EMPLOYEES' TECHNOLOGY READINESS AND SERVICE QUALITY IN MEXICAN CALL CENTERS

PROPENSIÓN A LA TECNOLOGÍA Y CALIDAD EN EL SERVICIO DE LOS EMPLEADOS EN LOS CALL CENTERS DE MÉXICO.

Claudia Quintanilla [a] • Edgardo Ayala [b]

Abstract

This research brings evidence that technological readiness of call center agents in Mexico, that is how ready employees are to embrace new technologies, is an important antecedent of the service quality they deliver, once we controlled by other key determinants of the service quality in this industry such as commitment and job satisfaction. A survey was designed to assess a variant of Parasuraman and Colby (2001) Technological Readiness Index or TRI, service quality and other relevant variables in a sample of 420 contact employees of a call center located in Mexico. Evidence indicates that agents that score high in TRI scale render better service quality than agents with low TRI scores. Moreover, service quality improves more when TRI improves, than when job satisfaction and organizational commitment do. The study suggest managers might use TRI as a diagnostic tool to recruit customer contact employees and also for segmenting them; they can decide which type of trainee they need and allocate employees to job positions according to their technological readiness skills. Few attempts have been done in order to incorporate the technological dimension in studying the service quality of customer contact employees. The main contribution of the study is showing this dimension indeed matters at least in emerging countries such as Mexico.

Key Words: Service Quality, Technology Readiness, Customer contact employees, Job Satisfaction, Commitment.

Resumen

Esta investigación presenta evidencia de que la propensión a la tecnología de los agentes de centros de contacto en México, esto es que tan dispuestos están los empleados a aceptar nuevas tecnologías, es un importante antecedente en la calidad del servicio, una vez que controlamos por otros determinantes considerados críticos en esta industria, tales como el compromiso organizacional y la satisfacción en el trabajo. Se realizó un trabajo de campo para validar una variante de la escala del Índice de Propensión a la Tecnología (TRI, por sus siglas en inglés) de Parasuraman and Colby (2001), así como medir la calidad del servicio y otras variables relevantes a una muestra de 420 agentes de contacto, empleados en un Call Center ubicado en México. La evidencia muestra que los empleados con mayores scores en el Índice a la Propensión a la Tecnología (TRI) rinden mejor calidad del servicio que aquellos con scores más bajos. Más aún, la calidad en el servicio mejora más con mejoras en el TRI, que cuando el compromiso

a Professor of Marketing, Tecnologico de Monterrey - EGADE. Av. Fundadores y Rufino Tamayo, 66269 San Pedro Garza Garcia, NL, Mexico. E-mail: claudia.quintanilla@itesm.mx

b Professor of Economics, Tecnologico de Monterrey - School of Business, Social Sciences and Humanities - Av. Eugenio Garza Sada 2501, 64489 Monterrey, NL, Mexico. E-mail: edgardo@itesm.mx

organizacional y la satisfacción en el trabajo aumentan. El estudio sugiere que los gerentes pueden utilizar el TRI como herramienta diagnóstica para reclutar empleados de contacto y también para segmentarlos; ellos pueden decidir qué tipo de entrenamiento necesitan y asignarlos a puestos de acuerdo a su propensión tecnológica. Pocos estudios se han realizado para incorporar la dimensión tecnológica en el estudio de la calidad en el servicio de los empleados de contacto con el consumidor. La principal contribución del estudio es demostrar que esta dimensión sí importa, al menos en países emergentes como México.

Palabras Claves: Calidad en el Servicio, Propensión a la Tecnología, Empleados en contacto con el cliente, Satisfacción en el trabajo, Compromiso

Introduction

Call center growth in service industries has changed interaction in service encounters nowadays. According to market researcher Datamonitor (2008), the global growth of contact center market will increase from $5.6 billion in 2007 to $6.6 billion in 2010. During the same period, the North American contact center market is expected to grow from $2.5 billion to $2.7 billion. Specifically the LatinAmerica contact center market is represented by Brasil, Mexico and Argentina with an eighty percent of the market share (Colángelo, 2009). Even though this positive perspective of growth, call centers still have a turnover rate that managers are trying to reduce. Employees' abilities, job satisfaction and commitment are key elements to be observed by managers in order to control this rate.

Miciak and Desmarais (2001) state that call centers are changing the way companies communicate with customers and are a strategic asset in delivering exceptional service quality. More customer-oriented companies are increasingly using their centers to differentiate their product or service offering and are maximizing customer satisfaction. Call centers have become an integral part of most companies' marketing and customer service strategies (Gilson & Khandelwal, 2005; Mahesh & Kasturi, 2006).

According to Miciak and Desmarais (2001), call centers are complex operations that require a combination of technology, process, and human talent in order to succeed. Consequently, increasing attention is being paid to internal marketing (i.e., employees) and to interactive marketing strategies.

It is often argued that customer satisfaction is mediated by a positive effect on working performance and perceived service quality in marketing services (Brown & Peterson, 1994; Hartline & Ferrel, 1996; Malhotra & Mukherje, 2004; Schimt & Allscheid, 1995). Where the performance of the service cannot be evaluated in terms of specific tangible attributes as in a physical good, service quality has been defined as "the consumer's judgment about an entity's excellence or superiority… it is a form of attitude…and results from a comparison of expectations with perceptions of performance" (Parasuraman, Zeithalm & Berry, 1988, p. 14). In services, customer contact employees represent a key element in delivering service quality.

Literature on services marketing, services management and organizational psychology emphasizes the importance of service quality in attracting, satisfying and retaining customers (Heskett, Sasser & Schlesinger, 1997; Schneider, White & Paul 1998; Storbacka, Strandvik & Grönroos 1994). Service quality plays an integrating role between the organization and its customers, because it is the outcome of internal organizational policies and practices and fundamental in the service sequence that leads to customer value, satisfaction and loyalty.

Nonetheless, few attempts has been done in order to incorporate the technological dimension and the ability of customer contact employees to embrace it, what is known as technological readiness, in order to explain the service quality perceived by the customers. Technological readiness reflects the individual's technology-related beliefs that determine her predisposition to interact with technology. Some studies has shown technological readiness might play an important role in consumer markets and services where technology mediates the exchange between consumers and service providers (Parasuraman & Grewal, 2000; Lin & Pen, 2005; Lin & Hsieh, 2006, Rust & Kannan, 2003, Hendry, 2000, Rosen et al., 2003, Lam, Chiang & Parasuraman, 2008,Taylor, Celuch & Goodwin, 2002).

This research contributes to fill this gap documenting evidence about how service quality is affected by the technological readiness of call center employees in Mexico, as well as other determinants of the service quality as commitment and job satisfaction.

