경영학석사학위논문

A Study of the Quality Dimensions and Consumer Satisfaction in Korean Health Examination Service

국내 건강검진 서비스품질 속성과 고객만족도에 관한 연구

2013 년 8 월

서울대학교 대학원

경영학과 생산관리전공

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이 논문을 경영학석사학위논문으로 제출함

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Abstract

A Study of the Quality Dimensions and Consumer Satisfaction in Korean Health Examination Service

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As health care expenditure and aged population are increasing significantly, we encourage taking periodic health examination service nationally to prevent future illness. However, in contrast to other health care services, previous research do not investigate health examination service thoroughly in consumer perspective. Therefore, the purpose of this study focuses on identifying the dimensions of health examination service quality and its influence to customer satisfaction and behavior intentions.

We introduce modified SERVPERF to construct the quality dimensions of health examination service. We assume that service quality consists of six dimensions such as tangibles, reliability, responsiveness, assurance, empathy, and privacy. To identify each dimension and its impact, we employ structural equation model.

We found that these six dimensions converged to five dimensions. Privacy does not construct its dimension, responsiveness and assurance emerged as one and tangibles dimension is split by two factors. The impact of tangibles 1 on consumer satisfaction is significant but the one of tangibles 2 is not. This result complements Parasuraman et al., (1991) and support Carman (1990) of hospital setting. Responsiveness/assurance and tangibles 2 do not significantly affect consumer satisfaction but reliability, empathy, and tangible 1 do. From the relative importance of reliability and empathy, when we implement the strategy for improving service quality, we should focus on them. We also confirm that

consumer satisfaction from perceived service quality is contributing the positive behavior intentions of consumers. Therefore, improving service quality will bring more sales by attracting more consumers.

The limitation of this research is that sample covers only two health examination centers in Seoul, Korea with similar environment. Therefore, further research, which contains more diverse samples with various contexts, is necessary.

Keywords: health examination, health screening, service quality, SERVPERF, consumer satisfaction
Student Number: 2011-20492

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1. Introduction

The objective of this study is analyzing the quality dimensions of health examination service, also referred as health screening, and their impacts on customer satisfaction and behavior intentions.

1.1 Definition and History of Periodic Health Examination

CMAJ (1979) defines periodic health examination as "a group of tasks designed either to determine the risk of subsequent disease or to identify disease in its early symptomless state".

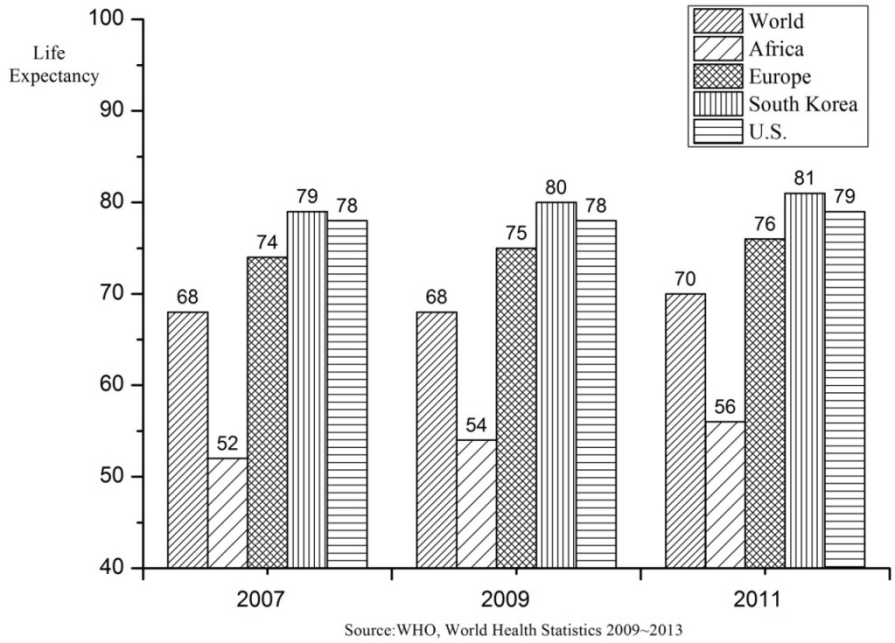
The importance of periodic health examination had been stressed more than a hundred years. In 1861, Dr Horace Dobell, a physician in England, proposed "There should be instituted, as a custom, a system of periodical examination, to which all persons should submit themselves, and to which they should submit their children" (Dobell, 1861). In 1900, Dr Gould, an eye specialist, also said "a series of systematized periodic examinations of patients apparently well would often reveal beginning diseases, prevent future illnesses, and increase the vital values of life, everyone can prevail upon certain patients, students, or members of his family, to undergo the necessary tests" (Gould, 1900).

In 1920s, although the National Health Council and the American Medical Association declared in favor of the periodic health examinations for healthy persons, the efficiency and the efficacy of the examination are actively debated by professionals until 1970s. After clinical evidences and the promotion of Canadian Task Force and U.S. Preventive Services Task Force came up, health examination is actively supported by the insurance companies, governments, and each individual (Seo, 1999).

1.2 The Need of Health Examination

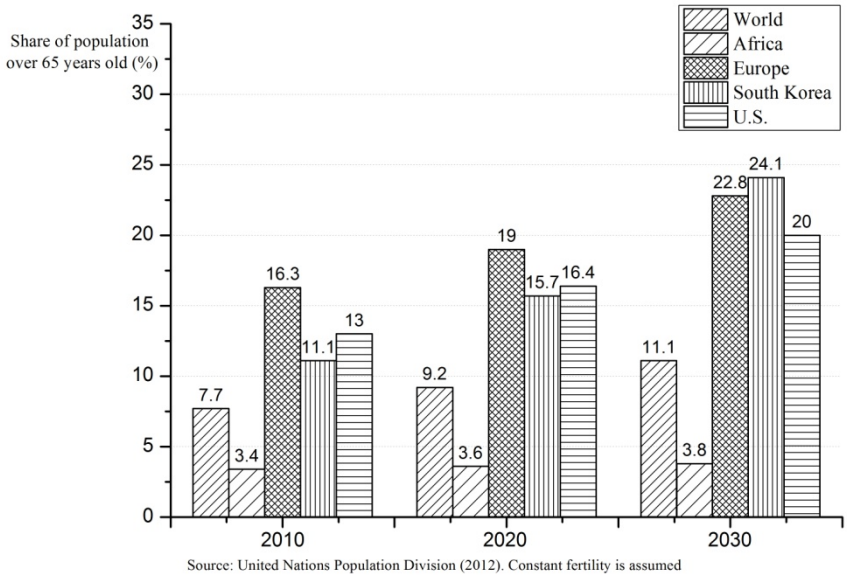
The current situation and the trend of the social structure promote the necessity of the periodic health examination. First of all, continuous extension of average life expectancy brings more aged society. Figure 1 and 2 display this trend. Moreover, spending on health care is the only expenditure that increases steadily with age, contrary to other expenditures in Figure 3. Hence, total expenditure on health care increases rapidly and becomes burdens to individual householder and the society. It shares 9.2% of world GDP, 17.4% of the US GDP, and 11.4% of Switzerland GDP with a compound annual growth rate of about 4% from 2000, showing the number goes up in the developed countries (OECD, 2011). In developed countries, the expenditure on cancer and chronic diseases such as hypertension, diabetes, dyslipidemia, and cerebrovascular, constitutes the large portion of the total health expenditure (World Economic Forum, 2011). Therefore, early detection of these diseases saves medical costs and enhances national health level. This leads the need of periodic health examination, the most prevalent way of preventive medicine.

