

EMERGENT NEEDS OF DEPRESSION CARE FOR OLDER ADULTS: EVIDENCE FROM TAIWAN

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ABSTRACT

The over 65 age group continues to grow at an unprecedented rate. Few care delivery systems accommodate this expanding population through home and community-based services that enhance quality of life. With more and more aging people in the society, there are many issues that need to be addressed. Soaring competition among senior-care operators has led to escalating consumer demands on performances, driving the industry to become more customer-oriented. The purpose of this quantitative phenomenological study was to explore the lived experiences and generational-based perspectives of senior residents live in senior-care organizations in the southern Taiwan to examine current and future influences on senior care delivery systems. The authors examined the relationship based on Parasuraman, Zeithmal and Berry's SERVQUAL ten dimensions. Multiple regression was conducted to test the relationships. The statistical results showed that access, competence, courtesy, and responsiveness are significantly and positively related to customer satisfaction. This finding, among others, suggests that senior-care operators in the southern Taiwan might have overlooked the above mentioned four dimensions as factors leading to customer satisfaction and, ultimately, to a sustainable competitive edge.

JEL: M16; M5; I11

KEYWORDS: Elder care, satisfaction, assisted living facilities, emerging market

INTRODUCTION

Between 2011, when the first baby boomers turn 65, and 2030, when the entire cohort reaches that age, the population of the seniors in Taiwan is projected to increase dramatically (Ministry of Interior Taiwan Department of Social Affairs, 2007). Due to rapid progresses in health and technology, the life expectancy of Taiwan residents has extended. Council for Economic Development and Planning, a government agency affiliated to Administration Yuan estimates that the old-age population in Taiwan will continue to increase until 2020 (Chiu, 2002). As the older population becomes more diverse in ethnicity, dependence, health, economic status and education, services targeting older adults will need to be more flexible to meet their demands (Lee, 2002). There has been an apparent need for care, especially among the seniors living in rural southern Taiwan, where the young generations tend to leave homes (Ministry of Interior Taiwan Department of Social Affairs, 2007; Hung and Lee, 2004; Tsai, 2004).

Chiu (2002) finds that as the senior population in Taiwan grows, the demand of care for the healthy and independent seniors has increased. According to Huang's (2004) observation, the senior-care market has been on the rise in Taiwan. Many outsiders have been attracted into this market for profits. Insurance companies and private entrepreneurs are highly enthusiastic about getting into this field (Chiu, 2006; Lee, 2003). Currently, the Senior Care Organizations (SCOs) have been one of the best choices available to the elderly living in rural areas of Taiwan (Lee, 2007).

In a word, catching the senior customers' hearts is the key to winning the business in today's ever-competitive senior-care market. Senior-care organizations have to understand the level of customer

satisfaction in order to improve its service quality (Parasuraman et al., 1985). Efforts to align marketing strategies with the goal of maximizing customer satisfaction have been embraced in earnest as a new marketing concept by product and service providers. A theoretical framework of customer satisfaction is a way of measuring the perceived quality of a service product. The present study employs Parasuraman et al's (1985) 10 service-quality dimensions in an attempt to develop an understanding of the perceived service needs of customers at SCOs in rural Taiwan.

LITERATURE REVIEW

In Taiwan, Senior Welfare Organizations (SWOs) can be divided into five categories: long-term care organizations, senior-care organizations (SCOs), retirement home organizations, senior culture organizations and services organizations (Ministry of Interior Taiwan Department of Social Affairs, 2007). As of October 2007, Ministry of Interior Taiwan Department of Social Affairs (2007) estimated the number of senior citizens in Taiwan at 3,085,275, which was about 10.2% of the total population.

The same agency revealed that, as of October 2007, about 1,015 SWOs were providing long-term care to the seniors with a total capacity of around 62,000 beds, while only 46,000 seniors actually lived in those facilities. The occupancy rate was 74.19%. On an extended time line, though, among the five types of SWOs, the occupancy rate in the SCOs reportedly increased from 1.04% in 1993 to 2.26% in 2005 (Ministry of Interior Taiwan Department of Statistics, 2008). When developing marketing strategies for SCOs, the company has to set up a market compartment before establishing its market position; the company, then, can target its clients in the market. A SWOT analysis is the best way to help organizations to develop their advancing and retreating strategies (Skeese, 2002). Table 1 presents a lay-out of the strengths, weaknesses, opportunities and risk factors of the senior-care industry in Taiwan as seen in scholarly works and governmental statistics.

