

A Study on the Effect of Cross-Channel Service Design on the Satisfaction with Community Service Experience

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Abstract

The government combines central and local civil resources to collaboratively establish the measures of the elderly protection network system, home care and family support, health care service, community care, and social participation in past years. The combination of voluntary service and community resources and the provision of necessary assistance for community dwelling elders allow the elderly continuously interacting with the society. The volunteers' concern also has the elderly receive emotional and social support and enhance the quality of life. Along with the rapid advance of information technology and network, service styles and channels become diversified. A lot of traditional service experience in daily life is changing into cross-channel service experience that the users do not simply move between media and devices, but also cross various fields. In fact, successfully designed cross-channel service experience is important and urgently demanded. Aiming at community residents in Kaohsiung Taiwan, total 480 copies of questionnaire are distributed with random sampling, and 334 valid copies are retrieved, with the retrieval rate 70%. The retrieved questionnaire data are analyzed with statistical software. The research results conclude significant correlations between 1.cross-channel service design and service experience, 2.service experience and satisfaction, and 3.cross-channel service design and satisfaction. Finally, suggestions are proposed according to the research results, expecting to provide service strategies better conforming to community service and enhance the specific effect of community service.

Keywords: Community service, Cross-channel service design, Service experience satisfaction

1. Introduction

Along with medical technology and rapid industrialization and urbanization, family structure is changed and life expectancy is prolonged to result in more elders living alone due to voluntary or involuntary factors. Being affected by aging or diseases, elders might reduce or lose the daily activity or self-care ability to increase the risk of living alone. Problems and demands induced by the approach of aging society have been the concern of the government and the civil; the related plans and measures present certain model, and the invested manpower and budget are increasing. The government positively promotes the development of health care service industry. In addition to definite legislation, civil power is combined to integrate policies, regulations, and service in

order to effectively practice the elderly welfare. It is regarded as the essence of social welfare. Social welfare is the service to satisfy humans' basic needs for living, solve social problems, and enhance social development. To cope with social aging and present community oriented welfare, relevant community oriented welfare service, such as community based care or home care, should be planned to satisfy different needs of elders. In this case, the government combines central and local civil resources to collaboratively promote the establishment of measures, including the elderly protection network system, home care and family support, health care service, community care, and social participation, to guarantee the elderly economic life, maintain the elderly physical and mental health, and promote the elderly quality of life. In the development of care service industry, the service for elders living alone in communities is operated by dividing such elders according to the residential areas; the government entrusts such elders to civil voluntary organizations to provide simple elderly service by the volunteers. The combination of voluntary service and community resources and the provision of necessary assistance for community dwelling elders could have the elderly continuously interact with the society. The concern from volunteers also has the elderly acquire emotional and social support and enhance the quality of life. Moreover, service styles and channels become diversified along with the rapid advance of information technology and network. Diverse service channels could be regarded as a system providing service for customers through various media. Cross-channel service provides a complete service with such different service channels. A lot of traditional service experience in daily life is changing into cross-channel service experience in past years. It does not simply request the users to move between media and devices, but cross distinct fields. In fact, successfully designed cross-channel service experience shows the important and urgent demand. The design of cross-channel service must be integrated and globally and stress on process oriented solutions. The necessity of cross-channel service design is therefore apparent. The effect of cross-channel service design of communities on service experience and satisfaction is therefore discussed in this study to further understand the service experience and satisfaction after receiving community service. It is expected to provide service strategies better conforming to community service and promote the specific effect of community service.

