

The Effects of Service Quality of Companion Dog Website on Consumer's Trust: Focused on the Mediating Effect of Consumer's Loneliness

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반려견 웹사이트 서비스품질이 소비자의 신뢰에 미치는 영향: 소비자 외로움의 조절효과를 중심으로

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Abstract This study examined the effects of the service quality of companion dog websites on consumer trust and analyzed whether loneliness plays a moderating role. A survey was conducted on participants in the dog fair in Busan on July 5-9, 2019, and analyzed 212 effective responses and randomly selected participants. In addition to the e-service quality factors (efficiency, availability, privacy, and fulfillment) developed in previous studies, four factors (enjoyment, dog-centered, personalization, and community) were extracted, considering dog characteristics. The main results are as follows. First, five factors (fulfillment, privacy, pleasure, dog-centered, and community) have a positive (+) effect on website trust, and only privacy has a significant impact on store trust. Second, website trust has a significant positive (+) effect on store trust. Third, the mediating effect of website trust was significant in fulfillment→website trust→store trust, privacy→website trust→store trust, enjoyment→website trust→store trust, community→website trust→store trust, dog-centered→website trust→store trust. Fourth, the variables of loneliness playing a moderating role are fulfillment, availability, personalization, and community. For the first time, this study developed a scale measuring the service quality of a companion dog website. This was expected to contribute greatly to academic research and practical applications of companion dog websites. In addition, it will play a major role in alleviating social problems by providing emotional and social support from consumers in a changing social environment, such as the low birth rate, low marriage rate, aging society, and population decline.

요약 본 연구의 목적은 반려견 웹사이트의 서비스 품질이 소비자의 신뢰에 미치는 영향을 파악하고, 외로움이 조절 역할을 하는지를 실증분석하는 것이다. 2019년 7월 5일부터 7일까지 부산에서 개최한 애견박람회 참가자를 대상으로 설문조사를 실시하여 회수한 212부를 대상으로 분석을 하였다. 반려견 웹사이트 서비스품질의 측정도구를 개발한 결과 선행연구에서 개발된 e-서비스품질 요인(효율성, 이용가능성, 프라이버시, 이행성) 외에 반려견 특성을 고려한 네 가지 요인(즐거움, 반려견 중심, 개인화, 커뮤니티)이 새로이 추출되었다. 주요 결과는 다음과 같다. 첫째 반려견 웹사이트 서비스품질 중 5가지 요인(이행성, 프라이버시, 즐거움, 반려견 중심, 커뮤니티)이 웹사이트 신뢰에 정(+)의 영향을 미치고 있으며 매장 신뢰에는 프라이버시만 유의한 영향을 미치고 있다. 둘째, 웹사이트 신뢰는 매장 신뢰에 유의한 정(+)의 영향을 미치고 있다. 셋째, 웹사이트 신뢰의 매개효과는 이행성→웹사이트신뢰→매장신뢰, 프라이버시→웹사이트신뢰→매장신뢰, 즐거움→웹사이트신뢰→매장신뢰, 커뮤니티→웹사이트신뢰→매장신뢰, 반려견중심→웹사이트신뢰→매장신뢰 등의 다섯 가지 경로에서 유의하게 나타났다. 넷째, 외로움이 조절역할을 하는 변수는 이행성, 이용가능성, 개인화 커뮤니티 등이다. 본 연구는 최초로 반려견 웹사이트의 서비스 품질의 측정도구를 개발했다. 이것은 반려견 웹사이트에 대한 학술 연구와 실무적 응용에 크게 기여할 것으로 기대된다. 그 외에도 저출산, 저혼인율, 고령화 사회, 인구 감소 등 변화하고 있는 사회 환경에서 소비자들의 정서적, 사회적 지원을 해 줌으로서 사회 문제를 완화시키는 데 큰 역할이 될 것이다.

