HONG KONG BROADBAND NETWORK LIMITED.

AN EXAMINATION OF CALL CENTRE SERVICE QUALITY AND
CUSTOMER SATISFACTION

BY

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ABSTRACT

The rapid growth of broadband service demand and the exit barrier of existing players have caused keen competition in the fixed telecom network industry in the past decade. Because of high complaint rate and low product differentiation, customer loyalty is weak in the industry.

The competition among rivalries is moved from price to product quality and then service quality now. If customers are satisfied, they will become loyal customer. Loyal customers will continue to use the product by renewing the contract with the service provider and will tell positive word of mouth to their friends. More loyal customers will recommend the product to their friends too. Then, more business opportunities will be created to the company and thus increasing market share in the industry. Enhancing customer satisfaction becomes a competitive strategy.

Before starting the study, a competitive analysis was done among the four key rivalries in the industry. It was found that retail shops and call centre are the main customer service touch points. However, HKBN has few retail shops and relies on its call centre as the main customer service touch point. To win the battle of customer satisfaction, HKBN needs to provide higher service quality by its call centre.

The service dimensions of call centre including accessibility, interaction with agents and answer/solution are used as indicators to assess service quality and customer satisfaction in HKBN call centre. At the same time, willingness to continue the service

and willingness to recommend are used as indicators for customer loyalty. The concept of gap model of is used to find out the service quality perception gaps between the organization-side (HKBN) and customers.

By the findings of this study, it was concluded that customer satisfaction has positive effect on customer loyalty. The three service dimensions combine to form customer satisfaction. The study found out that HKBN call centre service quality is just adequate that customer loyalty is weak. After analysis, four service attributes were identified affecting customer satisfaction significantly. Also, it was found that the service quality perception of management and customers could not be met in reality. Consequently, some recommendations to improve the call centre service quality were given in the study.

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CHAPTER 1   INTRODUCTION

1.1   COMPANY OVERVIEW

Hong Kong Broadband Network Ltd (HKBN) is a wholly-owned subsidiary of City Telecom Hong Kong Ltd (CTI). City Telecom incorporated in Hong Kong in 1992 and listed on the Stock Exchange of Hong Kong Limited in Augest1997. In November 1999, City Telecom successfully had ADR listing on the Nasdaq National Market of USA.

CTI was founded by cousins Ricky Wong and Paul Cheung. When they established the company in 1992, the international calling services in Hong Kong were still under Hong Kong Telecom (HKT) monopoly until 2006. CTI invented a technology to switch the direction of the call, which was the birth of "call-back" international call services, and thus was able to take advantage in the directional price difference. Overtime, CTI kept improving their service by upgrading its call-back operations to ISDN lines – this technology provided a fast and reliable service which was virtually indistinguishable from HKT. By 1999, CTI controlled nearly 30% of the long-distance calls market, marginally below HKT, and was well established as Hong Kong's largest alternative long-distance calls providers.

By the late 1990s, the long term potential of the long-distance calls market became limited because of undifferentiated competition and technology substitutes from voice over Internet. The founders of CTI decided venturing into broadband Internet industry. In 1999, they set up Hong Kong Broadband Network Ltd (HKBN), which

obtained the local wireless FTNS license in 2000. HKBN then upgraded to wireline-based FTNS license in 2002. Some major milestones and events of the group are listed in Appendix 1.1.

HKBN concentrates in fixed line business, mainly residential sector, in Hong Kong. Since HKBN got the license, it has begun to build its end-to-end fibre network, both the backhaul – connection between the buildings and central hubs by fixed fibre, and the last mile – in-building connections between end user equipment and the backhaul. HKBN is the first company who introduces 10Mbps, 25Mpbs, 50Mbps, 100Mbps and 1000Mbps to the market. It now offers 100Mbps or 1000Mbps for broadband Internet users' subscriptions.

As of 31 August 2010, its fibre network covers 1.77 million residential home pass and deploys key services in IP telephony, broadband Internet, IPTV. Despite the global recessionary environment, it grew its services subscriptions (both residential and corporate sectors) by 17.7% to 1,100,000 as of 31 August 2010. 94% of the subscriptions and over 80% of the group's revenue come from mass residential market, while broadband Internet service in residential market takes up 45% of total subscription base.

The vision of the company comprises five parts: Core Purposes, Core Values, Aspirational Values, BHAG and Vivid Description. Appendix 1.2 shows the details of the vision. The vision of the company has been set for five years since November 2006 by the founder of City Telecom, Ricky Wong. The BHAG *"To be the largest IP provider in*

Hong Kong by 2016" exhibits the 10-year goal of the company.

The fixed line business is now the core business of CTI group. So, both the long-distance call and fixed line businesses are operated by the functional units under HKBN, which has around 3000 plus employees, around 50% based in Hong Kong and 50% based in Guangzhou. Operations in Hong Kong concentrate in direct selling activities for customer acquisition; others are secondary activities like finance, human resources, paid TV operation. Operations in Guangzhou are call centre for customer service inquiry, telemarketing on up-selling and service contract renewal.

1.2   BUSINESS ANALYSIS

To identify the business need of HKBN, we will analyse the industry structure and the company's strengths and weaknesses.

INDUSTRY ENVIRONMENT

Local Fixed Line Industry Overview

Hong Kong telecommunications infrastructure is the most sophisticated, liberal in Asia. In 1995, the local fixed line market was first liberalized on a limited basis. Three new licenses issued to Hutchison Telecom, Wharf T&T and New World Telecom. By January 2000, the Hong Kong telecom market was further liberalized and five local fixed telecommunication network service (FTNS) licenses had been issued. These licensees could build and own facilities-based infrastructure. In addition, a couple of hundred service-based operators could offer telecom services by leasing infrastructure from the licensed facilities-based parties. Nowadays, most residential households in Hong Kong have a choice of FTNS operators for telecom services of telephone line (traditional telephony or IP-based telephony), broadband Internet and IPTV. In 2009, Hong Kong's broadband penetration rate was estimated to be the world's second highest, only fractionally lower than that of South Korea (Industry Report: Telecoms & Technology, October 2009).

Industry Structure by Porter's Five Forces Model

Rivalry among Existing Firms

The competitive structure of Hong Kong fixed line industry is one of oligopoly. According to OFTA, by September 2009, Hong Kong had 47 fixed-line telecoms service operators (wireline-, wireless-, satellite-, and cable-based) and 165 Internet service providers (ISPs). In fact, the local fixed-line residential and corporate markets are dominant by six firms, PCCW, Hutchison Telecom, Wharf T&T, New World Telecom, Hong Kong Cable TV and Hong Kong Broadband Network Ltd. Key players of Hong Kong Telecoms Market are listed in Appendix 1.3. Only four of them are active players in residential market: PCCW, Hutchison Telecom, Hong Kong Cable TV and Hong Kong Broadband Network Ltd. Brief descriptions of these companies are stated in Appendix 1.4.

According to the latest forecast by BMI (Hong Kong Telecommunications Report Q2, 2010), there will be a steady but slow growth of broadband subscriptions with annual growth rate 2.4% in the coming five years; while the number of telephone main lines will have a slow and steady decline in both business and residential components by 1% annually as the population continues migrate to wireless services and IP-based telephony. It can be concluded that the local fixed line industry is in its mature stage. Although demand for fixed line services continues to exist in Hong Kong, battle for market share among existing firms is intensified by the steady pie. (Historical and forecast data on fixed lines, IP telephony services, telephone lines and Broadband Internet users are listed

in Appendix 1.5). Apart from acquiring new customers, retaining existing customers becomes a key corporate strategy in the battle of market share. As the monthly subscription price is already very compelling in the industry, industry players are very cautious of a price war. The battlefield then moves to product quality and service quality.

A basic fixed telecommunications network (FTN) infrastructure consists of two parts - the backhaul which connects the buildings to central hubs, and the last mile connection which connects end-user equipment to the backhaul by in-building cables. As the dominant players in the industry have invested huge amount of capital in the backhaul or the last mile connection or both, leaving the market is not an option for them. On the other hand, there is low degree of product differentiation in functionality and quality. The rivalry among existing firms on service quality is going to be very intensive.

Bargaining Power of Buyers

According to the forecast by Economist Intelligence Unit (2009), there are 3.64 million telephone main lines and 2.158 million broadband subscriptions in 2010. 90% of them come from residential market. As there are only four dominant players there, the ratio of buyers to players is very high. Besides, as mentioned earlier, broadband subscriptions will grow slowly by 2.4% annually due to the increase of households (around 1.5% annually, EIU 2009) and broadband Internet service penetration per household (Appendix 1.6). Buyer's demand is still strong in the residential market.

Although there is a growing demand, a number of factors affect the customers' willingness to switch their subscriptions: (1) reputation of service providers; (2) network stability, network speed and customer service of service providers; (3) time spending of 2-3 hours for last mile connection installation; (4) contractual binding.

However, the service performances of key players are less desirable in these years. According to the latest statistics on consumer complaints on telecom services received by OFTA, one-third of them are related to fixed network and Internet.

Service Type	2008	2009	2010	2011 1st Quarter (Jan - Mar)
Mobile	1550	1754	3023	667
Fixed Network	1292	909	812	198
Internet	1284	1104	1561	331
External Telecommunications	80	123	112	23
Others	144	122	176	43
*Unclassified	20	39	27	11
Total	4370	4051	5711	1273

Figure 1-1: Statistics on consumer complaints received by OFTA

Source: http://www.ofta.gov.hk/en/enq_help/complaints.html

With reference to the "Top 10 Companies of Complaints" by Next Magazine

(Appendix 1.7), key telecom players are always on the list:

Number of complaints	2010	2009	2008	2007	2006
CTI/HKBN	52	44	not on list	37	85
PCCW	34	133	189	233	131
HutchTel	48	77	105	110	149
iCable	77	58	73	252	194

Figure 1-2: Statistics on consumer complaints received by Next Magazine

Source: Next Magazine 2006-2010

Customer perception towards the telecom players is then deemed to be negative.

Even though there are switching costs, customers are willing to look for another service

provider when their contracts are ended.

Bargaining Power of Suppliers

There are two major suppliers in telecom industry. One is the supplier for network

equipment / wire. The other is the supplier for call centre service.

There are number of network equipment / wire suppliers in the world for

selection, famous ones are Cisco, Nortel, ZTE, Hauwei, Alcatel, Nexans, 3M, and ADC

Krone. Although it is difficult for the players to integrate backward because of high R&D

and capital investments in network equipment / wires production, suppliers bargaining

power is still weak. It is because telecom players are used to purchase from two to three

suppliers to secure sufficient supply and one-plus-one network backup, the ratio of

suppliers to players is large, and the purchase volume is steady in these years as most facilities have been built in initial years.

In telecommunication industry, all players have call centres as a proactive way to establish direct communication with their customers that help the business do more with existing customers and attract new customers. As the customers to players ratio is large, call centre (or customer service hotline) is a fundamental service-touch-point in the industry. Key residential market players operate their call centres outside Hong Kong, most are located at Guangzhou because of the relatively sufficient and lower-cost supply in labor market. Operation model varies among players. Some use outsource call centres, some own in-house ones and some have both. Outsource call centre is more cost efficient and there are number of supplies for selection, but their quality are difficult to control. In-house call centre is better in quality control but the running cost is higher and has to manage the issue of labor supply. Since the labor market is still sufficient in Guangzhou, the supply of call centre service is not a problem.

Potential New Entrants

There is no pre-set limit on the number of licences issued in Hong Kong's local fixed-line network services. Company interested in providing these services in Hong Kong can apply to the telecoms regulator, the Office of the Telecommunications Authority.

New entrants who got the licences can build their own facilities-based infrastructure. The part of backhaul is relatively easy to circumnavigate the road blockages either by fixed line or wireless. However, the start-up capital is huge. However, the last mile connections are the most difficult to new entrants as the block-wiring facilities in most buildings are never designed to accommodate multiple carriers and are often congested.

If new entrants do not possess the resources on building their own facilities-base infrastructure and enter the industry as pure service model by leasing facilities, they will be at the mercy of the infrastructure's owners on rental cost. So, the potential of new entrants into the industry is weak.

Threats of Substitute Products

Telephony and broadband Internet services can be deployed either by fixed line or wireless technology. In fact, mobile substitution contributes to the shrinking of traditional telephone line.

Demand for Internet service will continue to expand in the coming 5 years. Especially when in-house Internet is still deployed mainly through fixed line network, the demand on fixed line will certainly continues.

Although the use of advanced mobile technologies like 3G and WiFi to access

Internet has been increasing recently, services provided by fixed line network cannot be replaced at this moment. It is because fixed line network, especially fibre-based one, can support larger bandwidth than wireless network, thus it is more reliable in connectivity speed, network stability and availability. Nevertheless, with the advance of technology in coming years, for example LTE (Long Term Evolution 4G) or WiMax, the bandwidth limitation of wireless network will be ease. At that time, wireless line operators will be new rivalries in the industry.

Overview of Competitive Forces in Local Fixed Line Industry
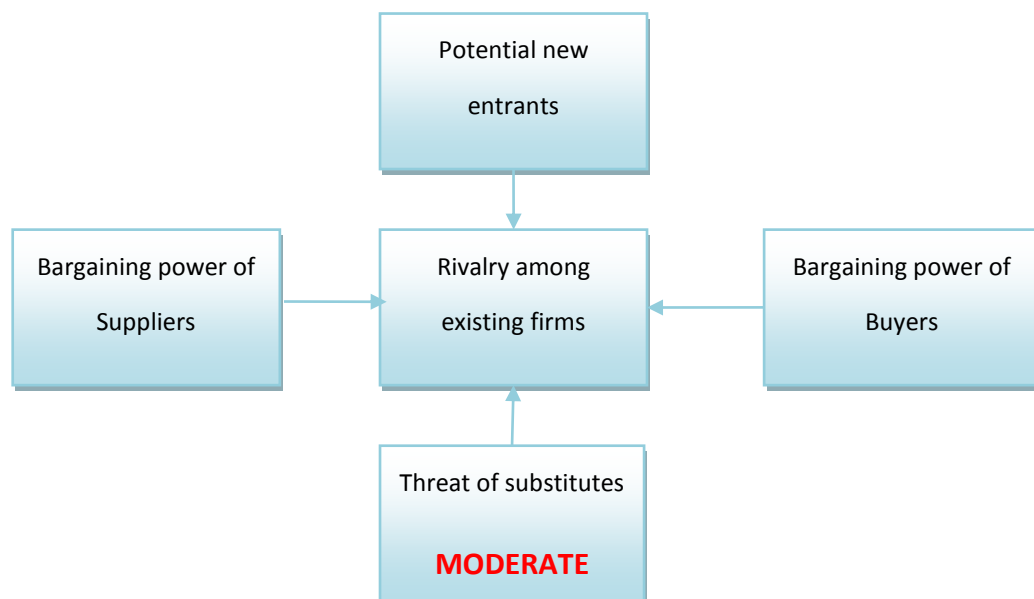
Opportunities and Threats

Opportunities	Threats
Demand for telecoms service will continue to be driven by high bandwidth applications.	Industry growth rate is low because of existing high fixed line penetration rate. Battle for market share among rivalries is intensified by the steady pie.
Growing convergence between voice telephony, the Internet and television is an advantage to license facilities-based players.	Emergence of new technology on mobile or wireless telephony and broadband Internet may shrink the existing pie of fixed line market.
High entry barriers for new entrants. An advantage to dominant players.	High exit barriers for existing players because of huge capital investment in building network infrastructure. Increase market share is the only way to leverage the return on investment.
Ratio of buyers to players in the industry is high. The industry is still profitable.	Low degree of differentiation in product function and low switching cost to customers but high complaint rate weaken customer loyalty in the industry.

STRENGTHS AND WEAKNESSES ANALYSIS

In company overview of earlier section, it is stated that mass residential fixed line business is the core business of HKBN. Before we identify the business need of HKBN, we will evaluate its strengths and weaknesses by comparing its business performance with its key competitors - PCCW, HutchTel and i-Cable. The figures of their business performance in aspects of financials, network facilities, products, market share, sales performance, customer service and number of complaints are listed in Appendix 1.8.

Strengths

- HKBN builds its own fibre backhaul and last mile connection network. Its facilities-based business model makes it free from relying on other licence facilities-owners. By end of August 2010, HKBN fibre network covers 75% of Hong Kong total home passes, which makes it the largest fibre network owner in Hong Kong. The company continues to have capital investment on its network and targets to cover 85% of Hong Kong home passes in 2012.

- HKBN's fibre network has structural cost advantage in Hong Kong as it targets at the mass residential buildings with high density. Its infrastructure costs only US$200 per home pass. Thus, HKBN has room for providing high bandwidth broadband service with compelling value proposition.

- Because of its fibre network, HKBN can provide a relative distinctive product – symmetric high speed broadband services, like 100Mbps / 1000Mbps – in the market. It differentiates HKBN in the market with higher network speed and stability.

- HKBN is the only player who has increased broadband market share in the past 3 years. It is a result of its distinctive broadband product and its strong new customer acquisition strategy.

- Unlike other players who outsource their call centre services, HKBN runs its call centre at Guangzhou. The advantage of in-house call centre is its service quality and standard can under the control of HKBN. As the centre is located at Guangzhou where the salary is 1/3 of Hong Kong, there is still operation cost benefit.

Weaknesses

- Market Cap of HKBN is the smallest among its key competitors PCCW and HGC. Besides, its credit rating is not satisfactory (Moody's rating: Ba3, Fitch rating: BB-), the interest rate will be relatively high if HKBN has to borrow any loan from bank even it has a positive cash flow since FY2007. It is unlikely that the company can have any other capital investments than the planned network infrastructure development, like mobile business, in the coming 3-5 years.

- Unlike PCCW and HutchTel, HKBN do not possess any mobile network. The market trend of wireless broadband will reduce the company's competitiveness.

- Although HKBN achieved 23.7% year-on-year growth rate which is far exceeding the industry growth rate of 2.8%, the company shares only 23% of the broadband residential market now. In comparison to PCCW who has 55% market share and longer company history, in the image of being "big" or "large scale", HKBN is still weak.

- PCCW and HutchTel have larger number of retail shops than HKBN. Hence, HKBN has to rely on its call centre as the main customer service strategy. Call centre operating in Guangzhou has the advantage of low cost but it also induces the problem of service quality. By looking at the complaint figures, customers' perception towards telecom players is deemed to be negative. Yet, it is no exception to HKBN.

- The ratio of HKBN's call centre agent to service subscribers is the 2nd highest among the four companies but it does not reflect in the service quality by means of complaint figures posted by Next Magazine. Both PCCW and HutchTel have a decreasing trend in the complaint number but HKBN has no improvement in the past two years.

BUSINESS NEED OF HKBN

In regard of the industry's opportunities and threats and HKBN's strengths and weaknesses, in order to sustain in the industry, HKBN has to use its existing strong product – broadband Internet to increase its market share. There are three reasons. Firstly, HKBN has to maintain the business growth in order to leverage the capital investment in

network infrastructure. Secondly, the chance of business expansion into another market, like mobile business, is minimal because of capital limitation. HKBN can only rely on its core business – fixed line business. Thirdly, the growth rate in telephone line is declining. The only way for HKBN to sustain is to enlarge its market share in broadband Internet market.
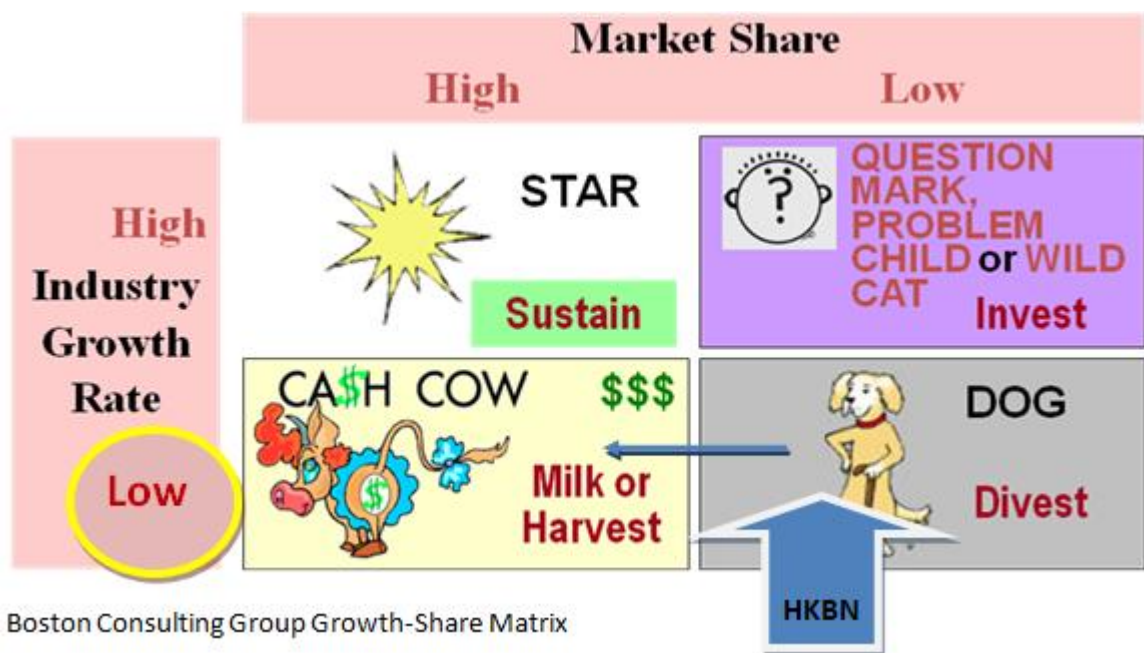
Boston Consulting Group Growth-Share Matrix

There are ways to increase market share. One is acquiring new customers, another is retaining existing customers. As the cost of acquiring a new customer is much higher than that of retaining an existing one, for example the acquisition cost per customer is four times of retention cost, retaining existing customers becomes a key corporate strategy in the battle of market share.

As the monthly subscription price is already very compelling in the industry, industry players are very cautious of a price war. The battlefield then moves to product quality and service quality. From the competitors' analysis in network facilities above, the

key competitors of HKBN, except i-Cable, possess fibre infrastructure and technology. It is sooner or later that PCCW and HutchTel can provide the same quality high speed broadband Internet product as HKBN. The product strength of HKBN is not long-termed. To sustain, HKBN has to develop its edge in service quality.

Many researchers (Cronin & Taylor, 1992; Spreng & Mackoy, 1996) stated service quality influences customer satisfaction and they are closely related. Many scholars (Oliver, 1980; Stum & Thiry, 1991) believed that a satisfied customer would be a re-purchased consumer; a loyal customer would recommend the product to other people. Hence, there are two-fold benefits of having good service quality. On one hand, satisfied customers will continue to use the product of the same provider. So, the company can maintain its market share by retaining its customer base. On the other hand, satisfied customers will recommend positive word-of-mouth to others. This will influence others purchase intention that benefits the company in acquiring new customers and thus gaining market share.

However, by looking at the complaint figures or news of Next Magazine, customers' attitude towards telecom players is deemed to be negative because of the poor service quality in the whole industry. Therefore, a little improvement in service quality can have high impact on customer satisfaction. To gain the competitive advantage, HKBN should be the first mover in service performance enhancement.

1.3   PROJECT AIMS

Currently, HKBN has only 15 retail shops, so its call centre is the essential customer service touch point for customers. To improve the service performance of its call centre mean improving the level of customer satisfaction. It is indispensable that HKBN call centre service plays a crucial role in the company's sustainability in the future.

Being the Associate Director of Customer Relations Department, I have four project aims of this study paper:

- To find out overall customer satisfaction level on quality of HKBN call centre service

- To find out the tendency of customers willingness to retain using the service and to recommend it to others in relation to their satisfaction level

- To identify the service problems of HKBN call centre which influence customer satisfaction

- To explore possible solutions on the problems and provide recommendations on improving the quality of HKBN call centre service

CHAPTER 2   LITERATURE REVIEW

2.1   CALL CENTRE

CALL CENTRE

Call centers are defined as "a place where calls are placed, in high volume for the purpose of sales, marketing, customer service, telemarketing, technical support or other specialized business activity" (Bodin and Dawson, 1999). Almost all call centers are available 24 hours a day, 365 days of the year. Apart from this operational definition, call centers are considered to be one of the strategies for customer relationship management (Mitchell, 1998) when companies believe that the relationship with customer should not end at sales and customer access after the sales adds value to the transaction.

In call centers, human agents and/or automatic voice response machines handle telephonic communications with customers (Moon et al., 2004), like solving problems and resolving complaints, giving information, answering questions and receiving feedbacks. Call centre is a best means of providing and controlling customer satisfaction (Anton, 1997) after providing products and services by meeting customer needs in an efficient, convenient and friendly way. On the other hand, it helps satisfaction recovery when a customer has a problem. The primary objective of call centre operations is customer care and achievement of high level of customer satisfaction.

IMPORTANCE OF CALL CENTRE

In today's competitive market, customer service call centers have moved from back to the front office as customer satisfaction and retention strategy (Anton, 1997). The importance of call centre is also paramount in telecommunication industry. All players have call centers as a proactive way to differentiate their services. They use call centers to build, maintain and manage customer relationships by establishing direct communication with their customers that help the business do more with customers and attract new customers.

However, in reality call centers have failed to realize their potential in helping organizations achieve the goals of providing high levels of customer satisfaction. Customers are less satisfied with call centre services compared with office-based in-person services (Bennington et al., 2000). So, how to provide superior service to customers through call centers is extremely important for organizations from the long-term objective of customer retention.

CUSTOMERS OF CALL CENTRES

It is significant for us to understand why customers use call centre service. From customer's perspective, the main call centre benefits for customers are convenience, flexibility and customization (Bennington et al, 2000). It is customers who ultimately consume the services offered by call centers, hence their perceptions count most.

In telecommunication industry, almost 90% of customers consumed the call

centers service are existing service subscribers. So, call centers are a fundamental weapon for customer relationship management and customer retention in the industry.

2.2 SERVICE QUALITY

SERVICE CONCEPT

As stated by Zeithaml et al. (1987), service has three fundamental characteristics: "intangibility, heterogeneity, inseparability of production and consumption" that makes services differ from goods.

CONCEPTS OF SERVICE QUALITY

Parasuraman et al. (1985) point out that service quality is more difficult for consumer to evaluate than goods quality. Consumers purchase goods and judge quality based on tangible cues such as material quality, color and package. However, they purchase and judge services depended on intangible cues such as price, attitude and experience.

Gronroos (1984) define service quality as the fulfillment of customers' satisfactions. He specifies two dimensions – functional quality focuses on "how" the service is delivered, while technical quality focuses on "what" the customer is actually receiving from the service. In his study, he suggests that functional quality is generally perceived to be more important than technical quality.

However, Parasuraman et al. (1985) argue that the perceived service quality is not determined purely by the performance level of the technical and functional quality dimensions, but rather by the gap between the expected and the experienced service quality.

The concept of service quality gap model defined by Parasuraman et al. (1985) is the differences between perceptions and expectation. They propose using the service quality gap model to examine the deficiencies of service quality in organization. The gap model concept will be discussed in the later section.

2.3   SERVICE QUALITY IN CALL CENTRE

There are various measurements of service quality in call centers.