According to several scholars' studies (i.e., Tsai, 1996; Chuang, 2000) the eighteen counties are the rural areas in Taiwan including villages and towns. Tsai (2004) mentions that most scholars believe that there exists an "urban bias" in Taiwan. Lipton (2005) explains, "Urban Bias Thesis (UBT) proposes that urban classes in poorer countries use their social power to bias (distort) a range of public policies against members of the rural classes." Lipton maintains that this bias involves (a) an allocation: to persons or organizations located in towns or (b) a disposition among the powerful urban classes to allocate resources in this way. Urban bias, so defined, is currently being witnessed in Taiwan's senior-care industry.

The latest investigation indicates that the number of SCOs in Taiwan stands at 948 (Minister of Interior Taiwan Department of Social Affairs, 2007). SCOs are mostly established in big cities of Taiwan. For example, there are about 172 senior-care organizations in Taipei County and 190 in Taipei City (Minister of Interior Taiwan Department of Social Affairs, 2007). Options are relatively limited for the rural seniors. More and more seniors living in rural areas, however, are asking for a greater supply of senior-care facilities (Tsai, 2004).

Table 1: SWOT Analysis of the Senior-Care Industry in Taiwan

Panel A: Strengths and Weaknesses	
Source	Strengths
Ministry of Interior Taiwan Department of Social Affairs, 2007	765 Senior Homes and SCOs existed in 2002, and the number jumped to 983 in 2007.
Hung and Lee, 2004; Ministry of the Interior of Taiwan Department of Social Affairs, 2007	Because of increasing demands for SCOs and other senior services, the government has started treating the related issues more seriously.
Chen, 2002; Hsieh, 1993	Living in SCOs, the elderly can help ease family burdens while receiving professional care.
Ministry of Interior Taiwan Department of Statistics, 1998; Tsai, 2004	The massive migration of young people to the cities has left an aging countryside in dire needs of professional care.
Hung and Lee, 2004	To meet senior-care needs and to ensure fairness in resource distribution, governments of many counties have proposed specialized appraisal standards with which to determine the appropriation of funds.
Source	Weaknesses
Liao, 2007; Shi, 1994	Because of the lingering traditional concept of “raising the children to protect against aging,” many seniors in Taiwan are still partial to living together with their off springs.
Tsai, 2004; Kong, 2004	Most scholars believe that there is an “urban bias” in Taiwan as most resources are available only in the big cities.
Department of Health, 2002; Lee, 2004	Several researches are targeting SWOs that have not registered with the government. Their studies indicate that at least 7,500 seniors are now living in those non-registered facilities, which usually offer low-quality services.
Hsieh, 1993; Kuo, 2003; Tsai, 2005	As organizations emphasize operational efficiency at the cost of service quality, staffs often provide unprofessional care or even maltreat senior customers.
Chen, 2005; Kuo, 2003; Lee, 1997	Lacking professional care ethic, some organizations, in order to increase the manpower and reduce personnel costs, employ foreign workers, leading to communication problems and poor service quality.
Chen, 2005; Yang, Wang, and Chiang, 2005	Intense competition has made it difficult for organizations to innovate their services.
Chen, 2005; Lee, 2004	Many investors joining the senior-care market today are ill-prepared and often focus on profits at the expense of quality and commitment.
Hsieh, 1993	The fact that society needs to supply abundant senior-care resources to cope with a steady expansion of the elderly population, has obliged the government to render financial aids.
Chen, 2005; Kuo, 2003	Overall, there has been a lack of service personnel, with the quality of operators being uneven.