Conceptual Background

Service Marketing and Technology

Service marketing literature has focused on understanding the service-profit chain, which links service firms' profits with employee and customer satisfaction. This chain consists of five links (Anderson & Mittal, 2000): internal service quality, satisfied and productive service employees, greater service value, satisfied and loyal customers and healthy service profits and growth. Thus, service marketing requires more than just traditional external marketing using the four P's (product, price, promotion and place or distribution). Kotler (1994) came up with a model that deals with the interaction between company-employees-customer relationships and the different types of marketing applied for each relation (See Figure 1).

Figure 1

The Services Marketing Triangle
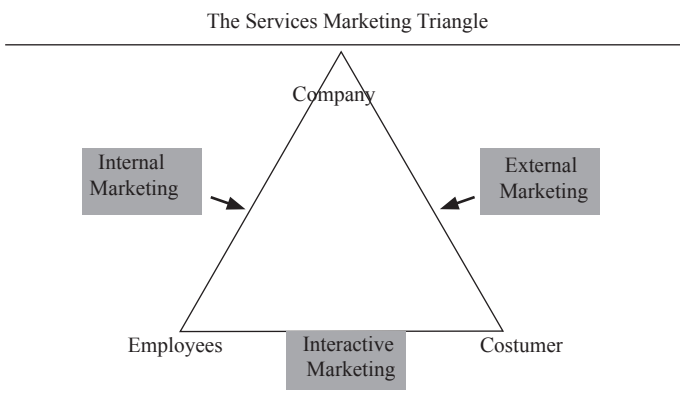
Source: Kotler (1994).

The triangle model highlights the issue that marketing of goods occurs primarily in the form of external marketing, activities related to the 4 P's, while the effective marketing of services requires extra emphasis on internal and interactive forms of marketing.

Interactive marketing means that service quality depends heavily on the buyer-seller interaction during the service encounter. In a product/good context often this interaction is not relevant, but in services marketing, service quality depends on both the service deliverer and the quality of the delivery. Service marketers, therefore, must master interactive marketing skills. Increasingly this is done through interactive technology rather than face to face.

The growing role of technology into the service process led Parasuraman (1996) to position technology at the center of the Kotler (1994) triangle (See Figure 2).

Figure 2

The Services Marketing Pyramid
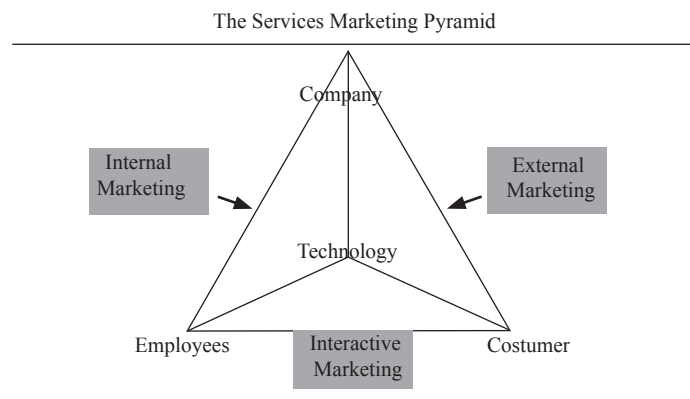
Source: Parasuraman (1996).

The proliferation of technology used in service delivery has complicated the service encounter that has traditionally been dominated by interpersonal interactions (Curran, Meuter, & Surprenant, 2003). Information technology (IT) allows customers and employees potentially to be more effective in accessing and providing the service, but not all employees or customers are equally ready to accept new technologies.

Even global markets have changed with the introduction of information technologies (ITs), and consumers as well as employees have changed their lifestyles due to the introduction of innovative technologies in the way they carry out common tasks. Industries introduced ITs to deliver their service and make it accessible to their customers and employees around the world.

While considerable work has been done to investigate the role of IT on service industries in general and on service marketing in particular, less has been done to provide an understanding of the relationship of employees' attitudes toward ITs and service quality. Specifically in service industries like call centers, several authors have studied front line employees as a key element in the coproduction of the service, and the service quality knowledge is still a concern. Ashill et al., (2009) for example, call for future research in personality traits of front line employees in call centers in order to explain the service recovery performance, while Dean & Rainnie (2009) contribute to service quality knowledge in a call center context, suggesting that to deliver higher levels of service quality, managers need to hire the "right" service staff.

In this research, we explored three critical determinants of service quality: technological readiness, employee commitment and job satisfaction. Let us explain why they are key factors in intensive technology sector, such as the call sector industry.

Technology Readiness Index (TRI) is a multi-item scale developed by Parasuraman (2000) with "psychometric properties that companies can use to gain in-depth understanding of the readiness of their customers to embrace and interact with technology, especially computer/internet-based technology."

TRI can also be used to assess the technology readiness of internal customers (i.e., employees). As in the case of external customers, gaining a good understanding of the technology readiness of employees is important for making the right choices in terms of designing, implementing and managing the employee technology link. As Parasuraman (2000) states, the issue of technology readiness is especially important for contact employees to whom customers may turn for assistance when there are problems with the customer technology interface. In those situations, solving the problem could be centered not only on the employee's people contact skills, but also on their technology readiness. Employees who rate high on both interpersonal skills and technology readiness are more likely to be effective in tech-support roles than are employees who are deficient in either criterion.

Research on "customer technology readiness" suggests there are segments of customers who are simply not interested in or ready to use technology (Parasuraman & Colby, 2001). Employees can also be reluctant to accept and integrate technology into their working lives, either because they do not wish to change or do not perceive any value in learning the new technology (Bitner, 2001).

TRI reflects a combination of technology-related beliefs that collectively determine an individual's predisposition to interact with technology based products and services, e.g., integrated computer systems and telephones in a call center. Technology readiness has been applied in a variety of contexts, including consumer markets (Parasuraman & Grewal, 2000; Lin & Pen, 2005; Lin & Hsieh, 2006), e-services (Rust & Kannan, 2003), education choice (Hendry, 2000), health care (Rosen et al., 2003), internet acceptance (Lam, Chiang & Parasuraman, 2008) and the insurance industry (Taylor, Celuch & Goodwin, 2002).

The increasing display of technology is altering the essence of service encounters formerly anchored in a "low-tech, high-touch" paradigm (Bitner, Brown, & Meuter, 2000). Now employees and customers have access to information technology that can enable service encounter satisfaction. When used by providers, technology can make employees more effective and/or efficient. Technology can provide a way for customer information

and data to be saved and easily accessed by employees to enhance the value of their interactions with customers. Information that could not possibly be remembered or sorted in the past is now available to employees with the stroke of a computer key. Furthermore, growth in the new e-services context is steadily increasing, (Colby & Parasuraman, 2003). E-services are defined as "all services delivered via an electronic medium (usually the Internet) and comprising transactions initiated and largely controlled by the customer." To date there has been little management empirical research on service employees interacting with these technologies and its impact on service quality firms, such as call centers. The few studies there are involve satisfaction and dissatisfaction with technology-based service encounters (Meuter et al., 2000), evaluations of service quality (Dabholkar, 1996), intentions to use self-service technologies (Curran, Meuter, & Surprenant, 2003), and all concern the customers' points of view only. Less emphasis has been placed on service employees who interact with these technologies.