1)   Operational Measures

In the call centre industry, service quality performance evaluation is done on the basis of several operational measures. There are 14 frequently used operational measures (Anton, 1997; Feinberg et al., 2000). For details on operational measures, see Appendix 2.1. Feinberg et al. (2000) has founded that, out of 13 operational variables, only first-call resolution and abandonment rate have a significant effect on caller satisfaction but the relationship is still weak. Their study shows operational variables commonly used by call centers had low-predictive validity in assessing customer satisfaction with call centers. The measures only indicate the efficiency level in call centers (Marr and Parry, 2004).

The over-reliance on operational measures results in focusing on calls rather than call outcomes as experienced by customers (Robinson and Morley, 2006).

2)   Call Centre Representative Behavior

Burgers et al. (2000) establishes 4 dimensions to measure customers' expectations with regard to call centre representative behavior:

- Adaptiveness – listen to customers, interpret problems and provide solid solutions by assessing customers' constitutions (mood, social behavior, relationship with the firm) and adjusting behavior accordingly

- Assurance – reducing customer uncertainty by providing clear explanations to customers, like steps in the problem solving and the purposes

- Empathy – empathizing with customer situations, giving customers the feeling that their problems are important to the firm

- Authority – representatives are empowered and authorized to perform tasks required for solving problems

The expectation dimensions above are focus on quality part but cover a narrow aspect of telephone interaction.

3)   Service Quality Dimensions

In Parasuraman et al. (1985, 1988) service quality gap model, five dimensions and 22 service attributes are identified. These dimensions are:

- Reliability – ability to deliver the promised service

- Responsiveness – willingness to provide prompt service

- Assurance – ability to inspire trust and confidence

- Empathy – individualized attention to customers, caring about the customers

- Tangibles – appearance of physical facilities, personnel and materials

However, Rust et al. (1994) state that "SERVQUAL is intended to describe the dimensions of quality common to all services, and is therefore unlikely to encompass the special properties of any particular service." In call centers, unlike face-to-face service encounters occurring in other service organizations such as restaurants, banks and hospital, service encounters are phone encounters that happen every time a customer interacts with a company through call centers over telephone. In telephonic service encounters, tangible factors such as attire of employees, physical evidence (e.g. air conditioning, ambience) do not contribute to service quality perceptions of customers. Keiningham et al. (2006) has shown that call centre satisfaction has all the dimensions as found in SERVQUAL – reliability, responsiveness, assurance and empathy, except tangibility. Also, in a study conducted by Dean (2004) in Australian call centers has found other measured attributes for service quality, such as adaptiveness, assurance, authority given to agents to solve customers' problems, lack of queues, empathy, and friendly manner of agents, have consistently high ratings. So, the service quality five dimensions are not good fit to the call centre attributes.

4) Metrics Combining Productivity and Quality

Anton (1997) suggests combining two types of metrics. The first are internal metrics which focus mainly on technical quality like waiting time, hold time, etc. The second type is external metrics which measure caller perceptions of the call regarding the interaction with and the answer being given by service agent. His model examines each attribute's contribution to the three primary drivers of customer retention – overall satisfaction, willingness to recommend and repurchase intentions. The metrics are grouped it into three dimensions:

- Accessibility of the call centre (number of rings, queue time, hold time, number of transfers)

- Interaction with agent (handled the call quickly, showed concern for caller's situation, understood caller's questions, spoke clearly)

- Answer or solution (completeness of the answer, accuracy of the answer, fairness of the answer, sufficient knowledge about products/services)

The model Anton (1997) provides a more balanced view of evaluation on call centre's service quality. It is comprehensive that it covers both operational and behavioural measures. On the other hand, the attributes in Anton's model are the reflection of service quality dimensions in SERVQUAL – reliability, responsiveness, assurance and empathy. In this study, we will use Anton's call centre service quality attributes listed above to measure customer's perception of performance on HKBN's call centre service.

2.4 CUSTOMER SATISFACTION

Customer satisfaction is an abstract concept. Cronin & Taylor (1992) describe it as the link between quality and post-purchase evaluations. Firms often use customer satisfaction as a measure of product or service performance (Anderson & Sullivan, 1993). As customer satisfaction is related to the perception and expectation of the customer, level of satisfaction increases when the quality of service exceeds needs and expectations of the customer.

The actual demonstration of the state of satisfaction varies from person to person and product/service to product/service. The state of satisfaction depends on a number of psychological and physical variables which correlate with satisfaction behaviors. Satisfaction behaviors include word of mouth and repurchase intentions. In telecommunication industry, satisfaction behaviors are willingness to recommend and continuity of using the service.

IMPORTANCE OF CUSTOMER SATISFACTION

As stated in previous section, call centers are a fundamental weapon for customer relationships management and customer retention in the telecommunication industry. All players have call centers served as a cornerstone of service strategy. How to achieve customer satisfaction through the service of call centre is important for all players in the industry.

It is important to note that customer loyalty is affected by customer satisfaction (Heskett, 1997). A loyal customer will retain to use the service or sustain to re-purchase and with less change to search for substitution; on the other hand, a loyal customer will recommend the product / service to other people, like their friends and relatives, too (Stum & Thiry, 1991). There is empirical support for positive association between customer satisfaction and intentions to spread word-of-mouth (Dabholkar and Thorpe, 1994; Richins, 1983). Figure 2.1 shows the non-linearity of the relationship between satisfaction and loyalty (Anton, 1997):
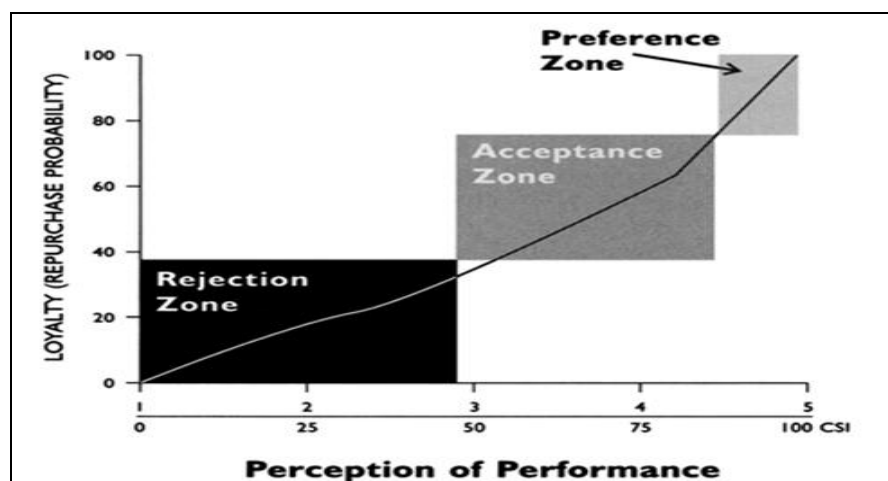
Figure 2-1: The Relationship between Loyalty and Performance

Source: Anton (1997)

According to Anton (1997), perception of service performance can be classified into three zones – rejection, acceptance and preference, by the customer satisfaction index, which the desired level of score is 85 - the preference zone. As Reichfeld (1993) stated, it is interesting to note that a very satisfied customer – customer in preference zone (customer satisfaction index CSI >= 85), is six times more likely to be loyal, to

repurchase and to recommend the product than a customer who is just satisfied – customer in acceptance zone. Vavra (2002) further mentioned that if customer satisfaction is achieved, company will improve customer loyalty, and thus improve profitability, market share, and can benefit the company in the longer term.

In this study, following Anton's model (1997), the desired level of score 85 is used to benchmark the customer satisfaction level of HKBN customers.

CUSTOMER SATISFACTION THEORY

1) Expectancy – Disconfirmation Theory

Oliver (1980) presents that consumer expectations are the basis of post-purchase evaluations such as disconfirmation and satisfaction. Satisfaction is formed on the basis of consumer's pre-purchase expectations about the performance of a product/service and their judgments about the actual product/service performance. If the actual performance compares to the expectation is the same, it is labeled as "confirmation". It is labeled as positive disconfirmation if performance is better than expectation; while as negative disconfirmation if it is worse than expectation. This theory assumes that customers are capable to form or articulate their expectations.

2) Equity Theory

Huppertz et al. (1978) applied equity theory to buyer-seller situation. The study suggests that consumers can elicit inputs and outcomes for themselves and merchants,

rate input /outcome on fairness, and then express their satisfaction /dissatisfaction. Consumers will feel equitably treated and thus satisfied if they perceive their outcome-to-input ratio is proportionate to that of the seller. Conversely, consumers will feel unfair when they perceive their outcome-to-input ratio is disproportionately higher, and thus dissatisfaction will be produced. Customer satisfaction in this theory is ride on justice.

3)   Customer Expectation Theory

The SERVQUAL model (Parasuramen, Zeithaml & Berry, 1988) is the most popular approach for measuring customer satisfaction on service quality by comparing customers' expectations before a service encounter and their perceptions of the actual service delivered. They define that the expectation of customer is depended on three factors including positive word of mouth, personal needs and past experience. After all, the measurement of customer satisfaction is based on the gap between expected service and perceived service by using the five dimensions as shown in Figure 2.2.
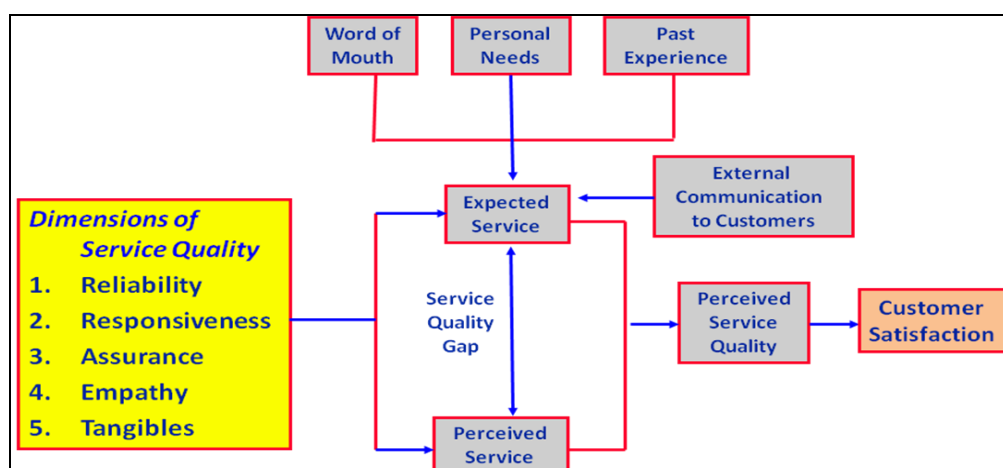
Figure 2-2: : Dimensions of Service Quality in SERVQUAL

Source: Parasuramen, Zeithaml & Berry (1988)

2.5 APPLICABILITY OF CUSTOMER SATISFACTION THEORIES IN CALL CENTRE

The above theories define the level of customer satisfaction under different circumstances. They can be applied in the measurement of customer satisfaction in call centers. The comparison of them is as follows:

1) Expectancy-Disconfirmation Theory

Customers have expectation on the service quality provided by the call centers of telecommunication companies before they subscribe the services. If the service quality provided by the call centre does not meet the expectation of customer, the customer will be unsatisfied and eventually will not renew the service contract or subscribe additional service of the company. Conversely, if the call centre service quality meets the expectation of customer, the customer will be satisfied and continuous to use the service or subscribe additional service from the company. This theory explains the ultimate aim of providing higher service quality in call centre is to satisfy customer's expectation. The limitation of this theory is that it assumes all people can form or articulate the pre-purchase expectation, but in fact some people have very limited expectations or formed expectations prior to purchases (Halstead et al., 2007).

2) Equity Theory

In equity theory, customer satisfaction is based on justice, that is, their judgment on outcome-to-input ratio by comparing it to that of the seller/company. In

telecommunication industry, customer satisfaction can be based on monetary justice as customers are paying monthly fee for the telecom services. Customers paying higher monthly fee may have higher expectation on call center quality. Some customers may subscribe more than one telecom services from one company or may have been using the service for a longer period. These customers' satisfactions will be based on loyalty justices. Different customers will have different evaluation on their input; needless to say, their expected outcomes can be varied, too.

3)   Customer Expectation Theory

In the Customer Expectation Theory, customer expectation depends on three factors – word of mouth, personal needs and past experience.

For word of mouth, telecommunication operators put much effort to build up the company brand image via channels of magazine, newspaper, television and even in the Internet. In the advertisement, they positively highlight the good sides of their products and aim to draw attention of customers towards their brands. However, the complaint figures and news being posted by Consumer Council or newspapers and magazines, such as Next Magazine, Apple Daily, etc., are more influential to customer expectation.

For personal need, it varies among different customers based on different background and attitudes even some may have similar thought and mindset. For example, time-pressed customers may look for concise and precise answers in short response time, while thinker-styled customers will require answers with more factual evidence. It is

undeniable that this subjective factor is crucial. That is why we need to conduct survey to obtain the data on customer expectation.

For the past experience, customers use it as the reference to determine their own expectations. For example, a customer, who experiences a fast response time from a call centre of one company, will expect the same from others; or a customer, who experiences a long waiting time from one call centre, will expect the same not happen from others.

Same as Expectancy-Disconfirmation theory, the limitation of Customer Expectation theory is that it assumes all people can form or articulate the pre-purchase expectation, but in fact some people have very limited expectations or formed expectations prior to purchases (Halstead et al., 2007).

To conclude, all three theories can be used to explain the formation of customer satisfaction in call centre, and all of them illustrate the same facts that:

- Customer satisfaction is a result of comparison between expectation and perceived quality.

- Customer expectation varies person to person because of different personal needs, word-of-mouth, past experience, monetary justice or loyalty justice, etc.

- Perceived quality differs person to person, too, due to divergent expectations.

Instead of using any single model of above, we will develop our model in this study to measure customer service quality perception and customer satisfaction because

there is the limitation that not all people have formed or been able to articulate pre-chase expectations. The model will be discussed in later section.

2.6 RELATIONSHIP BETWEEN SERVICE QUALITY AND CUSTOMER SATISFACTION

Parasuramen, Zeithaml & Berry (1985, 1988) points out that the concept of service quality and customer satisfaction are closely inter-related and are not significantly differentiated from each other. Other researchers also share the same view that customer satisfaction and service quality are two distinct but highly correlated constructs (Bansal and Taylor, 1997; Dabholkar et al., 2000).

Cronin and Taylor (1992) finds that service quality is an antecedent of satisfaction in their structural analysis for the causal relationship among customer satisfaction, service quality and purchase intension. Spreng and Mackoy (1996) also support this finding and indicate that service quality influences satisfaction.

As mentioned in section above, customer satisfaction is the prior factor of customer loyalty, which is the key driver for customer retention. The relationship among Service Quality, Customer Satisfaction and Customer Loyalty is illustrated in Figure 2.3 below:

Figure 2-3: Conceptual model of Service Quality, Customer Satisfaction and Customer Loyalty

Source: Parasuraman, Zeithaml and Berry (1985)

2.7 SERVQUAL MODEL

The SERVQUAL model (Parasuramen, Zeithaml & Berry, 1988) is the most popular approach which suggests measurements not only on customer perception on service quality but also on organization side. On the organization side of the model, there are four gaps that will affect the perceived service quality, while on the customer side of the model, there is one gap known as the service quality gap as shown in Figure 2.4.
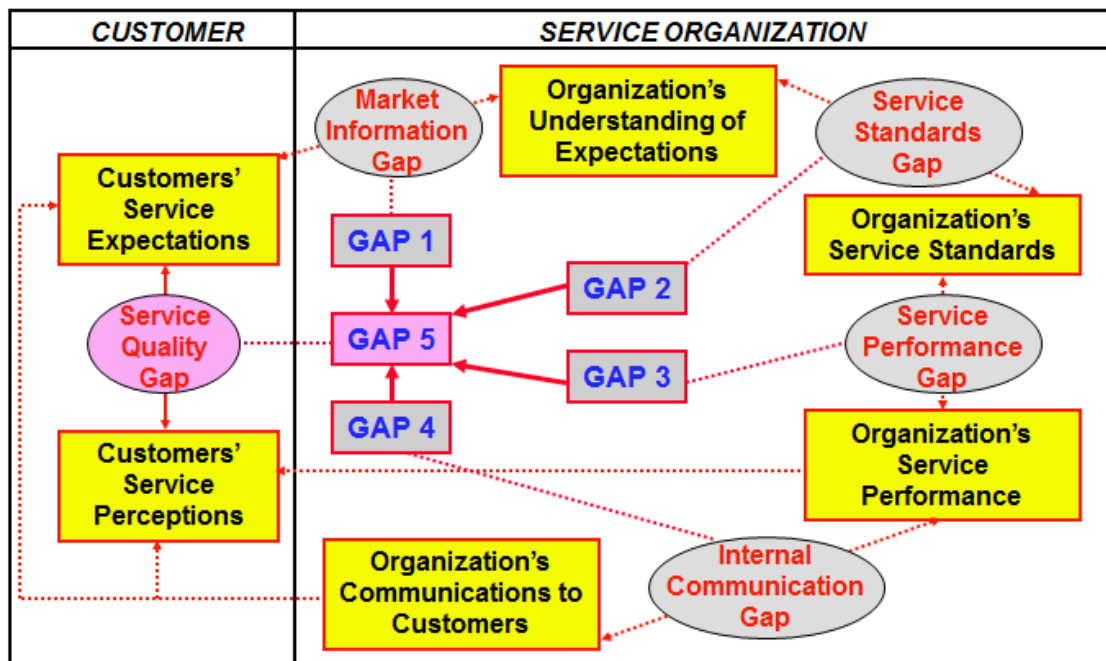
Figure 2-4: Concept Model of Service Quality

Source: Parasuraman, Zeithaml and Berry (1985)

- Gap 1 – Understanding Gap / Market Information Gap. According to Zeithaml et al. (1990) gap 1 occurs when managers do not know or understand their customers' needs. This gap occurs when there is a difference between what consumers expect from a provider and what management of the company perceives the consumers to expect. Therefore, managers cannot design or specify the service to meet their customer's requirements, which will create gap 2, the design gap.

- Gap 2 – Design Gap / Service Standards Gap. This gap occurs when there is a difference between management's perception of consumer expectations and actual service quality specification. Zeithaml et al. (1990) further explained that if the service specification are incorrect, the operational staff would deliver an inappropriate service create gap 3 known as the delivery gap.

- Gap 3 – Delivery Gap / Service Performance Gap. This gap takes place when there is a difference between service quality specifications and the service actually delivered.

- Gap 4 – Market Communication Gap / Internal Communication Gap. This gap is the difference between what is delivered and what is communicated to customers as being delivered. When the service provider makes promises about its service through its communication tools (gap 4), it raises the consumers' expectations thus creating gap 4 known as the communication gap.

- Gap 5 – Service Quality Gap. The service quality gap is the difference between consumers' expectations and their perceptions of service quality on the customer side of the model.

The foundation of this model is the set of gaps discussed above. Customer perceived service quality not only depends on customer expectation but also the gaps associated with management understanding of customer, service standard, marketing and delivery of services.

In this study, we will modify SERVQUAL gap model to analyze the perceptions of performance gaps among customers, call centre agents, managers and marketers towards HKBN call centre and to identify where the problems are. As mentioned in previous section, to encompass the call centre characteristics, we will use the 12 service attributes of Anton's model (1997) to replace the five service quality dimensions in SERVQUAL model for assessing the service quality perception of customer. The revised model is shown in Figure 2.5 below.

Revised Model of Service Quality

CUSTOMER	SERVICE ORGANIZATION

Dimensions of Service Quality (Anton, 1997)
- Accessibilities
- Interaction with agents
- Answer/Solution

Customers' Service Quality Perceptions

Customer Satisfaction

Call Centre management's Service Quality Perceptions

Service Standard Gap

Understanding Gap

Delivery Gap

Communication Gap

Call Centre Agents' Service Quality Perceptions

Marketers' Service Quality Perceptions

Figure 2-5: Revised model

CHAPTER 3   METHODOLOGY

3.1   INTRODUCTION

This chapter presents the research methodology used to develop answers to the research questions, including the following aspects: (a) research design, (b) research questions, (c) research model, (d) design for questionnaire, (e) sampling frame and methods, (f) data collection procedures, (g) data analysis method, and (h) limitation.

3.2   RESEARCH DESIGN

The focus of this research is how HKBN can increase the level of customer satisfaction by improving the quality of its call centre service. As HKBN has not done any survey on customer satisfaction based on the literature theory discussed in Chapter 2, there is lack of secondary data available for this study. Therefore, primary data will be collected from customers, customer service agents, marketers and managers of HKBN by using questionnaire. Telephone survey will be used to collect data from customers, while face-to-face interviews will be used to collect data from call centre agents, managers and marketers. Data collecting procedure and measures are illustrated in a later part.

3.3   RESEARCH QUESTIONS

Per the previous review in Chapter 1, the aims of this study are:

- To find out overall customer satisfaction level on quality of HKBN call centre service

- To find out the tendency of customers willingness to retain using the service and to recommend it to others in relation to their satisfaction level

- To identify the service problems of HKBN call centre which influence customer satisfaction

- To explore possible solutions on the problems and provide recommendations on improving the quality of HKBN call centre service

In regard of project aims, the research questions developed are:

- To find out the overall customer satisfaction level on quality of HKBN call centre service

- To find out the tendency of customers willingness to retain using the service and to recommend it to others in relation to their satisfaction level

- To examine each service attribute contribution to the overall customer satisfaction and identify service attributes for improvement that will increase the customer satisfaction level

- To examine the perceptions of call centre agent, manager and marketers on the quality of call centre service and identify the performance gap for improvement

3.4 RESEARCH MODEL

According to the research questions of this study and based on the previous literature review in Chapter 2, three dimensions of service quality including accessibility,

interaction with call centre agents and answer/solution given by call centre agents, and

two behavioural perspectives of customer loyalty are added to the conceptual model. A

modified model is developed in the study as shown in Figure 3.1. The purpose of this

model is to show the relationship among service quality attributes, customer satisfaction

and customer loyalty behaviour; then, to identify attributes for improvement that will

increase customer satisfaction and loyalty.
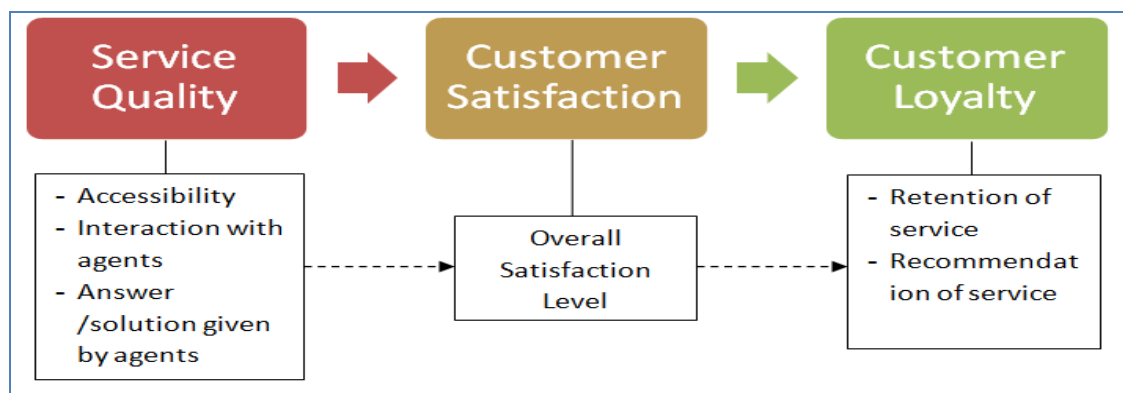
Figure 3-1: Modified Research Model

Source: The study

Following the modified model, accessibility of call centre, interaction with call

centre agents and answer/solution given are affecting overall satisfaction level, which in

turn make a difference to customer's willingness to retain using the service and to

recommend it to others. This model is used in this study to test the perceptions of

performance of HKBN call centre.

Apart from measuring the service quality perceptions of customers, the service

perceptions of call centre management, agents and marketers are measured to identify the

performance gap in the organization side. The revised model developed is shown as

below:
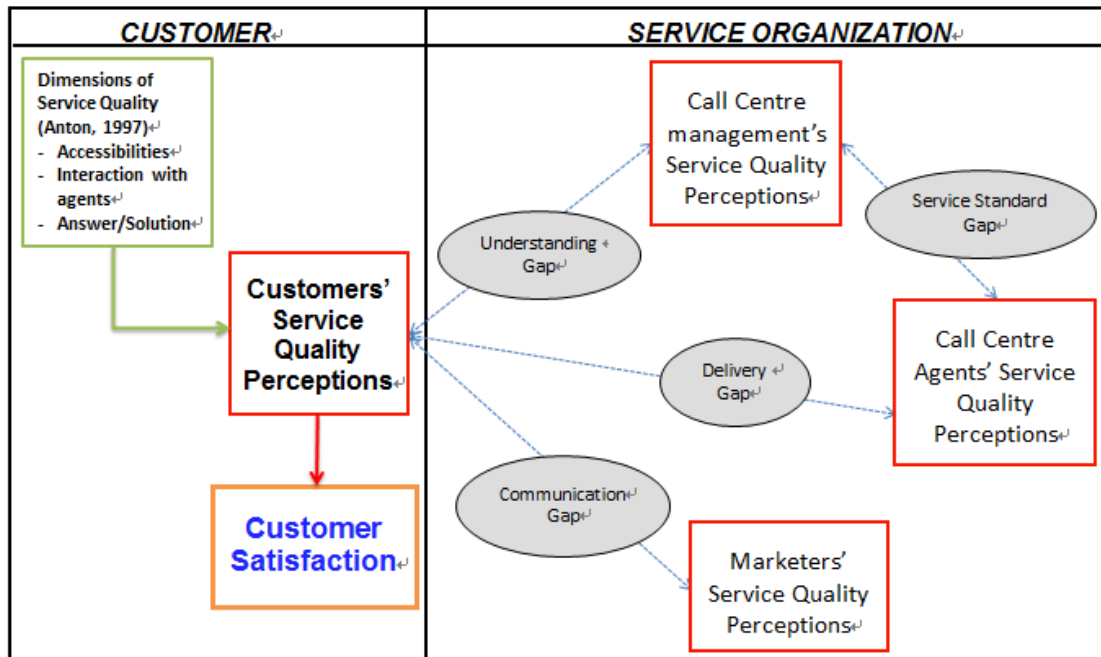
Figure 3-2: Revised Model of Service Quality

Source: The study

3.5   DESIGN OF QUESTIONNAIRE

The questionnaires are prepared in English and translated into Chinese to facilitate

the interviewees for their easy reading and interpretation.

As the aim of this study is not only to collect the perceptions of customers but also

those of call centre agents, managers and marketers, four sets of questionnaire are

prepared.   All of them consist of four parts. Parts 1 to 3 are the same while Part 4 –

demographics has a slight difference in accordance to the background of respondents.

The first part of the questionnaire focuses on the service dimension – accessibility

of call centre, which is the independent variable of this research. The second part focuses on service dimensions related call centre agents – interaction and answer/solution given, which are also the independent variables of this research. The third part of the questionnaire focuses on overall customer satisfaction and customer loyalty, which are the dependent variables of this research. The fourth part of the questionnaire collects demographic data, such as gender, age, education, HKBN products in use, account holder/user, position and year of service in the company.