Figure 1. Trend of Global Life Expectancy



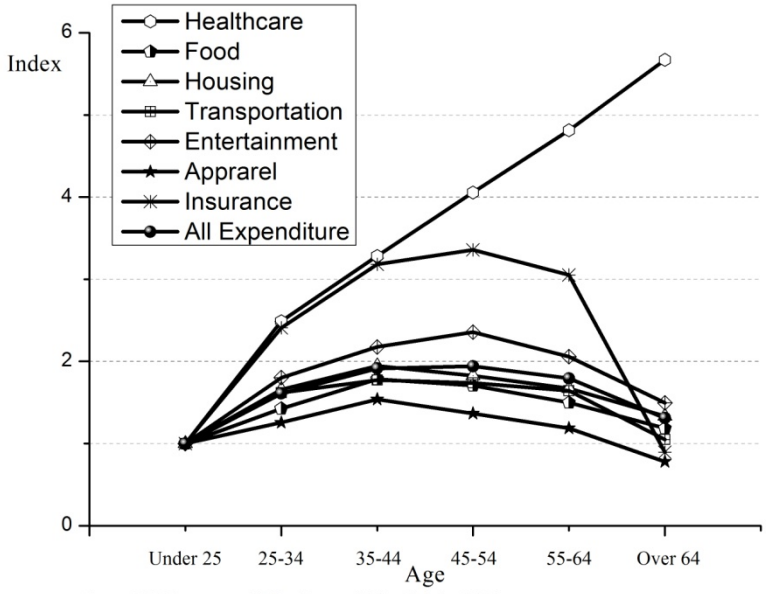
Source:WHO, World Health Statistics 2009~2013

Figure 2. Share of Population Over 65 Years Old



Source: United Nations Population Division (2012). Constant fertility is assumed

Figure 3. Health Care and Other Expenditures with Age Increase

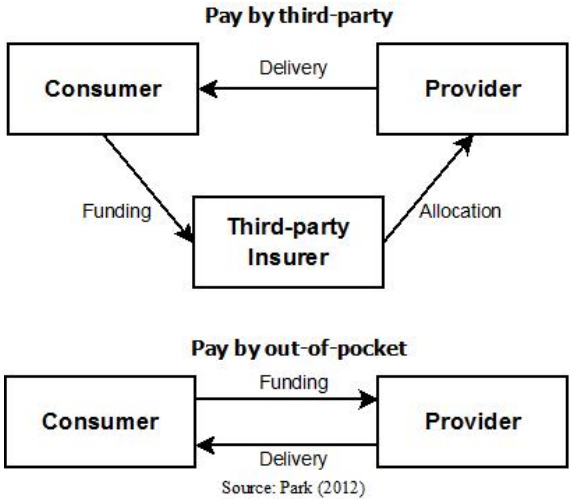


Source: U.S. Department of Labor Bureau of Labor Statistics (2011)
Expenditure data have been normalized to set expenditure of "under 25" as 1.0

1.3 Current States of Health Examination

Global expenditure on health is about 6.98 trillion USD (WHO, 2012) but the global market size of health examination was not attainable. This is because spending on health examinations are not reported clearly. However, some countries provide health examination service by national health screening programs and publish the government report. For instance, the United States has program supporting health examination for under 21 or over 65 by Medicaid and Medicare. Hence, consumers of other age pay their examination fee by out-of-packet or through third party, as Figure 4 depicts. This makes hard to estimate the total volume of health examination service. In contrast, the UK and South Korea are operating a more wide scope. They spent 21,496,050 GBP ($34,737,657) and 813,308,256,000 KRW ($765,106,543) in 2011, respectively (UK National Screening Committee, 2012; NHIS, 2012). The well organized national health screening program of South Korea covers about 20% of population, eleven million people in 2011.

Figure 4. Payment of Health Care Service



Source: Park (2012)

To explore more about Korean environment, Korea is the one of the fast aging countries in the world. The Korea Institute for Health and Social Affairs recently estimated that average life expectancy will be 87.4 years in 2050. Moreover, Korean Statistical Information Service reports that the ratio between the aged over 65 and under 15 rises from 20% in 1990 to 83.3% in 2013.

Table 1 indicates that the expenditure and the number of examinee of Korean health examination service increase constantly. It also implies health screening clinics and centers have more and more competition, showing that the growth rate of clinics and centers outweighs the one of examinee numbers and market.

Table 1. S*tatistics of Health Examination in Korea*

			2008	2009	2010	2011
Number of Examinee	First Screening	Target	15,124,755	15,036,607	15,917,939	15,249,528
		Examinee	9,878,548	9,927,538	10,851,277	11,070,569
	Second Screening	Target	3,893,203	1,558,511	1,130,883	1,112,233
		Examinee	1,847,391	580,053	439,339	395,053
Cost	Unit: 1,000 KRW		603,982,213	712,078,638	813,308,256	897,766,623
Centers			5,921	6,384	7,514	8,103

Source: NHIS (2012)

1.4 Research of Health Examination in consumer perspective

Nowadays, to overcome the fierce competition in health care industry, each firm more focuses on consumer oriented strategy by considering the benefit and utility of consumers (SERI, 2011). Besides, personal experience and peer recommendations matter the most in health care industries rather than other industries such as hotels, retails, and airlines (PwC, 2012). Therefore, implementing the right strategy of satisfying consumers is pivotal in health care industries. Since improving consumer satisfaction is mostly related in enhancing service quality perceived by consumers, the first step is the identification of the determinants of service quality (Johnston, 1995).

However, consumer satisfaction and quality dimensions of health examination service are not actively researched. Most of researches deal with health examination in terms of public health or medical science context. For example, they discuss about effectiveness of health examination in the local community (Iwasa et al., 2007; Gwynn et al., 2009) and the factors affecting examination rate (Chun et al., 2012). In operations management, Chern et al (2008) analyzes scheduling optimization in health examination process. Although there are some researches about service quality or consumer satisfaction of health examination, they are exploratory (Nupponen, 1996; Shin et al., 2005) or flawed (NHIC, 2007; Cha, 2011) by ignoring the reliability and validity. Therefore, we still have more room to scrutinize. Since different service areas within hospitals would be considered separately (Reidenbach and Sandifer-Smallwood, 1990), we need more in depth research about the health examination service quality like other health care services quality.

2. Literature Review

2.1 Quality in Health Care

Historically, the definition of health care quality is mostly based on the outcome of health. This quality has been defined as “the ability to achieve desirable objectives using legitimate means” and the desirable objective means “an achievable state of health” (Donabedian, 1988). Institute of Medicine defines it as “the extent to which health services provided to individuals and patient populations improve desired health outcomes”. The Joint Commission on Accreditation of Healthcare Organizations defines it as “the degree to which patient care services increase the probability of desired outcomes and reduce the probability of undesired outcomes given the current state of knowledge” (Fromberg, 1988). In conclusion, health care quality has been defined in terms of technical delivery of care by physician’s viewpoint. However, the recent literatures question the measurement of technical aspect for overall quality and emphasize the importance of the patient’s perceived quality and satisfaction. (Anderson and Zwelling, 1996; Choi et al., 2004)

2.2 Functional Quality and Technical Quality

Service quality consists of technical quality and functional quality. The former involves what the customer is actually receiving from the service and the latter involves the manner in which the service is delivered (Grönroos, 1983). In health care service, functional quality begins to be considered more important than technical quality (Yasin and Green, 1995; Jut et al., 1998). This is because consumers can easily evaluate subjective quality, but not technical quality. In general, most patients do not know whether the service was performed properly or even necessary (Williams, 1994; Choi et al., 2004; Pakdil and Harwood, 2005). Health care service also has significant time lag between provider's provision of service and patient's perception of technical quality (Choi et al., 2004). Hence, functional quality is usually the primary determinant of patients' quality perceptions. In this respect, the focus of the measuring health service quality becomes to change from professionals' view of technical quality to consumers' view of subjective quality (Andaleeb, 2001).