Dabohlkar (1994) has come up with a categorization of technology-based service delivery options that can be applied across any industry. The first classification is based on who uses technology to deliver what services. For example, in person-to-person deliveries, employees use technology to serve individual accounts, e.g., in banking transactions. The second categorization involves the location of where the service is to be delivered (e.g., at the service firm's physical location, at the customer's home or office using a personal computer, and/or at a "neutral" site such as an ATM in an airport). The final categorization involves identifying the "various levels of interaction" that customers and employees will have based on the total service received during the operation, either through direct or indirect contact, such as in the case of using a call center or the internet to receive information or complete the service transaction.

Understanding the co-production aspect that exists between employees as well as customers and understanding the employees' perspective in a service interaction is also important. Empirical evidence shows that customer contact employees contribute to service excellence by creating a favorable image for the firm, by going beyond the call of duty for customers, by promoting the firm's products and services, and by providing better service than the competition does (Bitner, 1995; Schneider & Bowen, 1993). For this reason it is important to measure employee feelings and thoughts regarding technology for delivering their services. Effective co-production can increase the likelihood of product or service success and customer satisfaction can present competitive opportunity for firms. "The co-production framework provides a

lens through which firms can develop, adjust, and evaluate their operational procedures, technology friendliness, human resource practices and performance criteria" (Bettencourt et al., 2002).

H1: TRI has a significant positive effect on the service quality of customer contact employees.

Other Service Quality Determinants: Organizational Commitment and Job Satisfaction

Service quality has also been related to organizational commitment and job satisfaction, as Malhotra and Mukherjee (2004) demonstrate in a UK call center. Among them, job satisfaction is one of the most widely studied and measured constructs in the organizational behavior and service management literature. This interest proceeds from its relationships to other substantial organizational outcomes including absenteeism, performance, organizational commitment, and turnover.

Employees who are satisfied with their jobs are more likely to appreciate them. In fact, job satisfaction has often been established as an antecedent of customer-oriented behavior (Hoffman & Ingram, 1992). Job satisfaction is the most frequently examined psychological variable in the satisfaction and turnover relationship. Recent studies have found that withdrawal intentions can be predicted from job satisfaction (Mukherjee & Malhotra, 2007; Price, 2001; Lambert, Hogan & Barton, 2001).

Several researchers have studied job satisfaction in conjunction with performance. Zeithaml, Parasuraman and Berry (1990) argue that employees who are not suited to their jobs will not be able to deliver quality service. Zeithaml and Bitner (2000) demonstrate that "satisfied employees make for satisfied customers."

H2: Job satisfaction has a significant positive effect on the service quality of customer contact employees.

Organizational commitment has a relevant link to employees' behavior towards their company and a willingness to commit to the company's goals. Long-term customer relationships can be built with a long term committed workforce (Boshoff & Allen, 2000). Even though there are few published studies which investigate the relationship of organizational commitment of employees and service quality, this relationship has been studied in regards to job performance. Sawyer, Srinivas & Wang, (2009) studied personality factors of call center employees and their supervisors in order to understand the effect in performance.

Service quality is affected when employees are unwilling or unable to perform a service at the required level.

Hence, the organizational commitment of customer contact employees has an important role to play in determining the level of service quality delivered to customers.

Malhotra and Mukherjee (2004) used Allen and Meyer's (1990) scale of organizational commitment when they identified three types of organizational commitment: 1) affective commitment, which refers to the employee's emotional attachment to, identification with, and involvement in the organization; 2) normative commitment, which refers to the employee's feelings of obligation to stay with the organization; and 3) continuance commitment, which refers to the commitment based on the costs that the employee associates with leaving the organization. This three-component model links each component of commitment to specific work outcomes, such as employee retention and on-the-job behavior.

The authors showed that in a UK context, the affective commitment component of organizational commitment was more important than normative or continuance commitment, more important even than job satisfaction in its relationship with service quality. Little & Dean (2006) found that employee commitment mediates service quality capabilities of frontline employees at a call center.

These are many reasons for concerns of companies about service quality, specifically at call centers where effectiveness is indicated by characteristics such as customer orientation, service priorities and quality. Dean (2002) demonstrated perceptions of quality as well as customer orientation of call centers related to loyalty to the supplier, and perceptions of quality partially mediated by the customer orientation to loyalty relationship. Ramseook-Munhurrun, Naidoo &Lukea-Bhiwajee, (2009) state that satisfaction of front line employees in a call center are best predicted by the dimension of "tangibles" in the SERVQUAL scale.

Based on the literature review presented, these hypotheses were formulated for testing:

H3a: Affective commitment has a significant positive effect on service quality of customer contact employees.

H3b: Normative commitment has a significant positive effect on service quality of customer contact employees.

H3c: Continuance commitment has a significant positive effect on service quality of customer contact employees.

A graphical representation of the model and the hypotheses is presented in Figure 3. The model incorporates TRI, job satisfaction and organizational commitment as the relevant main independent variables determining

the level of service quality, identifying all hypotheses in the relevant paths. Also we incorporate the paths from the three subscales of commitment, affective, normative and continuance, to the main organizational commitment construct. Through this route they indirectly affect service quality.

Figure3

Conceptual Model
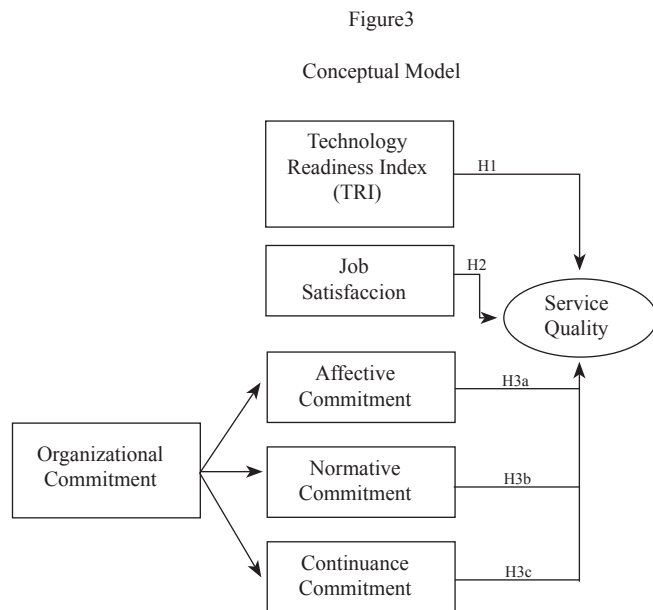
Research Methodology

Data Collection

We selected the call center sector as our empirical unit of analysis because this industry is playing a determinant role in the way firms are delivering their services to their customers. Hence, it is not surprising the amazing economic growth of these firms.