Keywords : Service Quality, Companion Dog Website, Website Trust, Store Trust, Loneliness

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1. Introduction

Pets play an important role in society. People treat pets as a partner with the same desire and rights as other family members. Companion pets have been found to promote psychological health and well-being by providing companionship, emotional and social support, a sense of safety, and relaxation[1]. In many countries, the number of families with pets is steadily increasing. With rising incomes, there is a growing demand for premium products and professional services for pets, and the pet industry includes grooming, boarding, insurance, cremation and funeral services[1].

Among companion pet, dogs have also been found to promote exercise and outdoor activities, affect the physical health of people. Therefore, considering the growth of the industry and the importance of the economy related to companion dogs, the necessity of professional services for dogs will derive sufficient business value. Consumers require a variety of services that meet their needs. Because such diverse information is most often obtained through the internet or mobile search, the number of companion dog websites is growing rapidly.

Since pets interface with humans as living beings, trust plays a particularly important role[2]. The intimate relationship between people and companion pet is a mutually trusting and harmonious one comparable to the friendship between people[2]. As dog is a living animal, trust in the website or store will increase consumer satisfaction or purchasing intentions. As the term 'companion' shows, it implies, more lonely consumers feel, more heartily they require companion dog. Because dogs play an important role of social support in providing owners with unconditional and consistent affection, they will also mitigate the loneliness of owners.

Compared to previous studies, this study has the following differentiation. First, there is few

research on the service quality of companion dog websites, although service quality is the primary factor that affects consumer satisfaction or purchasing intention. To fill this reseaech gap, the purpose of this study is to develop the measures of companion dog website service quality. Companion dog websites have the characteristics of e-commerce, thus they must include not only the elements of e-service quality, but also consider the elements of service quality specific to companion dogs. Second, this study considers trust, and examine the effects of the companion dog website service quality on website trust and store trust. Furthermore this study is to identify the mediating role of website trust between the companion pet website service quality and store trust. Finally, this study is to identify the moderating role of individual loneliness between the companion pet website service quality and website trust. It is expected that our study will substantially contribute to the development of academic research and practical applications regarding companion dog websites.

2. Literature Review

2.1 Motivation to raise companion dog

In the past, dogs were raised for s help in hunting, and for early detection of danger. Today, especially in urban settings, humans gain more from raising companion dogs. Companion dog has been shown to promote psychological health and well-being of humans, providing companionship , emotional and social support, safety and security, entertainment[3].

Owning companion dogs makes a person feel better physically or psychologically.

First, it helps with physical health. It is reported that those who raise companion pet do more exercise than those who do not raise pet[4]. Friedman et al.(2003) also reported a 67% lower mortality rate for pet owners, regardless of

their level of depression[5]. Melson(2001) found that people facing stressful situations reduced cardiovascular reactivity with lowering blood pressure, pulse and cortisol hormones in the presence of companion pet[6].

Second, companion dogs promote psychological development and adaptation. Those who raised pets in childhood had a positive attitude toward animals and humans, and had higher levels of empathy, social cooperation[7]. Companion pet plays a role in mitigating the negative affect of the elderly[4]. In the case of old people who have lost their partners, companion pet reduces their stress and depression significantly[7].

Third, adolescents raising companion pet had lower levels of loneliness than those who did not[8,9]. It is not easy for people with severe loneliness to modify their social environment to reduce loneliness, but instead they can feel less lonely by forming strong attachments to their pet. When humans are experiencing emotional discomfort or stress, pets can be more comforting than their family or friends.

Fourth, pets provide an opportunity to form social relationships. For example, there are far more people around you saying hello or talking when you have a pet than walking alone in the park, and some of the people maintain relationship without pet[10]. Pet owners are also more willing to interact with their neighbors, and participate more in community events and groups[11].

2.2 Services specific to companion dog

2.2.1 Needs of companion dogs

In the case of general services used by people, it is common for a person to select a service that he/she needs or to use a service that satisfies needs. Companion dog services are different from those general services. Pets cannot select and use their own services, so people must provide services for their pet. A pet is a recipient

of service provided by a companion people. It is difficult to recognize the needs of companion dog, and likely to provide services that satisfies the needs of owner. The opinions or the needs of people are often reflected to improve the services or provide new services. Although it is difficult to exactly reflect the opinions of dogs, the needs of companion dogs can be confirmed through experts such as various previous studies or pets behavior analysts[12]. Companion dog-related services should not only meet the needs of humans but also identify the needs of dogs so that both companions and dogs satisfy their needs.