2.3 Measurement of Health Service Quality

2.3.1 SERVQUAL

SERVQUAL methodology has become primary tool for measuring "functional service quality" in service industries including health care services (Babakus and Mangold, 1992; Anderson and Zwelling, 1996; Lam, 1997; O'Connor et al., 2000). SERVQUAL is based on the expectancy disconfirmation model (Oliver, 1981), which states that evaluation of service quality by comparing the gap between prior expectations of what the service should provide and perception of service received (Parasuraman et al. 1985; 1988; 1991).

SERVQUAL, extensively employed in health care service, covers wide range of health care contexts such as acute care (Carman, 1990), physicians' service (Brown and Swartz 1989), nursing service (Scardina, 1994; Uzun, 2001), cancer center (Anderson and Zwelling, 1996), and maternity hospitals (Chaniotakis and Lymperopoulos, 2009) in numerous countries as shown in Table 2.

2.3.2 Argument on SERVQUAL

Many literatures raised cautions about the need of measuring expectations in SERVQUAL. SERVQUAL measures the expectation of consumers after the consumers receive the service. Hence, the expectation may be biased by the memory of actual services received (Andaleeb and Basu, 1994). Namely, using SERVQUAL to measure prior expectation and perception is confusing (Babakus and Mangold 1992; Cronin and Taylor, 1992; 1994; Hubbert et al., 1995). Even worse, many patients are not sure about what to expect from the health care service (Fitzpatrick and Hopkins, 1983).

2.3.3 SERVPERF

Cronin and Taylor (1992) investigate the conceptualization and measurement of service quality and the relationships between service quality, consumer satisfaction and purchase intentions. They strongly advised that performance determines service quality in lieu of the gap between performance and expectation. SERVPERF, the alternative measurement tool of SERVQUAL, appears to have a good fit and more construct-valid explication of service quality (Cronin and Taylor, 1992; 1994; McAlexander, 1994). SERVPERF is also actively employed in health care services (McAlexander, 1994, Han et al., 2007, Holder et al., 2011).

2.4 Dimensionality of Health Examination Service

2.4.1 Dimensions in Health Care Service

Including technical aspect, health care service quality consists of dimensions such as efficacy, effectiveness, efficiency, legitimacy, optimality, acceptability, and equity (Donabedian 1980). Similarly, WHO classifies effectiveness, efficiency, accessibility, acceptable/patient centered, equitable, and safety. In contrast, most of recent literatures focus on functional quality measured by SERVQUAL, SERVPERF, or its modified tool. SERVQUAL introduces five dimensions of tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988) and SERVPERF also uses same dimensions. The description of five dimensions is following below (Parasuraman et al., 1985).

Tangibles	Physical facilities, equipment, and appearance of personnel
Reliability	Ability to perform the promised service dependably and accurately
Responsiveness	Willingness to help customers and provide prompt service
Assurance	Knowledge and courtesy of employees and their ability to inspire trust and confidence
Empathy	Caring, individualized attention the firm provides its customers

The relevant researches on quality dimensions of health care service are shown in Table 2.

Table 2. *Research of Healthcare Service Quality (T: Tangibles, R: Reliability, R: Responsiveness, A: Assurance, E: Empathy)*

Research	Service Context	Perceived by	Dimensions					Other dimensions
			T	R	R	A	E	
Jun and Zsidisin (1998)	US hospitals	Patients, physicians, administrators	○	○	○			*Competence*, Courtesy*, Communication*, Access*, Understanding customer**, ***Caring, Patient outcomes, Collaboration***
O'Connor (2000)	US hospitals	Physicians, administrators, employees	○	○	○	○	○	-
Lee et al. (2000)	US hospitals	Physicians	○	○	○	○	○	***Core medical service, Professionalism/Skill***
Reidenbach and Sandifer-Smallwood (1990)	US hospitals (emergency rooms)	Patients						***Patient confidence, Business competence, Treatment quality, Support services, Physical appearance, Waiting time***
Carman(1990)	US dental clinics	Patients	○	○				*Security**, ***Convenience, Cost***
Babakus and Mangold (1992), Lam (1997)	US hospitals, Hong Kong's hospitals	Patients						SERVQUAL not confirmed
Dean (1999)	Australia, medical/health care	Patients	○	◐	◐	○	○	-
Anderson and Zwelling (1996), Chaniotakis and Lymperopoulos(2009)	US Cancer center, Greek maternity hospitals, respectively	Patients	○	○	○	○	○	-
Moon et al. (1998), Han et al. (2007), Kim et al. (2011)	Korean public health center or hospitals	Patients	○	○	○	○	○	-

Table 2. (*Continued) (T: Tangibles, R: Reliability, R: Responsiveness, A: Assurance, E: Empathy)*

Research	Service Context	Perceived by	Dimensions					Other dimensions
			T	R	R	A	E	
Lim and Tang (2000)	Singapore, general and special clinics	Patients	○	○	○	○	○	***Accessibility and Affordability***
Andaleeb (2001)	Bangladesh hospitals	Patients			○	○		*Communication*,* ***Discipline, Baksheesh***
Ramsaran-Fowdar(2008)	Mauritian hospitals, General Physicians	Patients	○	○	○	◐	◐	***Core medical services, Equipment and records, Information dissemination***
Choe et al. (2012)	Korean hospitals	Patients	○				○	***Safety, Efficiency, Outcomes***
Choi et al. (2004)	Korean hospitals	Outpatients	○					***Convenience of the care process, Health care providers' concern, Physician's concern***
Pakdil and Harwood (2005)	US, Anesthesia service	Inpatients						SERVQUAL (10)
Kara et al. (2005)	Turkish hospitals	Inpatients	○	○	○	○	○	*Courtesy**
Kim and Park (2006)	Korean hospitals	Inpatients	○	○	◐	○	◐	-
Zineldin (2006)	Egyptian and Jordanian hospitals	Inpatients						***Quality of object, Quality of processes, Quality of infrastructure, Quality of interaction, Quality of atmosphere***

two ◐ dimensions converged to a single dimension

* Indicates the factors from PZB (1985), bold indicates factor added by author

2.4.2 Dimensions in Health Examination

The different functions or service areas within hospitals should be considered and measured separately (Carman, 1990; Reidenbach and Sandifer-Smallwood, 1990; Han et al, 2007). In that respect, researches regarding health examination service and its quality dimensions are necessary (Chung and Han, 2009). However, current researches are exploratory or flawed in some ways. In Table 3, some researchers introduce dimensions without focus group interview or corresponding literature study (Lee and Jung, 2006) and others have problems in reliability and validity investigation (NHIC, 2007; Cha, 2011).

Table 3.*Research of Health Examiantoin Service Quality*

Author	Dimensions	Remark
Kim and Ryu (2001)	Examination, Excellent facilities, Expenses	reliability and validity were not investigated
Lee and Jung (2006)	User environment, Process, Result consultation	reliability and validity were not investigated
NHIC (2007)	Communication, Attitude, Privacy, Environment, Exam result	reliability and validity did not met the academic standard
Cha (2011)	Tangibles, Reliability, Responsiveness, Assurance, Empathy	reliability and validity were not investigated

2.4.3 Privacy Dimension

Privacy or confidentiality during transactions emerged as a pivotal attribute in banking and securities brokerage focus group, not a dimension but an item of security dimension (Parasuraman et al, 1985). In health care service, patients' perception of privacy strongly predicts satisfaction (Lin and Lin, 2011). The privacy shows up various health care service context such as maternity hospitals (Burden, 1998), primary care (Deshefy-Longhi et al., 2004), and emergency room (Olsen and Sabin 2003; Karro et al., 2005; Lin and Lin, 2011). Privacy items also appear in tangibles factor in other health care research (Carman, 1990; Lim and Tang, 2000; Kara et al., 2005).