Call centers expansion turn customer contact employees as the determinant link between companies and customers, if contact employees fail in providing a satisfactory service, customers' perceived service quality collapse. Call centers allow a company to build, maintain, and manage customer relationships by solving problems and complaints quickly, providing information, and answering questions, being available usually 24 hours a day, seven days a week, 52 weeks a year (Prahabkar, Sheehan & Coppett, 1997).

Moreover, the call center industry has expanded very fast in Latin American countries by the interaction of three factors: low labor costs, technology infrastructure,

and local labor quality. Compatible time zones, low communication costs and the high level of sophistication of the employee are also attractive. Latin American employees are often bilingual college students from marketing and communication areas. Specifically in Mexico, according to Montero and Pedrero (2007), the call center industry generates three hundred thousand jobs, representing 0.57% of GNP. The estimated investment represents three thousand five hundred millions of dollars.

For these reasons the call center industry is a natural setting to study the response of customer' service quality to employees' technological readiness on the, controlling by important organizational determinants, such as employee commitment and job satisfaction.

The initial sample of 420 employees was taken from a 24-hour call center in Mexico[1]. The customer contact employees (CCE) there received calls directly from consumers, fifty percent of whom are Hispanic. Call centers are spaces where consumers and employees interact through telephone and computer systems. According to Sieben et al., (2009) agents in call centers must be trained differently based in the time they have in the firm and by technology type. Workflow automation technologies, interaction technologies (such as interactive voice response and speech recognition) enhanced interaction technologies (such as media blending, electronic customer relationship management, and web-enablement) and interaction automation technologies are some examples of the information technologies the employees of the call center under research daily manage.

Measuring Instrument

The original questions of the Technology Readiness Index (TRI) were provided by its authors, Parasuraman and Colby (2001) and integrated in the questionnaire. General suggestions about using the scale in a survey in the long or short version were also considered. This instrument was originally designed with 36 items arranged in four dimensions: innovativeness, optimism, insecurity and discomfort. The relative strengths of the positive and negative beliefs determine a person's receptivity to technology. A ten item version of the scale was used, stressing organizational commitment and job satisfaction scales and imposing time constraints.

Other instruments that measure an individual's propensity to adopt technologically facilitated services were

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[1]The questionnaires were applied between January and March of 2008. According to National Bureau of Economic Research expansion of the US economy ended at fourth quarter of 2008 and Mexico economy presented symptoms of recession until the second and third quarter of 2008. For that reason, we believe the answers of the employees are not affected by the though labor conditions that prevailed in the worst time of the international financial crises.

considered, like that designed by Walker et al.,(2002). Their instrument incorporates dimensions of capacity, desire for control, needs for fulfillment, perceived accessibility and complexity, perceived risk, relative advantage and technical reliability. Comparing both scales, TRI scale provides an instrument general to all contexts, while Walker et al. (2002) scale is specific to technology-based service in a customer one.

Service quality was measured with the SERVQUAL scale (Parasuraman et al., 1988), the most frequently used measure. This scale contained at its last revision 22 items measuring five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. It was divided into two sections, one aimed at identifying expectations and the other devoted to perceptions, using in both cases a seven-point Likert type-scale ranging from seven (strongly agree) to one (strongly disagree). This study considered only the 11 items included in the third gap called "service performance gap" which refers to the difference between actual service delivery and a firm's service quality specifications, since service quality of the employees and not that of the whole organization was the useful one in this case. A consideration of a reasonable length of the questionnaire was made.

Organizational commitment, or the attitude people have toward the company they work for, was measured with the revised three-component scale of affective, normative and continuance commitment from Meyer, Allen and Smith (1993) as used by Malhotra and Mukherkee (2004). The scale with 18 items has been extensively used by researchers in several studies like McDonald and Makin (2000) and Jacobsen (2000).

The final questionnaire, including a total of 41 items of the scales explained above, is attached in English in Appendix A. All items in the questionnaire were linked to a seven point Likert-type scale ranging from "strongly agree" to "strongly disagree." These questions were translated by a bilingual expert into Spanish, following Triandis' (1994) methodology for cross-cultural studies. This translation was then given to another bilingual expert to translate back into English, and afterwards compared to the originals. No differences in meanings were detected and, therefore, the translated questionnaires were used for a preliminary test and for the main study. The preliminary test was applied to nineteen customer contact employees of a call center in order to identify meaning, writing or problems of comprehension. Demographic data questions were also included to identify the general characteristics of the sample.

Self-administered questionnaires were delivered through the supervisor to 420 employees. A stratified sampling method was applied with the managers' autho-

rization to include all of the different types of campaigns (international and national) in the sample, as well as inbound or outbound services. This method was applied to achieve a representative sample of the population. Only those employees who were customer contact employees were asked to fill in the questionnaires. A cover letter outlining the general objective of the study, the importance of the anonymous answers, and the researcher's contact information was included. Of the four hundred and twenty distributed questionnaires, 394 completed questionnaires were received and were useable for the statistical analysis.

Once the questionnaires were numbered, coded and captured as a Statistical Program for Social Sciences (SPSS) database, a validating routine to capture mistakes was run. Some items in three out of the four scales needed to be reverse coded according to the wording of the sentence and how it loaded with the meaning of each construct, item numbers 3, 4 and 5, specifically for the affective commitment construct. Only item number 1 for the normative commitment scale and five items belonging to technology readiness index were reverse coded, specifically numbers 2, 4, 6, 8 and 10. Reliability tests using Cronbach alpha procedure were applied for the items belonging to each scale.

In addition to this test, correlation matrix was obtained and factor analysis through principal component and Varimax rotation was performed to prove the scale validity.

Results

Validation of Measurement

In order to test the hypotheses we ran two multiple regression models, the difference is the way to include organizational commitment construct, as an aggregate or by its main components.

In the second model (restricted) Organizational Commitment (OC) was included as an aggregated construct. It includes affective, normative and continuance commitment. Job satisfaction is known as JS and service quality as SQ. The model was run under a restricted and unrestricted (first model) format in order to test the OC elements, AC representing affective commitment, NC referring to normative commitment and CC as continuance commitment. Finally, an elasticity index was estimated in terms of the relationship each variable (TRI, OC and JS) had with SQ.

The sample consisted of 49 percent females and 51 percent males (n=394). The mean age of the employees was 24 years, and with a 5.83 of standard deviation, all

are permanent staff in the call center. Regarding education, 15 percent had completed a bachelor's degree, 34 percent were studying for their bachelor's degree, 14 percent had incomplete bachelor's degree, 18 percent had completed their technical degree, and 19 percent had completed high school. The type of campaign customer contact employees work with was also measured, obtaining 53 percent in an inbound service, 22 percent outbound and 25 percent blending (in/out). Even though the call center is located in Mexico, the service is offered in an offshore format, meaning that service is delivered to international customers in either English or Spanish. The natural distribution of the sample regarding this variable was 53 percent international campaign, 41 percent national, and 6 percent in both.