From Part 1 to Part 3 of the questionnaire, as suggested by Anton's model, a 10-point rating scale ranging from 1 to 10 is used in each item as:

- 1 = "Least Acceptable" to 10 = "Most Acceptable" in Part 1

- 1 = "The Worst" to 10 = "The Best" in Part 2

- 1 = "The Lowest" to 10 = "The Highest" in Part 3

Details of the questionnaire are illustrated as follows:

Part 1 – Accessibility

This part is to find out the respondent's perception of service quality of HKBN call centre in the dimension of accessibility. Based on Anton's model, there are four service attributes in this dimension: (1) number of rings, (2) queue time, (3) hold time, (4) number of transfers. As such, we develop four questions in Part 1 of the questionnaire.

Part 2 – Service Quality – Interaction with Call Centre Agents and the Answer/Solution

provided

This part is to find out the respondent's perception of service quality of HKBN

call centre in the dimensions of interaction with call centre agents and answer/solution

provided. We develop 8 questions in Part 2 of the questionnaire because there are four

attributes in each dimension in Anton's model.

- Interaction with call centre agents: (1) handled the call quickly, (2) showed concern

  for caller's situation, (3) understood caller's questions, (4) spoke clearly

- Answer/solution provided: (1) completeness of the answer, (2) confidence in solution,

  (3) completeness of options, (4) sufficient knowledge about products/services

Part 3 – Overall Satisfaction

This part is to find out the respondent's customer satisfaction. Thus, we develop 1

question to find out the overall customer satisfaction rating. Based on the literature review

in Chapter 2, customer satisfaction and customer loyalty are closely related and customer

loyalty is reflected from the customer behavioural perspectives of re-purchase and

recommendation to others. As such, we develop 2 questions for the willingness to retain

using the products and to recommend it to others.

Part 4 – Demographic Data

This part would like to find out the respondent's personal background in order to analyze the respondent's background relating to the research result. As we have four target groups of interviewee, the background information of each group varies slightly:

- Customer group: gender, age, education, HKBN product currently use, HKBN account holder, HKBN product user

- Call centre agent group: gender, age, education, service of year in HKBN

- Call centre manager group: gender, age, education, position and service of year in HKBN

- Marketer group: gender, age, education, position and service of year in HKBN

3.6   THE SAMPLE

In this study, there are four groups of interviewee. The sample population of each is:

- Customer group: 100 respondents by randomly selecting from existing customer base of HKBN

- Call centre agent group: 39 respondents by randomly selecting from existing call centre agents of HKBN

- Call centre manager group: 7 respondents by randomly selecting from existing call centre supervisors and managers of HKBN

- Marketer group: 7 respondents by randomly selecting from existing marketing staff of

  HKBN

3.7   DATA COLLECTION PROCEDURES

Customer group

Data were collected through telephone interview by using questionnaire as a measurement tool. Since there is limit time to carry out the survey, two helpers from the training section of HKBN call centre were recruited to conduct the telephone survey from 1 to 11 February. It spanned across 1 weekend and Lunar New Year Holidays. A randomly selection method was applied by selecting 120 HKBN existing customers who had called in call centre in the past three months. It aims to cover the survey to customers who still have memory on call centre performance. If the customer rejected the survey, another one would be drawn randomly from the base again. The advantage of using telephone interview is higher response rate than the mail or web interview. It can reach the target sample population easily than using face-to-face interview.

In order to ensure all the interviewers understand the contents of the questionnaires and the purpose of study, a briefing session was conducted by the researcher before the survey administered. As all the interviewers are trainers of HKBN call centre, it was assure they could understand the statements and questions in the questionnaire.

Other target groups – call centre agents, managers, marketers

Data were collected through face-to-face interview by using questionnaire as a measurement tool. All the interviews were done by researcher in weekdays from 1 to 11 February. A randomly selection method was applied. Researcher randomly selected 40 HKBN existing call centre agents, 7 call centre supervisors or managers and 7 marketing staff of HKBN Marketing Department. As the interviewees are existing staff of HKBN, they can be reached easily and accurately.

An introduction section is included in the questionnaire to remind respondents of all target groups that each question should be rated and the answer should be based on their opinions on the service provided by the HKBN call centre. The respondents are also assured that all the data collected will be used for academic research purpose only and all information will be kept in strictly confidential way and will be destroyed after the study.

3.8 DATA ANALYSIS METHOD

As recommended by Anton's model, it is generally easier for the audience to understand the meaning of a 100-point scale when presenting results of performance. Hence, we re-code the score from 1-10 to into 1-100. The table below shows the data transformation.

Original Scale Value	Re-coded Value
1	0
2	11.1

3	22.2
4	33.3
5	44.4
6	55.5
7	66.6
8	77.7
9	88.8
10	100

Data from Customer Group

After re-coding the original scale, the performance is quantified by calculating the mean score for each service attributes, overall satisfaction, willingness to continue service, and willingness to recommend. The mean scores on overall satisfaction, willingness to continue service and willingness to recommend show the current position of HKBN call centre in customer loyalty. Following Anton's research model (1997), the desired level of score 85 is used as benchmarking. Then, a correlation analysis is conducted to examine the relationships among overall satisfaction, continue service intention and willingness to recommend. Then, a regression analysis is conducted for each dependent variable – "willingness to continue service" and "willingness to recommend" with independent variable of "overall satisfaction" to examine if customer satisfaction is the predictor of customer loyalty behaviors.

The mean scores of each service attribute represent the service quality performance of HKBN call centre in the three service dimensions. The scores also

pinpoint the service attributes on which the call centre receives low scores. However, it is more important to determine which service attributes are contributing to the key driver of customer retention - overall satisfaction. In other words, overall satisfaction score is a function of the 12 service attributes listed in section 3.5 and literature review in Chapter 2. Therefore, a multiple regression analysis is used to determine which attributes are affecting the overall satisfaction rating at a significant level. The regression results are then reviewed in accordance to the three service dimensions of Anton's model (accessibility, interaction with agent, answer/solution) for a clearer presentation.

Data from Call Centre Agents, Managers, Marketers

After re-coding the original scale, the mean scores for each service attributes, overall satisfaction, willingness to continue service, and willingness to recommend are calculated by each target group. The aim is to find out how call centre agents, managers and marketers look on the quality performance of HKBN call centre, and how they understand customer's satisfaction level. Then, the mean scores results are compared with those of customer group to identify the performance gap for improvement. Comparisons are listed below.

Target Group of Respondents	Mean Scores Comparing to	Performance Gap to identify
Call Centre Agents	Customers	Delivery Gap
	Managers	Service Standards Gap
Managers	Customers	Understanding Gap
Marketers	Customers	Communication Gap

The computer software, SPSS, is used to analyse the primary data collected in this research.

3.9   LIMITATION

Due to limited resources and time, only 100 numbers of samples were collected from the target group of customers. The size of the sample is not large enough to reflect the generalization points of view of customers in HKBN.

Secondly, it is impossible for the researcher to conduct the survey of other key competitors' call centres to reflect a more comprehensive analysis on the strength and weakness of HKBN call centre.

As telephone survey method is used, if there are too many questions in the questionnaire, customers will feel boring and time-consuming. Hence, only questions on respondent's perceptions on service quality are used but not questions on respondent's expectation on service quality.

CHAPTER 4   DATA ANALYSIS AND FINDINGS

There were total 174 questionnaires conducted with the four target sample groups

in this project. Their distribution and response rate are stated below:

Target Sample	Interview Method	Number of questionnaires conducted	Number of questionnaires returned	Response Rate
Customers	Telephone	120	100	83.3%
Call Centre Agents	Face-to-face	40	39	97.5%
Managers/Supervisors	Face-to-face	7	7	100%
Marketers	Face-to-face	7	7	100%

Figure 4-1: Questionnaire distribution and response rate

The primary data of the completed questionnaires are re-coded from 1-10 scale to

1-100 scales during input and analysed according to the research questions by using

descriptive statistics, correlations and multiple regressions. The analysis results are

illustrated as below.

4.1   CUSTOMER SATISFACTION

The current customer satisfaction level towards HKBN call centre can be

quantified by calculating the mean scores for "overall satisfaction", "willingness to

continue the service" and "willingness to recommend" from the data collected from

customers. The results are:

Figure 4-2: Customer satisfaction scores

According to the literature review on customer satisfaction in Chapter 2, the desired level of score (the preference zone) is 85 (Anton, 1997). The mean score of "caller's overall satisfaction" now is 60.7, which falls into acceptance zone only. The mean scores of "willingness to continue the service" and "willingness to recommend" are near the bottom of acceptance zone, which are 58.8 and 51.1 respectively. The low scores indicate HKBN call centre's weak performance in gaining customer loyalty.

The distributions of scores of 100 respondents are illustrated in Figures 4.3-4.5:
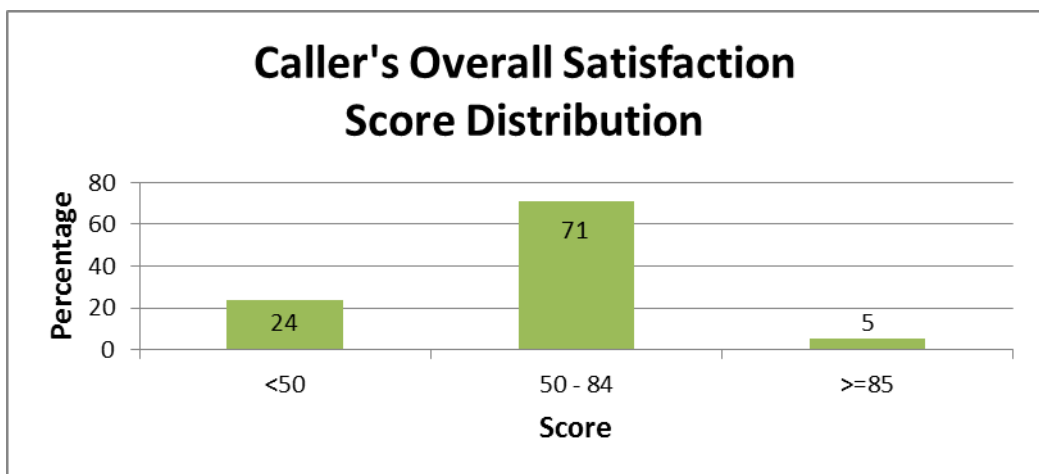
Figure 4-3: Overall Satisfaction
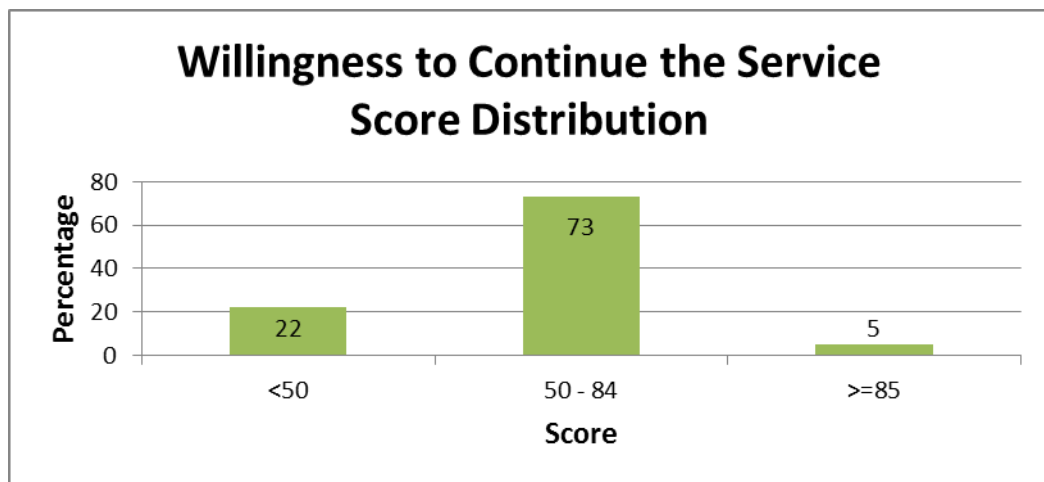
Figure 4-4: Willingness to Continue the Service
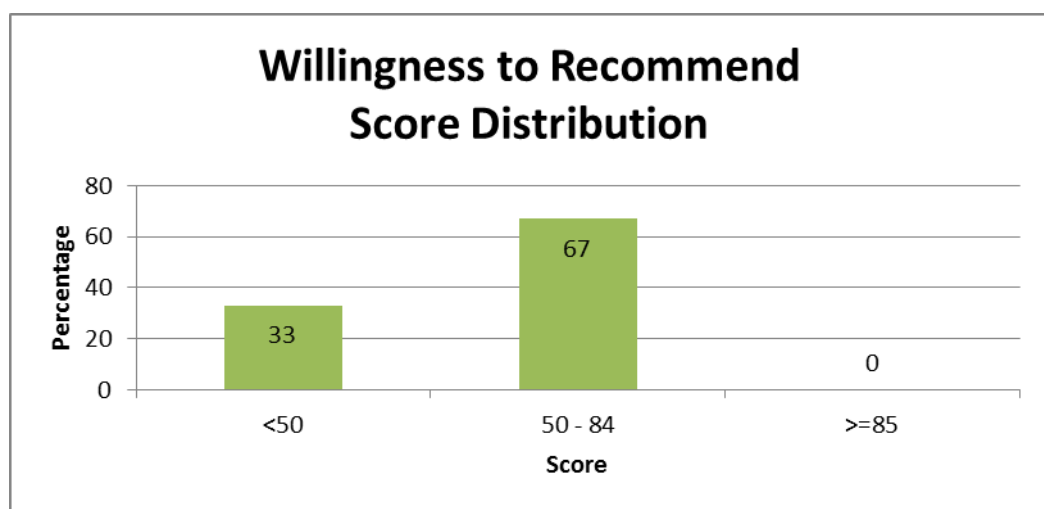
Figure 4-5: Willingness to Recommend

From the figures 4.3-4.5, the distribution patterns are similar in "overall satisfaction", "willingness to continue the service" and "willingness to recommend". Majority of respondents (around 70%) are in acceptance zone (Anton, 1997) and 20-30% of respondents are in reject zone. The distribution indicates that most customers of HKBN perceived call centre's performance as adequate and their loyalty level are medium. Appendix 4.1 shows the descriptive statistics of "overall satisfaction", "willingness to continue the service" and "willingness to recommend" on customer data.

4.2 RELATIONSHIPS AMONG CUSTOMER SATISFACTION, WILLINGNESS TO CONTINUE THE SERVICE AND WILLINGNESS TO RECOMMEND

From literature review, customer satisfaction and customer loyalty are closely related. To test whether this relationship exists in the case of HKBN call centre, a correlation analysis is conducted among "overall satisfaction", "willingness to continue the service" and "willingness to recommend" by data obtained from customers and the results are:

Correlations

		Caller's overall satisfaction	Caller's willingness to continue the service	Caller's willingness to recommend
Caller's overall satisfaction	Pearson Correlation	1	.799**	.825**
	Sig. (2-tailed)		.000	.000
	N	100	100	100
Caller's willingness to continue the service	Pearson Correlation	.799**	1	.853**
	Sig. (2-tailed)	.000		.000
	N	100	100	100
Caller's willingness to recommend	Pearson Correlation	.825**	.853**	1
	Sig. (2-tailed)	.000	.000	
	N	100	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 4-6: Correlation among overall satisfaction, willingness to continue service and willingness to recommend

From the correlation analysis result in Figure 4.6, the correlations are 0.8 or greater indicate strong positive linear relationships among them. If customer "overall satisfaction" score is high, their willingness to continue the service and to recommend will be high too. Also, it is found that if customer "willingness to continue the service" is high, the chance to recommend will be higher, too.

To further examine whether customer satisfaction level is the predictor of intention to continue service and willingness to recommend in HKBN, a regression analysis is conducted for each dependent variable with independent variable of "overall satisfaction".

1) Functional relationship between "willingness to continue the service" and "overall satisfaction"

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.799[a]	.639	.635	11.6084

a. Predictors: (Constant), Caller's overall satisfaction

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23361.482	1	23361.482	173.363	.000[a]
	Residual	13205.955	98	134.755		
	Total	36567.437	99			

a. Predictors: (Constant), Caller's overall satisfaction

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.799[a]	.639	.635	11.6084

b. Dependent Variable: Caller's willingness to continue the service

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.839	4.042		1.939	.055
	Caller's overall satisfaction	.840	.064	.799	13.167	.000

a. Dependent Variable: Caller's willingness to continue the service

Figure 4-7: Coefficient of Willingness to continue the service on Overall satisfaction

From the analysis result in Figure 4.7, the linear regression model is:

- Willingness to continue the service = 7.839 + 0.84 Overall Satisfaction

In the model summary, both the Multiple R (0.799) and R^2 statistic (0.639) with values near 1 indicate it is a good fit model. The model as a whole is also significant with great F-statistics (173.363) and Sig.F <0.01. Besides, the value of each parameter is proved to be significant with t-ratio being large in absolute value and Sig. <0.01. Therefore, we are confident that there is a positive relationship that "willingness to continue the service" can be predicted by "overall satisfaction" by the linear regression model.

2) Functional relationship between "willingness to recommend" and "overall satisfaction"

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.825[a]	.681	.677	12.0525

a. Predictors: (Constant), Caller's overall satisfaction

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30340.298	1	30340.298	208.864	.000[a]
	Residual	14235.848	98	145.264		
	Total	44576.146	99			

a. Predictors: (Constant), Caller's overall satisfaction

b. Dependent Variable: Caller's willingness to recommend

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.931	4.197		-1.651	.102
	Caller's overall satisfaction	.957	.066	.825	14.452	.000

a. Dependent Variable: Caller's willingness to recommend

Figure 4-8: Coefficient of Willingness to recommend on Overall satisfaction

From the analysis result in Figure 4.8, the linear regression model is:

- Willingness to recommend = -6.931 + 0.957 Overall Satisfaction

In the model summary, both the Multiple R (0.825) and R^2 statistic (0.681) with values near 1 indicate it is a good fit model. The model as a whole is also significant with great F-statistics (208.864) and Sig.F <0.01. Besides, the value of each parameter is proved to be significant with t-ratio being large in absolute value and Sig. <0.01. Therefore, we are confident that there is a positive relationship that "willingness to recommend" can be predicted by "overall satisfaction" by the linear regression model.

Both the models are supportive to the literature review in Chapter 2.

4.3   SERVICE QUALITY ATTRIBUTES PERFORMANCE

The mean scores of each service attribute given by respondents from customer group represent the service quality perception of customers towards the performance of HKBN call centre in regard to the three service dimensions suggested by Anton (1997). The findings are illustrated in the diagram below:
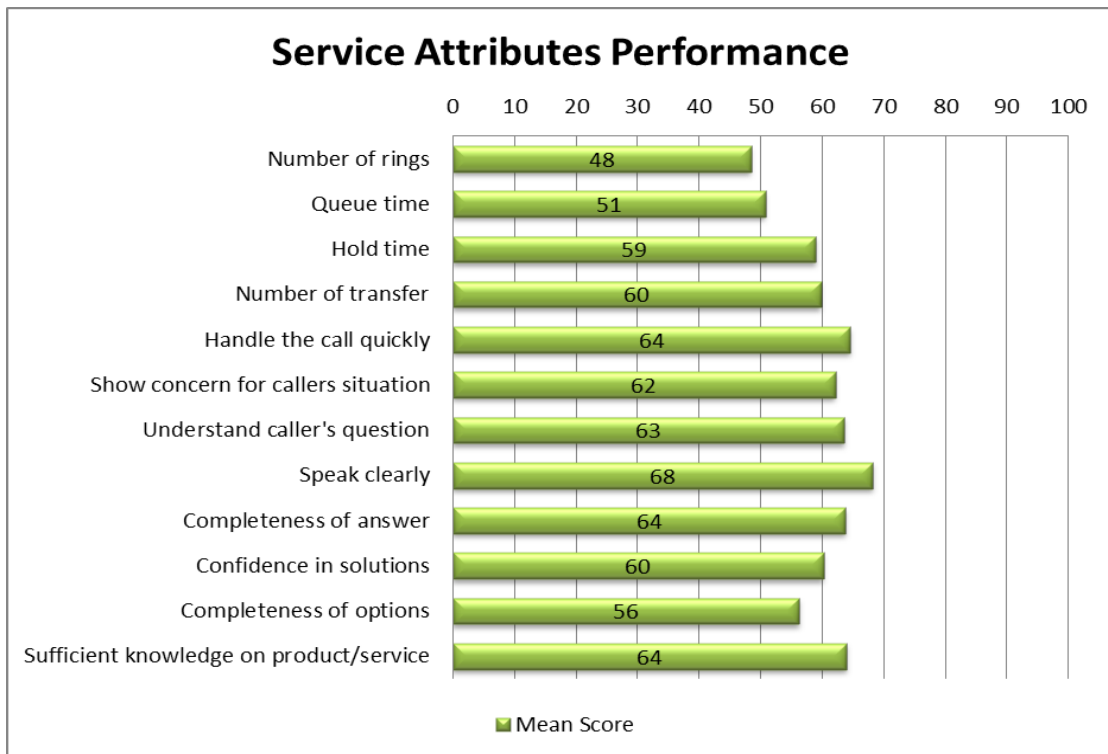
Figure 4-9: Service Attributes Performance

The scores of all service quality attributes are below the desired level (score 85) where one service attribute (number of rings) scored below 50 (rejection zone) and others are in acceptance zone. Five service attributes obtained score 50-60 and six service attributes obtained score 61-70, but none scored above 70. The service attribute with best performance is "speak clearly" with score 68, while the poorest is "number of rings" with score 48. By looking at the performance in terms of the three dimensions, HKBN call centre perform poorest in "Accessibility" with all service attributes of this dimension scored below 60. The performance in "Interaction with agents" is the best relatively with all its service attributes scored in 61-70. However, the performance is still far from the desired level (score 85). Appendix 4.2 lists descriptive statistics of customers' scores on each service attributes.

4.4 SERVICE ATTRIBUTES IMPACT ON OVERALL SATISFACTION

SELECTION OF REGRESSION MODEL

Although the mean scores of each service attributes already pinpoint on the poor performance area of HKBN call centre service, it is more important to determine which service attributes are contributing to "overall satisfaction" – the key driver of customer loyalty. To select a goodness fit of model, two groups of multiple regression analysis with "overall satisfaction" as dependent variable and compare the results:

1) Analysis with all service attributes together:

Independent variables = all service attributes

The result model is shown in Figure 4.10:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.855[a]	.731	.694	10.1210

a. Predictors: (Constant), sufficient knowledge about products/services , number of rings, understand caller's question, number of transfer, show concern for caller's situation, hold time, confidence in solutions, handle the call quickly, completeness of options, speak clearly, queue time, completeness of answer

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24220.588	12	2018.382	19.704	.000[a]
	Residual	8911.813	87	102.435		
	Total	33132.401	99			

a. Predictors: (Constant), sufficient knowledge about products/services , number of rings, understand caller's question, number of transfer, show concern for caller's situation, hold time, confidence in solutions, handle the call quickly, completeness of options, speak clearly, queue time, completeness of answer

b.   Dependent Variable: Caller's overall satisfaction

Figure 4-10:   Regression Model – all service attributes as independent variables

2)   Analysis with service attributes by service quality dimensions:

Independent variables = service attributes of "Accessibility"

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.715[a]	.511	.491	13.0551

a. Predictors: (Constant), number of transfer, queue time, hold time, number of rings

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16940.921	4	4235.230	24.849	.000[a]
	Residual	16191.480	95	170.437		
	Total	33132.401	99			

a. Predictors: (Constant), number of transfer, queue time, hold time, number of rings

b. Dependent Variable: Caller's overall satisfaction

Figure 4-11: Regression Model – service attributes of "Accessibility" as independent variables

<u>Independent variables = service attributes of "Interaction with agents"</u>

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.701[a]	.491	.470	13.3178

a. Predictors: (Constant), speak clearly, show concern for caller's situation, handle the call quickly, understand caller's question

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16282.922	4	4070.731	22.951	.000[a]
	Residual	16849.479	95	177.363		
	Total	33132.401	99			

a. Predictors: (Constant), speak clearly, show concern for caller's situation, handle the call quickly, understand caller's question

b. Dependent Variable: Caller's overall satisfaction

Figure 4-12: Regression Model – service attributes of "Interaction with agents" as independent variables

<u>Independent variables = service attributes of "Answer/solution"</u>

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.772[a]	.596	.579	11.8724

a. Predictors: (Constant), sufficient knowledge about products/services , completeness of answer, completeness of options, confidence in solutions

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19741.707	4	4935.427	35.014	.000[a]
	Residual	13390.694	95	140.955		
	Total	33132.401	99			

a. Predictors: (Constant), sufficient knowledge about products/services , completeness of answer, completeness of options, confidence in solutions

b. Dependent Variable: Caller's overall satisfaction

Figure 4-13: Regression Model – service attributes of "Answer / solution" as independent variables

By comparing the two groups of analysis, analysis (1) using all service attributes together as independent variables gets the best goodness of fit model. In Figure 4.10, both Multiple R (0.855) and R^2 statistic (0.731) with values nearest to 1 indicate it is a good fit model than analysis (2). Besides, the model of analysis (1) as a whole is significant with great F-statistics (19.704) and Sig.F <0.01. Therefore, we will use the multiple regression results of analysis (1) to determine the impact of attributes in affecting the overall satisfaction rating.

