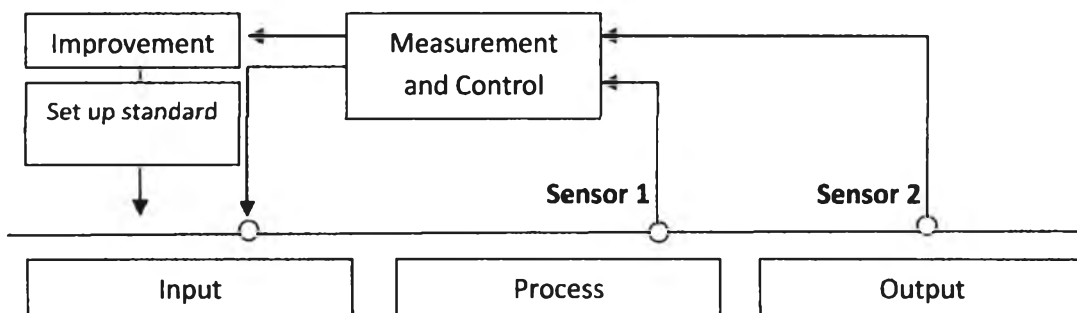


Figure 5.5 Service Measurement Process

5.4 SERVICE QUALITY ATTRIBUTES

The tangible dimensions are summarized in appendix F, which turn the intangible characteristic to quantify measurement. According to the result, the quality indicators that are ranked above 4.00 are access rate, average waiting, waiting time achievement and capacity ratio. As seen in appendix G, the human perception dimension illustrates that service quality is a form of consumer perception on service delivery. Expert considers staff sufficiency is the major quality dimension. In addition, Shop managers should ensure that mobile service shop should be clean and tidy. In the competency dimensions, service agents should have product/service knowledge, problem solving, communication skill and emotional control. According to appendix H, the output from service delivery process is considered in 2 main dimensions, which are physical result that comes in tangible form and customer experiences, which contains two key quality indicators, which are overall satisfaction scoring and service compliant. Appendix I describes the influenced factors that impact level of service quality. As with all organizational operations, the service quality will

deliver its full potential and value if they are embedded into the organizational management and related influence drivers in order to maintain through a continuous cycle of measurement. Consequently, the influenced factors need to be assessed by using self assessment as seen in the description in appendix j.

5.4.1 Key service quality attributes

Table 5.2 shows the key indicators in each SQM dimensions and provides experts' assessment of the importance. It is the fundamental importance in gaining competitive advantage and is a make or break component in the success or failure of managing mobile service shop. The key quality indicators are classified into lead and lag indicators. Lead indicators report on the process, which is measured on the drivers, while lag indicators represent outcome of the process from past actions.

Table 5.2 Human Perception Dimensions and Indicator Name

Category	SQ dimension	Description	Indicator Type	Important Scoring (1= Lowest, 5 = Most Important)
Facility	Ambiance Condition	The physical facilities at excellent shops will be visually appealing and modern looking equipment.	Lead Indicator	3.00
	Material & Document	Materials associated with the service (pamphlets, form or statements) will be clearly designed for ease of understanding.	Lead Indicator	2.38
	Sign/Symbol	Sign/Symbol will be clearly signed and designed for ease of understanding and visually appealing at an excellent mobile shop.	Lead Indicator	2.29

Category	SQ dimension	Description	Indicator Type	Important Scoring (1= Lowest, 5 = Most Important)
	Location	Mobile shop is located in the place that easy to access.	Lead Indicator	2.75
	IT System	The availability of IT system with accuracy and effectiveness.	Lead Indicator	3.63
	Cleanliness	Mobile shop is clean and tidy.	Lead Indicator	4.04
	Sufficient Staff	The organization should ensure that the key processes have a clearly defined process owner(s) and containing enough resource(s).	Lead Indicator	4.25
	Employee Appearance	Employees at excellent shop will be neat in their appearance.	Lead Indicator	3.67
Speed/ Timeliness	Average Waiting Time	The total number of minutes from pulling of service ticket to service.	Lag Indicator	4.33
	Waiting Time Achievement	Visitors served within threshold/Total Visitors Serviced.	Lag Indicator	4.71
	Turn Around Time	The average time to transaction complete expressed as a percentage of target time.	Lag Indicator	3.79
	Access Rate	Count of visitors who either a) are serviced at agent stations or b) obtain self-service through in-location computers	Lead Indicator	4.46