The reliability for each of the scales (of the TRI, OC defined by "Affective Commitment," AC, "Normative Commitment," NC and "Continuance Commitment," CC, as well as SQ, and JS as constructs) was found by computing the coefficient α Cronbach, 1951). All coefficients α were found to be higher than 0.7 or a near value to it, and therefore were considered acceptable (Nunnally, 1978): TRI, α =.595; SQ, α =.928; AC, α =.686; NC, α =.781; CC, α =.691; JS, α =.758; OC, α =.688.

To test the psychometric properties of the instruments used in the study, factor analysis was used for each of the constructs. If all the items that are expected to load together actually do so, nomological validity is indicated. Also, discriminant validity is indicated if the factors and the items are truly different from one another (Carman, 1990).

Principal component analysis followed by Varimax rotation was performed for each of the constructs, service quality, job satisfaction and organizational commitment. All 11 items of service quality loaded on one factor significantly and for organizational commitment three different components were obtained. Only item 1 of normative commitment did not load significantly, and hence was deleted from further analysis.

Items for each scale were validated and tests of reliability were run in order to confirm the right measurement of the variables. Then the regression model was run, looking for empirical support for the hypothesis.

Hypothesis Testing

In order to test hypotheses H1 to H4, we estimate a regression model for Service Quality (SQ) as a linear function of the Technological Readiness Index (TRI), the Job Satisfaction index (JS) and the Organizational Commitment index, which it was measured with three components, affective, normative and continuance. Two

models were estimated, the unrestricted model which employs the three individual commitment indexes, and other which uses an overall commitment index which is just the average of the three commitment components. In both cases, we included some important control variables such as tenure in the job, education and age of the employees, which were approximated with a second degree polynomial for months in the job, a dummy variable indicating if the employee has a college degree or not and just the age in years. The idea is to prevent the omission of relevant variables bias, because if one of them has some correlation with TRI, for example, then the standard least square method excluding these control variables would overestimate or underestimate the real effect of technical readiness on service quality.

The estimations of both versions of our regression model are shown in Table 1. The coefficients of technical readiness and job satisfaction have the expected sign and are significant different from zero (p<0.01) in the unrestricted and restricted versions. Moreover the coefficient magnitudes are almost the same in both estimations. Among the individual organizational commitment components, only continuance commitment proved to be significant different from zero. When we use the average of the three organizational commitment indexes, the overall index coefficient has the expected sign, it is significant different from zero and has almost the same magnitude than the continuance commitment coefficient of the unrestricted regression.

Table 1
Service quality regression model estimates

Variable	Unrestricted	Restricted
Constant	3.475514***	3.605891***
Technological Readiness	0.337535***	0.306658***
Job Satisfaction	0.117187***	0.114611***
Overall Commitment		0.147688***
Affective Commitment	-0.054448	-
Continuance Commitment	0.145915***	-
Normative Commitment	0.043406	-
Months in the job	-0.092025**	-0.092147**
Square of the months in the job	0.010649**	0.011115***
Professional	0.374769***	0.429301***
R-squared	0.241497	0.218102
Adjusted R-squared	0.225571	0.205853
F-statistic	15.16316***	17.8056***

Note: *** p<0,01, **p<0,05, *p<0,1

The control variables coefficients give some additio-

nal interesting insights. First, it seems that controlling for the rest of the variables, there is a nonlinear relationship between service quality and the number of months the employees has in the job. Particularly, the relationship is a U-curve indicating a learning cost in the first months that reaches its minimum at approximately the fourth month. Regarding education, employees with college studies perform better than non-college employees in the quality index.

Additionally, the technical readiness, job satisfaction, organizational commitment and the control variables explain one fourth of the total variation of service quality across all the call center employees surveyed. Thus, in general we can conclude that employees that score higher in technological readiness, job satisfaction and commitment perform better than the rest of the employees.

However, service quality is more sensible to technical readiness than the other constructs. Indeed, the beta coefficient, which measures the increase of SQ in standard deviations as a product of an increase in TRI in standard deviations, is 0.3, while the beta coefficient is approximately 0.2 for JS and 0.16 or 0.19 for the commitment variable depending of it measured by the continuance or the overall commitment index. Punctual estimates of betas coefficients reveal that the employees' performance is 1.5 times more sensible to TRI than the other two classical constructs in human resource and internal marketing in the service industry.

Other form to make useful comparisons among response parameters is to calculate the elasticities, which gives us an estimate of the percentage change in the service quality of the employees for each one percent of the explanatory variables. Again, the elasticity of technical readiness is higher, 0.24, compared with the elasticities of job satisfaction, 0.09, or the proxies for organizational commitment, 0.097 or 0.09. According to these figures, the TRI elasticity on service quality is approximately two times the satisfaction and commitment with the job.

One limitation of the exercise is that the service quality index is the average of self-reported Likert scales, thus the variance in the dependent variable is relatively small. In order to add more variability to the service quality measure, we create a dummy variable that takes value 1 is the employee is above the median service quality index and 0 if is below. Then we run a probit regression model using this qualitative dependent variable instead of the continuous service quality index using the same set of regressors we used in the ordinary least square estimation, results are presented in Table 2. Estimations of the probit specification do not show major changes our main findings, i.e. TRI, job satisfaction and commitment (mainly continuance) are significant ($p<0.01$), but now

we can use the ratio of the coefficients as an estimate of the relative sensibility of the probability of being above the median when the regressors change. Indeed, results of table 2 indicate that TRI influences more the probability of being a high performance employee than job and commitment variables, actually the change in the probability when TRI increases is 3 times the change in the probability of being a high service quality employee when job satisfaction increases, and between 1.5 and 2.5 compared with commitment variables.

Table 2
Probit estimations of High versus Low Service Quality

Variable	Unrestricted	Restricted
Constant	-2.779216***	-2.674866***
Technological Readiness	0.326624***	0.306734***
Job Satisfaction	0.104002***	0.100729***
Overall Commitment		0.215873***
Affective Commitment	-0.015635	-
Continuance Commitment	0.131987**	-
Normative Commitment	0.062293	-
Months in the job	-0.174764***	-0.1752***
Square of the months in the job	0.018907**	0.019231***
Professional	0.55566***	0.580606***
Log likelihood	-241.0118	-241.8454
LR statistic (8df)	58.53889	56.87169
McFadden R-squared	0.108293	0.105208

Note: *** $p<0,01$, **$p<0,05$, *$p<0,1$

In syntheses, our estimations are consistent with H1 to H4 what means that service quality is positively determined by technical readiness, job satisfaction and organizational commitment, although just one type of commitment proved to be import -continuance commitment- in this case. Moreover, service quality in our sampled call center seems to respond more to changes of their employees' technical readiness than to variations in the other variables.