ATTRIBUTES PERFORMANCE AND IMPACT

The multiple regression analysis with "overall satisfaction" as dependent variable

and all service attributes as independent variables get the following result:

		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	7.769	4.655		1.669	.099	-1.483	17.021
	number of rings	.201	.072	.265	2.785	.007	.058	.345
	queue time	.140	.081	.183	1.737	.086	-.020	.301
	hold time	.014	.078	.016	.178	.859	-.141	.169
	number of transfer	-.058	.066	-.071	-.877	.383	-.190	.074
	handle the call quickly	.003	.091	.003	.034	.973	-.177	.184
	show concern for caller's situation	.040	.081	.042	.491	.625	-.121	.201
	understand caller's question	-.139	.100	-.128	-1.393	.167	-.336	.059
	speak clearly	.180	.109	.162	1.648	.103	-.037	.396
	completeness of answer	.213	.098	.234	2.167	.033	.018	.408
	confidence in solutions	.186	.088	.198	2.100	.039	.010	.362
	completenss of options	.211	.093	.217	2.258	.026	.025	.397
	sufficient knowledge about products/services	-.062	.086	-.064	-.721	.473	-.232	.109

Coefficients^a

a. Dependent Variable: Caller's overall satisfaction

Figure 4-14: Regression Model – All Service Attributes from Customer Data

The findings are illustrated in a two vertical-axes chart so that the performance

scores along with each attribute's respective effect on overall satisfaction are clearly

presented:
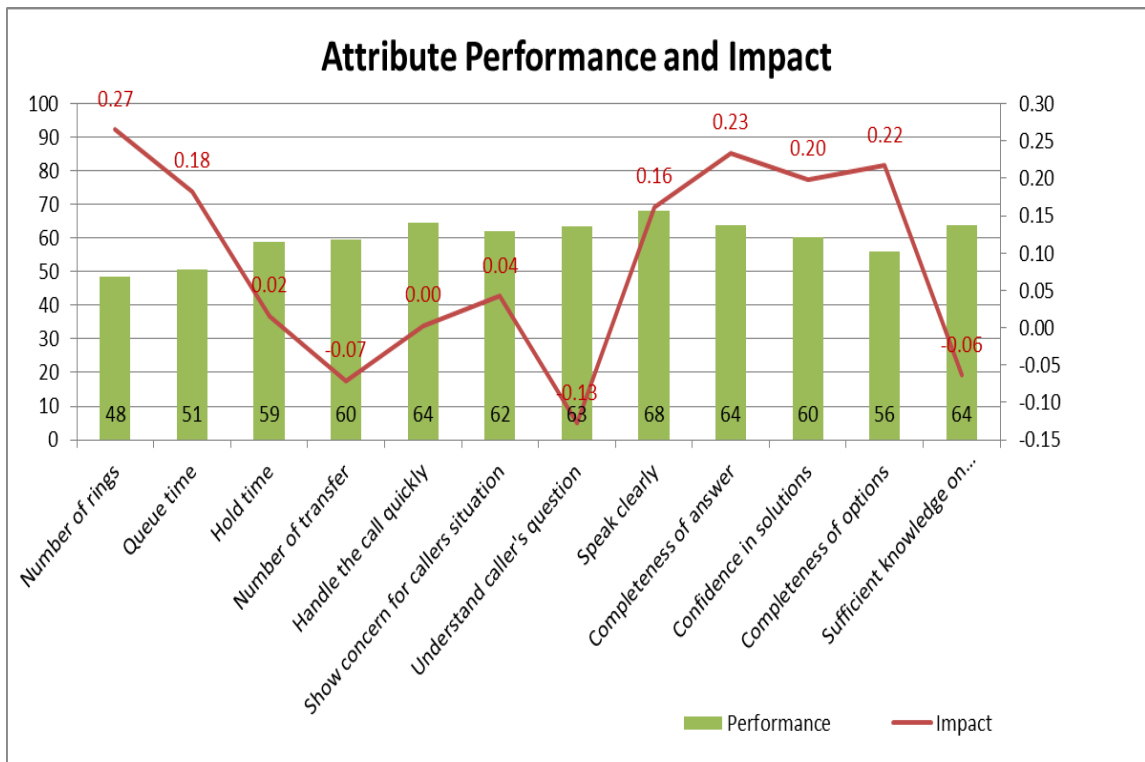
Figure 4-15: Attribute performance and impact

The chart (Figure 4.15) indicates that four attributes are statistically impacting satisfaction: "number of rings", "completeness of answer", "confidence in solutions" and "completeness of options". Their respective impacts on satisfaction are close at 0.27, 0.23, 0.20 and 0.22 respectively. This suggests they are each important to satisfaction ratings and to nearly to the same degree. While the t-ratio of each is large in absolute value and each 95% confidence interval does not include value 0, it can conclude that there is a significant linear dependency of "overall satisfaction" on these four attributes. The regression results are stated in Appendix 4.3 for reference.

Looking at the performance side of the chart, it is apparent that neither significant attribute is achieving the desired level of 85. Therefore, all four attributes should become focus for improvement action. However, the performance scores for the attributes

"number of rings" and "completeness of options" is at 48 and 56, they should be prioritized for action than the other two items.

It is worth to note that three attributes are under dimension "Answer/Solution". That means any improvement in this dimension can significantly improve the overall satisfaction level in HKBN call centre.

It is also notable that the impact of "queue time" ranks fifth, which are 0.18, in the analysis result, and it has high absolute t values. It indicates that it also contributes to the model on "overall satisfaction"; but the performance score of "queue time" is only at 51, which is the second lowest among all. Most importantly, it is in the same service quality dimension of "Accessibility". By doing a correlation analysis among the four attributes in this dimension, it finds that "queue time" has the most positive relationship with "number of rings" with R^2 statistic (0.767) with values nearest to 1. The results are listed below:

Correlations

		number of rings	queue time	hold time	number of transfer
number of rings	Pearson Correlation	1	.767**	.451**	.431**
	Sig. (2-tailed)		.000	.000	.000
	N	100	100	100	100
queue time	Pearson Correlation	.767**	1	.612**	.425**
	Sig. (2-tailed)	.000		.000	.000
	N	100	100	100	100
hold time	Pearson Correlation	.451**	.612**	1	.580**
	Sig. (2-tailed)	.000	.000		.000
	N	100	100	100	100
number of transfer	Pearson Correlation	.431**	.425**	.580**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	100	100	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 4-16: Correlations among service attributes in "Accessibility"

To further examine if "number of rings" is a predictor for "queue time", a coefficient analysis is done with "queue time" as dependent variables. The result is:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.767a	.588	.584	15.3380

a. Predictors: (Constant), number of rings

ANOVAb

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32955.141	1	32955.141	140.083	.000a
	Residual	23054.881	98	235.254		
	Total	56010.022	99			

a. Predictors: (Constant), number of rings

b. Dependent Variable: queue time

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.106	3.453		4.085	.000
	number of rings	.757	.064	.767	11.836	.000

a. Dependent Variable: queue time

Figure 4-17: Coefficients of "number of rings" on "queue time"

The model is significant with great F-stat (140) and Sig.F <0.01. It indicates that improvement on "number of rings" can benefit to "queue time".

4.5   SERVICE QUALITY PERCEPTIONS IN ORGANIZATION SIDE

To find out how call centre agents, managers and marketers look on the quality performance of HKBN call centre, the mean scores for each service attributes, overall satisfaction, willingness to continue service, and willingness to recommend of each group are calculate. Then, the mean scores are compared with those of customers and illustrated in Figure 4.18 and 4.19. The descriptive statistics on performance scores gathered from

management, marketers and call center agents are shown in Appendix 4.4.
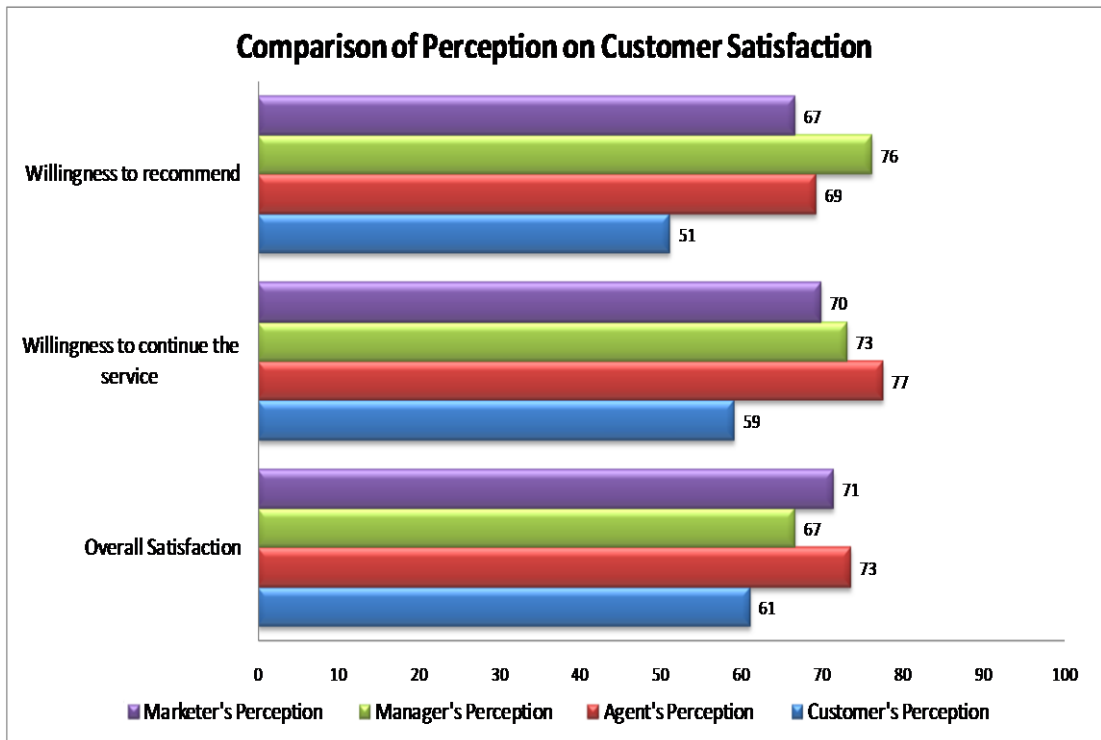
Figure 4-18: Comparison of perception on customer satisfaction
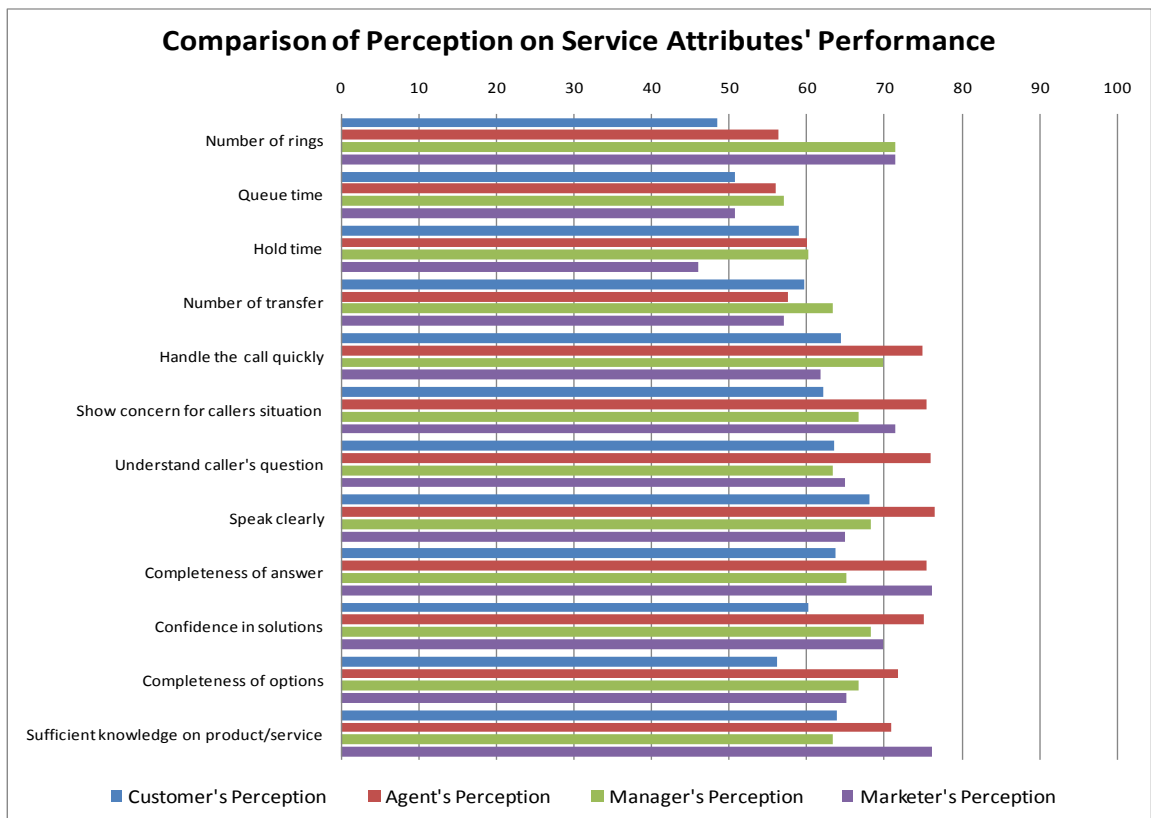
Figure 4-19: Comparison of perception on service attributes performance

Comparison between Agent's perception and Customer's perception

In Figure 4.18, it is obvious that customer's scores on "overall satisfaction", "willingness to continue the service" and "willingness to recommend" are far lower than those of call centre's agents. By looking at the mean scores (Figure 4.19) on four attributes – "number of rings", "completeness of answer", "confidence in solutions" and "completeness of options" , which are statistically significantly to "overall satisfaction", they share the same result that there is a large score difference between customer's and agent's ranging from 8-16. It can conclude that call centre agents have over-estimated the performance quality delivered by them. What they delivered does not meet customer's expectation. The delivery gap or service performance gap is identified.

Comparison between Agent's perception and Manager's perception

In Figures 4.18 & 4.19, manager's scores on "overall satisfaction", "willingness to continue the service", "number of rings", "completeness of answer", "confidence in solutions" and "completeness of options" are lower than those of call centre's agents but not "willingness to recommend". The difference between management's and agent's perceptions of service quality performance explains that the service specification is incorrect. The service standards gap between agents and managers in call centre is identified.

Comparison between Manager's perception and Customer's perception

Comparing manager's scores with customer's scores on "overall satisfaction", "willingness to continue the service", "willingness to recommend" and the service attributes "number of rings", "confidence in solutions" and "completeness of options" , it is found that manager's scores are lower except "completeness of answer", which manager's score at 65 is close to customer's score at 64. The largest difference is found at "number of rings", the attribute with highest impact on satisfaction, where the difference is 23. As a whole, it proves the understanding gap between managers and customers that managers do not know or understand their customers' needs and thus their design or specification of call centre service do not meet their customer's requirements.

Comparison between Marketer's perception and Customer's perception

In Figures 4.18 & 4.19, it can observed that marketer's scores on "overall satisfaction", "willingness to continue the service", "willingness to recommend" and the service attributes "number of rings", "confidence in solutions", "completeness of answer" and "completeness of options" are much higher than those of customer's and the difference ranging 9-21. Sharing the same result of manager's, the score on "number of rings" is 71 of marketers versus 48 of customers with high difference at 23. The difference between marketer's and customer's perceptions explains the communication gap between what is delivered and what is communicated to customers as being delivered.

Summary of performance gaps from the analysis results

Performance Gap	Difference between	Results
Delivery Gap	Customers & Call Centre Agents	Proved
Service Standards Gap	Call Centre Managers & Agents	Proved
Understanding Gap	Call Centre Managers & Customers	Proved
Communication Gap	Marketers & Customers	Proved

4.6   DEMOGRAPHIC PROFILE

Demographic information of the respondents in customer groups and call centre agent groups are shown in the following charts.

Respondents – Customers
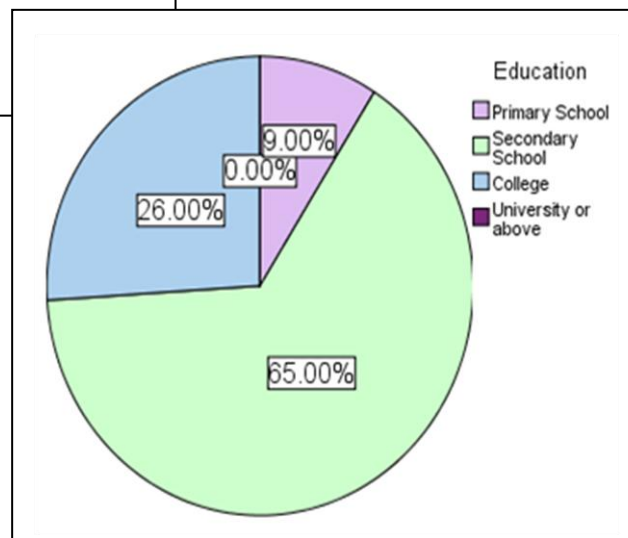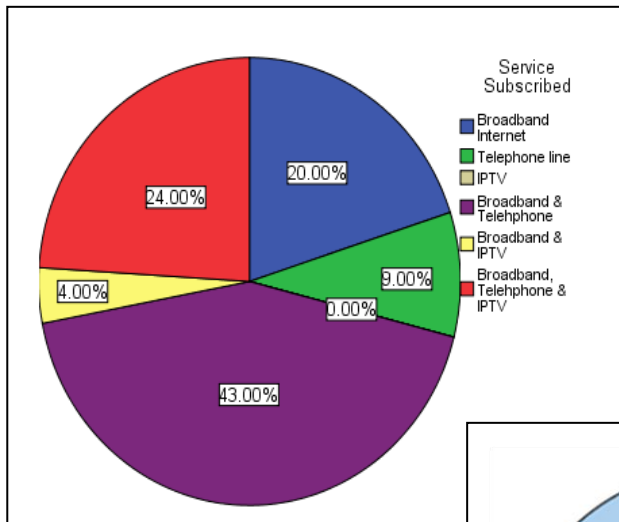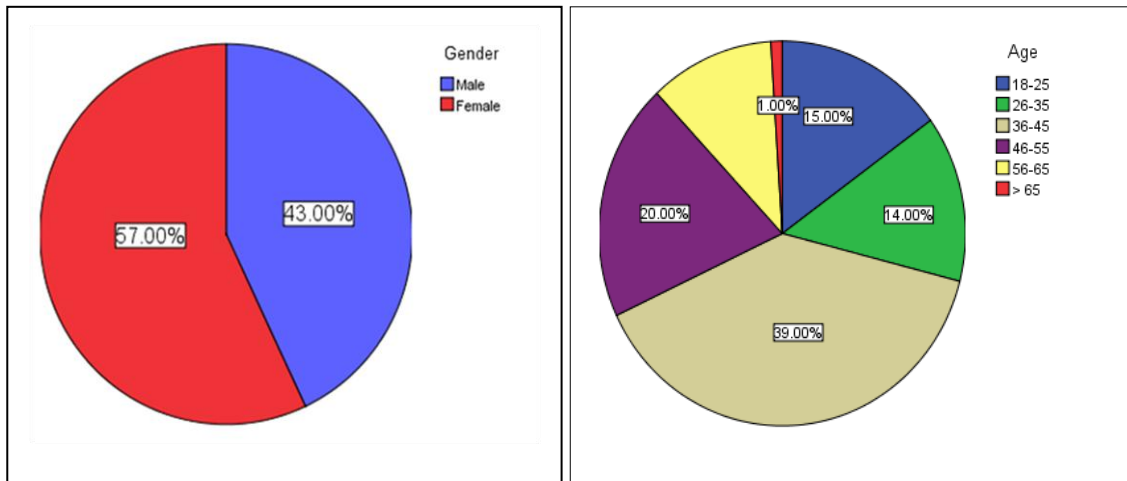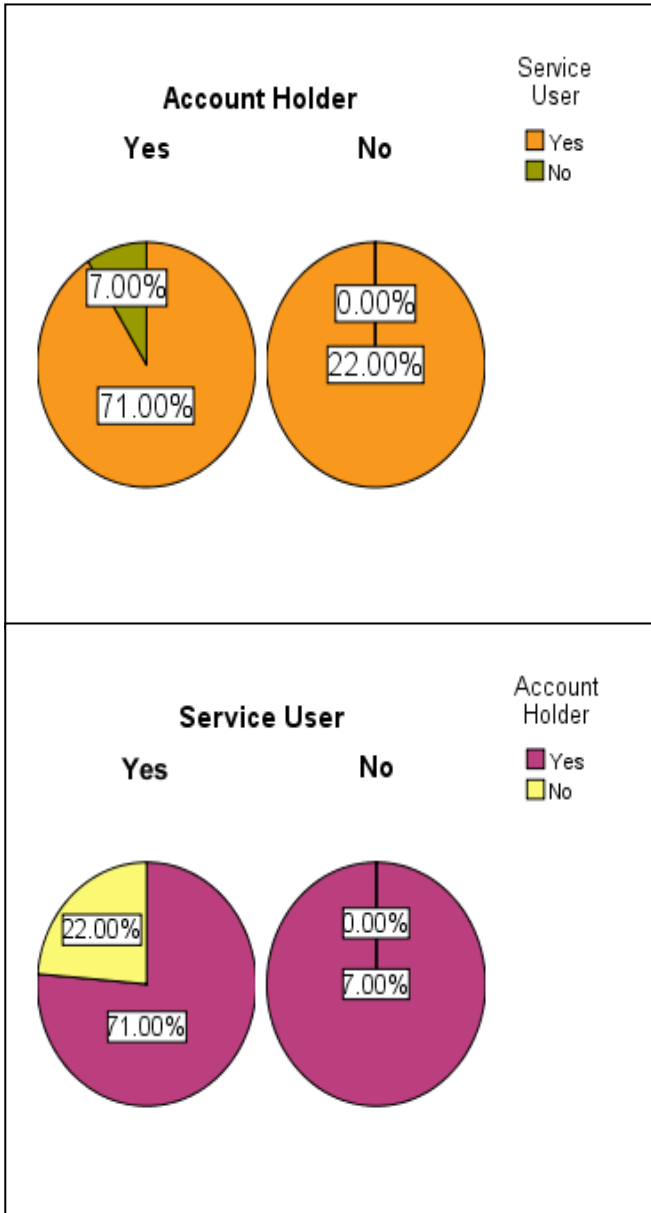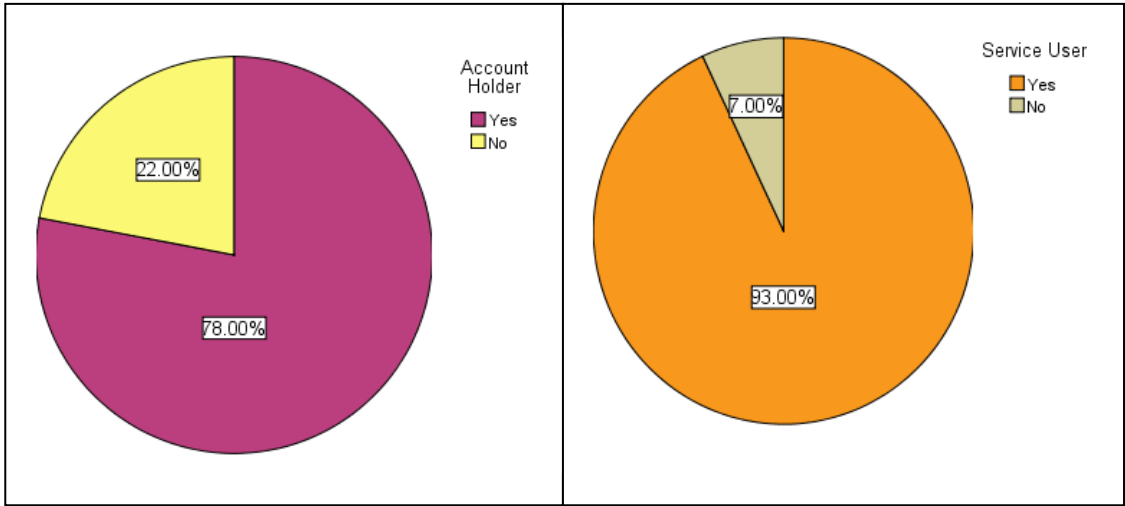
Respondents – Call Centre Agents
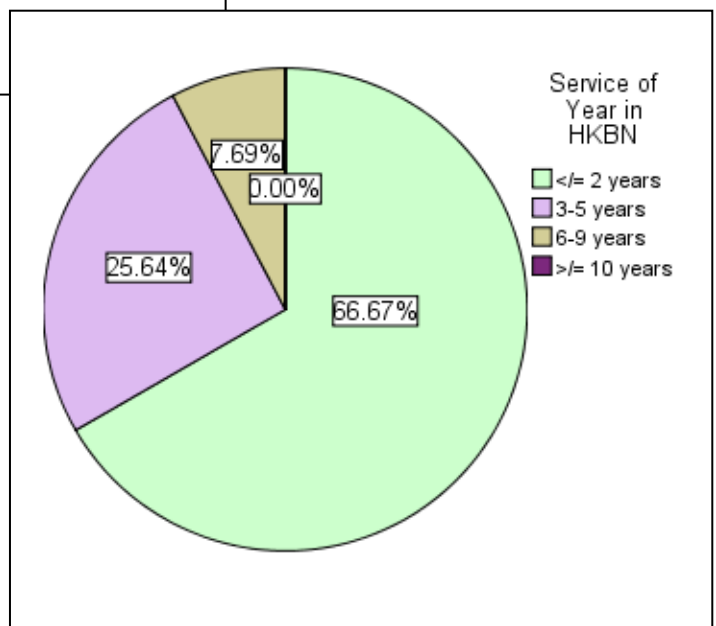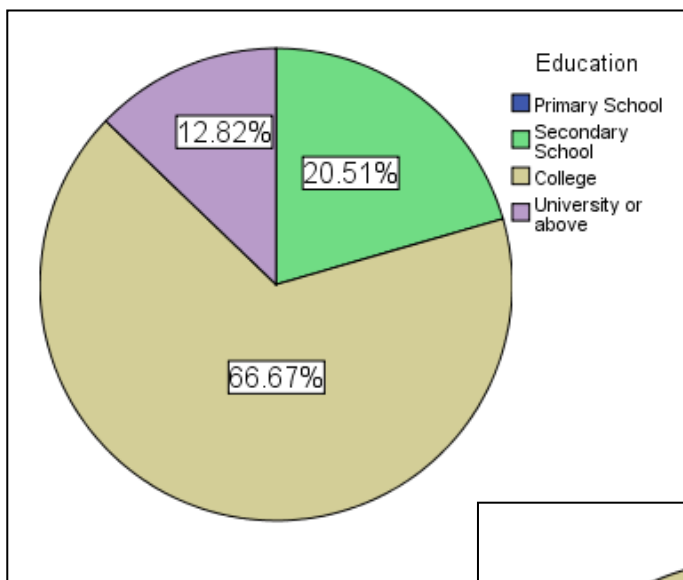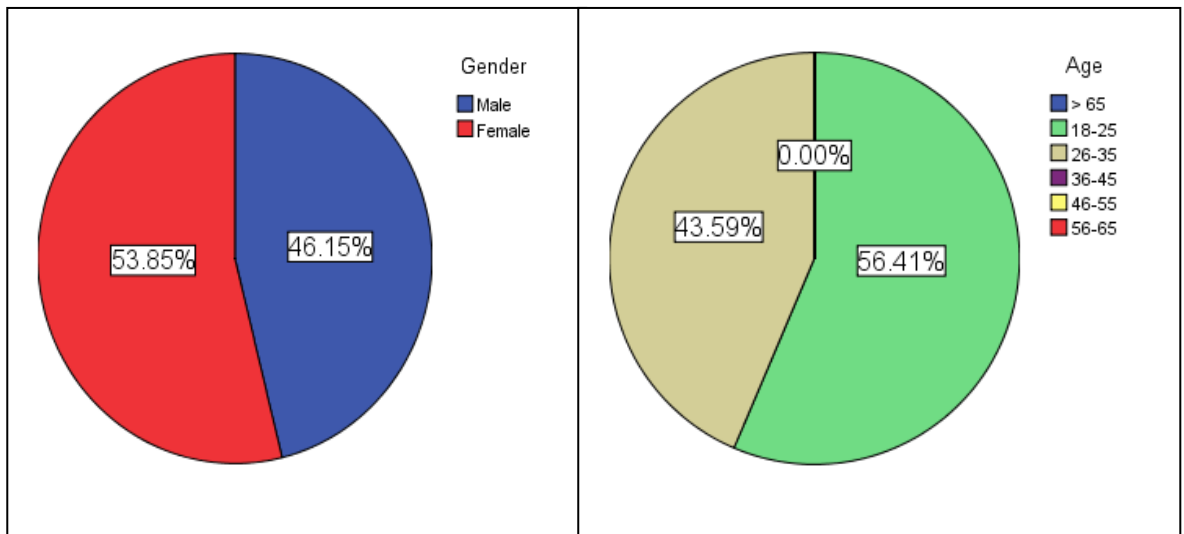
CHAPTER 5   RECOMMENDATIONS AND IMPLEMENTATION

5.1   SUMMARY OF SURVEY RESULTS

Given the important role in achieving the goal of customer satisfaction, HKBN call centre fails to realize its role in the company's customer retention strategy. The analysis results prove that call centre service quality is positive related to customer satisfaction and customer satisfaction is positively related to customer loyalty which the practical behaviours are presented by "willingness to continue service" and "willingness to recommend". However, the survey results show that 70% respondents of customer group think the service quality of HKBN call centre is adequate; but if they are given another alternative, they will probably leave. Another 24% respondents are very likely to switch to other operators; only 5% are loyal customers. This emphasizes the importance of HKBN call centre to improve and input more in the dimensions of service quality, which are accessibility, interaction with call centre agents and answer / solution provided by call centre agents, in order to achieve customer satisfaction in preference zone; then, company will improve customer loyalty.