Category	SQ dimension	Description	Indicator Type	Important Scoring (1= Lowest, 5 = Most Important)
	Receiving Service	Ratio of visitors receiving agent service to total visitors.	Lag Indicator	3.79
	Process Flexibility	The processes of service delivery are flexible with reasonable situation.	Lead Indicator	3.54
	Queuing Fairness	Queuing Process in mobile shop is designed with fairness and clear communication.	Lead Indicator	2.96
Reliability	Critical Error Rate	Monitor application/transaction errors requiring additional interactions with clients.	Lag Indicator	2.88
	Accuracy in billing	The billing system shall ensure accurate. No. of error transactions per day.	Lag Indicator	4.15
	Perform service as promised	Ability to perform the promised service dependably and accurately.	Lag Indicator	3.95
	Perform right at the first time	Perform service delivery right at the first time.	Lag Indicator	3.80
Professional Competence	Total Experience/Service Time	Average experience/Service Time (Standard Level by Experience Chart)	Lead Indicator	3.33
	Agent Coaching Ratio	Number of hours of 1 on 1 coaching time/agent.	Lead Indicator	3.00
	Training Days/Agent	Total training days delivered during the measurement period divided by the number of agents.	Lead Indicator	3.21

Category	SQ dimension	Description	Indicator Type	Important Scoring (1= Lowest, 5 = Most Important)
	Product/Service Knowledge	Agents of excellent shops will have the knowledge to answer customers' questions	Lag Indicator	4.17
	Problem Solving	The organization should ensure that service providers are able to solve the urgent situations/problems.	Lag Indicator	4.00
	Communication Skill	The organization should ensure all relevant product/service related information is clearly communicated by service providers.	Lag Indicator	4.08
	Emotional Control	The organization should ensure that service providers are able to control their emotions in all situations.	Lag Indicator	4.25
Agent Utilization	Cost per Contact	Total labor costs divided by total service requests.	Lead Indicator	2.58
	Agent Turnover Ratio	A measure of the 'churn' rate within the Agent team.	Lead Indicator	2.96
	Agent Capacity	The anticipated number of hours of agent time available for counter service for each agent.	Lead Indicator	2.96
	Resource Allocation	An Indicator for assessing allocated agent positions to service delivery: Total no. of staff/Total no. of customers	Lead Indicator	3.96

Category	SQ dimension	Description	Indicator Type	Important Scoring (1= Lowest, 5 = Most Important)
	Agent Adherence	Calculated as total agent login time divided by scheduled work time.	Lead Indicator	2.46
Responsiveness	Prompt Service	the ability to provide prompt service	Lag Indicator	4.22
	Tone of voice	How agent communicate to customers	Lag Indicator	3.31
	Friendliness	Friendliness expressed through a desire for a long-term close relationship with customers.	Lag Indicator	2.92
	Attitude	Attitude represents an individual's degree of like or dislike for an item and present the service delivery positive or negative.	Lag Indicator	3.11
	Handling complaints	The Successful use of complaints handling.	Lag Indicator	3.45
	Politeness	The expression as the practical application of good manners or etiquette.	Lag Indicator	2.95

5.4.2 Output

In order to measure the output of service delivery, most studies focus on customer experiences by using survey method. However, the measurement of customer perception only cannot represent the overall SQ of the mobile shops. Table 5.3 shows the indicator name recommended by the expert panel.

Table 5.3 Human Perception Dimensions and Indicator Name

SQ dimension	Indicator Name	Description	Indicator Type	Important Scoring (1= Lowest, 5 = Most Important)
Physical Result (Tangible)	No. of completed task/total transaction	% of Completion	Lag Indicator	4.75
Customer Experience (Intangible)	Customer Satisfaction Level	Overall satisfaction scoring	Lag Indicator	4.79
	Service Compliant	Total service complaints received during reporting period.	Lag Indicator	4.83

The result from the experts revealed that physical result is also considered as the output from the service delivery process. Customer will not be satisfied without the accomplishment of expected task. Their important scoring in physical result and customer experience are high. It means that all outputs are important for SQ measurement.