In health examination service research, privacy sometimes is considered as a dimension or items of other dimension. For instance, NHIC (2007) concedes that privacy dimension

consists of two items of disclosure of body during examination process and respect of privacy. Cha (2011) maintains that that two privacy items in health examination belongs different dimensions. The item of privacy respect belongs tangibles and the one of respect secret belongs assurance. However, the former research is seriously unsatisfying the academic standard of reliability and validity and latter one is implemented without investigation of reliability and validity. Therefore, further research on the privacy dimensions or items is required.

2.4.4 Hypotheses of dimensions

We assume health examination service consists of six quality dimensions from previous literature study, adding privacy dimension to five dimensions of SERVQUAL/SERVPERF. We expect each dimensions has positive effect on consumer satisfaction and the hypotheses are following below.

H1: Tangibles has positive effect on satisfaction of using health examination.
H2: Reliability has positive effect on satisfaction of using health examination.
H3: Responsiveness has positive effect on satisfaction of using health examination.
H4: Assurance has positive effect on satisfaction of using health examination.
H5: Empathy has positive effect on satisfaction of using health examination.
H6: Privacy has positive effect on satisfaction of using health examination.

2.5. Satisfaction and Behavior Intention

Oliver (1981) defined consumer satisfaction as “the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer's prior feelings about the consumption experience." Patient satisfaction, the consumer satisfaction in health care context, is an indicator of quality of health care from the patient's perspective (Campen et al., 1995; Macbeth, 1996).

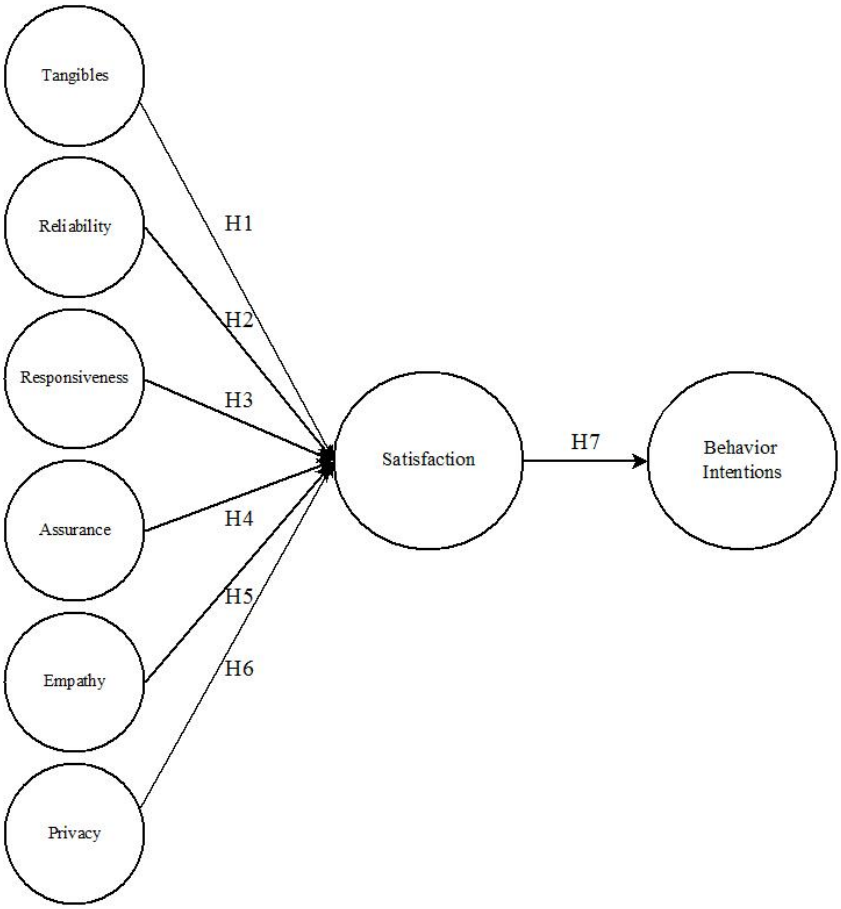
As a valid indicator of health care outcome, patient satisfaction should show that high satisfaction results in revisiting (Woodside 1989; Swan et al., 1985; Choi et al., 2004) and recommending to others (Reidenbach and Sandifer-SmallWood 1990; Swan et al 1985; Choi et al. 2004). In that respect, these behavior intentions are actively researched in health care industries. (Woodside, 1989; Swan et al., 1985, Reidenbach and Sandifer-SmallWood, 1990; Choi et al., 2004).

H7: Patient satisfaction positively affects behavior intentions (revisit and recommend).

3. Research Design and Methodology

3.1 Model

Figure 5. Main Model



H1: Tangibles has positive effect on satisfaction of using health examination.

H2: Reliability has positive effect on satisfaction of using health examination.

H3: Responsiveness has positive effect on satisfaction of using health examination.

H4: Assurance has positive effect on satisfaction of using health examination.

H5: Empathy has positive effect on satisfaction of using health examination.

H6: Privacy has positive effect on satisfaction of using health examination.

H7: Patient satisfaction positively affects behavior intentions.

3.2 Structural Equation Model

We use structural equation model, hereafter referred as to SEM, for identifying the hypothesis. The use of SEMs is more precise in specification of hypotheses and provides construct validity in broader and deeper ways than traditional analyses (Bagozzi and Yi, 2012).

3.3 Survey Construction

Appropriate adaptation of the instrument will be desirable for investigating each service (Parasuraman et al., 1988; Carmen, 1990). We make adjustment for reflecting health examination service environment. Our questionnaire is based on SERVQUAL (Parasuraman et al., 1988) and other health care service researches. By implementing pilot studies, consulting from professionals in family medicine and business, and refining our questionnaire, we finalize the suitable measurement items for the survey.

3.3.1 Measurement Items and Questionnaire

We extracted 32 items from literature study and make adjustment for the health examination service context. We consider Carman (1990), Babakus and Mangold (1992), and Kara et al. (2005) major references. In health care service, researchers use various modifications of tangible, reliability, and responsiveness to adjust SERVQUAL items to health care service. During constructing our measurement items, we exclude unrelated items. Since our service providers offer service with no charge, items regarding cost (Carman 1990; Babakus and Mangold 1992; Anderson and Zwelling 1996; Lim and Tang 2000; Dagger 2007) are removed. Since consumers using health examination treated as outpatients, the items which only inpatients would encounter were excluded. This includes discharge process (Reidenbach & Sandifer-Smallwood 1990; Carman 1990) and meal (Reidenbach & Sandifer-Smallwood, 1990; Carman, 1990; Kara et al. 2005). The finalized items and their reference are depicted in next page and Table 4.

Tangibles

TAN1. XYZ has up-to-date equipment.

TAN2. Physical facilities of XYZ are visually appealing.

TAN3. Employees are well dressed and appear neat.

TAN4. XYZ has convenient and comfortable subsidiary facilities.

TAN5. XYZ has clean and comfortable environment.

TAN6. XYZ has good circulation and flow to use.

TAN7. XYZ has Informative brochure for health examination service.

Reliability

REL1. When XYZ promises to do something by a certain time, it does so.

REL2. When you have problems, XYZ is sympathetic and reassuring.

REL3. XYZ is dependable.

REL4. XYZ provides its services at the time it promises to do so.

REL5. XYZ keeps its records accurately.

REL6. XYZ performs services right at the first time.

REL7. Employees of XYZ are professional and competent.

Responsiveness

RES1. XYZ tells customers exactly when services will be performed.

RES2. You receive prompt service from XYZ's employees.

RES3. Employees of XYZ are always willing to help customers.

RES4. Employees are never too busy to respond to customer requests promptly.

RES5. Waiting time during the examination service is proper.

RES6. Examination procedure is prompt and convenient.

Assurance

ASU1. You can trust employees of XYZ.

ASU2. You feel safe in your interaction with XYZ's employees.

ASU3. Employees of XYZ are polite.

ASU4. Doctors possess a wide spectrum of knowledge.

ASU5. Employees of XYZ provide well explanation about screening items and process.