2. Literature Review

Chow (2018) pointed out cross-channel service as a complete experience connecting single service in diverse channels through distinct media and environment. When diverse channels are boomed, enterprises provide seamless experience in various channels to enhance the competitiveness that those insisting on single-channel service are gradually losing the advantage. Marques & Costello (2018) mentioned that it became normal in service industry to provide service through diverse channels, where financial service industry particularly showed the representativeness. For

instance, the multi-channel service in banking industry contained multiple service windows of online banking, mobile device banking service, automatic teller machines, and physical banks to provide customers with more flexible choices. Khodadad et al. (2018) revealed that modern service providers had to apply multi-channel customer management to effectively acquire and maintain customers as well as promote service experience and customer value. Aiming at the design of cross-channel service, Davenport & Glover (2018) indicated that people could enhance the entire quality of service experience when they could more rapidly and instinctively move among channels. Schegg & Stangl (2017) also pointed out the lack of user perspective as the major problem of the design of cross-channel information structure to result in bad information structure. Users being able to move faster and more instinctively among channels could enhance the overall quality of service experience. The following hypothesis is therefore proposed in this study.

H1: Cross-channel service design shows significant correlations with service experience.

Lo et al. (2018) explained experience service as the process allowing customers fully experiencing products or the company. Starting from enhancing customers' overall experience, it stressed on each contact with customers, through coordination and the integration of before sales, during sales, and after sales as well as various contact points with customers, to purposively and seamlessly deliver target information for customers, create positive feelings matching the brand commitment, fulfill good interaction, and further create customers' differential perceived value and fulfill customer loyalty. Kim et al. (2018) regarded "service experience" as the subjective perception of customers in the participation in service process. Allmacher et al. (2018) defined "service experience" as the interaction among service providers, relevant service systems, service personnel, and service recipients. In other words, "service experience" could be regarded as customer perception, through interaction, in the participation in entire service environment. Horváth & Adigüzel (2018) considered that factors in service experience covered some satisfaction. Coxonl et al. (2017) definitely indicated that service experience would indirectly affect satisfaction through perceived value. Tran et al. (2019) further indicated in the empirical research on the quality model of service experience that quality of service experience would affect satisfaction through value delivery. The following hypothesis is therefore proposed in this study.

H2: Service experience reveals remarkable correlations with satisfaction.

Jiang et al. (2018) defined satisfaction as complicated emotional reaction along with confirmed experience and expectation difference (distortion). After experiencing the complete service, customers would present distinct experience, good and bad, and each experience would affect the satisfaction. In other words, satisfaction was customers' evaluation of products or service satisfying the needs and expectation. Campos et al. (2017) pointed out satisfaction as individual

pleasant and disappointed feelings after comparing the perceived performance of products with the expectation. When the performance was lower than the expectation, dissatisfaction would appear; satisfaction would appear when it equaled the expectation; and, high satisfaction would appear on higher performance than the expectation. Livework (2017) mentioned that satisfied customers would maintain longer relationship and enhance the loyalty to the company which was the source to promote the competitive advantages and profit making of an enterprise. Satisfaction was gradually emphasized in various industries, mainly because it would cost 5 times costs to create a new customer than maintaining old customers. A customer being dissatisfied with the products or service of an enterprise which was spread through interpersonal relationship would result in great impact on the organization or enterprise. In the research on service concept, Ketron (2018) mentioned that the performance evaluation of a service delivery system contained finance (revenue, cost, profit, and return on investment), operation (daily volume of trade and daily time for trade), and marketing (satisfaction). Apparently, satisfaction was an indicator to measure service. In other words, different cross-channel service design would affect satisfaction. In the research on online sales and physical retail industry, Schott (2017) further indicated that, by integrating and managing multiple channels into a system, retailers could mutually support and complement each other in the channels to promote the overall sales. In other words, cross-channel service could provide the users with more flexible and complete service through the cooperation of diverse channels to effectively promote satisfaction. Accordingly, the following hypothesis is proposed in this study.

H3: Cross-channel service design presents notable correlations with satisfaction.

3. Research Method

3. 1. Operational definition

(1) Cross-channel service design

Five dimensions for cross-channel user experience proposed by Chiao et al. (2018), including space creation, consistency, flexibility, simplification, and relevance, are utilized in this study.

Space creation: To construct cross-channel environment with digits or entity to reduce the users getting lost in the process, enhance readability, and create spatial perception.