5.4.3 Self Assessment (Influenced Factors)

The experts recommended that the influenced factors can be measured by using self assessment method. Customer perception cannot reveal the impact of the influenced factors. Consequently, the managers can set up the self assessment program to monitor the status of SQ management and process of influenced factors. Table 5.4 reveals the influenced factors that organization should be regularly measured.

Table 5.4 Influenced Factors

SQM dimensions	Influencer Dimension	Description	Important Scoring (1= Lowest, 5 = Most Important)
Policy	Policy communication	The leaders of the organization shall ensure that all employees receive regular communication regarding policies, processes, products/services and related changes which are relevant to their job.	4.04
	Quality Standard Policy	The organization shall have in place defined and published customer service standards for all customer delivery channels which are communicated to all stakeholders.	4.25
	HR Training Policy	The organization should develop and document HR, Development and Training Policies which should specify clear courses of action for recruitment, selection, appraisal and employee grievance, together with career development plans and a reward and recognition programs.	4.08
	Service Quality Improvement Policy	The organization shall develop and document continuous improvement policies which detail its commitment to continuous customer experiencing improvement through leadership, customer research and performance measurement.	3.61
	Process Planning	The organization shall develop and document the key processes which have been identified as essential to service delivery.	3.77
Personal Moderator	Personality	The organization shall prepare the personality test for service providers	3.96
	Motivation	The leaders of the organization should ensure that a suitable Reward and Recognition Program for all employees is implemented with clearly communicated guidelines.	3.24
	Training	The leaders of the organization should ensure that employee received enough training relevant to their job and the training records (particularly training and performance records) are retained and kept up to date.	3.95
	Experience	The organization contains sufficient experienced staffs in mobile shop.	4.08

SQM dimensions	Influencer Dimension	Description	Important Scoring (1= Lowest, 5 = Most Important)
Shop	Ambiance Condition	The organization should develop and monitor ambiance condition.	3.83
	Facility	Facility and equipments are all in good condition.	3.79
	Sign/Symbol	The organization should be aware of sign/symbol and advertising within shops.	2.92
	Information Technology	The organization should ensure that information system is in place. The organization should ensure that the system contains up to date information regarding products/services at all times.	3.04
	Cleanliness	The organization should ensure that shop is clean compares with standard level.	4.17
	Sufficient Staff	The organization should provide sufficient staffs compare with the volume of customers.	4.21
Customer Dimension	Customer Segmentation	The organization should have an in depth understanding of their current and potential customers which is used to identify their needs and expectations.	3.79
	Competitors/Alternatives	The organization should regularly conduct competitor analysis clearly identifying the quality/performance of competing products/services.	3.12
	Customer Feedback system	Customer Complaints/Comments/Suggestions and Feedback are collected and responded to in a timely pre-defined manner, with results communicated to all employees. The organization shall ensure that the information collected is used to improve product/service delivery.	4.13

The comment from expert panel can be summarized that the influenced factors cannot measure in service delivery process. The most appropriate method for measuring SQ related to influence factors is self-assessment methods, which has a strong practical applicability as comprehensive assessment method to fulfill SQM dimensions. The assessment should be conducted by the assessor who has the knowledge about SQ indicator and policy. This is the opportunity for future research to develop SQM self assessment on these variables.

5.5 CONCLUSION

The expected outcome from this chapter is the proposed service quality measurement for mobile service encounter, which can be called "SQM-ME "Model. The Delphi method is designed to determine a set of important indicators by identifying SQM dimensions and allows experts to contribute the recommendation. The experts in a Delphi panel are persons that have practical experience in service quality area. The Delphi panel in this study consists of 24 experts in five areas, which are academic experts, service consultants, experience service providers, managements in mobile company, and quality and innovation consultants. The questionnaires are distributed in three rounds. This model comprises of 4 important categories, which are input, process, output and influencers. In the final round, experts are asked to provide details of key quality indicators in each SQ dimensions. The SQM-ME model is explained based on system model, which are input process, output and influenced factors. The input of SQM-ME model consists of customer expectation and customer characteristic. In process category, there are six SQM factors, which are facility, speed, reliability, professional competence, agent utilization and responsiveness. There are two dimensions in the output category, which are physical result and customer experiences. The service delivery process is influenced by five influence drivers, which are policy, customer, process, human resource and infrastructure. The possible lists of important indicators are described and prioritize the importance by panel of experts. Next chapter take a step further by testing SQM-ME model with mobile customers and validate the result with quantitative study.