According to the findings, HKBN call centre is not only unable to achieve the desired quality level (score 85) in any of the 12 service attributes of the three service dimensions, but also having performance scores less than 70 in all of them. It indicates a need for improvement in all three service dimensions. However, to be effective in achievement of higher customer satisfaction, we have to prioritize focus of action. The

multiple regression result highlight four service attributes, which are "number of rings", "completeness of answer", "confidence in solutions" and "completeness of options", are affecting overall satisfaction at a statistically significant level. Among the four attributes, "completeness of answer", "confidence in solutions" and "completeness of options" are items under the same service dimension "Answer/Solution". So, HKBN call centre can steer improvement work towards this dimension. On the other hand, "number of rings" having the lowest performance score but highest impact on overall satisfaction belongs to service dimension "Accessibility". It has to note that in the same service dimension, there is another attribute "queue time" which has positive relationship with "number of rings" and moderate impact on overall satisfaction but is the second lowest in performance score. Therefore, "Accessibility" is another dimension which requires HKBN call centre focus of action.

Concerning the service quality perceptions in the organization side, the results show a large difference on perceptions of performance between customer and organization. Organization's perceptions of performance, which are represented by call centre management, call centre agents and marketers, are higher than that of customer. It proves that delivery gap, understanding gap and communication gap are existed. In addition, the difference on perceptions of performance on the significant service attributes between call centre management and agents shows the service standard gap. Hence, setting up process to close these gaps is also another focal point for HKBN call centre.

5.2   RECOMMENDATIONS

Based on the survey results above, it is shown that there are three focuses for HKBN call centre to steer up actions to improve its customer satisfaction level: (1) Quality of "Answer / Solution"; (2) Quality of "Accessibility"; and (3) Discrepancies on service quality perceptions between customer and organization. In this regard, I have four recommendations for HKBN call centre.

1)   MODIFICATION OF MENU CHOICE IN IVRU

Across industries, the average number of rings is 2 or 3. However, HKBN call centre hotline does not have any ring tone after connection; instead, there is 1-2 seconds silence and then the call is answered by IVRU (Integrated Voice Response Unit). It is found that before the first menu choice – selection of language, is presented, there is a welcome and sometimes promotion message in Cantonese, English and then Putonghua. All added up together, the waiting time before the first menu choice presented is around 8-10 seconds. There are two ways to shorten the perception on the waiting time. Firstly, the welcome message can be simplified. The existing welcome message is "Welcome to Hong Kong Broadband Network Service Hotline, for English please press 2" / "歡迎致電香港寬頻客户服務熱線, 廣東話請按 1 字". It can be shorten to "We're Hong Kong Broadband Network, for English press 2" / "歡迎致電香港寬頻, 廣東話按 1". Secondly, promotion message can be put as another menu choice later for customer selection rather than putting in the first message of IVRU.

2) BETTERMENT ON AVERAGE SPEED OF ANSWER (ASA)

Average speed of answer (ASA) means the total queue time divided by the total number of calls answered. Instead of directly assessing queue time, ASA is a common service-level measurement in queue time. A commonly-used ASA standard adopted by OFTA (Office of the Telecommunications Authority in Hong Kong) is one where not more than 20 percent of calls wait more than 30 seconds before reaching a call centre operator. HKBN call centre did achieve this standard in 2010 that 85%-90% of incoming calls wait less than 30 seconds before reaching a call centre operator, while the first quarter result of 2011 is 89% (http://www.hkbn.net/2010/eng/en_service1_5a.html). However, because of the fact from the survey result that customers are not satisfied with the queue time performance of HKBN call centre, it is essential to look into the ASA performance in details by (1) daily basis and (2) related operation efficiencies.

Firstly, as the survey samples are customers who had called in HKBN call centre from December 2010 to January 2011, the daily ASA performance from December 2010 to February 2011 is reviewed.
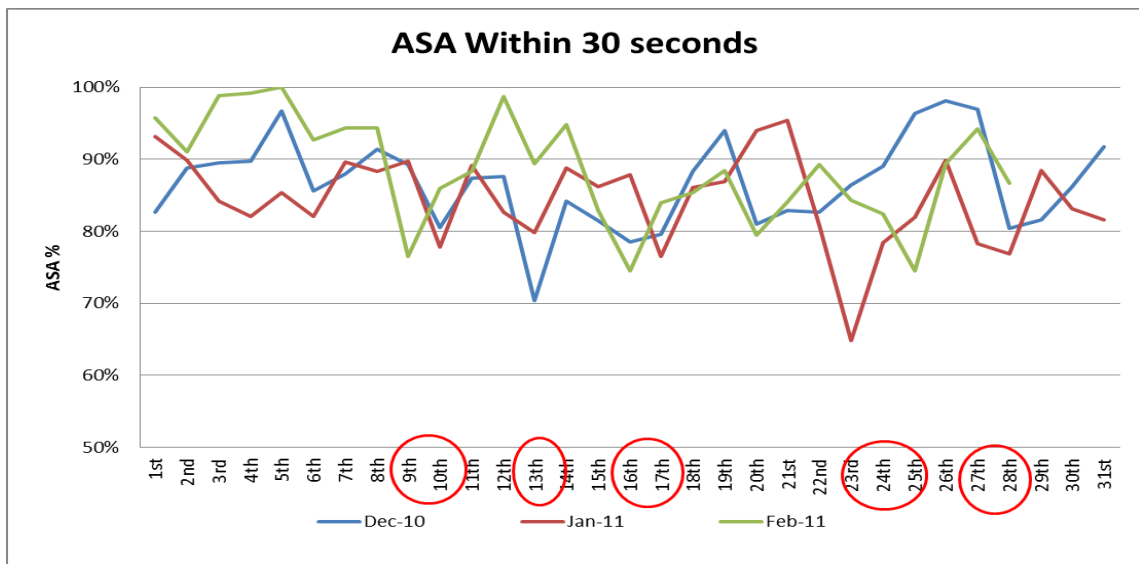
Figure 5-1: ASA performance of HKBN call centre (Dec 2010 - Feb 2011)

Source: HKBN call centre

The figure reveals the fact that although HKBN call centre can achieve the ASA industry standard in monthly basis, it cannot meet the standard in ten days of the month, which are 9th-10th, 13th, 16th-17th, 23rd-25th and 27th -28th. By talking with call centre managers, it is found that customers will receive the monthly statements from 9th-17th and the overdue suspension notice from 23rd-28th . So, the call volumes of these days are the peak of the month. It is suggested call centre managers to review the roster arrangement of agents. They can also consider to add part-time call centre agents or to add over-time work on the days.

Secondly, ASA performance builds on operation efficiencies of average queue time, adherence to schedule, average talk time, average handle time and average hold time. The following is the comparison between best practices across industries and

HKBN call centre performance in these operation metrics:

Operation Metrics	Best Practices (Anton, 1997)	HKBN call centre (Insider's data, 2010)
Average queue time	30 – 90 seconds	Within 30 seconds
Adherence to schedule	92% of better	96.35%
Average talk time	Between 4.5 and 6 minutes	5.3 minutes
Average handle time	8.5 minutes	6.6 minutes
Average hold time	Between 20 and 60 seconds	95 seconds

Figure 5-2: Comparison on operation metrics

By the comparison, HKBN call centre has higher than best practice's holding time. It is explainable that the service attribute "hold time" only got poor performance score 59 in the customer survey of this study. According to the information provided by HKBN call centre, around 30% of its answering calls have put on hold for 95 seconds. Hence, to further improve the ASA performance, HKBN call centre has to shorten its holding time.

3)   REVAMP CALL CENTRE INFORMATION SYSTEM

Long hold time can indicate call centre agents do not have ready access to critical information. It is found that HKBN store the procedural information in "Call Centre Intranet". Three problems are found that call centre agents are difficult to find answers quickly.

Firstly, the information is organized by company's function but not from

customer's point-of-view. For example, the services provided at HKBN retail shops are listed by each shop and cannot be viewed by function (Appendix 5.1). If a customer asks where he/she can return the IPTV set-top-box, call centre agent has to hold the call and to search the function of each shop one by one before listing the locations to customer.

Secondly, the structure of information is not unified. Some information is organized by procedures and is listed in bullet-form but some use question-and-answer format. This makes the search of information difficult.

Thirdly, the user interface design of "Call Centre Intranet" is not interactive that call centre agents cannot navigate the information across answers. The information page on services provided by HKBN retail shops (Appendix 5.1) is a typical example.

The three problems indicate that the system "Call Centre Intranet" is not working effectively, so call centre agents cannot find answers quickly and have to put the calls on hold. The holding time also affects customers "confidence in solution". Therefore, it is an immediate need for HKBN call centre to revamp this knowledge system.

4) ENRICHMENT ON TRAINING CURRICULUM FOR CALL CENTRE AGENT

The performance on "Answer/Solution" counts on the skills and product / service knowledge of call centre agents. Currently, the training for new call centre agents in HKBN lasts for 15 days. The training curriculum consists of 22 parts (Appendix 5.2). In

which, 20 parts cover product knowledge and use of call centre systems. Only 2 parts are skill trainings – communication skill and selling skill, which last for 1.5 days. The lack of soft-skill training makes call centre agents unable to present the information effectively to the customers even they have sufficient training on product/service knowledge, and thus the quality perception on "Answer/Solution" is affected. It is suggested the training manager of HKBN has to strengthen the soft-skill training for agents. Two kinds of skills are recommended – telephone technique and oral presentation skill.

Telephone technique is the basic communication skill that a call centre agent must comprehend. Oral presentation skill is used to be an aid for one wishing to speak in public. In fact, some elements of this skill are helpful for call centre agents to organize their answers and information, to keep callers' attention and to let callers easily grasp the information during the call. For example, currently a standard answer by call centre agent on how to pay the monthly bill is:

問 ： 我可透過什麼途徑繳付賬單？
閣下可以透過信用卡轉賬、繳費靈、自動轉賬、郵寄支票、匯豐網上理財、自動櫃員機、7-11 及 OK 便利店、華潤萬家禾歌便利店或親臨香港寬頻客戶服務中心或門市 (黃大仙門市除外) 繳付賬單。詳情可瀏覽
http://www.hkbn.net/mkg/pay_method2/all.html

How can I pay the monthly bill?
You can use credit card, PPS, bank auto-pay, post by cheque, HSBC online payment, ATM machine, 7-11 or OK convenient store, or HKBN customer service centre or retail shops (except Wong Tai Sin shop). Details you can refer to http://www.hkbn.net/mkg/pay_method2/all.html

If a call centre agent follows this standard script to answer customer's inquiry, the

customer cannot grasp the number of ways. If a call centre agent uses the presentation skill by giving an outline and listing the options 1, 2, 3… as below, it will be more effective to keep caller's attention.

Rather than investing the time and money to revise all the standard scripts for agents' conversation with customer, I would recommend training manager of HKBN to add telephone technique and oral presentation skill training in the training curriculum for call centre agents. The enhancement of soft-skills can strengthen their confidence to adjust the content and explanation according to customer needs, which can eventually improve the quality performance in "Answer/Solution". Appendix 5.3 provides a brief on these skills.

5.3   IMPLEMENTATION – INSTITUTING PROCESS FOR SETTING CUSTOMER-DEFINED STANDARDS

The gaps in quality perceptions between customers and organization are caused by the lack of communication between management and customers, wrong communication

on service quality performance, service standards set just on internal company goals and inadequate customer satisfaction research. To close the gaps, HKBN should implement a process for setting customer-defined standards as a long term customer strategy. The suggested process is illustrated as below:
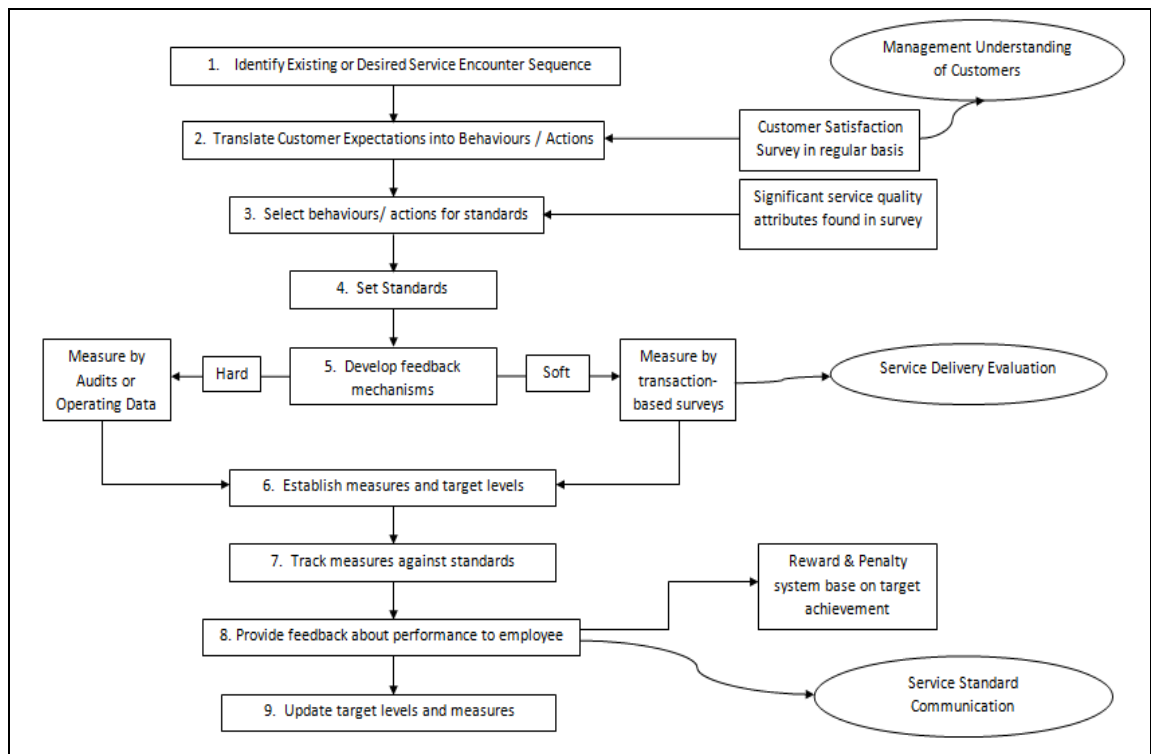
Figure 5-3: Process for setting customer-defined standards

Source: Zeithaml, V.A. & Bitner, M.J. (2003)

Customer-defined standards are established to define processes to meet customers' expectations. The process model can be applied in organization-wide perspective. Here, we will apply it to one of the business processes – call centre operation. There are nine steps in the process:

Step 1: Identify existing or desired service encounter sequence

This step involves delineating the service encounter sequence. In HKBN call centre, the three service dimensions of Anton's research model can represent the encounter sequence of call centre. They are "accessibility", "interaction with call centre agent" and "answer / solution".

Step 2: Translate customer expectation into behaviour / actions

The input to step 2 is research on customer expectations. This requires call centre managers and marketers to work together. They have to constitute customer satisfaction research on call centre quality in regular basis. Currently, HKBN marketers conduct two customer surveys regularly: new customer survey and lost customer survey on broadband service users. Emails will be sent monthly to invite newly subscribed or just cancelled customers of last month to do the surveys online. The response rate is round 2%. The extracts of questionnaires are shown in Appendix 5.4. The data of these surveys are not collected for the purpose to identify customer expectations on call centre service quality. Also, the service attributes used in the measurements are company-defined and not specific to call centre service quality.

There are two actions for HKBN to implement in this step. Firstly, marketers have to conduct a quantitative research to identify customer's perception on call centre service quality in quarterly basis. The sample size can be kept at 100-150 to minimize the administration cost. Instead of using company-defined service attributes in measurement,

marketers/managers can cross-reference other academic or market research models, like SERVQUAL, Anton's call centre metrics, etc., to define the attributes in each service encounter sequence. The customer satisfaction survey conducted in this project is a kick-off. Secondly, call centre managers and marketers have to hold customer focus group twice a year. The focus group provides a forum to collect customers' improvement ideas and the ideas can also be used as an input for the quantitative survey. The data / information gathered has to be interpreted by marketing department or an inside department with no stake in call centre operation to avoid an internal bias.

Then, the identified customer requirements must be translated into concrete and specific behaviours and actions. As what we found in this project that customers expect shorter number of rings and queue time, completeness of answer and options, call centre managers have to implement actions to meet these customer expectations, such as modification of menu choice in IVRS, better roster arrangement, revamp of call centre information system and enrichment on training curriculum. It is notable that this step also requires other backend supports across the organization, like marketing, training managers and information system.

Step 3: Select behaviours / actions for standard

Customers have many requirements for the products and services that companies provided. To set customer-defined standard, call centre management has to prioritise the behaviours and actions which are very important to customers. Multiple regression results

from customer satisfaction research can help management to select high impact behaviours and actions which improvement in delivery them can significantly improve overall customer satisfaction towards call centre service. Taken this project as an example, the statistical significant actions for standard are number of rings, daily average speed of answer (ASA), average hold time, completeness of answer, confidence in solution and completeness of options

Step 4: Set standards

This step involves call centre management deciding whether hard or soft standards should be used to capture performance of the selected behaviours and actions. In this project, hard standards and measures can be used for the selected behaviours – number of rings, daily average speed of answer (ASA) and average hold time, which can be counted and audited through operating data gathered from call centre standard system – ACD (automatic call director). On the other hand, soft standards and measures are recommended to use for selected behaviours – completeness of answer, confidence in solution and completeness of options, which are opinion-based measures that cannot be counted or audited from operating data and must be collected by talking to customers or employees. Besides, soft standards are also recommended to use for number of rings and queue time to collect customer perception on the performance of these behaviours.

Step 5: Develop feedback mechanisms for measurement to standard

After having determined whether hard or soft standards are appropriate, call centre management must develop feedback mechanisms that adequately capture measurement to standards. In this study, the hard standards on number of rings, daily average speed of answer (ASA) and average hold time involve technology-enabled measurement from call centre ACD system. As daily report showing measurements of these standards is in-place in HKBN call centre, call centre manager can keep on using the report to provide feedback on the performance of these behaviours. On the contrary, there are no perceptual measurement in place for completeness of answer, confidence in solution and completeness of options. Hence, we suggest HKBN to use post-transaction survey and employee monitoring. Post-transaction survey can obtain customer feedback while service experience is still fresh. Customers may simply be asked to give performance scores on the behaviours (number of rings, queue time, completeness of answer, confidence in solution and completeness of options). Call centre management can act on feedback quickly if negative patterns develop. Employee monitoring is suggested to be done by supervisors and by internal quality audit team, who has no stake to call centre decisions, listening in employee calls. The purpose of this monitoring is to provide feedback on employee performance to the standards set. Same as the post-transaction survey, the internal quality audit team can give performance scores on the target behaviours after each call monitoring. Lastly, call centre management can do a simple

perception-action correlation study. They can relate customers' perceptions on number of rings and queue time with the actual performance collected from hard measures; and can relate customers' perceptions with the internal audit score on completeness of answer, confidence in solution and completeness of options. The joint collection of these data allows the company to evaluate the measurement to standards and closing the understanding gap between organization and customers.

Step 6: Establish target levels

The next step requires that call centre management / the company establish target levels for the standards. It is a way for the company to quantify whether the standards have been met. Per our study findings, HKBN call centre has to set target levels as below:

Behaviours for standards	Hard measures		Soft measures	
	Target level	Mechanism	Target level	Mechanism
Number of rings	2-3 seconds	Operation data from ACD	Score 85	Post-transaction survey with customer
ASA / Queue time	>= 80% calls queue time less than 30 sec. daily		Score 85	Internal quality audit
Average hold time	20 to 60 sec.		--	
Completeness of answer	--	--	Score 85	Post-transaction survey with customer
Completeness of options	--	--	Score 85	Internal quality audit
Confidence in solution	--	--	Score 85	

Figure 5-4: Target levels and measure mechanisms for HKBN call centre

Step 7: Track measures against standards

Call centre management / the company have to know how the call centre is doing. It is suggested to apply statistical methods tracking the hard and soft measures illustrated in Figure 5.4 against target levels on daily and monthly basis. Statistical reports recommended are listed in Figure 5.5.

Statistical Report	Interval	Recipients
Call centre operation efficiency report (from ACD)	Daily & Monthly	Call centre managers, supervisors, marketers, training manager, information technology managers, internal audit manager
Post-transaction survey report – overall performance	Daily & Monthly	Call centre managers, supervisors, marketers, training manager, information technology managers, internal audit manager
Post-transaction survey report – individual performance of call centre agent	Daily & Monthly	Call centre managers, supervisors, call centre agent, training manager, internal audit manager
Internal audit report – overall performance	Daily & Monthly	Call centre managers, supervisors, marketers, training manager, internal audit manager
Internal audit report – individual performance of call centre agent	Daily & Monthly	Call centre managers, supervisors, call centre agent, training manager, internal audit manager
Customer satisfaction survey	Quarterly	Call centre managers, supervisors, marketers, training manager, information technology managers, internal audit manager
Focus group report	Twice a year	Call centre managers, supervisors, marketers, training manager, information technology managers, internal audit manager

Figure 5-5: List of statistical reports

Data has to be deployed and distributed quickly enough to support evaluation and decision making at different units within the company. Therefore, the reports are not only received by call centre management but also other supporting units. When problems occur, everyone in the company can provide immediate feedback on activity that is

strongly related to customer perceptions. To track the effectiveness of the recommendations given in this project, call centre management has to measure the behaviors against target levels after implementing them.

Step 8: Provide feedback about performance to employees

The managers of related units has to daily communicate how the call centre is performing against standard to their sub-ordinates who are providing support to the call centre, like call centre agents, marketers, trainers, quality auditors and information technology engineers. Call centre managers / supervisors should review the individual performance of each call centre agent against target level, and coach for performance when discrepancy is found.

Besides, it is recommended to use reward and penalty system base on achievement of target levels. There are two suggestions for HKBN call centre. Firstly, monthly and yearly top call centre agent awards based on scores from post-transaction survey can motivate agent's performance by making use of their self-esteems and honors. Secondly, compensations of call centre managers, supervisors and agents can be packed with customer satisfaction index about call centre service from data collected in customer satisfaction survey done by marketers quarterly.

Step 9: Update target levels and measures

As customer requirements change over time, the final step involves the revise of target levels, measures and even selected behaviors for standards to keep up with

customer expectations. However, the change will not be detected if customer satisfaction research is not periodically undertaken.

The customer satisfaction research analysis conducted in the project and the recommendations are just the kick-off of the process implementation. To continuously improve the call centre service performance, call centre management and the company has to execute the process persistently.

CHAPTER 6   CONCLUSIONS

6.1   PERSONAL LEARNING

Doing this MBA project is a precious experience for me. The project has been started since August of last year. In these ten-month works, I gain three significant learning.

- In daily business in the company, when performance problem occurs, senior management will make decisions by intuitive ideas rather than statistically analysing the problem and exploring solutions objectively. Before I have conducted this project, we the senior management always believe that customers are satisfied with the accessibility of our call centre and the problem should be about interaction with our agents. Unexpectedly, from the findings of the customer research, the performance score in accessibility is the lowest and it is significantly affecting the overall satisfaction. It let me learn that in tackling problem in daily business, we should not make decision by gut feeling because it may lead us to wrong focus. Instead, we have to learn using statistical approach to evaluation problems and explore solutions in an objective way.

- I have been working in telecommunication industry for ten years. Although I have a big picture about the industry and the market from my daily business, I do not have an in-depth understanding on the competitive advantages among the key rivalries until I do the industry analysis in the project. Now, I can better catch the strengths and

weaknesses of my company and understand why a long term customer strategy is important to the company sustainability in the market.

- I have not studied any statistics subject before the MBA course. The practical application of statistical analysis techniques, like multiple regression and correlation, in this project enhances my knowledge in this subject, which are useful for me to do customer research analysis for the call centre in long run.

6.2   IMPLICATIONS OF THE PROJECT TO THE COMPANY

- From the SWOT analysis in the project, it reveals that HKBN has to develop its edge in service quality in order to sustain. However, as found in its call centre service, the company is lack of a long term process control on service quality. The process control on customer-defined standards proposed in this project is a successful key for call centre service survive.

- The project results shows to the company that service standards should be customer-defined rather than company-defined. It is not only applied to call centre service but also the other service-encounter sequences of the company. The use of company-defined standards causes the understanding gap between the company and customers. This hinders HKBN improvement in customer satisfaction because the company does not know what customers expect.

- The attributes used in HKBN new customer and lost customer surveys currently are set by marketers. The literature reviews in this project demonstrate that there are a lot of conceptual models on customer satisfaction in call centre service / service quality. These conceptual models gain the widespread support from researching papers across industries. The service attributes used are more representative. Instead of setting the attributes by own ideas, marketers are better to cross-reference academic and professional literature when they go to design the research.

6.3   APPLICABILITY OF THE LITERATURE

(1)   Relationship of Service Quality, Customer Satisfaction and Customer Loyalty

From literature review, customer satisfaction and customer loyalty (willingness to continue the service and willingness to recommend) are the key drivers to evaluate the quality standard of call centre service. Their positive relationships are proven in the case of HKBN call centre in this project. By enhancing the service quality of call centre, it is believed that customer satisfaction can be improved and positively affect customer loyalty.

(2)   Anton's (1997) Three Service Dimensions

The three service dimensions of: Accessibility, Interaction with agents, Answer/Solution by agents act as the means for measuring the service quality in this

project. The findings of the project show that none of the dimensions alone has strong positive relationship on caller satisfaction. This implies that several service dimensions combined to form customer satisfaction. Contrary to the studies by Feinberg et al. (2000) or Marr and Parry (2004), my survey results find that operational standards on accessibility do have a statistical significant effect on caller satisfaction in the case of HKBN call centre. Therefore, Anton's model which provides a balanced view by covering both operational and behavioural measures is applicable in reality.

(3) **Gap on Service Quality Perception between the Organization and Customers**

In the SERVQUAL Gap model, it is stated that there is a gap between service provider delivers the service and customer receives the service. In this project, it shows that the gap exists in HKBN where the management perception and customer expectation in call centre service quality are different and cannot be met in reality.

6.4   LIMITATION

- Since the survey was done in February and the completions on data analysis, findings and recommendations have been prolonged, the solution and implementation plan cannot present to the company to get top management approval before the submission of the project report. Therefore, the recommendations and the process have not been implemented and it is unable to evaluate the success or failure of them in the project report.