Consistency: including internal consistency and external consistency. The former stresses on the provision of information required by target groups. The latter emphasizes to maintain the same logic in different media, environment, and time and space.

Flexibility: To provide service by matching difference users, needs, and search strategies and to stress that service is process, not procedure.

Simplification: To simplify large sources of information, service, and products to reduce the users' pressure from information and the sense of loss.

Relevance: To link relative information, service, or products with information structure model to help the users achieve the goal or satisfy the potential needs.

(2) Cross-channel service design

Referring to Yoon & Choi (2018), the following dimensions for service experience are contained:

(1) Core service: An enterprise provides service content, and customers receive the maximal value in the service process; it could be regarded as the important content delivered in the service process; (2) Personnel service: It exists in between service providers and customers, mainly delivering service content and directly interacting with customers. Besides, personnel service includes clothing, behavior & attitude, professional skills, and commitment to customers. (3) Service field: The physical environment for service delivery.

(3) Satisfaction

Referring to Liew (2018), satisfaction is used for promoting quality, including following dimensions. (1) Service process: e.g. convenience in the process; (2) Service structure: e.g. clean facility, convenient transportation, and service personnel's skill quality and concern of customer welfare; (3) Service result: overall perception of service.

3. 2. Method and model

Test for goodness-of-fit in LISREL could be measured with the overall model fit (i.e. external quality of model) and internal quality of model. In terms of overall model test for goodness-of-fit, the common goodness of fit indices contain (1) " χ^2 ratio" (Chi-Square ratio), standing for the difference between actual theoretical model and expected value, which is better smaller than 3, (2) goodness of fit index (GFI) and adjusted goodness of fit index (AGFI), which present better fit when closer to 1, (3) root mean square residual (RMR) to reflect the square root of "residual variance of fit/covariance mean", which is better smaller than 0.05, and (4) incremental fit index (IFI), which reveals excellent model fit when higher than 0.9.

Indices for the internal quality of model commonly used in LISREL include (1) SMC (square multiple correlation) of individual manifest variable, as R^2 of manifest variables and latent variables, which should be higher than 0.5, (2) component reliability (ρ) of latent variables, as the Cronbach's α of the observed indices of the latent variable, which should be higher than 0.6, and

(3) average variance extracted of latent variables, calculated by R2 sum of manifest variables of a latent variable being divided by the number of manifest variable to show the percentage of the latent variable being measured by manifest variables, which is better higher than 0.5.

Research sample and object. Aiming at community residents in Kaohsiung Taiwan, total 480 copies of questionnaire are distributed with random sampling, and 334 valid copies are retrieved, with the retrieval rate 70%. The retrieved questionnaire data are analyzed with statistical software.

Reliability and validity test. Validity refers to a measurement scale being able to actually measure the degree of what a researcher intends to measure. General validity contains “content validity”, which tends to qualitative verification, “criterion validity”, which is evaluated with known external criterion and the correlation coefficient of the test, and “construct validity”, which is used for evaluating the theoretical consistency of the measurement and other observable variables. Since the questionnaire content in this study is based on past theories and refers to the actual conditions of the research objects to design the tool which could authentically express the object essence and the completeness, the content validity of the questionnaire is confirmed. Besides, the final communality estimate of the factor analysis result is applied to test the construct validity of items, and the validity appears

4. Finding and Discussion

Model fit test. The estimation with “maximum likelihood method” is used in this study, and the acquired result achieves convergence. Overall speaking, the overall model fit indices in this study pass the test, fully reflecting good external quality of the model.