2.2.2 Personalization

Personalized service must be provided based on the analysis results of consumer's future behavior pattern[13]. For example, customized items are recommended after analyzing data collected in real time from a dog wearing an IoT device[14]. Personalized knowledge of dogs is provided by analyzing information such as pet care and life cycle health status. Medical services through veterinary hospital connection provide medical services to recommend feeds and products based on the knowledge and clinical experience of pet experts or veterinarians, and provide information to provide timely services in connection with veterinary hospitals[15].

2.2.3 Enjoyment

Companions raise pets due to psychotherapy, strengthening positive affect, solving loneliness[16]. Since there is also a purpose for health promotion and recovery[15], it can be seen that there is a strong need for services that provide enjoyment.

2.2.4 Community

Pets owners interact more with their neighbors and are more involved in community events and organizations. Companions also need information

about community formation[15]. They prefer to form a community to exchange information and to build a human relationship through a dog.

2.3 Service quality of companion dog website

Quality is achieved through understanding the difference between customer expectations and real performance of organization in providing services and reflects on how much the product or service meets the needs and expectations of the customer[17]. Parasuraman et al.(1991) have defined service quality as sustainable adaptation with understanding customer's expectations of particular service[17].

Since the internet has begun to change the businesses model and provide new business opportunities, many companies have developed various forms of e-business. The fundamental difference between an offline service and an online service, e-service, lies in the interaction between the web and e-mail[18]. It began as the market where the traditional movement of goods took place moved to the Internet. The means of contact or service provision in the Internet market through the web have been converted to e-mail.

Watson & Goodhue presented WebQual, a scale for rating the quality of web sites[19]. In 2001, Yoo and Donthu developed the SITEQUAL scale for measuring web site quality which was measured on four dimensions: ease of use, aesthetic design, processing speed and security[20]. In 2005 Parasuraman et al.(2005) further developed E-S-QUAL, a Multiple-Item Scale for Assessing Electronic Service Quality[21]. The basic E-S-QUAL scale developed in the research was a 22-item scale of four dimensions: efficiency, fulfillment, system availability, and privacy.

There are four characteristics of service related to dogs. First, there is psychotherapy that offsets loneliness by providing services that act on positive affect[15]. Second, services for promoting and restoring dogs' health increase as dogs are

viewed as family members. Third, community services are expanding. To obtain various information on the use of dog services, the information is shared and spread via communities. Fourth, dog-related businesses such as hospitals, funeral services, insurance, and O2O services, as well as pet-only TV broadcasts and food, have expanded into various fields[15].

Dogs have also been converted into recipients who could be provided with the same elements of service as humans. In this study, the elements of service quality are expanded by considering the characteristics of dog service in addition to the main element of e-service quality (E-S-EQUAL) described by Parasuraman et al.(2005)[21]. The factors that consider the characteristics specific to companion dog service are as follows. First dog-related services should be configured to meet the needs of companion dogs, not companions. Second, personalized information should also be provided. Service quality pursuing personalization is referred to as information diversity. In companion dog services, customized information develops into various service aspects such as food, medical services, financial services, funeral services, and meeting services according to dog information. Third, the element of enjoyment is included. Therefore, dogs should use the product and have fun or interesting. This includes visual elements. Fourth, dog owners are active in community formation and participation. They are interacting more with their neighbors and participating more in community events or organizations. They prefer to form a community to exchange information and to form human relationships through dogs.

2.4 Trust

Trust is viewed as the belief that the exchange party can fulfill its obligations, seek mutually beneficial gains and refrain from abusing the relationship[22]. In social exchange theory, trust is a requisite element of relationships[23]. Trust

is positively associated with the extent to which parties involved in a relationship share similar expectations, perceptions and values[22].