- The formulation of recommendations in the project report relies on my own observation and managers / supervisors in call centre to tell me their understandings of the situation. The causes identified may not be the whole picture. However, due to limitation of time, I am unable to dig into the problems by root-cause analysis.

- The project only studies the case of HKBN call centre. The results cannot compare strengths and weaknesses of its call centre service in the market. Marketers of HKBN can consider employing consultant firm to do regular call centre service surveys in the industry for benchmarking service standards.

6.5   CONCLUSION

In review of the four project aims being set in the beginning of this project, all of them can be achieved at the end of the study report.

The project can find out that the overall customer satisfaction level on HKBN call centre service is in acceptance zone only. Given the medium satisfaction level, the tendency of customers' willingness to continue the service and to recommend it to others is found to be weak, too. It is a signal of poor customer loyalty to HKBN.

It is discovered in the study that over 70% respondents think the call centre service quality is just adequate which the performance scores of HKBN call centre in the twelve service attributes are far from the desired level (score 85). The multiple regression result helps to identify four service attributes – "number of rings", "completeness of

answer", "confidence in solutions" and "completeness of options", which are affecting HKBN overall satisfaction at a statistically significant level. The result can help HKBN to prioritize focus of actions for improvement.

Due to the time limitation of the project, I provide recommendations based on my own observation and call centre managers / supervisors understandings of the situation and I am unable to evaluate the success or failure of the recommendations. In reality, HKBN call centre can use root-cause analysis to re-study the causes of each problem area, to do the evaluation after implementation and to adjust them accordingly.

The gaps found between HKBN and customers in service quality perception are due to lacking the process of setting customer-defined standards. This project is a start of this process. It is important to note that the whole company has to execute this service quality process persistently in order to understand customer expectations and continuously improve the call centre service performance.

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APPENDIX 1.1   MILESTONES & EVENTS OF HKBN

City Telecom and Hong Kong Broadband Network Ltd
Major Milestones and Events

1997 August	City Telecom was listed on The Stock Exchange of Hong Kong Limited
1999 November	ADR listing on the Nasdaq National Market of USA
2000 February	HKBN obtained the Local Wireless FTNS License
2001 May	City Telecom awarded the Satellite-based Fixed Carrie license
2002 March	City Telecom awarded the Cable-based External FTNS license
2002 April	HKBN upgraded to become a wireline-based FTNS license
2002 June	HKBN was confirmed by Cisco Systems to have successfully established the largest Metro Ethernet IP network in the world
2004 November	HKBN launched "bb100" – Hong Kong's first 100Mbps residential broadband internet service
2005 April	HKBN launched "bb1000" – Hong Kong's first fibre-to-the-home 1Gbps residential broadband service
2005 September	HKBN conferred as the winner of Global Entrepolis@Singapore Award 2005 by the Asian Wall Street Journal in association with the Economic Development Board of Singapore
2005 October	HKBN was the first service provider in the world to achieve the Cisco Powered Network Metro Ethernet QoS Certified status
2007 June	City Telecom received recognition for its Talent Management Award at the Hong Kong HR Awards 2007
2007 July	HKBN was awarded "Integrated Support Team" of the Year at the Asia Pacific Customer Service Consortium (APCSC) Customer Relationship Excellence Awards
2008 January	HKBN launched the free WiFi service at public rental housing estates
2008 February	HKBN awarded contract for the provision of payphone service at the Hong Kong International Airport
2009 February	City Telecom launched Talent Upgrade Program "Next Station: University"
2009 July	HKBN awarded 2009 HKMA Quality Award (Bronze)
2009 September	HKBN announced partnership with 8 leading Massively Multiplayer Online Role Playing Game developers in the Greater China Region
2010 April	HKBN launched 1 Gbps broadband for US$26/month

2010 May	HKBN's New 1000Mbps TV Campaign – "With Speed, Life is Real"
2010 June	Awesome Management Offsite in Germany
2010 September	Phenomenal Singapore Experience for our Frontline Talents

Source: City Telecom Annual Reports 2009, 2010

APPENDIX 1.2   HKBN VISION STATEMENT

Core Purpose

- To experience the emotion of competition, winning, and crushing competitors.
- To experience the joy of advancing and applying telecommunications technology for the benefit of the public.
- To fulfill the desire of Self-Actualization and "to become everything that one is capable of becoming".

Core Values

1. Continuously strive for the best as a way of life

A. We continuously look for innovative changes/improvement in our life and in our company, including products, services and work processes and ourselves; even though change is painful most of the time.

B. We regularly change whatever can be changed after a certain period of time, even though we may not foresee any gain at the moment. We encourage "Attempts".

C. We will not rest as long as there is a single outstanding unresolved customer service complaint.

D. We discover and elevate individual ability to make the most of their lives.

2. We are People's Leader and Pioneer

A. We lead the development of the industry. We don't follow others. We set the norm. We prescribe the standard. We set industry practice.

B. We prefer to do the impossible or difficult task, rather than something likely to happen.

C. We commit ourselves to big and audacious challenges.

D. We appreciate, support and reward risk-taking decisions.

E. As a People's Leader, we have the duty to lead the community, put community's benefit before ourselves.

F. As a Pioneer, we may be accused of moving too fast, and not being acceptable by the mass, especially at the beginning.

G. We never give up. We are never afraid. We are ever a group of aggressive (進取) youth (spiritually).

3. Direct and Action oriented

A. Direct, frank, and transparent communication with our colleagues.

B. Action-oriented. After a conclusion is made, whole company works as a single team toward the task.

C. We encourage direct communication between the bottom and the top. Kill those who intend to block or cover up.

D. We repel office-politics. Do not waste our time!

Aspirational Values
1. Integrity
    A. Think about "Integrity" before making a decision.

    B. Delivering our promises.

    C. Making fair deals.

2. We only work with smart, capable, competent and demanding people.
    A. Human is not the same in every aspect. Some are smarter and more capable at workplace.

    B. We need a group of staffs with similar capability to build "Team Work".

BHAG
Be the largest IP provider in Hong Kong by 2016
A. IP provider means both infrastructure and service. Not only means BN access, but, also includes all applications (basic and VAS) running on IP platform, i.e. VoIP, IPTV, mobile data over IP....

B. Be the largest means customers think we are the "best".

C. This is why we didn't call ourselves CTI-broadband few years ago.

D. We will be the dominant IP player in HK, overtaking PCCW.

E. It is measured by both number of subscribers and total revenue.

Vivid Description
No one believed we could do a better job than PCCW or HGC. They thought we were just crazy and hopeless. They thought we could at most only survive for a short period of time. Then, we would be forced to sell the Company and assets; and HKBN would disappear in the market. But, we have proved ourselves: they are all wrong! By 2016, our results will prove that, the 10-year investment and business strategy is correct. We shall prove that we are right!

Our team will be famous of "turning everything possible". Parents and schools refer us as a demonstration of "Never give up", "Attitude training", "Volition" and "Hero".

We will be the first choice of customers, employees and business partners. They will come to us before contacting other operators.

All our staff will be professionally developed and trained. We offer a career rather than a job. A strong service oriented culture is bred. Our management team will be mature, knowledgeable and experienced, and frequently being invited as speakers to teach and share their experience in university management courses and industry events.

Our families will share our pride on our achievement and contribution to this region. We will be respected by our competitors, customers and governments. The best up-and-coming university graduates will seek to work for us in earnest. They will be willingly to work passionately because they know the value we create for this world. They know besides financial reward, here is the place they will find fulfillment in life.

We will be one of the well known telecommunications companies in this region. Our products and services range from network infrastructure to customer's software and hardware implanted in the human body.

My children would say, "Dad, I love to have you as my Father."

Source: http://www.ctigroup.com.hk/ctigroup/eng/careers/vision.htm

APPENDIX 1.3   KEY PLAYERS IN HONG KONG TELECOM INDUSTRY

Key Players

Table: Key Players – Hong Kong Telecoms Markets

Company Name	Ownership	Market
PCCW-HKT	PCCW (80%), China Netcom (20%)	Fixed-line telephony (local, international), data, internet
Hutchison Global Crossing (HGC)	Hutchison Whampoa (100%)	Fixed-line telephony (local, international), data, internet
Wharf T&T	Wharf Group (100%)	Fixed-line telephony (local, international), data, internet
New World Telecommunications	New World Development	Fixed-line telephony (local, international), data, internet
Hong Kong Broadband Network (HKBN)	City Telecom (HK)	Fixed-line telephony (local, international), data, internet
Sunday Communications	PCCW (79.4%), Huawei Technologies (9.9%)	Mobile
China Resources Peoples Telephone Co	China Mobile	Mobile
SmarTone Mobile Communications	Sun Hung Kai Properties (55%)	Mobile
Hutchison Telephone Co	Hutchison Whampoa (50%), NTT DoCoMo (24%), NEC (5%)	Mobile
CSL New World Mobility	Telstra (76.4%), New World Development Company (23.6%)	Mobile
Hong Kong Cable TV (HKCTV)	i-CABLE (100%)*	Cable TV, data, internet
Asia Television (ATV)	Today Asia (46%), Chan Wing-kee (45%)	Broadcaster

itself 79.1% owned by Wharf. Source: BMI

Source: Hong Kong Telecommunication Report Q2 2010, BMI.

APPENDIX 1.4   BRIEFS ON HKBN'S KEY COMPETITORS

1. PCCW Ltd.

In August 2000, PCCW acquired Cable & Wireless HKT (originally The Hong Kong Telephone Company Ltd., formed in 1925, a premier telecommunications provider and a significant player in Information and Communications Technologies (ICT) in Hong Kong). PCCW Limited (PCCW) now is the holding company of HKT Group Holdings Limited; it also holds a majority interest in Pacific Century Premium Developments Limited, as well as overseas investments which include the wholly-owned UK Broadband Limited. PCCW was listed on The Stock Exchange of Hong Kong Limited (Stock Code: 00008) in October 1994.

HKT Group Holdings Limited (HKT) was formed in 2008 to hold the telecommunications services, media and IT solutions businesses of the PCCW Group. HKT offers a range of media content and services across four platforms – fixed-line, broadband Internet, IPTV and mobile. In addition, the Group meets the sophisticated needs of the local and international business community, while supporting network operators with cutting-edge technical services and handling large-scale IT outsourcing projects for public and private sector organizations.

PCCW Group is headquartered in Hong Kong and maintains a presence in Europe, the Middle East, Africa, the Americas, mainland China and other parts of Asia. PCCW

Global provides integrated global communications solutions, runs a fully-meshed IP, fibber and satellite network and serves the voice, data and multimedia needs of multinational enterprises, as well as the operational requirements of service providers. It serves the enterprise and wholesale markets from its presence in Europe, the Americas, Africa, the Middle East and Asia.

2. *I-Cable Communications Ltd. (01097)*

I-CABLE Communications Limited was incorporated in 1999 and was listed on The Stock Exchange of Hong Kong Limited (Stock Code: 01097) in November 1999. Following The Wharf (Holdings) Limited in Hong Kong remains the ultimate controlling shareholder and owns 73.8% of Company, with the balance held by the public.

The group owns its broadband distribution network. Through which, it provides broadband Internet access service, telephony and pay-TV services. It also creates multimedia contents that cater to local tastes.

3. *Hutchison Telecommunications Hong Kong Holdings Ltd. (00215)*

HutchTel HK operates GSM dual-band, 3G mobile telecommunications services, residential fixed broadband, residential telephone line and IDD services in Hong Kong under the "3ree Broadband" brand while delivering mobile services in Macau under the licensed "3" brand.

In addition, it provides fixed-line telecommunications services to corporate and carrier customers in Hong Kong under the licensed "HGC" brand.

HutchTel HK is a telecommunications service operator which was listed on The Stock Exchange of Hong Kong Limited (Stock Code: 00215) in May 2009. It is a group member of Hutchison Whampoa Limited.

Source:
http://www.pccw.com/
http://www.i-cablecomm.com/
http://www.hthkh.com/

APPENDIX 1.5   TREND OF TELECOM INDUSTRY

Exhibit 1 – Historical data on Fixed lines and IP telephony

Hong Kong: No. Of Fixed Lines*
1999-2009 (mn)
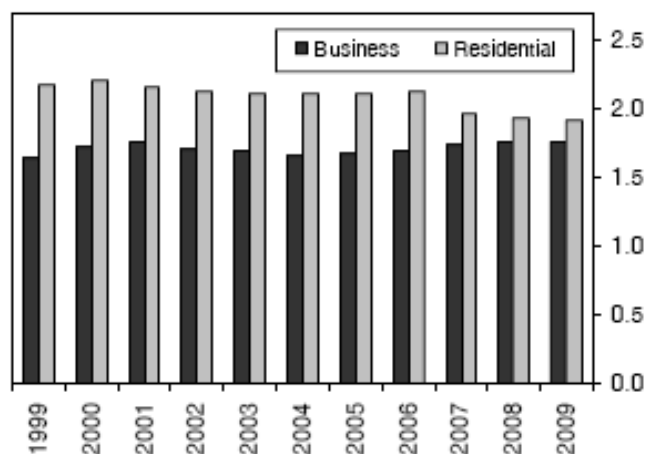
includes direct dialing, facsimile and datel lines. Source: OFTA

Hong Kong IP Telephony Services
2007-2009 ('000)
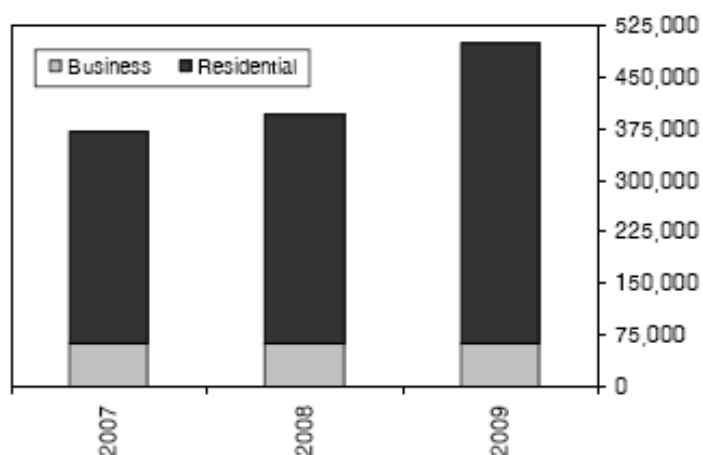
*Figures refer to subscribers of IP telephony/VoIP services of
licensed operators assigned with telephone numbers in accordance
with the Hong Kong Numbering Plan. Source: OFTA*

Source: Hong Kong Telecommunication Report Q2 2010, BMI

Exhibit 2 – Telephone lines Sector

Industry Trends – Fixed-Line Sector
2007-2014
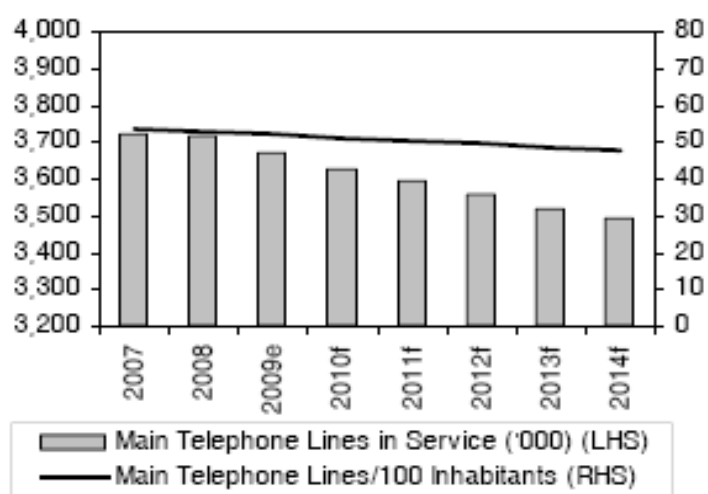
e/f = estimate/forecast. Source: BMI, OFTA

Source: Hong Kong Telecommunication Report Q2 2010, BMI

Exhibit 3 – Internet Sector

Industry Trends – Internet Sector
2007-2014
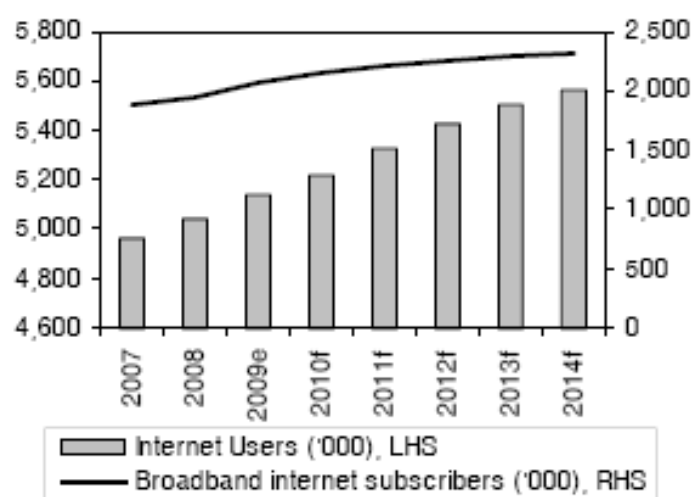
e/f = estimate/forecast. Source: BMI, OFTA

Source: Hong Kong Telecommunication Report Q2 2010, BMI

APPENDIX 1.6   NUMBER OF HOUSEHOLDS & BROADBAND SERVICES SUBSCRIPTIONS

Income and demographics

	2005[a]	2006[b]	2007[b]	2008[b]	2009[b]	2010[c]	2011[c]	2012[c]	2013[c]	2014[c]
Nominal GDP (US$ bn)	177.8	189.9[a]	207.1[a]	215.4[a]	213.0	217.2	228.8	240.7	259.1	279.6
Population (m)	6.9	6.9[a]	7.0	7.0	7.1	7.1	7.1	7.2	7.2	7.2
GDP per head (US$ at PPP)	35,236	38,703	42,109	43,786	42,679	44,218	46,076	48,321	51,368	54,971
Private consumption per head (US$)	15,003	16,018[a]	17,849	18,557	17,840	18,374	19,058	19,829	20,894	22,149
No. of households ('000)	2,193	2,226	2,261	2,297	2,333	2,369	2,406	2,444	2,482	2,521
No. of households with annual earnings above US$5,000 ('000)	2,094[b]	2,133	2,181	2,219	2,241	2,273	2,308	2,344	2,385	2,521
No. of households with annual earnings above US$10,000 ('000)	1,860[b]	1,901	1,956	1,993	2,001	2,028	2,058	2,091	2,130	2,521
No. of households with annual earnings above US$50,000 ('000)	858[b]	892	951	975	951	958	970	986	1,012	2,521
No. of households with net wealth over US$1m ('000)	197	344	383	413	409	429	461	496	544	598

[a] Actual. [b] Economist Intelligence Unit estimates. [c] Economist Intelligence Unit forecasts.

Source: Economist Intelligence Unit.

Telecoms at a glance

|	2005[a]	2006[a]	2007[a]	2008[a]	2009[b]	2010[c]	2011[c]	2012[c]	2013[c]	2014[c]
Telephone main lines ('000)	3,805	3,848	3,769	3,733	3,703	3,640	3,575	3,500	3,396	3,268
Telephone main lines (per 100 people)	55.2	55.4	54.0	53.2	52.5	51.3	50.2	48.9	47.3	45.3
Mobile subscriptions ('000)	7,617	8,071	8,615	9,220	9,551	9,879	10,169	10,416	10,616	10,821
Mobile subscriptions (per 100 people)	110.4	116.3	123.4	131.4	135.4	139.3	142.8	145.6	147.8	150.1
Internet users ('000)	3,526	3,770	3,961	4,124	4,130	4,257	4,369	4,499	4,620	4,736
Internet penetration (per 100 people)	51.1	54.3	56.8	58.8	58.5	60.0	61.3	62.9	64.3	65.7
Broadband subscriptions ('000)	1,659	1,796	1,899	1,948	1,984	2,158	2,343	2,510	2,642	2,762
Broadband subscriptions (per 100 people)	24.0	25.9	27.2	27.8	28.1	30.4	32.9	35.1	36.8	38.3
No. of PCs (per 100 people)	79.1	87.3	93.0	98.4	102.3	106.3	111.2	115.7	119.7	123.8
IT services spend (US$ m)	1,073	1,117	1,211	1,287	1,341	1,411	1,487	1,563	1,640	1,720
Total IT spend (US$ m)	3,964	4,458	5,138	5,302	5,002	5,226	5,496	5,754	5,995	6,248

[a] Actual. [b] Economist Intelligence Unit estimates. [c] Economist Intelligence Unit forecasts.

Source: Economist Intelligence Unit.

Source: Industry Report: Telecoms & Telephony Oct 2009, EIU.

2010年 投訴十大

排名	上季排名	機構	投訴宗數	投訴重點
1	5	one2free	126	• 濫收增值服務費、數據費 • 因「公平使用原則」限制網速 • 被游說轉新約,但舊約仍收錢
2	7	有線電視	77	• 職員誤導世界盃月費包睇英超,簽約後才知要另加錢 • 現金回贈/月費豁免無影 • 畫面窒格
3	1	3香港	66	• 接收訊號差 • 濫收短訊及漫遊費
4	9	香港寬頻	52	• 網絡覆蓋率低 • 參加介紹人計劃,被收毀約費
5	-	數碼通	51	• 出iPhone短期內壞機
6	2	和記環球電訊	48	• 新約手續繁項及網速慢
7	-	Samsung	44	• 電視機易壞
8	4	PCCWmobile	35	• 訂iPhone4遲遲無機
9	3	網上行	34	• 網絡訊號差
10	-	Nokia	27	• N8系列手機易壞

2009 劣爆十大

今年排名	去年排名	機構	投訴宗數	投訴重點
1	4	3香港	95	• 流動寬頻經常斷線,要求終止合約被拒 • 外遊時沒有使用流動寬頻服務,卻被收取數千元費用 • 電話轉台,職員誤為事主轉新號碼
2	1	和記環球電訊	77	• 新居沒有寬頻覆蓋,卻不可終止服務 • 寬頻經常斷線 • 使用30M寬頻計劃,但上網速度慢
3	2	網上行	72	• 無端多收附加服務費,事主要求退款被拒 • 流動寬頻經常斷線,要求終止合約被拒 • 維修服務欠佳
4	3	PCCW mobile	65	• 事主被濫收費用,但公司只肯以月費回贈方式和解
5	-	one2free	63	• 事主收到收費短訊,向公司投訴但得不到協助
6	5	電訊盈科	61	• 事主轉用其他電訊商,但公司諸多阻撓
7	8	有線電視	58	• 不能收看電視,但公司遲遲未派人維修
8	-	必瘦站	46	• 招募代言人為名,待事主上門後即游說購買巨額療程
9	-	香港寬頻	44	• 推銷100M寬頻計劃欺詐
10	10	匯豐銀行	41	• 電腦系統出錯,造成混亂

2008

今年排名	去年排名	機構	投訴宗數	投訴重點
1	2	和記環球電訊	105	上網不時斷線 / 維修師傅爽約 / 亂收漫遊範圍
2	7	網上行	89	焗客申請增值服務 / 終止合約手續繁複 / 合約期滿自動續約,沒有問過客人
3	4	PCCWmobile	85	無故收取高額GPRS費用 / 轉台手機混亂、承諾優惠無影
4	8	3香港	72	無故收取高額GPRS費用 / IDD收費混亂
5	3	電訊盈科	52	IDD收費混亂 / 終止合約手續繁複
6	5	now寬頻電視	48	職員誤導合約條惠
7	9	數碼通	39	合約及月費賬目不清
8	1	有線電視	37	終止合約手續繁複
9	6	有線寬頻	36	合約期滿自動續約,卻沒有問過客人
10	-	滙豐銀行	31	處理強積金戶口,手續混亂

2007年 爆十大

今年排名	去年排名	投訴機構	投訴宗數	投訴重點
1	3	有線電視	184	－終止合約表格無影 －交還解碼器手續欠清晰 －熱線長期無人接聽
2	1	和記環球電訊	110	－維修人員頻失約 －網絡常失靈 －宣傳電話滋擾客戶
3	6	電訊盈科	98	－推銷手法不良 －收費混亂 －送禮無影
4	-	PCCW mobile	84	－收費混亂 －網絡接收不良
5	-	Now寬頻電視	69	－英超頻道收費誤導 －安裝人員常失約
6	2	有線寬頻	68	－終止合約難 －無覆蓋照收費
7	7	網上行	66	－焗客申請增值服務 －網絡接收差
8	-	數碼通	47	－漫遊及數據收費混亂
8	5	3香港	47	－IDD及數據收費混亂
10	3	香港寬頻	37	－送禮無影

注：1. 香港寬頻及和記環球電訊包括寬頻及固網服務 2. 資料截至本週一中午十二時

2006 十大劣爆之最

排名	去年排名	投訴機構	投訴數字	主要投訴內容	
1	1	和記環球電訊	149	技術人員失約 網絡常斷線	無覆蓋不可斷約 終止合約照收錢
2	2	有線寬頻	109	維修無效及失約 自動續約並鎖回正價	無覆蓋不可斷約 網絡常斷線
3	4	有線電視	85	推銷手法不良 無故取消電視台	無覆蓋不可斷約
3	6	香港寬頻	85	滿約後難停用 發垃圾電郵及滋擾電話	無覆蓋照收費 合約期內加價
5	6	3香港	84	胡亂收費 手機常壞	網絡接收差
6	8	電訊盈科	66	維修無影	胡亂收費
7	7	網上行	65	推銷手法誤導	難終止合約
8	20	Nokia	44	手機常壞	維修時間長及零件短缺
9	10	豐澤電器	39	十日退貨保證不兌現 只肯七折回收新貨	送貨無影
10	3	九倉電訊	36	滿約後難停用	推銷手法不良

注：香港寬頻及和記環球電訊包括寬頻及固網服務

Source: Next Magazine 2006-2010

APPENDIX 1.8 BUSINESS PERFORMANCE COMPARISON

1. Financial Performance

Annual Result Ended	Aug 2010	Dec 2010	Dec 2010	Dec 2010
Key Players	CTI/HKBN	PCCW	HutchTel	iCable
Market Cap (HKD)	4.37B	23.42B	12.23B	1.65B
Revenue (HKD)	1356.1Mn*	16,717Mn**	3,286Mn***	2,002Mn
EBITDA	479Mn	7,053Mn**	1,604Mn***	-36.2Mn
Net Profit	216.87Mn	1,926Mn	755Mn	-267Mn

*HKBN FTNS business only

**PCCW core business : telecom (FTNS, mobile, IDD), media & ICT

***HutchTel FTNS business only

Source: CTI, PCCW, HutchTel, iCable website

2. FTNS Residential Market Share

Annual Result Ended	Aug 2010	Dec 2010	Dec 2010	Dec 2010		
	CTI/HKBN	PCCW	HutchTel	iCable	Others	TVB Pay
Broadband Internet Subscribers*	510,000	1,215,000	*250,000*	228,000	NA	NA
	23%	55%	11%	10%		
Telephone Line Subscribers*	382,800	1,407,000	*276,500*	143,000	*178,000*	NA
	16%	59%	12%	6%	7%	
IPTV Subscribers*	153,000	1,039,000	NA	1,100,000	NA	*200,000*
	6%	42%	NA	44%	NA	8%

*Italic figures are insiders' information rather than publicly announcement by the companies.
Note: PCCW reports "lines in service" rather than subscriptions. HutchTel no longer disclosed broadband subscription as of Dec 2009.