Empathy

EMP1. XYZ gives you individual attention.

EMP2. Employees of XYZ know what your needs are.

EMP3. XYZ has your best interests at heart.

EMP4. XYZ has operating hours convenient to their customers.

EMP5. Service procedure is prompt and convenient.

EMP6. Employees of XYZ give you personal attention.

Privacy

PRV1. Employees of XYZ minimize the disclosure of your body.

PRV2. XYZ respects your secret.

PRV3. Employees of XYZ respect your privacy.

PRV4. XYZ offers the environments that keep others from overhearing your consultation.

Satisfaction

One item asks the degree of overall satisfaction of the service offered with nine-point Likert scale.

Behavior intentions

BI1. If I need health examination services in the future, I would consider using this health center.

BI2. I will recommend other people to use this health care center.

Table 4. *Measurement Items in Helath Care Research*

	TAN1	TAN2	TAN3	TAN4	TAN5	TAN6	TAN7	REL1	REL2	REL3	REL4	REL5	REL6	REL7	PRV1	PRV2	PRV3	PRV4
Parasuraman et al., 1988	O	O	O					O	O	O	O	O	O*					
Carman, 1990		O		O	O			O				O		O		TAN		
Reidenbach and Sandifer-Smallwood, 1990		O	O	O	O			O	O		O			O				
Babakus and Mangold, 1992	O	O	O					O	O					O				
McAlexander, 1994		O																
Anderson and Zwelling, 1996	O	O	O						O		O							
Lam, 1997	O	O	O					O			O	O	O					
Burden, 1998																	O	
Dean, 1999	O	O	O					O			O							
Lee et al., 2000	O	O	O								RES	O	O			ASU		
Lim and Tang, 2000	O		O		O		O				O	O	O	O			TAN	
Olsen and Sabin, 2003																O		
Deshefy-Longhi et al., 2004																O	O	
Karro et al., 2005																	O	
Kara et al., 2005	O	O		O	O			O			O	O					TAN	
Kim and Park, 2006	O			O	O	O					O							
Han et al., 2007	O	O							O	O	O	O						
Chaniotakis and Lymperopoulos, 2009	O				O					O								
Lin and Lin, 2011															O			O
Choi et al., 2012	O		O			O												
Lee et al., 2007**															O		O	O
Cha, 2011**	O		O		O		O							O		ASU	TAN	

Table 4. *Measurement Items in Helath Care Research (Continued)*

	RES1	RES2	RES3	RES4	RES5	RES6	ASU1	ASU2	ASU3	ASU4	ASU5	EMP1	EMP2	EMP3	EMP4
Parasuraman et al., 1988	O	O	O	O			O	O	O			O	O	O	O
Carman, 1990	O	O	O	O			O	O	O		RES		O		
Reidenbach and Sandifer-Smallwood, 1990					O	O			O		O		O		
Babakus and Mangold, 1992	O	O	O					O	O	O	O			O	
McAlexander, 1994			O				O	O	O						O
Anderson and Zwelling, 1996	O	O	O					O	O	O		O		O	
Lam, 1997	O	O	O	O			O	O	O			O	O	O	O
Dean, 1999	O	O		O				O	O						O
Lee et al., 2000									O		RES		O		RES
Lim and Tang, 2000		O		O					O	O	O		O	O	O
Kara et al., 2005		O	O				O	O	O		RES		O		
Kim and Park, 2006					ASU				EMP		O				
Han et al., 2007		O	O				O	O		O		O	O	O	O
Chaniotakis and Lymperopoulos, 2009		O							O	O	O		O	O	
Cha, 2011**		O		O	O				O	O	EMP				
Choi et al., 2012									EMP	TAN	EMP		O		

"O" indicates measurement item corresponds with its original dimension. Otherwise dimensions is described.

**Health examintion service

3.3.2 Pre-test and Feedback of Professionals

Reviewing measurement items was based on the pre-test and responses from professionals. We first employ pre-test. Pre-test of an instrument is an integral part of the survey construction (Flynn et al. 1990). This can give feedback to the researcher and introduce potential problems with the survey (Moss, 2002). In this respect, pre-test is actively used in quality studies of health care service (Babakus and Mangold, 1992; Anderson and Zwelling, 1996; Chaniotakis and Lymperopoulos, 2009). We distribute the surveys to five outpatients, who recently used health examination service for invaluable feedback. Certain statements were changed or removed as participants found them confusing or impossible to answer. For instance, ASU4 was deleted since consumers may not contact doctors to ask questions. EMP6 also was rejected because some respondents claim that answering both EMP1 and EMP6 are redundant, so it may lower the complete responses.

After the pre-test, we get feedback from two professionals in family medicine and one in business administration. PRV4 is deleted since the response will not be achievable. We collect the survey right after the consumers receive the service but getting response from PRV4 take additional 10 days and further contact is impossible due to the privacy act. REL6 is changed slightly because of confusing statements. Lastly, two instruments of behavior intentions and survey design of color are changed for items to be more readily recognizable.

3.3.3 Scales

Contrary to seven-point Likert scale, we employ five-point Likert scale, (1 = strongly disagree, 5=strongly agree), since seven-point Likert scale is somewhat confusing (Babakus and Mangold, 1992). In addition, negatively worded items are not used because of response quality problem (Carmen, 1990; Babakus and Mangold, 1992).

3.4 Data Collection

The data for the study are obtained from a paper-based survey questionnaire. We select the customers, who use health examination service and response at the same day. The survey is collected for two weeks from two health care centers in Seoul. We collect survey from 201 consumers and the response rate is 62.4%. We get total 136 valid samples after deleting the samples, which have missing items or skewed response. There is no significant pattern or trend regarding missing items. Sample size satisfies the standard obtained by the power analysis (MacCallum et al., 1996).

4. Results and Discussion

4.1 Descriptive Statistics

Demographic statistics are displayed in Table 5. Physical condition is subjective condition that the patient feels and knowledge indicates the self evaluation of one's knowledge of health. Experience is whether to check that consumer have experience in using health examination service in the same center. Place A or B indicates the health care center, where consumer is visiting currently. Table 5 implies that the sample mainly consists of consumers, who have high academic degree.

Table 5. *Demographics* (*n*=136)

		Freequency	Percent (%)
Gender	(3 missings)		
Male		65	48.9
Female		68	51.1
Age	(4 missings)		
Under 30		28	21.2
30~39		40	30.3
40~49		37	28.0
50~59		23	17.4
Over 59		4	3.0
Marriage	(3 missings)		
Yes		93	30.1
No		40	69.9
Education	(3 missings)		
Middle school		1	0.8
High school		31	23.3
Bachelor's Degree		93	69.9
Graduate Degree		8	6.0
Physical Condition	(3 missings)		
Bad		1	0.8
Average		58	43.6
Good		73	54.9
Other		1	0.8
Chronic Disease	(3 missings)		
Yes		8	6.0
No		125	94.0
Knowledge	(3 missings)		
Bad		19	14.3
Average		101	75.9
Good		13	9.8
Experience	(3 missings)		
Yes		60	45.1
No		73	54.9
Place	(3 missings)		
A		85	63.9
B		48	36.1

4.2 Reliability and Validity

Factor analysis is useful in establishing reliability and validity in empirical research methods (Flynn et al., 1990). Here, we employ factor analysis for investigating reliability and validity.

4.2.1 Reliability

For purification process, we followed the sequence of Parasuraman et al. (1988) and Choi et al. (2004).

1. Compute coefficient alpha and item to total correlations for each dimension.
2. Using the Cronbach's alpha and item-to-total correlations, delete items that are unreliable.
3. Conduct an exploratory factor analysis and see whether the hypothesized factor structure emerges.
4. Delete items that are poorly related to their hypothesized factors or that are associated with more than a single factor.
5. Repeat Steps 1–4, until a clean factor structure emerges.