Discussion and Implications

Hypothesis 1 deals with the existence of a relationship between service quality and the three constructs mentioned before (TRI, JS and OC). This represents the importance of employees having enough openness towards technology and feeling committed to and satisfied with their jobs in order to deliver quality in the service. Adding to UK findings on the relationship of job satisfaction and organizational commitment (Malhotra & Mukherjee,

2004), it was also shown that TRI is similarly an important variable that affects the service quality of customer contact employees in a call center context. Results show that increasing the TRI level of customer contact employees by one point can generate a 23 percent increase in service quality offered to customers. Thus, TRI elasticity with service quality represents an opportunity for managers to reinforce feelings of security and comfort of employees using ITs in order to increase employee's TRI level.

The results of Hypothesis 2 show that, at least in a Mexican context, TRI has a more significant relationship with service quality than organizational commitment and job satisfaction. The higher dispersion in customer contact employees' technological skills in Mexico might be another reason why TRI plays a more important role in explaining service quality. As indicated, customer contact employees are hired in Latin America mainly because of their language skills and their ability to attend to international customers of firms with off shore call centers. Language is seen as a more salient attribute compared with educational background or technological skills. The results of this research show that TRI is a helpful segmenting instrument to measure employee's differences on technology receptiveness. Evidence also suggests that in order to achieve excellence in service quality, employees in call centers must be better trained in computer skills so they can feel more comfortable delivering the service.

Hypothesis 3 supports a positive relationship of job satisfaction with service quality. In this type of industry it is very important for employees to feel satisfied in order for them to provide excellent customer service. Job satisfaction is then an important variable for studying its relationship with service quality. It is very difficult for unhappy and dissatisfied customer contact employees to deliver high levels of service that customers should be able to expect. Qualitative findings reinforce this hypothesis because employees mentioned that being able to access more information, statistics and graphs gives them more control to develop their job, consequently making it more rewarding. Managers should consider that their internal customers need to be properly identified and satisfied in order to keep them loyal and achieving organizational goals set by management. Increasing technological skills of contact employees will allow them to feel more satisfied and serve customers more effectively. Managers should keep in mind that employees' goals of upward mobility are important, so managers should design employee career plans.

Hypothesis 4 states the relationship of organizational commitment and service quality, considering the three components of this variable in a separate format: affective (H4a), normative (H4b) and continuance (H4c) commitment. Malhotra and Mukherjee (2004) emphasize that employees who identify with the organization and support organizational goals generally perform well (affective commitment). Evidence suggests in the Mexican study that only continuance commitment is significant (H4c).

As cited by Malhotra and Mukherjee (2004), Meyer and Allen (1991) explain the different types of commitment as affective commitment relates to employees' attitude to stay in the organization because they want to, while those with a strong continuance commitment remain because they need to and those with a strong normative commitment remain because they feel they ought to do so.

From the results of this study it can be inferred that affective commitment has not played an important role in the context of the study. One possible explanation is that in the labor market of emergent economies such as Mexico, instability is high; thus employees are aware of the fact that firms can fire them in an economic crisis.

The customer contact employee's profile in the Mexican market also influences the fact that continuance commitment is more important than affective or normative. The average employee is young (mean age 24), studying for a bachelor's degree (34 percent of the sample), and considers the call center agent job temporary and simply a way to make a living rather than the start of a career in the organization.

Results show that managers can use TRI as a predictive tool for recruiting and retaining employees with specific characteristics related to openness towards technologies. As a diagnostic tool TRI will allow the identification of techno-readiness differences in both potential and actual employees. Managers can also use TRI as a segmenting tool and decide either to train employees, to allocate them in a position with lower levels of information technologies requirements or to refuse to hire them. Internal marketers can then design and direct communication, motivational and training programs specifically targeted for each segment. Once TRI employees segments are identified, those with higher techno-readiness levels will not demand so many resources in terms of training compared with those with lower techno-readiness levels. Persuasive strategies to convince employees to improve their technological skills and deliver a higher service standard will be different from one segment to another. Internal marketing strategies aimed at increasing technology readiness among customer contact employees should focus on increasing employees' scores on the TRI.

Furthermore, although continuance is the only type of commitment that is significantly related with service

quality in the Mexican context, managers have an opportunity to find other ways to reinforce the affective and normative commitment and not only depend on a low labor market supply to maintain their employees.

Employees will behave positively towards information technologies only if they are satisfied with the process within and/or the outcome from the service value chain. Firms have to understand how employees evaluate the process and the outcome, and have to meet or exceed employees' expectations through internal marketing strategies.

Final Comments

The findings suggest technological readiness is a key factor to explain quality service among contact customer employees in Mexican call centers. However we recognize they cannot be considered as general in any single way, further research is needed in order to generalize the propositions to different dominions. An interesting hypothesis to test is that TRI effect on service quality is higher in services in which the mediation of technology between customers and services is higher, as in the call center context, compared with services where it is not, such as hospital services. In the same line, in order to generalize our findings more research across different countries is necessary. Cross cultural studies might bring more variance to the data because of the diversity of degrees of techno-readiness, capacity or willingness to embrace new technologies across countries. But also it is possible that employee's technology readiness, organizational commitment and job satisfaction levels be affected by culture dimensions, for example Hofstede (1991) ones, that is power distance, uncertainty avoidance, individualism/collectivism, masculinity/femininity and long-term/short-term orientation.

Another possibility is to assess the hypotheses in longitudinal research to track technology readiness over time and to identify possible reasons for changes. Such research is also necessary in order to obtain insights about the stability of the TRI construct.

Further research also calls for correlation studies between survey research and in-company metrics, since other evidence gathered by call centers' tracking methods can be used for contrasting the self-reported information collected through this survey. Also a comparative study with customers could be done to identify if the current cost centered metrics with which managers measure their employees' performance and standards of service quality really match with customer satisfaction.

We certainly feel that the advance of information technologies such as the integration of cellular phones and internet, the diffusion of social networks, the expansion of online markets and the mediation of the interaction of consumers and service employees through computational systems might polarize the customers and employees in two groups, the one that keep pace to this rapid technological change and the one that is left behind. Therefore, incorporating TRI scales or any other variable that reflect the openness of consumers and employees towards technology will be more indispensable in marketing research, either consumer behavior or internal marketing. We hope our contribution helps to bring this issue in an emerging country context.

APPENDIX A. Instrument items included in the questionnaire. The labels showing the name of the scale, were not shown in the final Spanish questionnaire.