Source: CTI, PCCW, HutchTel, iCable annual reports

3. Network Facilities

	CTI/HKBN	PCCW	HutchTel	iCable
FTNS Licence	Yes	Yes	Yes	Yes
Backhaul network	Fibre	Fibre/Ethernet	Fibre/Ethernet	Fibre
Last Mile In-building network	Fibre/Ethernet	Fibre/Ethernet	Fibre/Ethernet	Coaxial
FTN Coverage (% of HK households)	75%	100%	70%	90%
Mobile/Wireless Network	No	Yes	Yes	No

Source: CTI, PCCW, HutchTel, iCable website

4. Products

	CTI/HKBN		PCCW		HutchTel		iCable	
Broadband Product	1000M	100M	100M	8M	100M	10M	130M	10M
Broadband Technology	FTTH	FTTB	FTTH	ADSL	FTTB	VDSL	Hybrid Fibre Coaxial	Hybrid Fibre Coaxial
Download Speed	1,000Mbps	100Mbps	100Mbs	8Mbps	100Mbps	10Mbps	130Mbps	10Mbps
Upload Speed	1,000Mbps	100Mbps	100Mbs	0.8Mbps	100Mbps	10Mps	10Mbps	1.5Mps
Telephone Lines	Fixed Line & IP Phone		Fixed Line		Fixed Line		IP Phone	
IPTV	bbTV		NowTV		NA		Cable TV	

Source: CTI, PCCW, HutchTel, iCable websites and sales hotlines

5. Sales Performance in Broadband Subscription
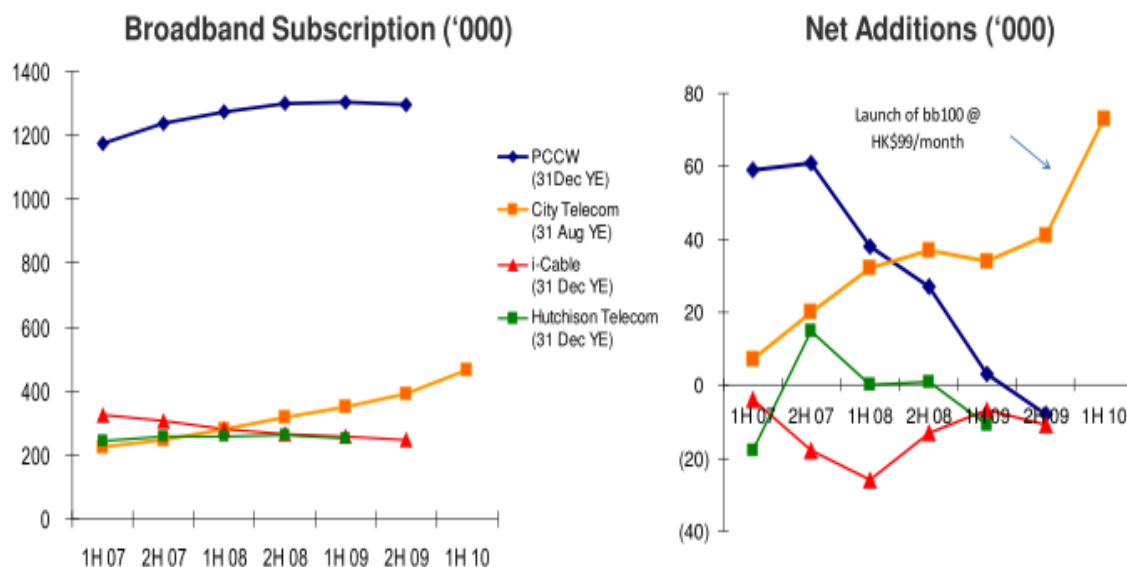
Source: PCCW, City Telecom, i-Cable and HTHK Interim and Annual Reports, JP Morgan's HTHK report "Hutchison Telecom Hong Kong Holdings Ltd" dated Aug 12, 2009
Note: PCCW reports "lines in service" rather than subscription. Hutchison Telecom Hong Kong no longer discloses broadband subscription as of Dec 31 2009.

6. Customer Service

Point-of-Service	CTI/HKBN	PCCW	HutchTel	iCable
Retail Shops	17	55	50*	8**
Customer Service Hotline (Call Centre)	Yes	Yes	Yes	Yes

*Half of HutchTel retail shops will handle customer service
**iCable retail shops are sales function

Source: CTI, PCCW, HutchTel, iCable websites

Call Centre Operation Model (ratio by number of call centre agents)		CTI/HKBN	PCCW	HutchTel	iCable
		Broadband, Telephone line, IPTV	Broadband & NowTV	Broadband & Telephone line	Broadband, Telephone line & IPTV
In-house	HK	8%	27%	9%	-
	Guangzhou	92%	-	-	100%
Outsource	HK	-	-	-	-
	Guangzhou	-	73%	91%	-
In-source	HK	-	-	-	-
	Guangzhou	-	-	-	-

Source: Insiders' information rather than publicly announcement by the companies

Number of call centre agents	CTI/HKBN	PCCW	HutchTel	iCable
	Broadband, Telephone line, IPTV	Broadband & NowTV	Broadband & Telephone Line	Broadband, Telephone line, CableTV
No. of call centre agents	260	330	165	100
Ratio of agents# to service subscribers	0.025%	0.015%	0.031%	0.007%

Source: Insiders' information rather than publicly announcement by the companies

Number of Complaints

Number of complaints	2010	2009	2008	2007	2006
CTI/HKBN	52	44	not on list	37	85
PCCW	34	133	189	233	131
HutchTel	48	77	105	110	149
iCable	77	58	73	252	194

Source: Next Magazine 2006-2010

APPENDIX 2.1   OPERATIONAL MEASURES USED IN CALL CENTRE

1. Average speed of answer (ASA) – the total queue time divided by the total number of calls being answered

2. Abandonment rate – the ratio of number of calls abandoned by the customer prior to answer to number of calls made to the call cetnre

3. Total calls – the total number of calls made to the call centre

4. Longest delay – the maximum time taken either before answering a customer call or call abandoned by a customer

5. Average talk time – the total time the customer was connected to a call centre agent

6. Average work time after-call – the average time required to finish the work required to be done immediately after an inbound call. This includes keying-in data, filling out forms. During this period, the agent is unavailable to take another inbound call.

7. Average handle time – the average time taken to handle per customer per agent; that is, the sum of average talk time and average work time after-call

8. Service level – the ratio of number of calls answered within the agreed upon time interval and total calls received

9. Queue time – the number of seconds the callers spends waiting for a call centre agent to answer the telephone after being placed in the queue by the ACD (Automatic Call Director)

10. First-call resolution – the percentage of customers who have satisfactory problem resolution on the first call

11. Percentage of calls blocked – the percentage of customers who receive "number is busy" message and could not even enter in the call queue

12. Calls per agent – the total number of calls handled per agent in a shift (usually of eight hours)

13. Adherence – the percentage of call centre agents who are are on their seats as scheduled

14. Agent turnover – the percentage of agents who quit in a specified period of time

15. Average hold time – the average number of seconds that a agent places customer on hold

(Anton, 1997; Feinberg et al., 2000)

APPENDIX 3.1   QUESTIONNAIRES

Type	Sample Group	Version	Purpose
問卷調查（1）	Customer	Chinese	Use in interview
Questionnaire (1)	Customer	English	For reference
問卷調查（2）	Call Centre Agent	Chinese	Use in Interview
Questionnaire (2)	Call Centre Agent	English	For reference
問卷調查（3）	Call Centre Management	Chinese	Use in Interview
Questionnaire (3)	Call Centre Management	English	For reference
Questionnaire (4)	Marketer	English	Use in Interview

問卷調查（1）

目標受訪者：致电 HKBN 客服熱線中心的客戶（香港寬頻的客戶）

第 1 部分　Accessibility 可達性

請以你(客戶)致電 HKBN 客服熱線中心的感受，對於下面的每個項目，圈出你的意見。以 1 至 10 分為級別，10 分為"最可以接受"，1 分為"最不可以接受"。	最不可以接受		中立		最可以接受					
	←									→
1.1 在聽到互動式語音應答的選項 之前，你所需要等候的時間（即鈴响次數）。	1	2	3	4	5	6	7	8	9	10
1.2 在第一個客戶服務代表接聽之前，你所需要等待的時間。	1	2	3	4	5	6	7	8	9	10
1.3 在回答過程中，你與客戶服務代表的通話需被擱置而要等待的時間。	1	2	3	4	5	6	7	8	9	10
1.4 就回答你來电的查詢，接聽的客戶服務代表需要把通話轉駁到另一個不同的代表，才能完成。	1	2	3	4	5	6	7	8	9	10

第 2 部分　服務品質 -- 與客戶服務代表的互动及接聽/解決方案的提供

請以你(客户) 的意見，對於下面的問題，圈出你的評分。以 1 至 10 分為級別，10 分為"最佳"，1 分為 "最差"。	最差		中立		最佳					
	←									→
2.1 我們的客戶服務代表能盡快地完成你的查詢。	1	2	3	4	5	6	7	8	9	10
2.2 我們的客戶服務代表在回答你的查詢時，能表現出關注及關心。	1	2	3	4	5	6	7	8	9	10
2.3 我們的客戶服務代表能迅速了解您的要求。	1	2	3	4	5	6	7	8	9	10
2.4 我們的客戶服務代表在通話過程中說話清楚。	1	2	3	4	5	6	7	8	9	10
2.5 我們的客戶服務代表對你的查詢能提供一個完整的答案。	1	2	3	4	5	6	7	8	9	10
2.6 我們的客戶服務代表所提供的解決方案或答案，能給你信心。	1	2	3	4	5	6	7	8	9	10
2.7 我們的客戶服務代表能明確地提出不同的選擇給你。	1	2	3	4	5	6	7	8	9	10
2.8 我們的客戶服務代表對我們的產品/服務，有足夠的知識。	1	2	3	4	5	6	7	8	9	10

第 3 部分 整體滿意度

以 10 分為最高，1 為最低，請評價問題 3.1-3.3。	最低		中立			最高				
3.1 您對我們客服熱線中心的整體服務質素的滿意度。	1	2	3	4	5	6	7	8	9	10
3.2 以我們客服熱線中心的服務質素，你会繼續使用我們公司的服務嗎？	1	2	3	4	5	6	7	8	9	10
3.3 在未來，您有多大可能推薦我們公司給你的朋友？	1	2	3	4	5	6	7	8	9	10
3.4 就你最近一次來電，你的查詢或問題，是否已於一次通話中得到了解決，而毋須再次至电嗎？	是					否				

第 4 部分 人口統計

1. 性別
   - ☐ 男
   - ☐ 女

2. 年齡
   - ☐ 18-25
   - ☐ 26-35
   - ☐ 36-45
   - ☐ 46-55
   - ☐ 56-65
   - ☐ 65 歲以上

3. 教育
   - ☐ 小學
   - ☐ 中學
   - ☐   大專
   - ☐ 大學或以上

4. 現正使用的服務 (HKBN)
   - ☐ 寬頻上網
   - ☐ 家居電話線
   - ☐ 寬頻電視

5. 賬戶持有人
   - ☐ 是
   - ☐ 否

6. 服務使用者
   - ☐ 是
   - ☐ 否

Questionnaire (1)

Target Interviewee: Callers to HKBN's call centre (HKBN's customers)

Part 1   Accessibility

For the following questions, please CIRCLE your opinion for each item below on a 1 to 10 scale with 10 being "most acceptable" and 1 being "least acceptable".	Least Acceptable			Neutral			Most Acceptable			
	←								→	
1.1	The number of rings you heard before the menu choices were presented	1	2	3	4	5	6	7	8	9	10
1.2	The length of time you spent on hold waiting for the first customer service agent to answer.	1	2	3	4	5	6	7	8	9	10
1.3	During the call, the length of time placed on hold by the customer service agent.	1	2	3	4	5	6	7	8	9	10
1.4	The need for one customer service agent to transfer you to a different agent to complete your call.	1	2	3	4	5	6	7	8	9	10

Part 2   Service Quality – Interaction with the CSR and the answer/solution provided

For the following questions, please CIRCLE the score on each of the items below based on your opinion on a 1 to 10 scale with 10 being "the best" and 1 being "the worst".	The Worst			Neutral			The Best			
	←								→	
2.1	Our customer service agent completes your call as quickly as possible.	1	2	3	4	5	6	7	8	9	10
2.2	Our customer service agent shows concern when answering your question.	1	2	3	4	5	6	7	8	9	10
2.3	Our customer service agent quickly understands your request.	1	2	3	4	5	6	7	8	9	10
2.4	Our customer service agent speaks clearly.	1	2	3	4	5	6	7	8	9	10
2.5	Our customer service agent gives a complete answer.	1	2	3	4	5	6	7	8	9	10
2.6	Our customer service agent gives you confidence in the solution or answer.	1	2	3	4	5	6	7	8	9	10
2.7	Our customer service agent clearly presents different options to you.	1	2	3	4	5	6	7	8	9	10
2.8	Our customer service agent has sufficient knowledge about our products / services.	1	2	3	4	5	6	7	8	9	10

Part 3 Overall Satisfactions

With 10 being the highest and 1 being the lowest, please RATE questions 3.1-3.3.		The Lowest		Neutral			The Highest			
3.1	How satisfied were you with the overall service you received from our call centre?	1 2 3	4	5	6	7	8	9	10	
3.2	As a result of the call centre service, how likely are you to continue your service with our company?	1 2 3	4	5	6	7	8	9	10	
3.3	In the future, how likely are you to recommend our company to a friend?	1 2 3	4	5	6	7	8	9	10	
3.4	Would your question/problem was resolved in one time as a result of your call last time without the need of calling in again?	Yes				No				

Part 4 Demographics

1. Gender
   - ☐ Male
   - ☐ Female

2. Age
   - ☐ 18-25
   - ☐ 26-35
   - ☐ 36-45
   - ☐ 46-55
   - ☐ 56-65
   - ☐ Above 65

3. Education
   - ☐ Primary School
   - ☐ Secondary School
   - ☐ College
   - ☐ University or above

4. Service Subscribed (HKBN)
   - ☐ Broadband Internet
   - ☐ Home Telephone Line
   - ☐ Broadband TV

5. Account Holder
   - ☐ Yes
   - ☐ No

6. User of Service
   - ☐ Yes
   - ☐ No

問卷調查（2）

目標受訪者：HKBN 客服熱線中心的客戶服務代表

第 1 部分　Accessibility 可達性

身為客戶服務代表，以 HKBN 客服熱線中心於下面每個項目的表現，圈出你的意見。以 1 至 10 分為級別，10 分為"最可以接受"，1 分為"最不可以接受"。	最不可以接受			中立			最可以接受		
1.1 在聽到互動式語音應答的選項 之前，客戶所需要等候的時間（即鈴响次數）。	1	2	3	4	5	6	7	8	9	10
1.2 在第一個客戶服務代表接聽之前，客戶所需要等待的時間。	1	2	3	4	5	6	7	8	9	10
1.3 在回答過程中，客戶與客戶服務代表的通話需被擱置而要等待的時間。	1	2	3	4	5	6	7	8	9	10
1.4 就回答客戶來電的查詢，接聽的客戶服務代表需要把通話轉駁到另一個不同的代表，才能完成。	1	2	3	4	5	6	7	8	9	10

第 2 部分　服務品質 -- 與客戶服務代表的互动及接聽/解決方案的提供

請以你(作為客戶服務代表) 的意見，對於下面的問題，圈出你的評分。以 1 至 10 分為級別，10 分為"最佳"，1 分為 "最差"。	最差			中立			最佳		
2.1　你能盡快地完成客戶的查詢。	1	2	3	4	5	6	7	8	9	10
2.2　你在回答客戶的查詢時，能表現出關注及關心。	1	2	3	4	5	6	7	8	9	10
2.3　你能迅速了解客戶的要求。	1	2	3	4	5	6	7	8	9	10
2.4　你在通話過程中說話清楚。	1	2	3	4	5	6	7	8	9	10
2.5　你對客戶的查詢能提供一個完整的答案。	1	2	3	4	5	6	7	8	9	10
2.6　你所提供的解決方案或答案，能給客戶信心。	1	2	3	4	5	6	7	8	9	10
2.7　你能明確地提出不同的選擇給客戶。	1	2	3	4	5	6	7	8	9	10
2.8　你對我們的產品/服務，有足夠的知識。	1	2	3	4	5	6	7	8	9	10

第 3 部分 整體滿意度

以 10 分為最高，1 為最低，請評價問題 3.1-3.3。	最低		中立			最高				
3.1 您認為客戶對你的整體服務質素的滿意度。	1	2	3	4	5	6	7	8	9	10
3.2 以你的服務質素，您認為客户会繼續使用我們公司的服務嗎？	1	2	3	4	5	6	7	8	9	10
3.3 在未來，您認為客户有多大可能推薦我們公司給他的朋友？	1	2	3	4	5	6	7	8	9	10
3.4 就客戶的查詢或問題，您能否於一次通話中幫他解決，而毋須他再次至电嗎？	1	2	3	4	5	6	7	8	9	10

第 4 部分 人口統計

1. 性別
   - ☐ 男
   - ☐ 女

2. 年齡
   - ☐ 18-25
   - ☐ 26-35
   - ☐ 36-45
   - ☐ 46-55
   - ☐ 56-65
   - ☐ 65 歲以上

3. 教育
   - ☐ 小學
   - ☐ 中學
   - ☐ 大專
   - ☐ 大學或以上

4. 在公司服務年資
   - ☐ 2 年或以下
   - ☐ 3- 5 年
   - ☐ 6- 9 年
   - ☐ 10 年或以上

完

Questionnaire (2)

Target Interviewee: Customer service agent of HKBN's call centre

Part 1   Accessibility

For the following questions, based on the performance of HKBN's call centre, please CIRCLE your opinion for each item below on a 1 to 10 scale with 10 being "most acceptable" and 1 being "least acceptable".	Least Acceptable				Neutral			Most Acceptable		
1.1	The number of rings caller heard before the menu choices were presented	1	2	3	4	5	6	7	8	9	10
1.2	The length of time caller spent on hold waiting for the first customer service agent to answer.	1	2	3	4	5	6	7	8	9	10
1.3	During the call, the length of time placed on hold by the customer service agent.	1	2	3	4	5	6	7	8	9	10
1.4	The need for one customer service agent to transfer caller to a different agent to complete the call.	1	2	3	4	5	6	7	8	9	10

Part 2   Service Quality – Interaction with the CSR and the answer/solution provided

For the following questions, please CIRCLE the score on each of the items below based on your opinion on a 1 to 10 scale with 10 being "the best" and 1 being "the worst".	The Worst				Neutral			The Best		
2.1	You complete caller's call as quickly as possible.	1	2	3	4	5	6	7	8	9	10
2.2	You show concern when answering caller's question.	1	2	3	4	5	6	7	8	9	10
2.3	You quickly understand caller's request.	1	2	3	4	5	6	7	8	9	10
2.4	You speak clearly.	1	2	3	4	5	6	7	8	9	10
2.5	You give a complete answer.	1	2	3	4	5	6	7	8	9	10
2.6	You give caller confidence in the solution or answer.	1	2	3	4	5	6	7	8	9	10
2.7	You clearly present different options to caller.	1	2	3	4	5	6	7	8	9	10
2.8	You have sufficient knowledge about our products / services.	1	2	3	4	5	6	7	8	9	10

Part 3   Overall Satisfactions

Base on your opinion, with 10 being the highest and 1 being the lowest, please RATE questions 3.1-3.3.		The Lowest		Neutral		The Highest			
3.1	How satisfied was the caller with the overall service he/she received from you?	1	2	3	4	5	6	7	8	9	10
3.2	As a result of your service, how likely is the caller to continue the service with our company?	1	2	3	4	5	6	7	8	9	10
3.3	In the future, how likely is the caller to recommend our company to a friend?	1	2	3	4	5	6	7	8	9	10
3.4	Would the caller's question/problem was resolved by you in one time as a result of his/her call last time without the need of calling in again?	1	2	3	4	5	6	7	8	9	10

Part 4   Demographics

1. Gender
   - ☐ Male
   - ☐ Female

2. Age
   - ☐ 18-25
   - ☐ 26-35
   - ☐ 36-45
   - ☐ 46-55
   - ☐ 56-65
   - ☐ Above 65

3. Education
   - ☐ Primary School
   - ☐ Secondary School
   - ☐ College
   - ☐ University or above

4. Service of Year in the Company
   - ☐ 2 years or below
   - ☐ 3 – 5 years
   - ☐ 6 – 9 years
   - ☐ 10 years or above

END

問卷調查（3）

目標受訪者：HKBN 客服熱線中心的經理/主管

第 1 部分　Accessibility 可達性

身為客服熱線中心的經理/主管，以 HKBN 客服熱線中心於下面每個項目的表現，圈出你的意見。以 1 至 10 分為級別，10 分為"最可以接受"，1 分為"最不可以接受"。	最不可以接受			中立			最可以接受		
1.1 在聽到互動式語音應答的選項 之前，客戶所需要等候的時間（即鈴响次數）。	1	2	3	4	5	6	7	8	9	10
1.2 在第一個客戶服務代表接聽之前，客戶所需要等待的時間。	1	2	3	4	5	6	7	8	9	10
1.3 在回答過程中，客戶與客戶服務代表的通話需被擱置而要等待的時間。	1	2	3	4	5	6	7	8	9	10
1.4 就回答客戶來電的查詢，接聽的客戶服務代表需要把通話轉駁到另一個不同的代表，才能完成。	1	2	3	4	5	6	7	8	9	10

第 2 部分　服務品質 -- 與客戶服務代表的互动及接聽/解決方案的提供

請以你(身為客服熱線中心的經理/主管) 的意見，對於下面的問題，圈出你的評分。以 1 至 10 分為級別，10 分為"最佳"，1 分為 "最差"。	最差			中立			最佳		
2.1 我們的客戶服務代表能盡快地完成你的查詢。	1	2	3	4	5	6	7	8	9	10
2.2 我們的客戶服務代表在回答你的查詢時，能表現出關注及關心。	1	2	3	4	5	6	7	8	9	10
2.3 我們的客戶服務代表能迅速了解您的要求。	1	2	3	4	5	6	7	8	9	10
2.4 我們的客戶服務代表在通話過程中說話清楚。	1	2	3	4	5	6	7	8	9	10
2.5 我們的客戶服務代表對你的查詢能提供一個完整的答案。	1	2	3	4	5	6	7	8	9	10
2.6 我們的客戶服務代表所提供的解決方案或答案，能給你信心。	1	2	3	4	5	6	7	8	9	10
2.7 我們的客戶服務代表能明確地提出不同的選擇給你。	1	2	3	4	5	6	7	8	9	10
2.8 我們的客戶服務代表對我們的產品/服務，有足夠的知識。	1	2	3	4	5	6	7	8	9	10

第 3 部分 整體滿意度

	以 10 分為最高，1 為最低，請評價問題 3.1-3.3。	最低		中立		最高		

3.1	您認為客户對我們客服熱線中心的整體服務質素的滿意度。	1	2	3	4	5	6	7	8	9	10
3.2	以我們客服熱線中心的服務質素，客户会繼續使用我們公司的服務嗎？	1	2	3	4	5	6	7	8	9	10
3.3	在未來，客户有多大可能推薦我們公司給你的朋友？	1	2	3	4	5	6	7	8	9	10
3.4	就客户的查詢或問題，我們的客戶服務代表能於一次通話中幫他解決，而毋須他再次至电嗎？	1	2	3	4	5	6	7	8	9	10

第 4 部分 人口統計

1. 性別
   - ☐ 男
   - ☐ 女

2. 年齡
   - ☐ 18-25
   - ☐ 26-35
   - ☐ 36-45
   - ☐ 46-55
   - ☐ 56-65
   - ☐ 65 歲以上

3. 教育
   - ☐ 小學
   - ☐ 中學
   - ☐ 大專
   - ☐ 大學或以上

4. 職位
   - ☐ 高級經理或以上
   - ☐ 經理
   - ☐ 主管

5. 在公司服務年資
   - ☐ 2 年或以下
   - ☐ 3- 5 年
   - ☐ 6- 9 年
   - ☐ 10 年或以上

Questionnaire (3)

Target Interviewee: HKBN's call centre manager / supervisor

Part 1   Accessibility

For the following questions, please CIRCLE your opinion for each item below on a 1 to 10 scale with 10 being "most acceptable" and 1 being "least acceptable".	Least Acceptable				Neutral			Most Acceptable		
1.1	The number of rings caller heard before the menu choices were presented	1	2	3	4	5	6	7	8	9	10
1.2	The length of time caller spent on hold waiting for the first customer service agent to answer.	1	2	3	4	5	6	7	8	9	10
1.3	During the call, the length of time placed on hold by the customer service agent.	1	2	3	4	5	6	7	8	9	10
1.4	The need for one customer service agent to transfer caller to a different agent to complete the call.	1	2	3	4	5	6	7	8	9	10

Part 2   Service Quality – Interaction with the CSR and the answer/solution provided

For the following questions, please CIRCLE the score on each of the items below based on your opinion on a 1 to 10 scale with 10 being "the best" and 1 being "the worst".	The Worst				Neutral			The Best		
2.1	Our customer service agent completes caller's call as quickly as possible.	1	2	3	4	5	6	7	8	9	10
2.2	Our customer service agent shows concern when answering caller's question.	1	2	3	4	5	6	7	8	9	10
2.3	Our customer service agent quickly understands caller's request.	1	2	3	4	5	6	7	8	9	10
2.4	Our customer service agent speaks clearly.	1	2	3	4	5	6	7	8	9	10
2.5	Our customer service agent gives a complete answer.	1	2	3	4	5	6	7	8	9	10
2.6	Our customer service agent gives caller confidence in the solution or answer.	1	2	3	4	5	6	7	8	9	10
2.7	Our customer service agent clearly presents different options to caller.	1	2	3	4	5	6	7	8	9	10
2.8	Our customer service agent has sufficient knowledge about our products / services.	1	2	3	4	5	6	7	8	9	10

Part 3   Overall Satisfactions

With 10 being the highest and 1 being the lowest, please RATE questions 3.1-3.3.	The Lowest				Neutral			The Highest		
3.1	How satisfied was the caller with the overall service he/she received from our call centre?	1	2	3	4	5	6	7	8	9	10
3.2	As a result of our call centre service, how likely is the caller to continue the service with our company?	1	2	3	4	5	6	7	8	9	10
3.3	In the future, how likely is the caller to recommend our company to a friend?	1	2	3	4	5	6	7	8	9	10
3.4	Would caller's question/problem was resolved in one time as a result of his/her call last time without the need of calling in again?	1	2	3	4	5	6	7	8	9	10

Part 4   Demographics

1. Gender
   - ☐ Male
   - ☐ Female

2. Age
   - ☐ 18-25
   - ☐ 26-35
   - ☐ 36-45
   - ☐ 46-55
   - ☐ 56-65
   - ☐ Above 65

3. Education
   - ☐ Primary School
   - ☐ Secondary School
   - ☐ College
   - ☐ University or above

4. Position
   - ☐ Senior Manager or above
   - ☐ Manager
   - ☐ Supervisor

5. Service of Year in the Company
   - ☐ 2 years or below
   - ☐ 3 – 5 years
   - ☐ 6 – 9 years
   - ☐ 10 years or above

Questionnaire (4)