We conduct exploratory factor analysis with principal component analysis and Varimax rotation. During the process the instruments and factors are rearranged. First, we found out that tangibles factor was divided by two factors. One factor consists of TAN1 and TAN2 and the other does TAN3, TAN4, and TAN5. Responsiveness and assurance emerged as one dimension and privacy items are absorbed to empathy. Regarding items TAN7, ASU4, and PRV1 are deleted by step 1. Then, TAN6, REL1, REL5, REAL7, RES1, RES6, EMP5, and PRV3 are deleted by step 4. Deleted items are poorly correlated or associated with more than a single factor considerably.

We conduct exploratory and confirmatory factor analysis based on aforementioned results, and then examine the reliability. Individual item reliability, the composite reliability for a

latent variable, and the average variance extracted (AVE) are analyzed. The reliability satisfies as it meet the each standard of item-to-total correlations (0.3: Nunnally (1978)), Cronbach's alpha (α>0.7: Churchill (1979)), Average Variance Extracted (AVE>0.5), and Composite Reliability (CR>0.6)[1] in Table 6 and 7.

Table 6. *Exploratory factor analysis (n=136)*

Items in each dimension	*Factor Loadings*					*Reliability Index*	
	Tangibles 1	Tangibles 2	Reliability	Responsive Assurance	Empathy	Item-to-total -correlation	Cronbach's α
Tangibles 1							0.818
TAN1	0.846					0.692	
TAN2	0.828					0.692	
Tangibles 2							0.803
TAN3		0.573		0.496		0.614	
TAN4		0.812				0.650	
TAN5		0.718		0.417		0.723	
Reliability							0.834
REL2			0.707	0.362	0.338	0.735	
REL3			0.657		0.368	0.663	
REL6			0.535	0.422		0.698	
Res./Assu.							0.961
RES2		0.308	0.358	0.673		0.857	
RES3				0.804	0.364	0.875	
RES4				0.802	0.341	0.899	
RES5				0.735		0.811	
ASU1			0.383	0.676	0.370	0.894	
ASU2		0.348	0.461	0.600	0.316	0.864	
ASU3				0.744		0.835	
Empathy							0.926
EMP1				0.345	0.760	0.826	
EMP2			0.310		0.794	0.840	
EMP3					0.851	0.903	
EMP4					0.799	0.760	
PRV2				0.449	0.719	0.740	

80 percent of variance explained

[1] Bagozzi and Yi (1988). The composite reliability standards can have some leeway (Bagozzi and Yi, 2012).

Table 7. *Confirmatory factor analysis (n=136)*

Items in dimension		Loadings	AVE*>.5	AVE**>.5	CR>.6
Tangibles 1			0.824	0.695	0.903
TAN1	up-to-date equipment	0.797			
TAN2	facilities visually appealing	0.869			
Tangibles 2			0.797	0.922	0.600
TAN3	employees well dressed and neat	0.764			
TAN4	convenient and comfortable facilities	0.736			
TAN5	clean and comfortable environment	0.821			
Reliability			0.800	0.633	0.923
REL2	sympathetic and reassuring	0.814			
REL3	dependable center	0.749			
REL6	performs right at the first time	0.822			
Res./Assu.			0.902	0.780	0.985
RES2	prompt service from employees	0.852			
RES3	willing to help customers	0.894			
RES4	respond customer requests promptly	0.914			
RES5	proper waiting time	0.828			
ASU1	can trust employees	0.911			
ASU2	feel safe in your interaction	0.894			
ASU3	polite employees	0.886			
Empathy			0.809	0.733	0.955
EMP1	gives individual attention	0.854			
EMP2	know what your needs are	0.903			
EMP3	has your best interests at heart	0.944			
EMP4	convenient operating hours	0.797			
PRV2	keep customer's secret	0.771			

*Fornell and Larcker (1981), **Hair et al. (2006)

4.2.2 Validity

Several types of validity such as construct validity, convergent validity and discriminant validity can serve as criteria for assessing scale (Parasuraman et al., 1991). To assess the validity of the measures, factor analysis results are employed. Although the exploratory factor analysis indicates that TAN3 (.573) and REL6 (.535) have somewhat low factor loadings, the confirmatory analysis supports all the items are satisfying the standard of .7. In practice, factor loadings as low as .50 still can satisfy the overall SEM model thus researcher should focus on hypotheses and goodness-of-fit (Bagozzi and Yi, 2012). The value of AVE, 0.633~0.922, and the one of CR, 0.600~0.955, in Table 7 imply that this model has convergent validity. Lastly, discriminant validity is also confirmed. Table 8 shows that the correlation between one scale and another is not as high as each scale's coefficient by comparing AVE and Φ^2 (Fornell and Larcker, 1981).

Table 8. *Discriminant Validity*

Correlations	AVE*	AVE**	Φ	Φ^2	Validity
Tangibles1 ⇔ Tangibles2	0.824, 0.797	0.695, 0.922	0.678	0.460	O
Tangibles1 ⇔ Reliability	0.824, 0.800	0.695, 0.633	0.623	0.388	O
Tangibles1 ⇔ Responsiveness/Assurance	0.824, 0.902	0.695, 0.780	0.618	0.382	O
Tangibles1 ⇔ Empathy	0.824, 0.809	0.695, 0.733	0.493	0.243	O
Tangibles2 ⇔ Reliability	0.797, 0.800	0.922, 0.633	0.776	0.602	O
Tangibles2 ⇔ Responsiveness/Assurance	0.797, 0.902	0.922, 0.780	0.856	0.733	O
Tangibles2 ⇔ Empathy	0.797, 0.809	0.922, 0.733	0.599	0.359	O
Reliability ⇔ Responsiveness/Assurance	0.800, 0,902	0.633, 0.780	0.874	0.764	△
Reliability ⇔ Empathy	0.800, 0.809	0.633, 0.733	0.774	0.599	O
Responsiveness/Assurance ⇔ Empathy	0.902, 0.809	0.780, 0.733	0.751	0.564	O

*Fornell and Larcker (1981), **Hair et al. (2006)

4.3 Modified Model

Measurement model is modified following the previous analysis and finally has five dimensions of tangibles 1, tangibles 2, reliability, responsiveness/assurance, and empathy. The overall fit of measurement model and main model are good as displayed in Table 9. Although χ^2 test of each model is significant, the sensitivity of χ^2 test has potential problems with sample size. As the sample size increases, the chances of rejecting a model also increase (Bagozzi and Yi, 1988).

Table 9. *Goodness-of-Fit Indices*[2]

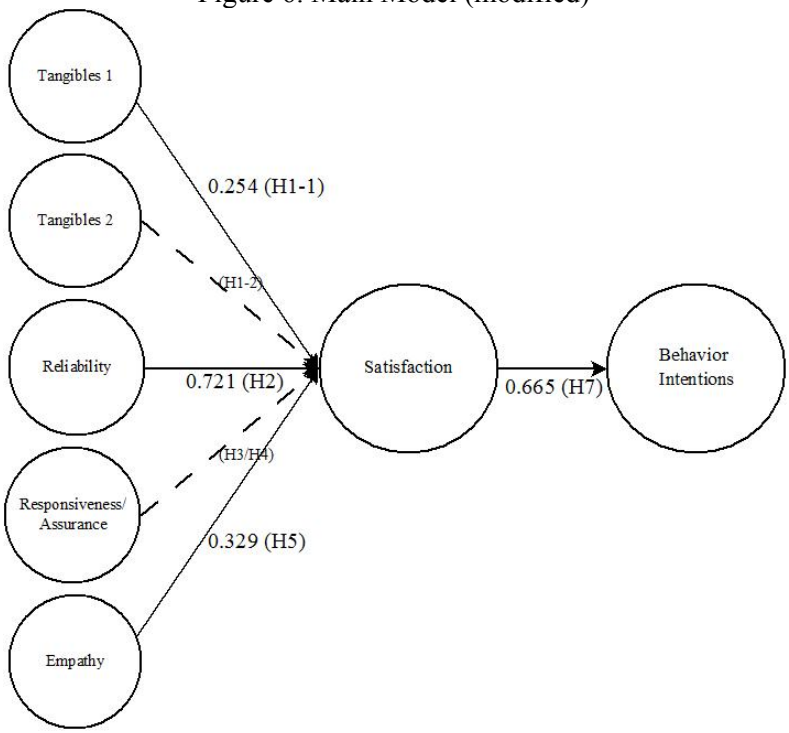
	χ^2	DF	χ^2/DF	RMSEA	IFI	TLI	CFI
Measurement Model	323.769	160	2.024	0.074	0.936	0.923	0.935
Main Model	618.583	446	1.387	0.054	0.941	0.928	0.940