Trust is important in online environments because the consumer has few tangible and verifiable cues regarding the service provider’s capabilities and intentions[24]. Trust is considered to be an essential factor in initiating and developing online exchanges and relationships[25]. Trust in an e-commerce environment is imperative because online consumers generally are more vulnerable to transaction risks, especially when uncertainty regarding product or service quality offered by the online sellers is present[26]. In particular, in non-face-to-face situations, highly uncertain websites and electronic commerce, trust plays a more important role than offline in terms of risk and complexity reduction[27].

In e-commerce, intrapersonal-level trust refers to the tendency to believe in others. System-level trust plays a role of assurance that convinces a trustor to submit personal and financial information and to buy products or services from an unfamiliar seller. Interpersonal-level trust is associated with the seller’s trust in the counterpart of a transaction[28].

2.5 Loneliness

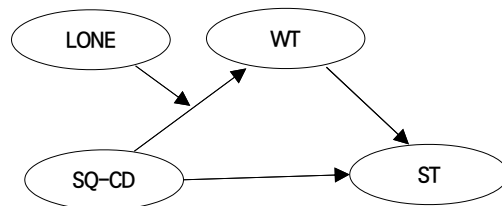
Loneliness is an "unpleasant experience that occurs when a person's social relationship is quantitatively and qualitatively deficient"[29]. Loneliness occurs when an individual perceives a discrepancy between their actual and their desired level of interpersonal contact[30]. Loneliness is a negative emotion that is felt when there are not enough social networks or when there is a lack of an emotionally intimate partner. Some people do not feel lonely even if their social relations are narrow, while others feel lonely while maintaining a wide interpersonal relationship. Loneliness is differentiated between emotional and social loneliness[31]. Emotional loneliness results when one is not connected to others from

whom the individual benefits in terms of social bonding. This occurs due to the lack of a close and intimate attachment to a particular person. This form of loneliness would not be relevant for consideration of the impact of a companion animal because it relates specifically to an intimate human relationship such as spouse, partner, sibling, friend or other human connection. Social loneliness, on the other hand, can be seen as relevant when considering the impact of a human/animal bond. Social loneliness is a perceived absence of friends, relatives or other form of a general social network. Both forms of loneliness are thought to have a negative effect on health.

3. Research Design

3.1 Research model and hypotheses

Since dogs are living creatures, trust will play a particularly important role, and as companion dog services have the characteristics of mass customization, personal characteristics of consumers will have a significant impact on purchase intention. We examined the effect of companion dog website service quality on consumer's trust and empirically examined whether personal loneliness plays a moderating role in the relationship. In addition, we will distinguish trust between website trust and store trust to identify the trust transfer effect and the mediating effect of website trust. Based on the theoretical and empirical studies, research model is set as Fig. 1.



SQ-CD(service quality of companion dog website), WT(website trust), ST(store trust),LONE(loneliness)

Fig. 1. Research model

To promote trust, reliable signals should be provided to differentiate trustworthy sellers from untrustworthy ones[26]. The quality of service provided by a company is a very important factor for consumers to build trust in the company. Given a website replaces a store's functionalities, an exchange partner represents the website as well as the online seller or store. Based on the above research model, the following hypotheses 1 and 2 are set.

H 1: The service quality of companion dog website will affect the customer's trust in the store.

H 2: The service quality of companion dog website will affect the customer's trust in the website.

Trust in a known entity may be transferred to an unknown entity[23]. If the two entities are considered to be related, it favors the transfer of trust from one known entity to the unknown entity[31]. Hong et al.(2011) reveal that trust is transferred from an intermediary to the community of sellers, implying that the trustworthiness of the intermediary plays a critical role in determining the extent to which consumers trust and accept the sellers in the e-marketplace[28]. Suk-Joo Lee et al.(2018) found the trust transfer from an intermediary to its seller[32]. Based on the above research model, the following hypothesis 3 and 4 are set.

H 3: The website trust will affect store trust.

H 4: The website trust will mediate the relationship between the companion dog website service quality and store trust.