Target Interviewee: HKBN's marketer

Part 1   Accessibility

For the following questions, please CIRCLE your opinion for each item below on a 1 to 10 scale with 10 being "most acceptable" and 1 being "least acceptable".	Least Acceptable			Neutral			Most Acceptable			
1.1	The number of rings caller heard before the menu choices were presented	1	2	3	4	5	6	7	8	9	10
1.2	The length of time caller spent on hold waiting for the first customer service agent to answer.	1	2	3	4	5	6	7	8	9	10
1.3	During the call, the length of time placed on hold by the customer service agent.	1	2	3	4	5	6	7	8	9	10
1.4	The need for one customer service agent to transfer caller to a different agent to complete the call.	1	2	3	4	5	6	7	8	9	10

Part 2   Service Quality – Interaction with the CSR and the answer/solution provided

For the following questions, please CIRCLE the score on each of the items below based on your opinion on a 1 to 10 scale with 10 being "the best" and 1 being "the worst".	The Worst			Neutral			The Best			
2.1	Our customer service agent completes caller's call as quickly as possible.	1	2	3	4	5	6	7	8	9	10
2.2	Our customer service agent shows concern when answering caller's question.	1	2	3	4	5	6	7	8	9	10
2.3	Our customer service agent quickly understands caller's request.	1	2	3	4	5	6	7	8	9	10
2.4	Our customer service agent speaks clearly.	1	2	3	4	5	6	7	8	9	10
2.5	Our customer service agent gives a complete answer.	1	2	3	4	5	6	7	8	9	10
2.6	Our customer service agent gives caller confidence in the solution or answer.	1	2	3	4	5	6	7	8	9	10
2.7	Our customer service agent clearly presents different options to caller.	1	2	3	4	5	6	7	8	9	10
2.8	Our customer service agent has sufficient knowledge about our products / services.	1	2	3	4	5	6	7	8	9	10

Part 3   Overall Satisfactions

With 10 being the highest and 1 being the lowest, please RATE questions 3.1-3.3.		The Lowest			Neutral				The Highest		
		←									→
3.1	How satisfied was the caller with the overall service he/she received from our call centre?	1	2	3	4	5	6	7	8	9	10
3.2	As a result of our call centre service, how likely is the caller to continue the service with our company?	1	2	3	4	5	6	7	8	9	10
3.3	In the future, how likely is the caller to recommend our company to a friend?	1	2	3	4	5	6	7	8	9	10
3.4	Would caller's question/problem was resolved in one time as a result of his/her call last time without the need of calling in again?	1	2	3	4	5	6	7	8	9	10

Part 4   Demographics

1. Gender
   - ☐ Male
   - ☐ Female

2. Age
   - ☐ 18-25
   - ☐ 26-35
   - ☐ 36-45
   - ☐ 46-55
   - ☐ 56-65
   - ☐ Above 65

3. Education
   - ☐ Primary School
   - ☐ Secondary School
   - ☐ College
   - ☐ University or above

4. Position
   - ☐ Marketing Manager or above
   - ☐ Marketing Officer
   - ☐ Marketing Assistant

5. Service of Year in the Company
   - ☐ 2 years or below
   - ☐ 3 – 5 years
   - ☐ 6 – 9 years
   - ☐ 10 years or above

APPENDIX 4.1   OVERALL SATISFACTION, WILLINGNESS TO CONTINUE THE SERVICE, WILLINGNESS TO RECOMMEND

Mean scores and scores distribution from customers data

Descriptive Statistics

	Mean	Std. Deviation	N
Caller's overall satisfaction	60.717	18.2940	100
Caller's willingness to continue the service	58.823	19.2190	100
Caller's willingness to recommend	51.171	21.2194	100

Caller's overall satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	1.0	1.0	1.0
	11.1	1	1.0	1.0	2.0
	22.2	5	5.0	5.0	7.0
	33.3	5	5.0	5.0	12.0
	44.4	12	12.0	12.0	24.0
	55.5	18	18.0	18.0	42.0
	66.6	28	28.0	28.0	70.0
	77.7	25	25.0	25.0	95.0
	88.8	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

Caller's willingness to continue the service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	1.0	1.0	1.0
	11.1	3	3.0	3.0	4.0
	22.2	7	7.0	7.0	11.0
	33.3	4	4.0	4.0	15.0
	44.4	7	7.0	7.0	22.0
	55.5	22	22.0	22.0	44.0
	66.6	34	34.0	34.0	78.0
	77.7	17	17.0	17.0	95.0
	88.8	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

Caller's willingness to recommend

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	6.0	6.0	6.0
	11.1	4	4.0	4.0	10.0
	22.2	6	6.0	6.0	16.0
	33.3	6	6.0	6.0	22.0
	44.4	11	11.0	11.0	33.0
	55.5	32	32.0	32.0	65.0
	66.6	22	22.0	22.0	87.0
	77.7	13	13.0	13.0	100.0
	Total	100	100.0	100.0	

APPENDIX 4.2   MEAN SCORES – SERVICE ATTRIBUTES FROM CUSTOMER DATA

Descriptive Statistics

	Mean	Std. Deviation	N
Caller's overall satisfaction	60.717	18.2940	100
number of rings	48.397	24.1113	100
queue time	50.728	23.7857	100
hold time	58.944	20.7988	100
number of transfer	59.726	22.2023	100
handle the call quickly	64.494	18.8522	100
show concern for caller's situation	62.049	19.5209	100
understand caller's question	63.492	16.8513	100
speak clearly	68.156	16.5523	100
completeness of answer	63.716	20.1227	100
confidence in solutions	60.163	19.4646	100
completenss of options	56.168	18.7916	100
sufficient knowledge about products/services	63.941	18.8179	100

APPENDIX 4.3　REGRESSION MODEL – ALL SERVICE ATTRIBUTES FROM CUSTOMER DATA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	7.769	4.655		1.669	.099	-1.483	17.021
	number of rings	.201	.072	.265	2.785	.007	.058	.345
	queue time	.140	.081	.183	1.737	.086	-.020	.301
	hold time	.014	.078	.016	.178	.859	-.141	.169
	number of transfer	-.058	.066	-.071	-.877	.383	-.190	.074
	handle the call quickly	.003	.091	.003	.034	.973	-.177	.184
	show concern for caller's situation	.040	.081	.042	.491	.625	-.121	.201
	understand caller's question	-.139	.100	-.128	-1.393	.167	-.336	.059
	speak clearly	.180	.109	.162	1.648	.103	-.037	.396
	completeness of answer	.213	.098	.234	2.167	.033	.018	.408
	confidence in solutions	.186	.088	.198	2.100	.039	.010	.362
	completenss of options	.211	.093	.217	2.258	.026	.025	.397
	sufficient knowledge about products/services	-.062	.086	-.064	-.721	.473	-.232	.109

a. Dependent Variable: Caller's overall satisfaction

APPENDIX 4.4 PERCEPTION OF PERFORMANCE – CALL CENTRE AGENTS, MANAGERS, MARKETERS

Call Centre Agent

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
number of rings	39	33.3	88.8	56.354	16.7731
queue time	39	22.2	88.8	56.069	18.3541
hold time	39	33.3	88.8	60.054	17.2180
number of transfer	39	.0	100.0	57.497	29.7997
handle the call quickly	39	44.4	100.0	74.867	15.8662
show concern for caller's situation	39	44.4	100.0	75.438	16.9489
understand caller's question	39	44.4	100.0	76.003	16.0281
speak clearly	39	44.4	100.0	76.574	14.3804
completeness of answer	39	44.4	100.0	75.431	15.1168
confidence in solutions	39	44.4	100.0	75.149	15.8087
completenss of options	39	.0	100.0	71.728	19.7075
sufficient knowledge about products/services	39	44.4	100.0	70.875	16.8272
Caller's overall satisfaction	39	44.4	100.0	73.437	13.8674
Caller's willingness to continue the service	39	44.4	100.0	77.421	13.3592
Caller's willingness to recommend	39	22.2	100.0	69.164	16.7928
first call resolution	39	44.4	100.0	71.441	14.3642
Valid N (listwise)	39				

Call Centre Management

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
number of rings	7	44.4	88.8	71.357	15.5098
queue time	7	33.3	77.7	57.086	18.6054
hold time	7	22.2	77.7	60.257	21.1164
number of transfer	7	.0	88.8	63.429	29.8631
handle the call quickly	7	44.4	88.8	69.771	19.9741
show concern for caller's situation	7	55.5	100.0	66.614	15.7331
understand caller's question	7	44.4	100.0	63.443	17.8338
speak clearly	7	55.5	88.8	68.186	9.9871
completeness of answer	7	44.4	100.0	65.029	20.7236
confidence in solutions	7	44.4	100.0	68.200	19.7051
completenss of options	7	33.3	100.0	66.614	22.2250
sufficient knowledge about products/services	7	22.2	100.0	63.443	23.7584
Caller's overall satisfaction	7	55.5	77.7	66.600	9.0631
Caller's willingness to continue the service	7	55.5	100.0	72.957	14.1557
Caller's willingness to recommend	7	44.4	100.0	76.129	17.4896
first call resolution	7	33.3	77.7	55.500	16.9555
Valid N (listwise)	7				

Marketers

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
number of rings	7	33.3	100.0	71.386	23.8960
queue time	7	22.2	100.0	50.757	33.8487
hold time	7	33.3	88.8	45.986	19.6782
number of transfer	7	22.2	88.8	57.086	23.4843
handle the call quickly	7	44.4	88.8	61.843	16.7816
show concern for caller's situation	7	55.5	88.8	71.357	10.8325
understand caller's question	7	33.3	88.8	65.014	21.6650
speak clearly	7	44.4	88.8	65.014	17.4669
completeness of answer	7	44.4	88.8	76.114	16.2487
confidence in solutions	7	55.5	88.8	69.771	12.3509
completenss of options	7	44.4	100.0	65.029	19.7078
sufficient knowledge about products/services	7	55.5	100.0	76.129	16.2732
Caller's overall satisfaction	7	55.5	88.8	71.357	10.8325
Caller's willingness to continue the service	7	55.5	88.8	69.771	12.3509
Caller's willingness to recommend	7	55.5	77.7	66.600	6.4086
first call resolution	7	22.2	100.0	61.857	23.8827
Valid N (listwise)	7				

APPENDIX 5.1　INFORMATION PAGE: SERVICES OF RETAIL SHOPS

客戶服務中心及專門店 (全港專門店分佈圖)

聯絡方法只供內部使用，請勿將內部電話告知客人

提供的服務包括：(專門店服務總覽)

換購禮品	繳費	提供有限度繳費服務	戶口資料查詢
寬服務測試	申請 / 終止服務	辦理退還機頂盒手續	網絡遊戲區
無線寬頻服務			

客戶服務中心

	地址及服務	辦公時間	聯絡方法	主管
旺角 (CSC)	九龍旺角登打士街 56 號栢裕商業中心 10 樓 1016-1018 室 Room 1016-1018, 10/F Park-In Commercial Centre, 56 Dundas Street, Mongkok	星期一至星期日 10:00 - 19:30		

香港區專門店

	地址及服務	辦公時間	聯絡方法	主管
北角 (NPS)	北角英皇道 278 - 288 號栢麗購物商場地下 77-78 號舖 Unit 77, King's Parklane, 278 - 288 King's Road, North Point (炮台山港鐵站 B 出口) 現金券及 NOD32 換領服務	星期一至星期日 11:00 - 21:30		

	開張日期：2010 Feb 25			
灣仔 (WCS) 🔍	灣仔軒尼斯道 130 號灣仔電腦城 111 號舖 Shop 111, Wan Chai Computer Centre, 130 Hennessy Road (灣仔港鐵站 A4 出口) $? ⏱ 📄 🔑 📶 開張日期：2010 Jul 19	星期一至星期日 11:00 - 21:30		
西灣河 (SWH) 🔍	西灣河筲箕灣道 57 至 87 號太安樓地下 9 號舖 B Shop No 9B, G/F, Tai On Building, 57 - 87 Shau Kei Wan Road, Sai Wan Ho (西灣河港鐵站 A 出口) $? ⏱ 📄 🔑 📶 開張日期：2010 Dec 04	星期一至星期日 11:00 - 21:30		

九龍區專門店

	地址及服務	辦公時間	聯絡方法	主管
黃大仙 (WTS) 🔍	九龍黃大仙黃大仙中心地下 G5 號舖 Shop G5, G/F, Wong Tai Sin Shopping Centre, Wong Tai Sin, Kowloon (黃大仙港鐵站 D3 出口 黃大仙中心龍翔道正門入口則) $? ⏱ 📄 📤 📶 開張日期：2009 May 08	星期一至星期日 11:00 - 21:30		
九龍灣 (TPS) 🔍	九龍九龍灣德福廣場平台 P48 舖 Shop P48, Podium, Telford Plaza, Kowloon Bay, Kowloon (九龍灣港鐵站 A 出口 MCL 戲院對面) $? ⏱ 📄 📤 🔑 📶	星期一至星期日 11:00 - 21:30		

	地址及服務	辦公時間	聯絡方法	主管
	開張日期：2009 Sep 02			
觀塘 (KTS)	九龍觀塘道 418 號創紀之城第五期 APM 4 樓 L4-5 號舖 Shop L4-5, Level 4, APM, Millennium City 5, 418 Kwun Tong Road, Kwun Tong, Kowloon (觀塘港鐵站 A2 出口)	星期一至星期日 11:30 - 23:30		
樂富 (LFS)	九龍樂富樂富廣場 3127 舖 Shop 3127, Lok Fu Plaza, Lok Fu, Kowloon (樂富港鐵站 A 出口 太興燒味餐廳樓上) 現金券及 NOD32 換領服務 開張日期：2009 Sep 14	星期一至星期日 11:00 - 21:30		
大角咀 (OCS)	九龍大角咀奧海城 2 期 UG02D 舖 UG02D, Olympian City 2, Tai Kok Tsui, Kowloon (奧海城港鐵站 B3 出口 百老匯戲院斜對面) 開張日期：2009 Sep 21	星期一至星期日 11:00 - 21:30		
深水埗 (SSP)	深水埗福華街 153 - 155 號地下 C1 號舖 Shop C1, G/F No. 153 - 155, Fuk Wa Street, Sham Shui Po (深水埗港鐵站 D2 出口) (暫時只提供服務登記) 試業日期：2011 Mar 21	星期一至星期日 11:00 - 21:30		

新界區專門店

	地址及服務	辦公時間	聯絡方法	主管
將軍澳 (PLS)	新界將軍澳新都城中心 2 期商場 UG077 舖 Shop UG077, Metro City Plaza II, Tseung	星期一至星期日 11:00 - 21:30		

	Kwan O, New Territories (寶琳港鐵站 A2 出口) $? ⏱ 📝 🔑 ⇄ 🔔 開張日期：2009 Sep 29			
將軍澳 (HTS) 🔍	新界將軍澳厚德商場東翼一樓 150 舖 Shop 150, Hau Tak Shopping Centre, East Wing, Tseung Kwan O, New Territories (坑口港鐵站 B 出口) $? ⏱ 📝 🔑 ⇄ 🔔 開張日期：2009 Sep 14	星期一至星期日 11:00 - 21:30		
沙田 (STP) 🔍	新界沙田沙田廣場 3 樓 27B 舖 Shop 27B, 3/F, Sha Tin Plaza, Shatin, New Territories $? ⏱ 📝 🔑 ⇄ 🔔 現金券及 NOD32 換領服務 開張日期：2009 Oct 02	星期一至星期日 11:00 - 21:30		
大埔 (TPO) 🔍	大埔昌運中心商場地下 34 號舖 Shop 34, G/F, Fortune Plaza, New Territories ? ⏱ 📝 🔑 ⇄ 🔔 開張日期：2010 Oct 11	星期一至星期日 11:00 - 22:00		
葵涌 (KCS) 🔍	新界葵涌廣場 2 樓 C103(2) 號舖 Shop C103(2), 2/F, Kwai Chung Plaza, Kwai Chung, New Territories (葵芳港鐵站 D 出口) $? ⏱ 📝 🔑 ⇄ 🔔 開張日期：2011 Jan 24	星期一至星期日 11:00 - 22:00		
荃灣 (TWS) 🔍	新界荃灣愉景新城商場 2 樓 20 號舖 Shop 20, 2/F, Discovery Park, Tsuen Wan, New Territories (荃灣港鐵站 A3 出口 二樓商場入口則)	星期一至星期日 11:00 - 21:30		

	$? ⏱ 📄 📶 開張日期：2009 Jul 04			
屯門 (TMT) 🔍	新界屯門市廣場 1 期 2199G 舖 Shop 2199G, 2/F, Phase I, Tuen Mun Town Plaza, Tuen Mun $? ⏱ 📄 🔑 📶 現金券及 NOD32 換領服務 開張日期：2011 Apr 20	星期一至星期日 11:00 - 21:30		
屯門 (OWS) 🔍	新界屯門海趣坊 S71A 舖 Shop S71A, Ocean Walk, Tuen Mun, New Territories (屯門碼頭輕鐵總站) $? ⏱ 📄 🔑 📶 現金券及 NOD32 換領服務 開張日期：2009 Sep 09	星期一至星期日 11:00 - 21:30		
天水圍 (TYS) 🔍	新界天水圍天耀商場地下 L001 舖 Shop L001, G/F Tin Yiu Shopping Centre, Tin Shui Wai, New Territories ? ⏱ 📄 🔑 📶 現金券及 NOD32 換領服務 開張日期：2009 Jun 22	星期一至星期日 11:00 - 21:30		

(Source: Insider of HKBN)

APPENDIX 5.2   TRAINING CURRICULUM FOR CALL CENTRE AGENT

	Week 1
1.1	迎新課 程
1.2.1	寬頻上網
1.2.2	寬頻上網增值服務
1.2.3	點數商城
1.3	家居電話及增值服務
1.4	bbTV
1.5	賬單計算及收費知識
1.6	服務計劃計算方法
1.7	溝通必殺技
1.8	推廣技巧工作坊
	Week 2
2.1	查詢及投訴個案記錄
2.2	Oracle CCF 新處理方法
2.3	客人查詢 56K 及電郵服務
2.4	輔助操作系統查詢
2.5	寬頻網絡檢查步驟
2.6	寬頻上網技術支援
2.7	寬頻及其增值服務系統
	Week 3
3.1	攜號過台的錯誤碼
3.2	寬頻電話 Broadband Phone

3.3	家居戶口資料電話查詢
3.4	bbTV Admin Page
3.5	bbTV 系統操作
3.6	Pre-reg Menu 系統操作及解說知識
3.7	Retention Menu 系統操作及解說

(Source: Insider of HKBN)

APPENDIX 5.3   TELEPHONE TECHNIQUE & ORAL PRESENTATION SKILL

Telephone technique:

- Always keep a note pad and pencil handy by the telephone to jot down the key messages of caller

- Be attentive - concentrate on what is being said

- Be impartial - don't form an opinion, active listening

- Reflect back - restating what has been said

- Ask open-ended questions - ask for help when get lost

- Summarize & clarify - pull together the important messages, make sure understand the caller's intent

- Always keep a good vocal expression - speak at comfortable rate; warmer, cordial and natural tone of voice; pause occasionally if necessary to give caller a chance to think about what are being said and a chance to speak too

Oral presentation skill (applicable to call handling):

- Questions to bear in mind: What is the aim? What are the main points I want to make? What do I want the caller to get after listening?

- Giving the objective and announcing the outline

- Listing the main points or options clearly by using first, second and third

- Sequencing the options by problem and solution or by cause and effect or by chronological order

- Precisely stating the benefits of each option

- Ending by summing up, referring to future action to ensure callers retain the main points

APPENDIX 5.4　EXTRACTS OF HKBN NEW CUSTOMER SURVEY AND LOST CUSTOMER SURVEY

香港寬頻 服務意見調查問卷

用 新 態 度　用 心 服 務

多謝閣下選用「香港寬頻」上網服務。
為了讓我們能為您提供更優質之服務，煩請閣下回答以下幾條問題。

閣下必須填妥問卷內之每個項目方可獲贈IDD0030免費通話分鐘

1. 選用「香港寬頻」之原因：

首選原因：	次選原因：	第三原因：
請選擇 ▼	請選擇 ▼	請選擇 ▼

2. 轉用「香港寬頻」時，對於以下各項考慮因素之重要程度為：

	極不重要	不重要	頗不重要	頗重要	重要	極重要
提供良好的客戶服務	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
是值得信賴的	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
上網速度夠快	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
服務計劃收費是合理的	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
良好口碑/信譽	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
是穩陣可靠的	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
朋友推介	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
提供高質素的產品服務	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
網絡穩定，不易斷線	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
提供一站式多元化的服務 (例：寬頻電視/家居電話)	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6

3. 從哪一個途徑得知「香港寬頻」的服務內容？

○ 網站搜尋器(例：Yahoo! /Google Search)	○ 電視廣告	○ 宣傳單張
○ 討論區(例：Uwants / Discuss.com)	○ 雜誌 / 報紙介紹	○ 郵寄宣傳函件
○ 「香港寬頻」網站	○ 報章 / 雜誌廣告	○ 電話推銷員
○ 網站宣傳廣告	○ 港鐵網絡宣傳廣告	○ 戶外推銷員
○ 其他: _____		

4. 取消原有寬頻服務供應商之原因:

- 首選原因: 請選擇 ▼
- 次選原因: 請選擇 ▼
- 第三原因: 請選擇 ▼

5. 原有之寬頻服務計劃類別及「原有寬頻服務供應商」為:

◎ 固定服務
- ◎ 網上行
- ◎ 和記寬頻
- ◎ 有線寬頻
- ◎ 新世界寬頻
- ◎ 56K 撥號上網
- ◎ 數碼通「住宅寬頻」
- ◎ 其他: _____

◎ 流動服務 (供應商提供USB 無線上網裝置)
- ◎ 網上行 Everywhere(註:必須為獨立登記,並非包含於其他網上行住宅服務)
- ◎ SmarTone-Vodafone「隨身寬頻」
- ◎ CSL(包括1010及 One2free)
- ◎ 3
- ◎ 其他: _____

6. 「原有寬頻服務供應商」提供之寬頻服務計劃詳情:

平均月費:
- ◎ $100或以下
- ◎ $101 - $150
- ◎ $151 - $200
- ◎ $201 - $250
- ◎ $250 / 以上
- ◎ 不清楚

下載速度:
- ◎ 6M或以下
- ◎ 7.2M
- ◎ 8M
- ◎ 10M
- ◎ 18M
- ◎ 30M
- ◎ 50M
- ◎ 100M
- ◎ 不清楚
- ◎ 其他: _____

附送之增值服務:
- ☐ 住宅無線上網 (Router)
- ☐ 防毒軟件
- ☐ 電郵傳真組合服務
- ☐ 收費電視 (例:足球/電影頻道)
- ☐ 網上音樂
- ☐ 戶外Wifi無線上網
- ☐ 流動寬頻服務 (供應商提供USB 無線上網裝置)
- ☐ 家居電話
- ☐ 寬頻電話
- ☐ 長途電話分鐘
- ☐ 手機通話優惠
- ☐ 沒有
- 其他: _____

寬頻上網服務意見調查

用 新 態 度 用 心 服 務

感謝　閣下長期選用「香港寬頻」上網服務。
為了讓我們能為您提供更優質之服務，煩請　閣下回答以下幾條問題。

閣下必須填妥問卷內之每個項目，於完成及成功遞交後，方可在兩個月內獲贈以郵寄形式寄出的電影禮券1張。

1.取消或不續約「香港寬頻」上網服務之原因：

首選原因：	請選擇 ▼
次選原因：	請選擇 ▼
第三原因：	請選擇 ▼

2.轉用「新的寬頻供應商」時，對於以下各項考慮因素之重要程度為：

	極不重要	不重要	頗不重要	頗重要	重要	極重要
提供良好的客戶服務	○1	○2	○3	○4	○5	○6
是值得信賴的	○1	○2	○3	○4	○5	○6
上網速度夠快	○1	○2	○3	○4	○5	○6
服務計劃收費是合理的	○1	○2	○3	○4	○5	○6
良好口碑/信譽	○1	○2	○3	○4	○5	○6
是穩陣可靠的	○1	○2	○3	○4	○5	○6
朋友推介	○1	○2	○3	○4	○5	○6
提供高質素的產品服務	○1	○2	○3	○4	○5	○6
網絡穩定，不易斷線	○1	○2	○3	○4	○5	○6
提供一站式多元化的服務 (例：寬頻電視/家居電話)	○1	○2	○3	○4	○5	○6

3.選用「新的寬頻供應商」寬頻服務之原因：

首選原因：	請選擇 ▼
次選原因：	請選擇 ▼
第三原因：	請選擇 ▼

4. 現時選用之寬頻服務計劃類別及「新的寬頻供應商」為：

◎ 固定服務

    ◎ 網上行   ◎ 3固網寬頻 (前身和記寬頻)   ◎ 有線寬頻

    ◎ 新世界寬頻   ◎ 56K 撥號上網   ◎ 數碼通「住宅寬頻」

    ◎ 其他：_____

◎ 流動服務 (供應商提供USB 無線上網裝置)

    ◎ 網上行 Everywhere(註：必須為獨立登記，並非包含於其他網上行住宅服務)   ◎ SmarTone-Vodafone「隨身寬頻」   ◎ CSL(包括1010及 One2free)

    ◎ 3   ◎ 其他：_____

5. 「新的寬頻供應商」提供之寬頻服務計劃詳情：

平均月費：_____

下載速度：

◎ 6M或以下   ◎ 7.2M

◎ 8M   ◎ 10M   ◎ 18M

◎ 30M   ◎ 50M   ◎ 100M

◎ 130M   ◎ 不清楚   ◎ 其他：_____

附送之增值服務：

☐ 住宅無線上網 (Router)   ☐ 防毒軟件   ☐ 電郵傳真組合服務

☐ 收費電視 (例：足球/電影頻道)   ☐ 網上音樂   ☐ 戶外Wifi無線上網

☐ 流動寬頻服務 (供應商提供USB 無線上網裝置)   ☐ 家居電話   ☐ 寬頻電話

☐ 長途電話分鐘   ☐ 手機通話優惠   ☐ 沒有

其他：_____

6. 從哪一個途徑得知「新的寬頻供應商」的服務內容？

◎ 網站搜尋器(例：Yahoo! /Google Search)   ◎ 電視廣告   ◎ 宣傳單張

◎ 討論區(例：Uwants / Discuss.com)   ◎ 雜誌 / 報紙介紹   ◎ 郵寄宣傳函件

◎ 「新寬頻供應商」網站   ◎ 報章 / 雜誌廣告   ◎ 電話推銷員

◎ 網站宣傳廣告   ◎ 港鐵網絡宣傳廣告   ◎ 戶外推銷員

◎ 其他：_____

7. 閣下透過哪一個途徑登記「新的寬頻供應商」之寬頻服務：

◎ 戶外推廣員   ◎ 上門推廣員   ◎ 電話推廣員

◎ 室內展銷會   ◎ 致電登記熱線   ◎ 網上登記

◎ 門市登記   ◎ 其他：_____

LIST OF FIGURES