Panel B: Treats and Opportunities (Chang, 2004)

Condition	Threats	Opportunities
Increase of elderly population	With increasing elderly annuity; personal capitals have decreased.	Recreational products and related services have increased, so has demands for smaller and more comfortable homes.
Emergence of multiple generations of seniors	With slow economic growth, there has been an increasing elderly dependence on societal resources and loss of balance between supply and demand.	As greater variety is needed for new products and services, there is still room for economic growth.
Seniors being autocratic	The decision-making power is on the seniors' hands, leading to generation conflict.	There are needs for recreational products and training programs.
Baby Boomer High income	Value clash among generations	As consumer spending increases, people demand quality life, thus creating room for investment and, ultimately, economic growth.
The population being increasingly more health-conscious	Changing needs in for health-care products.	While the pressure for elder annuity decreases, the demands for senior-care products are increasing.
Health-Conditions	Increase of social resources pressure on medical or manpower.	Demands for senior-care products/services are increasing.
The Physiology Ability Declines	Growing demands for assistance resources.	Both user-friendly products and senior-care services are increasing.
Technology	Emergence of gap between rich and poor in owning high-tech services or products.	Room for solving the problem and increasing service efficiency.
Societal Resources	Seniors immigrating to foreign countries due to a lack of local professional care.	Growing demands for senior-care services along with increasing needs for safe products and environment.

The SWOT Analysis shows that the current demand of the SCOs holds potential business in Taiwan both presently and in the future. Apparently, the SCOs will have to gird their loins for an intense senior-care business war.

Definition of Customer Satisfaction

Customer satisfaction has attracted a great deal of attention in the literature because of its potential influence on consumer behavioral intentions and customer retention (Cronin et al., 2000). The authors of the present study used the theory by Parasuraman et al. (1985), who developed a general list of ten dimensions on customer satisfaction (see Table 2). Several studies have shown that a high level of customer service quality can exert a positive influence on customer satisfaction (Cronin and Taylor, 1992; Zeithaml et al., 1996; Ramsaran-Fowdar, 2006).

Table 2: Parasuraman et al's 10 dimensions of service quality (Parasuraman et al., 1985, p. 6-7)

Dimension	Definition
Access	Ease of contacting service firm by telephone
Communication	Explaining service to customers in language they can understand
Competence	Knowledge and skill of customer-contact personnel
Courtesy	Friendliness of customer-contact personnel
Credibility	Trustworthiness of customer-contact personnel
Reliability	Performing dependable service
Responsiveness	Willingness and ability to provide prompt service
Security	Confidentiality of transactions
Tangibles	Appearance of physical facilities and personnel
Understanding the Customers	Effort to ascertain a customer's specific requirements

Service Quality and Customer Satisfaction

The relationship between service quality and customer satisfaction has been discussed during the past decade. According to Jun et al. (2004), some authors (e.g., Grönroos, 1983) argued that there is a significant overlap between these two concepts, and thus, they can be used interchangeably. Other researchers (e.g., Bitner et al., 1990; Carman, 1990; De Ruyter et al., 1997; Lee and Yoo, 2000), though, have attempted to differentiate between these two constructs. They argued that whereas service quality is an overall evaluation of the service under consideration, customer satisfaction is often viewed as the result of specific service transactions.

DATA AND METHODOLOGY

Based on the above-mentioned research findings, a quantitative analysis using survey and statistical methods was conducted to identify possible answers to the research question (listed below).

Instrument Development

The survey instrument was based on the combined designs by Nwankwo (2007) drawing on Parasuraman et al.'s (1985) service quality dimensions. The authors developed a questionnaire that asked the sample to evaluate SCOs' service quality as well as their customer satisfaction in rural areas of southern Taiwan. The questionnaire consisted of 21 Likert-scale items. Nearly half of the items are phrased positively, and half negatively. A positively worded statement is one for which a very satisfied participant would select "Strongly Agree." A negatively worded statement is one for which a very satisfied participant would check "Strongly Disagree". (Stamps, 1997).

The authors hired Focus Survey Research Company to conduct the questionnaire survey and collect the data. The target population was the 9,753 seniors living in 279 private SCOs in rural areas of southern Taiwan, where a random sample was selected to participate the survey through drop-off and face-to-face interviews. In order to obtain a reliable output, substantial consideration had to be given to the sample size (n) and the number of predictors (K). A recommended ratio is identified by Tabachnick and Fidell (1996), who put the simple rule of thumb as $n \geq 50 + 8K$. Therefore, for the present study the sample size is 130 ($K=10$).