*DF stands for degree of freedom

[2] IFI >.9 (Bollen, 1989), RMSEA: 05~.08 (fair) (Browne and Cudeck, 1989), CFI > .9 (Bentler, 1990)

4.3.1 Hypothesis Testing

Figure 6. Main Model (modified)



H1-1. Tangibles 1 has positive effect on consumer satisfaction.

Accepted (P=0.017)

H1-2. Tangibles 2 has positive effect on consumer satisfaction.

Rejected

H2. Reliability has positive effect on consumer satisfaction.

Accepted (P<.001)

H3/H4. Responsiveness/assurance has positive effect on consumer satisfaction.

Rejected

H5. Empathy has positive effect on consumer satisfaction.

Accepted (P<.001)

H6. Privacy has positive effect on consumer satisfaction.

Not available

H7: Satisfaction positively affects behavior intention.

Accepted (P<.001)

4.4 Discussion

4.4.1 Discussion on dimensions

The noticeable result is that the tangibles dimension is divided by two sub scale. This result coincides with previous research of Parasuraman et al. (1991). They found that the four items under tangibles consistently break into two factors, with Ql and Q2 (equipment and physical facilities) forming one factor, and Q3 and Q4 (employees and communication materials) forming another factor. We have similar results that TAN1 and TAN2 (equipment and physical facilities) consist of Tangibles 1 and TAN3, TAN4, and TAN5 (employees and communication materials) consist of Tangibles 2. In addition, they brings up the further question that whether there is a relative importance to customers of the two subcategories. Our study gives the answer that only tangibles 1 of pertaining equipment and physical facilities are the significant factor on consumer satisfaction in health examination service.

Another outstanding result is that responsiveness and assurance dimensions are converged as one dimension. Exploratory factor analysis shows considerable overlap between two factors and confirmatory factor analysis supports that assuming these two dimensions as one meet the reliability and the validity. Parasuraman et al. (1991) also indicates the same result and we can also conclude that the assurance of willing to assist customers can be cause of explaining responsiveness. Other health care service research of SERVQUAL or its modified one also report considerably high correlations such as reliability and responsiveness (Dean, 1999), assurance and empathy (Ramsaran-Fowdar, 2008), and responsiveness and empathy (Kim and Park, 2006) shown in Table 2. Our study introduces another possibility that responsiveness and assurance can emerge as one. It seems that except tangibles, there are considerable shares across the dimensions of health care service.

From the need of new dimensions (Carman, 1990; Chung and Han, 2009), we introduce privacy as the sixth dimension with four items. However, PRV4 is deleted from the feedback of professionals, PRV1 was rejected for improving the total-item-correlation, and

PRV3 has trimmed due to the high cross-lading with other dimensions, responsiveness/assurance (.533) and empathy (.603). Therefore, a single item, PRV2, cannot construct the dimension. This cast the doubt on the research of NHIC (2007), who concedes that privacy in health examination service appear from focus group interview and construct dimension. They try to consider privacy a valid dimension, but ignore the academic standard of the reliability and the validity severely. Therefore, we claim that privacy may not construct dimension in health examinations service.

4.4.2 Managerial Implications

We analyze the relative importance of each dimension on customer satisfaction in health examination service. Though responsiveness/assurance and tangibles 2 are not significant, reliability (0.721), empathy (0.329), and tangible 1(0.254) are significant. This result implies that reliability is the most important and empathy and secondly significant. Therefore, we can implement the strategy of enhancing reliability and empathy characteristics to improve the consumer satisfaction of health examination service effectively and efficiently.

Regarding each behavior intention, the impact of satisfaction on revisit (0.610) is slightly higher than on recommendation (0.541). Namely, the consumer satisfaction is contributing the positive behavior intentions of consumers. Therefore, improving service quality and consumer satisfaction will bring more sales and profit by attracting more consumers.

5. Conclusions

The aim of this research is to identify the quality dimensions of health examination service and its impacts on consumer satisfaction and behavior intentions. Although previous researches have dealt with other health care services, the investigation of this service is necessary because of its distinct context. Examinees of health examination service are type of outpatients but there is no medical treatment but examination.

Several interesting findings appear from the research. First, we found that privacy does not construct the dimension. This contradicts the former research in health examination service (NHIC, 2007) and supports the view of other health care service research that privacy is employed as measurement item.

Secondly, responsiveness and assurance emerged as one. The result is supported by Parasuraman et al., (1991) and Lee et al., (2000).

Thirdly, tangibles dimension is split by two subcategories. Tangibles 1, equipment and physical facilities, affect consumer satisfaction and tangibles 2, employees and communication materials, does not. This result gives the answer from Parasuraman et al., (1991) and revisits the previous result of Carman (1990) that dress (TAN3) is not an important item in the hospital setting.

Lastly, the relative importance of reliability and empathy dimensions implies that health examination centers have to focus on these two dimensions to effectively improve consumer satisfaction.

5.1 Limitations

It is widely known that too few indicators per factor may produce unstable solutions and some researchers claim to use at least three indicators per factor (Bagozzi and Yi, 2012). Hence, one of the limitations of this research is that tangible 1 and behavior intention has only two indicators, respectively.

Another limitation is sample, containing similar characteristics. We try to investigate the impact of chronic disease on consumer satisfaction by group analysis, but only 8 consumers have chronic disease.

5.2 Suggestions for Future Research

Since the sample covers two health examination centers in Seoul, South Korea, further research on more diverse samples with various culture and location is required. We try to investigate the impact of physical condition and medical knowledge and other elements on consumer satisfaction by group analysis, but there is no significant difference. We assume that this result lies in the somewhat homogeneous sample and recommend further research.

Next, during the purification process, items such as ASU5, the explanation item, have significant cross loadings. As depicted in Table 4, it appears in different dimensions such as responsiveness or empathy in health care service. In this respect, we need further research whether the explanation constructs for new dimension or belongs to previous SERVQUAL dimension.

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Appendix. Survey questionnaire

건강검진 서비스 품질 구성 속성과 고객 만족도에 관한 연구

안녕하십니까?

바쁘신 가운데 설문에 응해주셔서 감사합니다. 저는 서울대학교 경영대학원에서 생산관리를 전공하는 석사과정 학생입니다. 본 설문지는 건강검진 분야에 경영학 이론을 도입하여 건강검진서비스 품질에 관해 연구하고자 작성되었습니다.

귀하께서 응답해주신 모든 내용은 무기명으로 처리되며 그 내용에 대한 비밀이 보장되며, 순수하게 학술 연구 목적으로만 사용될 것을 약속 드립니다.

본 연구 결과는 논문으로 정리되어 건강검진 서비스 수준을 향상시키는 기초 자료로 활용될 것입니다. 귀하의 응답 내용은 정확한 연구 결과 분석을 위해 매우 중요합니다. 모든 문항에 대해 빠짐없이 정확하게 응답해 주시길 부탁 드립니다.
감사합니다.