A common reason for owning a dog is the avoidance of loneliness[33]. For dog owners, dogs can also be attached, for example, when emotional discomfort or stress are experienced. People rely more on dogs than their friends and

gain more power to solve problems[34]. It is widely believed that companion animals help to alleviate human loneliness, although not all studies are consistent with this belief[31]. Based on the above research model, the following hypothesis 5 is set.

H 5: The customer's loneliness will moderate the relationship between the companion dog website service quality and website trust.

3.2 Measures

The elements of companion dog website service quality were defined by adding elements that take into account the characteristics of dog service to the main elements of e-service quality (E-S-EQUAL) developed by Parasuraman, Zeithaml, & Malhotra (2005)[21]. The four factors are defined considering the characteristics of companion pet services. (1) DOG-CENTERED; Dog-related services should be organized to meet the needs of the pets, not human, (2) PERSONALIZATION ; Personalized information should be provided. Personalized information develops into a variety of services, including food, medical services, financial services, funeral services, and meeting services, (3) ENJOYMENT; Pets should use the product and have fun or excitement, (4) COMMUNITY; People are active in community building and participation. They interact more with their neighbors and are more involved in community events and organizations. They prefer to form a community to exchange information and to form a relationship between dogs. Other measurement items were drawn from the literature. Trust is measured by 12 Items of Lee et al.(2018). Loneliness is measured by R-UCLA(Revised UCLA Loneliness Scale) of Russell et al.(1980)[35]. All variables are measured by 5-point Likert scale.

3.3 Survey and analysis method

Data were collected directly at a dog fair in BEXCO of Busan on July 5-9 in 2019, and randomly selected participants and conducted individual interviews. A survey of 220 people was conducted and 212 excluding 8 of missing values were used for the statistical analysis using SPSS ver.25. The gender distribution of survey respondents was similar for 114 males (53.8%) and 98 females (46.2%). The number of times the website was used was 64 (30.2%) once and 134 (63.2%) twice.

4. Empirical Results

4.1 Validity and Reliability

To develop the measures of companion dog website without prior studies, exploratory factor analysis was conducted. First, KMO measures were more than 0.7. After Bartlett's spherical test, the probability of 0.000 was found to have independence suitable for factor analysis. In exploratory factor analysis, principal component analysis was performed by varimax rotation method. As table 1, the following five items that were loaded less than 0.4 were excluded : personalization (customized information, service recommendation, complaint handling), community (user relationship, personalized service). Factor loadings of all other items are 0.5 or more. As a result of factor analysis excluding five items, eight factors were extracted. The communality, which is the ratio explained by the factors extracted for each item, is also 0.4 or more, thus there was no abnormality. As a result of the factor analysis of trust and loneliness, trust was found to be two factors and loneliness was one factor.