RQ: Is there a significant relationship between the senior customers' satisfaction and the ten dimensions of SCOs' service (i.e., access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangibles, and employee's understanding of their customers) in rural areas of southern Taiwan?

Null Hypothesis: The senior customer satisfaction is not highly correlated with the ten dimensions in rural areas of southern Taiwan's senior-care industry.

Hypothesis: The senior customer satisfaction is highly correlated with the ten dimensions in rural areas of southern Taiwan's senior-care industry.

RESULTS AND DISCUSSION

In the present study, data were gathered during the period of June to July 2008, from a total of effective 261 SCOs respondents in rural southern Taiwan by the Focus Research Company. Data collection for the present study was commissioned to a professional survey company, Focus Research Company, which operated under the authors' directions. Each participant was provided (a) letter of introduction, (b) an informed consent form, and (c) a survey questionnaire. A total of 285 surveys were returned. On the basis

of the data set obtained during the initial collection phase, some modifications on the questionnaire design were made to reduce the response time and, thus, to increase the response rate. 261 out of the 285 people had responded to the inquiry, with the response rate being around 91%.

Pre-Analysis Data Screening

An evaluation of missing data and outliers (i.e., extreme values) led to the elimination of 47 cases, reducing the number of responses to 214 for further statistical analyses. The test of data normality, linearity, and homoscedasticity were also conducted in order to satisfy the general assumptions in multivariate statistical testing. Mertler and Vannatta (2005) suggested that “when the assumptions of linearity, normality, and homoscedasticity are met, residuals will create an approximate rectangular distribution with a concentration of scores along the center” (p.55). The scatterplots revealed that the residual plot created a rectangle shape with scores concentrated in the center, suggesting that the collected data set had satisfied the general assumptions of normality, linearity, and homoscedasticity in multivariate statistical testing.

Statistical Results and Discussions

Tables 3, 4 and 5 present three primary outputs of multiple regression. A review of the tolerance statistics presented in Table 5 indicated that all IVs were tolerated in the model (with the tolerance statistics exceeding 0.1). Mertler and Vannata (2005) state, “...if the tolerance value for a given IV is less than 0.1, multicollinearity is a distinct problem” (p. 169). Thus, collinearity is not a serious problem for the current data. The model summary (see Table 3) and the ANOVA summary (Table 4) indicate that the overall model of the ten IVs is significantly related to the customer satisfaction [Adjusted R² = .532, F (10, 203) = 25.203, p<0.05]. Therefore, the results supported the hypothesis that the 10 dimensions are significantly correlated with the senior customer satisfaction in the SCOs. In addition, the statistical results also showed that access, competence, courtesy, and responsiveness are particularly significantly and positively related to customer satisfaction. Although competence is a little higher than 0.05, it is still close to being significantly and positive related to customer satisfaction. Competence cannot be neglected. The statistical results here led to the development of a multiple regression function using beta weight (see Table 5).

Table 3: General Model: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	Df1	Df2	Sig. F Change
1*	.744(a)	.554	.532	.56255	.554	25.203	10	203	.000**

* Predictors: (Constant), Competence, Reliability, Understanding Customers, Security, Access, Credibility, Responsiveness, Courtesy, Communication, & Tangibles. Dependent Variable: Customer satisfaction.

** P ≤ 0.05

The coefficient of multiple determination is 0.554; therefore, about 55.4% of the variation in the customer satisfaction is explained by the 10 service quality dimensions for SCOs. The regression equation appears to be very useful for making prediction since the value of R square is more than half close to 1.

Table 4: General Model: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.**
1*	Regression	79.759	10	7.976	25.203	.000(a)
	Residual	64.241	203	.316		
	Total	144.000	213			

* Predictors: (Constant), Competence, Reliability, Understanding Customers, Security, Access, Credibility, Responsiveness, Courtesy, Communication, & Tangibles. Dependent Variable: Customer satisfaction ** $P \leq 0.05$: At the 5% significance level, determine if the model is useful for prediction the response.

At the $\alpha = 0.05$ level of significance, there exists enough evidence to conclude that the 10 service quality dimensions is useful for predicting customer satisfaction for SCOs; therefore the model is useful.