Table 1. Model analysis result

Overall fit	Evaluation index	Judgment standard	Result
	p -value	p -value > 0.05	0.000
	$\chi^2/d.f.$	< 3	1.428
	GFI	> 0.9	0.983
	AGFI	> 0.9	0.912
	CFI	> 0.9	0.976

	RMR	<0.05, lower than 0.025 excellent	0.015
	RMSEA	0.05~0.08 good Lower than 0.05 excellent	0.024
	NFI	> 0.9	0.947
	IFI	> 0.9	0.932

Path relationship test

Table 2. SMC of variable to dimension

cross-channel service design				
space creation	consistency	flexibility	simplification	relevance
0.73	0.77	0.80	0.82	0.86

Table 3. SMC of variable to dimension

service experience			satisfaction		
core service	personnel service	service field	service process	service structure	service result
0.71	0.74	0.79	0.73	0.76	0.84

Table 4 .Component reliability and average variance extracted of variable

item	cross-channel service design	service experience	satisfaction
component reliability	0.841	0.857	0.873
average variance extracted	0.83	0.84	0.86

Regarding the test of internal model quality, the SMC of manifest variables is higher than 0.5 (Table 2 & Table 3), revealing good measuring indices of latent variables. Furthermore, latent variables of cross-channel service design, service experience, and satisfaction show the component reliability higher than 0.6, and the average variance extracted of dimensions is higher than 0.5 (Table 4), apparently conforming to the requirement for internal quality test.

Table 5. Linear structural model analysis result

Evaluation item	Parameter/evaluation standard	Result	t
internal fit	cross-channel service design→service experience	0.862	27.34**
	service experience→satisfaction	0.875	32.51**
	cross-channel service design→satisfaction	0.836	19.23**

Table 6. Hypothesis test

Research hypothesis	correlation	Empirical result	P	Result
H1	+	0.862	0.00	supported
H2	+	0.875	0.00	supported
H3	+	0.836	0.00	supported

From the model analysis result, Table 5, cross-channel service design shows positive and significant correlations with service experience (0.862), service experience presents positive and remarkable correlations with satisfaction (0.875) and cross-channel service design reveals positive and notable correlations with satisfaction (0.836), showing the support of H1, H2, and H3. The test results of research hypotheses are listed in Table 6.

5. Conclusion

The research result reveals that proper use of cross-channel service design in community service could enhance service experience. Besides, including safety in the future design could comprehensively promote service experience and create better community service. Cross-channel service design in community service could indirectly enhance satisfaction through service experience and, according to the characteristics of community service design, change the effect of service experience on satisfaction. In this case, community service providers have to ensure the community service information content conforming to the user needs and the consistent logic of community service information and service process among channels. It should be avoided to confuse the users when using different channels and even result in community service failure. The cross-channel service design in community service should stress on service providers offering the users with sufficient options; in addition to the selections conforming to user needs, different use situations should be taken into account for proper space adjustment. Simply speaking, cross-channel service in community service should match various needs and situation changes to provide complete and flexible service content.

By deducing the research results and findings, practical suggestions are further proposed in this study.

When selecting information content of community service, the necessity and appropriateness should be fully considered. Moreover, necessary service information should be precisely presented to reduce the users' cognitive load in the operation. In regard to community service, the focus function could help the users more easily comprehend and achieve the service objective. Besides, simple and easy-to-read pictures allow the users rapidly read the service content to reduce the load in the use of cross-channel community service process.

The affection connection among people is the niche to maintain the users' relationship and promote community service for the cross-channel community service. Moreover, relevant service support provided by cross-channel service is the key in the success of community service. For this reason, well using community connection and considering the extended service of cross-channel community service could encourage the users continuously using cross-channel community service and extend the service to create the unique cross-channel service experience of the community.

Consistency presents great help on the maintenance of community service information to prevent the users from load caused by large difference among channels. The consistent use logic among channels should be taken into account of the service design time. For example, the information and process on digital service channels of community service should present certain degree of similarity to the physical channel. With different selection logic, the users might be confused and frustrated about the community service.

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International Conference of Organizational Innovation 2025

Proceedings

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2025

e-ISSN: 3064-6030
FMI, Vol 2
15-17 July 2025

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International Conference of Organizational Innovation 2025

Proceedings

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2025

e-ISSN: 3064-6030
FMI, Vol 2
15-17 July 2025

Yoon, J.-H., & Choi, W.-J. (2018). A study on design of pediatric dental care service. International Journal of Digital Media Design, vol10, 1-7.

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