Table 1. Exploratory factors analysis ; service quality

	ENJ	PRI	FUL	EFF	AVA	DOG	COM	PER
Efficiency1	.094	.089	.182	.734	.384	.071	.017	-.009
Efficiency2	.130	-.044	.214	.823	.212	.064	.032	.071
Efficiency3	.191	.123	.252	.757	.062	.035	.051	.155
Efficiency4	.184	.327	.171	.502	.178	-.096	.380	.288
Availability1	-.018	-.103	.285	.354	.696	-.056	.044	.058
Availability2	.020	.125	.119	.325	.754	.124	-.064	.073
Availability3	.162	.167	.117	.014	.691	.039	.157	-.110
Availability4	.181	.014	.469	.125	.607	.039	.123	.239
Fulfillment1	.200	.113	.649	.252	.328	.064	.265	.168
Fulfillment2	.193	.215	.665	.187	.152	.030	.226	.166
Fulfillment3	.100	.227	.776	.205	.197	.154	-.035	.034
Fulfillment4	.024	.243	.798	.242	.157	-.029	.136	.006
Privacy1	.147	.729	.248	.100	.039	-.084	.017	-.020
Privacy2	.080	.775	.299	-.044	.044	.157	.105	-.022
Privacy3	.116	.880	.080	.077	.085	.149	-.080	.081
Privacy4	.223	.809	.094	.056	.009	.257	.119	.057
Privacy3	.345	.553	.165	.020	.195	.070	.335	.206
Enjoyment1	.793	.173	-.018	.029	.089	.135	.248	-.204
Enjoyment2	.670	-.039	.070	.212	.431	.156	.084	.127
Enjoyment3	.788	.194	.070	.045	-.002	.159	.203	.057
Enjoyment4	.701	.143	.159	.201	-.040	.209	.045	.061
Enjoyment5	.728	.197	.209	.181	.051	.108	-.058	.187
Enjoyment6	.586	.128	.130	.041	.175	.059	-.057	.212
Personal1	.153	.256	-.094	.156	-.064	.167	.365	.569
Personal2	.273	.197	-.021	.025	.013	.250	.145	.751
Personal3	.037	-.091	.177	.163	.075	.263	.103	.506
Community1	-.071	.026	.183	.077	.002	.039	.766	.094
Community2	-.054	.069	-.013	-.059	.082	.039	.868	.036
Community3	.238	.155	.023	.161	.071	.114	.801	-.088
Community4	.163	.335	.173	.194	-.001	.114	.576	.090
Community5	.117	-.047	.080	.175	.016	.037	.784	.207
Community6	.117	.076	.218	-.142	.169	.017	.695	.102
Dog1	.113	.128	.061	.099	-.060	.794	-.109	.007
Dog2	.271	.025	-.005	.020	.105	.780	.028	.100
Dog3	.277	.266	.143	-.071	.123	.634	.207	-.009
Eigen Value	10.84	3.710	2.430	2.125	1.755	1.502	1.382	1.311
variance (%)	29.31	10.027	6.567	5.743	4.744	4.061	3.736	3.543
cumulative(%)	29.31	39.33	45.90	51.64	56.39	60.45	64.18	67.73

note: 1) * p<0.10, ** p<0.05, ***p<.01
 2) EFF(Efficiency), AVA(Availability), FUL(Fulfillment),
 PRI(Privacy), ENJ(Enjoyment), DOG(Dog-Centered),
 PER(Personalization); COM(Community);

Next, reliability was analyzed using Cronbach's alpha coefficient to find out how consistent the survey items used as measurement tools were. All exceeded 0.7. as shown in Table 2, and there is no problem in the reliability[36].

Pearson correlation analysis was conducted to confirm whether the variables had a significant correlation. The results are shown in Table 4.

Table 2. Reliability

	Cronbach alpha coefficient	No. of items	
Dog website service quality	Efficiency	.830	4
	Availability	.794	4
	Fulfillment	.875	4
	Privacy	.889	5
	Enjoyment	.882	6
	Personalization	.758	3
	Community	.523	6
	Dog-centered	.758	3
Trust	Website trust	.797	6
	Store trust	.771	6
Loneliness	.817	6	

According to Cohen et al.(2003), correlation coefficient of .2 ~ .4 have low correlations, and .4 ~ .7 are somewhat higher correlations[37].

Table 3. Descriptive statistical analysis

	Min. value	Max. value	Mean	SD	Skew	Kurt
Efficiency	2.00	5.00	3.7193	.56424	-.251	.599
Availability	2.00	5.00	3.7925	.58056	-.217	.086
Fulfillment	2.00	5.00	3.8868	.65413	-.259	.184
Privacy	1.80	5.00	3.6358	.70519	.022	.011
Enjoyment	1.17	5.00	3.5833	.67695	-.606	.938
Personalization	2.33	8.50	3.6525	.74150	2.540	15.713
Community	2.00	5.00	3.4025	.66305	-.239	-.002
Dog-centered	2.00	5.00	3.5377	.61330	-.044	-.342
Website trust	1.80	4.80	3.5340	.56951	-.060	.125
Store trust	1.50	5.00	3.4906	.75721	-.133	-.066
Loneliness	1.00	3.67	2.2075	.84558	-.013	-1.222