Table 5: General Model: Coefficients*

Model	Standardized Coefficients Beta	t	Sig.**	Correlations			Collinearity Statistics		
				Zero-order	Partial	Part	Tolerance	VIF	
1	(Constant)	-1.812	.071						
	Access	.216	2.667	.008	.633	.184	.125	.336	2.976
	Communication	.057	.669	.504	.592	.047	.031	.307	3.260
	Competence	.132	1.899	.059	.585	.132	.089	.452	2.213
	Courtesy	.209	2.646	.009	.628	.183	.124	.351	2.852
	Credibility	-.020	-.234	.815	.591	-.016	-.011	.303	3.300
	Reliability	.025	.289	.773	.598	.020	.014	.297	3.370
	Responsiveness	.170	2.002	.047	.629	.139	.094	.306	3.268
	Security	.114	1.747	.082	.493	.122	.082	.519	1.929
	Tangible	.071	.924	.356	.576	.065	.043	.375	2.667
	Understanding the Customer	-.062	-.790	.431	.514	-.055	-.037	.356	2.809

* Dependent Variable: Customer satisfaction. ** $P \leq 0.05$

From the above output, the regression equation is:

$$Y \text{ (Customer Satisfaction)} = 0.216X \text{ (Access)} + 0.057X \text{ (Communication)} + 0.132X \text{ (Competence)} + 0.209X \text{ (Courtesy)} - 0.020X \text{ (Credibility)} + 0.025X \text{ (Reliability)} + 0.170X \text{ (Responsiveness)} + 0.114X \text{ (Security)} + 0.071X \text{ (Tangibles)} - 0.062X \text{ (Understanding the Customer)}.$$

CONCLUSION AND RECOMMENDATIONS

Competition in the SCOs for senior people has been upheld as a means of increasing efficiency, driving down prices and raising the quality. Choices are made available to meet user expectations of healthcare and to improve service provision. Optimizing the management and process of care transitions of senior peoples is important to senior-care providers. For senior service providers, it is important to reduce the complexity and fragmentation often observed of the care process system (Clarfield et al., 2001). It seems essential to encourage the SCOs either to provide a range of services across the care continuum or to develop partnerships with other providers whose services complement their own (Coleman et al., 2004; Cheek et al., 2006). This needs Senior Care Organization to adopt of its policies practicable. This strategy could also limit the number of agencies a senior resident customer has to deal with, thereby reducing the complexity of the care system. On the other hand, information technology available through the online comprehensive service may also be the best strategy to reduce the system complexity of the SCOs.

Survey result by Vuori and Holmlund-Rytönen (2005) revealed that people older than 50 are the second fastest-growing group on the Internet, trailing only the 16-to-24-year-olds. A recent survey of people 55 years and older by Dell Corporation found that over 75% of respondents would be likely to purchase a personal computer if they know they had someone to help them use it (Mahoney, 1999). The Internet service is quickly becoming an ideal method to present information to an aging audience (Angel, 1999). It could improve service coordination while enhancing stakeholders' knowledge and understanding of available services.

Other regulatory and policy constraints, such as requirements for employees training, will also pose a block to future competition among senior-care providers (Knibb, 2006). Therefore, providing quality services to the seniors is a multidimensional activity; employees' qualities are the key to customer satisfaction of the service quality (Cheek et al., 2006). If SCOs did not expend money training their employees on new and improved methods of carrying out business simply lag behind. Companies that have an employee performance management system have developed an affordable way to keep staffs trained and educated on the best possible methods. Cheek (2004) suggests that senior health-care related education and training should focus on short term, curative, episodic care provides a limited basis for developing worker that can contribute to the provision of services prompting positive, long term outcomes for senior people. For the SCOs in rural southern Taiwan, education and training should emphasize access, competence, courtesy, responsiveness, and how these factors may be employed to enhance the senior-customer satisfaction.

The present study is a pioneer in conducting empirical studies to develop a diagnostic instrument for senior-customer satisfaction. This instrument may be an effective tool of evaluating ultimate customer satisfaction in way of developing future employee training programs. However, the limitation of the study is the lack of data on the senior residents' family members who might have a significant impact upon the senior customers' satisfaction. Future studies may need find out about these family members' views and satisfaction. Pairing the seniors' and their family members' responses may an interesting and useful approach to understanding the essence of senior-customer satisfaction.

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