ORGANIZATIONAL COMMITMENT
AFFECTIVE
1. I would be happy to spend the rest of my career with this organization.
2. I really feel as if this organization's problems are my own.
3. I do not feel a strong sense of "belonging" to my organization.
4. I do not feel "emotionally attached" to this organization.
5. I do not feel like "part of the family" at my organization.
6. This organization has a great deal of personal meaning for me.
CONTINNUANCE
7. Right now, staying with my organization is a matter of necessity as much as desire.
8. It would be very hard for me to leave my organization right now, even if I wanted to.
9. Too much in my life would be disrupted if I decided I wanted to leave my organization now.
10. I feel that I have too few options to consider leaving this organization.
11. If I had not already put so much of myself into this organization, I might consider
    working elsewhere.
12. One of the few negative consequences of leaving this organization would be the scarcity of available alternatives.
NORMATIVE
13. I do not feel any obligation to remain with my current employer.
14. Even if it were to my advantage, I do not feel it would be right to leave my organization now.

15. I would feel guilty if I left my organization now.

16. This organization deserves my loyalty.

17. I would not leave my organization right now because I have a sense of obligation to the people in it.

18. I owe a great deal to my organization.

JOB SATISFACTION

19. Overall, I feel I am satisfied with my job.

20. I am generally satisfied with the kind of work I do on this job.

SERVICE QUALITY

21. I can understand the specific needs of my customers.

22. When I promise a customer that I will do something by a certain time, I do so.

23. I perform the service right the first time.

24. When problems occur, I give them all my attention in an effort to solve them speedily.

25. I am never too busy to respond to the requests of my customers.

26. I give prompt service to my customers.

27. I always explain to my customers each and every step I take to answer their questions, e.g. why a call needs to be transferred, etc.

28. I treat all customers courteously.

29. I have the knowledge and ability to answer customers' questions.

30. When a customer has a problem, I provide him/her with individual attention.

31. My behaviour instills confidence in my customer.

TECHNOLOGY READINESS INDEX

32. I find new technologies to be mentally stimulating.

33. If you provide information to a machine or over the Internet, you can never be sure it really gets to the right place.

34. You like computer programs that allow you to tailor things to fit your own needs.

35. You do not consider it safe to do any kind of financial business online.

36. Other people come to you for advice on new technologies.

37. You worry that information you send over the Internet will be seen by other people.

38. You can usually figure out new high-tech products and services without help from others.

39. When you get technical support from a provider of a high-tech product or service, you sometimes feel as if you are being taken advantage of by someone who knows more than you do.

40. In general, you are among the first in your circle of friends to acquire new technology when it appears.

41. It is embarrassing when you have trouble with a high-tech gadget while people are watching.

Please tell us the following:

1) Your Gender:
_____Male
_____Female
2) Your Age: _____
3) Time working for this company:
_____years
_____months
4) Time working in this position for this company:
_____years _____months
5) Last education level:
___Highschool finished
___Technical carreer
___Bachelor incomplete
___Bachelor degree (studying)
___Bachelor degree (finished)
6) Campaign that you work for:
_____National
____International
___Both
7) Type of service:
____Inbound (only receiving calls)
____Outbound (only generating calls)
____Both

References

Allen, N.J. and Meyer, J.P. (1990). The measurement and antecedents of affective, continuance and normative commitment. Journal of Occupational Psychology, 63, 1-18.

Anderson, E. W. and Mittal, V. (2000). Strengthening the satisfaction-profit chain. Journal of Service Research, 107-120.

Ashill, N., Rod, M., Thirkell, P., and Carruthers, J. (2009). Job resourcefulness, symptoms of burnout and service recovery performance: an examination of call centre frontline employees. Journal of Services Marketing, 338-350.

Bettencourt, L.A., Ostrom, A. L., Brown, S. W. and Roundtree, R. I. (2002). Client co-production in knowledge-intensive business services. California Management Review, 44 (4), p.100.

Bitner, M.J.(1990). Evaluating service encounters: The

effects of physical surroundings and employee responses. Journal of Marketing, 54, 69-82.

Bitner, M. J.(1995). Building service relationships: It's all about promises. Academy of Marketing Science, 23 (4), 246-251.

Bitner, M. J. (2001). Service and technology: opportunities and paradoxes. Managing Service Quality, 11 (6), 375-379.

Bitner, M.J., Brown, S.W., and Meuter, M.L. (2000). Technology Infusion in Service Encounters. Journal of the Academy of Marketing Science, 28(1), 138-149.

Boshoff, C. and Allen, J. (2000). The influence of selected antecedents on frontline staff's perceptions of service recovery performance. International Journal of Service Industry Management, 11 (1), 63-90.

Brown, S. and Peterson, R.(1994). The effect of effort on sales performance and job satisfaction. Journal of Marketing, 58 (2), 70-80.

Carman,J.M (1990). Consumer perceptions of service quality: an assessment of the SERVQUAL dimensions. Journal of Retailing, 66 (1), 33-55.

Colángelo, A. (2009). Call & Contact Centers en América Latina 2009. Prensario TI. Junio, 2009, p. 48.

Colby, C. & Parasuraman, A. (2003, August). Technology still matters. Marketing Management, 12(4), p. 28.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-333

Curran, J., Meuter, M. and Surprenant, C. (2003, February). Intentions to Use Self-Service Technologies: A Confluence of Multiple Attitudes. Journal of Service Reseach, 5(3), 209-224.

Dabholkar, P. (1994). Technology based service delivery. Advances in Services Marketing and Management, 3, 241-271.

Dabholkar,P. (1996). Consumer evaluations of new technology-based self service options: An investigation of alternative models of service quality. International Journal of Research in Marketing, 13(1), 29-51.

Datamonitor (2008). Call Centers, Datamonitor, London.

Dean, A. (2002). Service quality in call centers: implications for customerloyalty. Managing Service Quality,12(6), 414-423.

Dean, A. & Rainnie, A. (2009). Frontline employees' views on organizational factors that affect the delivery of service quality in call centers. Journal of Services Marketing, 326-337.

Gilson, K. A. & Khandelwal, D. K. (2005). Getting more from call centers.The McKinsey Quarterly, pp. 1-8.

Hartline, M. D. and Ferrel, O. C. (1996). The management of customer-contact service employees: an empirical investigation. Journal of Marketing, Vol. 60 (4), 52-70.

Hendry, J. (2000). Technology readiness and educational choice: Is there a relationship between technology readiness as the decision to study on-line?. ANZMAC 2000 Visionary Marketing for the 21st Century, 509-512.

Heskett, J., Sasser, W. and Schlesinger, L. (1997). When right makes might. The Jorunal of
Business Strategy. Vol. 18 (4), p.6.

Hoffman, K.D. and Ingram, T.N. (1992). Service provider job satisfaction and customer-oriented performance. Journal of Services Marketing, 6 (2), 68-78.