Table 4. Correlation coefficient

	AVA	FUL	PRI	ENJ	COM	PER	DOG	WT	ST	LON
EFF	.563**	.599**	.346**	.427**	.298**	.259**	.187**	.354**	.077	-.150*
AVA	1	.606**	.254**	.347**	.250**	.118	.180**	.351**	.101	.001
FUL		1	.478**	.390**	.329**	.211**	.225**	.575**	.177**	-.066
PRI			1	.460**	.319**	.477**	.386**	.575**	.436**	-.170*
ENJ				1	.226**	.462**	.466**	.569**	.240**	-.178**
COM					1	.248**	.235**	.418**	.077	-.061

PER						1	.460**	.434**	.174*	-.091
DOG							1	.562**	.235**	-.172*
WT								1	.315**	-.097
ST									1	-.108

note: 1) * p<0.05, ** pp<.01
 2) EFF(Efficiency), AVA(Availability), FUL(Fulfillment), PRI(Privacy), ENJ(Enjoyment), DOG(Dog-Centered), PER(Personalization); COM(Community); ST(Stoe trust), WT(Website trust)

4.2 Test of Hypotheses

Before testing the hypotheses of this study, the multicollinearity problem was checked. In table 5, the correlation coefficients came out lesser than .605. where multicollinearity cannot be suspected. The result of calculating the VIF value showed that all of them were below 10, and the multicollinearity problem was solved. After solving the problem of multicollinearity through this process, hypotheses are tested.

Hierarchical regression analysis was used to test the hypothesis. The moderating effect was tested by the significance of interaction terms. In order to solve the multicollinearity problem that the interaction terms cause, the interaction terms were calculated after the mean centering of the raw data of all variables. To review the autocorrelation of the error term, the Durbin Watson value was calculated and all of the variable values were close to 2, indicating that the autocorrelation did not exist.

4.2.1 Test of Hypothesis 1 and Hypothesis 2

As shown in Table 5, there were five variables that positively influence the website trust, such as fulfillment, privacy, enjoyment, community, dog-centered. On the other hand, there is only one variable, privacy, that had a positive (+) influence on the store trust. Gender among the control variables has a significant effect on store trust. This reveals that women have higher levels of store trust.

Table 5. Test results of Hypothesis 1 and Hypothesis 2

Independent variable	Dependent variable			
	Website trust		Store trust	
	β	t	β	t
Gender	.060	1.369	.164***	2.618
No. of use	-.014	-.311	-.017	-.277
Efficiency	-.110*	-1.855	-.080	-.949
Availability	-.024	-.411	.017	.201
Fulfillment	.363***	5.663	-.024	-.264
Privacy	.164***	2.898	.452***	5.587
Enjoyment	.216***	3.839	.062	.773
Personalization	.040	.742	-.076	-.975
Community	.160***	3.367	-.060	-.881
Dog-centered	.283***	5.453	.093	1.250
R ²	.630		.239	
Correction R ²	.611		.201	
F	34.152***		6.307***	

note: *p < 0.10, **p < 0.05, ***p < 0.01

4.2.2 Test of Hypothesis 3; Trust transfer

As shown in Table 6, website trust has a 1% level of positive influence on store trust. This confirms the trust transfer phenomenon that users who experience the website and perceive the trust on the website also perceive the trust in the store.

Table 6. Test results of Hypothesis 3

Independent variable	Dependent variable : store trust				
	B	S. E.	β	t	p
Gender	.238	.100	.157	2.395	.017
No. of use	-.012	.073	-.011	-.162	.871
Website trust	.393	.087	.295	4.510	.000
R ² 0.123, Adj. R ² 0.111, F 9.765***					

note: *p < 0.10, **p < 0.05, ***p < 0.01

4.2.3 Test of Hypothesis 4; Mediation effect

First step (a) requires the independent variable to have a significant effect on the mediating variable, and second step (b) requires the mediating variable to have a significant effect on the dependent variable. Third step (c) requires independent variable should have a significant effect on dependent variable. In the fourth step when adding mediating variable to path c, the effect of the independent variable should be reduced.