2013년 5월

연구자: 강세원 (서울대학교 경영대학원 경영학과 석사과정)
지도교수: 오정석 (서울대학교 경영대학원 경영학과 교수)

I. 서비스 품질 측정: 다음 설문 항목은 귀하께서 생각하는 적절한 건강검진서비스에 대한 기대와 실제 이용 후 경험에 관한 설문입니다.

본 건강검진서비스를 이용하신 후에 느낀 **경험**에 관한 질문입니다.
다음에 제시된 설문 항목을 읽고 해당되는 곳에 √ 표시 해주시기 바랍니다.
①전혀 아니다 ②아니다 ③보통이다 ④그렇다 ⑤매우 그렇다

설문 항목	①	②	③	④	⑤
1. 검진기관은 최신 의료 장비를 갖추고 있다.					
2. 검진기관의 시설과 설비는 보기에 매력적이다					
3. 검사자, 간호사, 의사, 접수원의 복장과 용모는 단정하다.					
4. 부대시설(주차장, 대기공간, 화장실)을 잘 갖추고 있다					
5. 내부환경이 청결하다.					
6. 고객이 이용하기에 동선과 배치가 편리하다					
7. 건강검진에 대한 안내 책자를 잘 갖추고 있다.					
8. 정해진 시간까지 검진서비스를 제공하도록 약속하면 그대로 지킨다					
9. 고객이 문제가 있을 때 고객을 안심시키고 함께 해결하고자 노력한다.					
10. 검진기관은 신뢰할 만하다.					
11. 고객과 약속한 시간에 서비스를 제공한다					
12. 검진기관은 기록을 정확히 보존한다.					
13. 검진기관은 검사를 한 번에 잘 시행한다.					
14. 검사자, 간호사, 의사는 전문적이고 능숙하다.					
15. 언제 검사가 시작될지 고객에게 정확히 알려준다.					
16. 직원으로부터 신속한 서비스를 제공받는다.					
17. 직원은 항상 고객을 기꺼이 도우려 한다.					
18. 직원은 고객의 요구에 신속하게 대응한다.					
19. 검진을 받기 위해 대기한 시간은 적절하다.					
20. 직원들을 믿고 의지할 수 있다.					
21. 직원들로부터 서비스를 받을 때 안심이 된다					
22. 직원들은 공손하고 친절하다					
23. 의료종사자들은 풍부한 의료지식을 가지고 있다					
24. 사전안내를 통해 건강검진 전 준수사항, 검사항목 등에 대해 충분히 설명한다.					
25. 검진기관은 고객 한명 한명에게 관심을 가져준다.					
26. 직원들은 고객이 원하는 것이 무엇인지 잘 안다.					
27. 검진기관은 고객의 이익을 진심으로 생각한다.					
28. 고객에게 편리한 시간에 검진서비스를 제공한다.					
29. 검사절차는 신속하고 편리하다.					
30. 검사자는 X-ray 촬영시 고객의 신체 노출을 최소화한다.					
31. 검진기관은 고객의 비밀을 지켜준다.					
32. 직원은 고객의 프라이버시를 존중한다.					

33. 위 항목을 종합적으로 고려할 때 본 기관의 건강검진 서비스에 대해 얼마나 만족하십니까?

(매우 불만족=1) 1 2 3 4 5 6 7 8 9 (매우 만족=9)

34. 나는 이 기관의 건강검진서비스를 통해 내가 원하는 바를 달성했다.

① 전혀 그렇지 않다 ② 그렇지 않다 ③ 보통이다 ④그렇다 ⑤ 매우 그렇다

35. 나는 투자한 시간만큼 좋은 검진서비스를 제공 받았다

① 전혀 그렇지 않다 ② 그렇지 않다 ③ 보통이다 ④그렇다 ⑤ 매우 그렇다

36. 본 기관은 다시 이용하고 싶은 기관이다.

① 전혀 그렇지 않다 ② 그렇지 않다 ③ 보통이다 ④그렇다 ⑤ 매우 그렇다

37. 본 기관의 검진서비스는 다른 사람에게 권유하고 싶은 검진서비스이다.

① 전혀 그렇지 않다 ② 그렇지 않다 ③ 보통이다 ④그렇다 ⑤ 매우 그렇다

II. 일반 문항

1. 귀하께서는 본 검진기관을 처음 이용하셨습니까?
① 처음 이용해 보았다 ② 이전에도 이용해 보았다

2. 귀하가 건강검진을 받는 센터는 어디입니까?
① 광화문(본점) 헬스케어의원 ② 강남 교보타워 헬스케어의원

3. 성별
① 남 ② 여

4. 나이 만 _____ 세

5. 결혼 유무
① 미혼 ② 기혼 ③ 기타

6. 최종학력
①초등학교 졸업 ②중학교 졸업 ③고등학교 졸업 ④대학교 졸업 ⑤대학원 졸업 상

7. 귀하의 전반적인 건강상태는 어떠하십니까?
① 건강하지 못하다 ② 보통이다 ③ 건강한 편이다 ④ 생각해 본 적이 없다

8. 귀하는 현재 치료중인 만성질환이 있습니까? (만성질환: 당뇨병, 고혈압, 심근경색, 고지혈증 등)
① 예 ② 아니오

9. 귀하께서는 의료, 건강, 질병에 대해 어느 정도 지식을 가지고 있습니까?
① 잘 알지 못하는 편이다 ② 보통이다 ③ 잘 아는 편이다.

끝까지 성의 있게 답변해주셔서 대단히 감사합니다.

국문 초록

국내 건강검진 서비스품질 속성과 고객만족도에 관한 연구

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인구 구조의 고령화와 만성질환 증가로 의료비용이 빠르게 늘어나고 있는 가운데 건강검진서비스는 의료비용을 감소시키고 국민 건강을 증진시키는 방안으로서 국가적인 차원에서 실시되고 있다. 특히 검진 인원과 검진 기관 수의 빠른 증가는 건강검진서비스 시장의 성장 잠재성과 치열한 경쟁을 보여주고 있다. 이러한 중요성에도 불구하고 건강검진 서비스품질 속성과 고객 만족도에 대한 연구는 아직까지 미흡한 실정이다. 이에 따라 본 연구에서는 건강검진 서비스품질 속성을 조사하고 실제로 그 속성이 고객 만족도와 고객 행동에 어떠한 영향을 미치는지 파악하고자 한다.

건강검진 서비스의 품질을 구성하는 차원으로 SERVQUAL(Parasuraman et al., 1988)과 SERVPERF(Cronin and Taylor, 1992)의 다섯 가지 속성인 유형성, 신뢰성, 신속성, 보증성, 공감성에 프라이버시 속성이 가정되었다. 속성의 구성 여부와 그 영향은 구조방정식 모형을 통해 조사하였고 그 결과 여섯 가지 속성은 다섯 가지 속성으로 재구성되었다. 프라이버시는 속성을 이루지 못하고 공감성에 포함되었고 신속성과 보증성은 하나의 속성으로 유형성은 두 가지 속성으로

나누어지게 되었다. 이러한 결과는 기존 서비스 연구(Parasuraman et al., 1991)와 의료 서비스 연구(Carman, 1990)를 지지하고 있다.

건강검진의 서비스 품질 속성 중에 실제로 고객 만족도와 행동에 큰 영향을 미치는 속성은 신뢰성과 공감성으로 나타났다. 따라서 검진 기관은 시장의 경쟁 우위 전략 혹은 고객 만족도 향상 전략 수행 시 신뢰성과 공감성 향상에 우선순위를 두는 것이 적절하다.

본 연구에서는 국내 유사한 두 개의 검진 기관을 대상으로 이루어졌기 때문에 그 표본의 다양성 측면에서 한계점을 지니고 있다. 본 연구가 발판이 되어 여러 검진 기관을 포함한 후속 연구가 진행된다면 이 연구의 한계점이 보완될 것으로 보인다.

주요어: 건강검진, 서비스 품질, 고객 만족도, SERVPERF
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