Hofstede, Geert. (1991) Cultures and Organizations: Software of the Mind: Intercultural Cooperation and its Importance for Survival, Canbridge, England: McGraw-Hill.

Jacobsen, D.I. (2000). Managing increased part-time: does part-time work imply part-time commitment?. Managing Service Quality,10 (3), 187-201.

Kotler, P. (1994), Marketing Management: Analysis, Planning, Implementation and Control. 8th Ed. Englewood, Cliffs, NJ: Prentice Hall, 470.

Lam,S.Y., Chiang, J., & Parasuraman, A. (2008). The effects of the dimensions of technology readiness on technology acceptance: an empirical analysis.Journal of Interactive Marketing, Vol 22(4),19-39.

Lambert, E.G., Hogan, N.L., & Barton, S.M.(2001). The impact of job satisfaction on turnover intent: A test

of a structural measurement model using a national sample of workers. The Social Science Journal, Vol. 38, 233-250.

Lin, C.& Pen, C.(2005). The Cultural Dimension of Technology Readiness on Customer Value Chain in Technology-Based Service Encounters. Journal of American Academy of   Business. p.176.

Lin, J. & Hsieh, P. (2006).The Role of Technology Readiness in Customers' Perception and Adoption of Self Service Technologies. International Journal of Service Industry Management. Vol. 17 (5), 497-517.

Little, M. & Dean, A. (2006). Links between service climate, employee commitment and employees' service quality capability. Managing Service Quality,Vol 16(5), 460-476.

Mahesh, V.S. and Kasturi, A. (2006), "Improving call center agent performance", International Journal of Service Industry Management,Vol.17(2), 136-157.

Malhotra, N. and Mukherjee, A. (2004). The relative influence of organizational commitment and job satisfaction on service quality of customer contact employees in banking call centers. The Journal of Services Marketing, 18, 2-3.

McDonald, D.J. and Makin, P.J.(2000). The psychological contract, organizational commitment and job satisfaction of temporary staff. The Leadership & Organization Develpoment Journal, 21(2), 84-91.

Meuter, M.,Ostrom, A., Roundtree, R. & Bitner, M.J. (2000). Self-service technologies: understanding customer satisfaction with technology based service encounters. Journal of Academy of Marketing Science, 64, 50-64.

Meyer J. P. & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. Human Resource Management Review, 1,61-89.

Meyer, J.P., Allen, N.J. and Smith, C.A. (1993), "Commitment to organizations and occupations: extension and test of a three-component conceptualization," Journal of Applied Psychology, 78(4), 538-551.

Miciak, A. and Desmanais, M. (2001). Benchmarking service quality performance at business-to-consumers

call centers. Journal of Business and Industry Marketing, 16 (5), 340-453.

Montero, M. and Pedrero, F.(2007). Call Centers en México, El Universal. Jueves 15 marzo 2007.

Mukherjee, A., & Malhotra, N. (2007). Does role clarity explain employee-perceived service quality? A study of antecedents and consequences in call centres. International Jorunal of Service Industry Management. Vol 17(5),444-473.

Nunnally, J.(1978), Psychometric Theory, 2nd ed., McGraw-Hill, New York, NY.

Parasuraman, A. (1996). Understanding and Leveraging the Role of Customer Service in External, Interactive and Internal Marketing. Frontiers in Service Conference, Nashville, TN.

Parasuraman, A., Zeithalm, V.A. and Berry, L.L. (1988). SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality. Journal of Retailing, 64 (1),12-40.

Parasuraman,A. (2000, May). Technology Readiness Index (TRI) A Multiple-Item Scale to Measure Readiness to Embrace New Technologies. Journal of Service Research, 2(4), 307-320.

Parasuraman, A. and Colby, C. L. (2001). Techno-Ready Marketing. The Free Press. NY.

Parasuraman, A. and Grewal, D. (2000). The impact of technology on the quality-value-loyalty chain: a research agenda. Journal of the Academy of Marketing Science, 28(1), 168-174.

Prabhakar, P.R., Sheehan, M.J. and Coppet, J.I.(1997). The power of technology in business selling: call centers. Journal of Business and Industrial Marketing, 12 (3/4), 225-235.

Price, J.L.(2001). Reflections on the Determinants of Voluntary Turnover. International Journal of Manpower, 22 (7), 600-624.

Ramseook-Munhurrun, P., Naidoo, P., & Lukea-Bhiwajee, S. (2009).Employee perceptions of service quality in a call centre. Managing Service Quality, 19 (5), 541-557.

Rosen, J., Mittal, V., Mulsant, B., Degenholtz, H., Castle, N. and Fox, D. (2003). Educating families of nursuing home residents: A pilot system using a computer-based system. Journal of the American Medical Directors Association, 128-134.

Rust, R.T. and Kannan, P.K.(2003). E-Servive: A new paradigm for business in the electronic environment. Communications of the ACM, 46 (6), 37-42.

Sawyer,O., Srinivas,S., &Wang, S. (2009). Call center employee personality factors and service performance. Journal of Services Marketing, 23(5), 301-317.

Schmit, M. and Allscheid, S. (1995). Employee atittudes and customer satisfaction: making theoretical and empirical connections. Personnel Psychology,Vol. 48 (3), 521-536.

Schneider, B., White, S.S. and Paul, M.C. (1998). Linking service climate and customer perceptions of service quality: test of a causal model. Journal of Applied Psychology, 83 (2), 150-163.

Schneider, B. & Bowen, D. (1993). The service organization: Human resources management is curcial. Organizational Dynamics.Vol. 21. Iss. 4, 39-54.

Sieben, I., De Grip, A., Longen, J. and Sorensen, O. (2009). Technology, selection and training in call centers. Industrial & Labor Relations Review, 62 (4), 553-572.

Storbacka, K., Strandvik, T. and Grönroos, C. (1994). Managing customer relationships for profit: the dynamics of relationship quality. International Journal of Service Industry Management, 5(5), 21-38.

Taylor, A., Celuch, K., and Goodwin, S. (2002). Technology readiness in the e-Insurance industry: An exploratory investigation and development of an agent technology e-consumption model. Journal of Insurance Issues, 25(2), 142-165.

Triandis, H. (1994). Culture and Social Behavior. New York: McGraw Hill.

Walker, R.H., M.C. Lees, R. Hecker and H. Francis (2002). Technology-Enabled Service Delivery: An Investigation of Reasons Affecting Customer Adoption and Rejection. International Journal of Service Industry Management, 13(1), 91-10

Zeithalm, V.A., and Bitner, M.J. (2000), Services Marketing: Integrating Customer Focus across the Firm, 2nd ed., McGraw-Hill, New York, NY.

Zeithalm, V.A., Parasuraman, A. and Berry, L.L. (1990), Delivering Quality
Service, Free Press, New York, NY.