In Table 7, there are six variables of service quality that have a significant effect on website trust: efficiency, fulfillment, privacy, enjoyment, community, and dog-centered. Since website trust, which is a mediating variable, has a significant effect on store trust, which is a dependent variable, there are six paths that satisfy the precondition for mediating effects. Mediation effect was found to be significant in those 5 paths : fulfillment-> website trust->store trust, privacy->website trust-> store trust, enjoyment-> website trust->store trust, community-> website trust->store trust, dog-centered-> website trust->store trust. Among them, the mediating effect of privacy corresponds to partial mediation and the remaining four variables correspond to complete mediation.

Table 7. Test results of hypothesis 4; website trust

	X →M (a)	M →Y (b)	X→Y (c)
Independent Variables → Mediating Variables			
Efficiency→WebsiteTrust	-.110*	-.110*	
Availability→WebsiteTrust	-.024	-.024	
Fulfillment→WebsiteTrust	.363***	.363***	
Privacy→WebsiteTrust	.164***	.164***	
Enjoyment→WebsiteTrust	.216***	.216***	
Personalization→Website Trust	.040	.040	
Community→ WebsiteTrust	.160**	.160**	
Dog-centered→WebsiteTrust	.283***	.283***	
Mediating Variables → Dependent Variables			
Website Trust → Store Trust		.295***	
Efficiency → Store Trust			-.068
Availability → Store Trust			.019
Fulfillment → Store Trust			-.064
Privacy → Store Trust			.434***
Enjoyment → Store Trust			.039
Personalization → Store Trust			-.078
Community → Store Trust			-.080
Dog-centered → Store Trust			.062
			.110

Sobel Test z(p)

Efficiency-> Website Trust-> Store Trust: -0.2966 (.383)
 Fulfillment-> Website Trust-> Store Trust: 3.5264 (.002)
 Privacy-> Website Trust-> Store Trust: 2.4221 (.007)
 Enjoyment-> Website Trust-> Store Trust: 2.941 (.001)
 Community-> website trust-> store trust: 2.7249 (.003)
 Dog-centered-> website trust-> store trust: 3.4854 (.002)

note: * p<0.10, ** p<0.05, ***p<0.01

A hierarchical regression analysis was performed to test the moderating effect of loneliness. In Table 8, the increase in R² is significant in Model

4 with the addition of the interaction terms. Among four interaction terms, loneliness*availability, loneliness*fulfillment, loneliness*personalization, loneliness*community were statistically significant.

5. Conclusion

This study empirically identified the effect of the service quality of companion dog website on the consumer's trust. In addition, the trust was divided into website trust and store trust to test the transfer

effect of trust and the mediation effect of website trust between the service quality and the store trust.

Table 8. Results of hypothesis 5; moderating effect of loneliness

Model	Variable		β	t	R ²	ΔR ²
	Type	Variable Name				
3	Moderator	Loneliness	.170	1.453	.474	.079***
4	Interaction Terms	Loneliness * Efficiency	.337*	1.702	.658	.184***
		Loneliness * Availability	-.856***	-3.961		
		Loneliness * Fulfillment	.790***	3.518		
		Loneliness * Personalization	.194**	2.218		
		Loneliness * Community	-.260***	-5.000		

note: *p < 0.10, **p < 0.05, ***p < 0.01

Finally the moderating effect of loneliness between the service quality and the consumer's website trust was tested. The survey was completed by randomly selecting 220 participants in companion dog fairs and conducting an in-depth interview. The results of the empirical analysis of 212 questionnaires excluding the missing values were as follows: First, exploratory factor analysis extracted eight factors of the companion dog website service quality, with e-service quality factors (efficiency, availability, privacy, fulfillment) and four factors considering dog characteristics (enjoyment, dog-centered, community, personalization).

Second, five variables, such as fulfillment, privacy, enjoyment, community, dog-centered, gave statistically significant positive effect on website trust. On the other hand, only one variable of privacy gave a statistically significant positive effect on store trust. Third, gender variables among control variables have significant effects on store trust. This reveals the fact that women are at a higher level of trust than men. Fourth, website trust had a significant positive impact on the store trust. This confirms the phenomenon of trust transfer, from website trust to store trust. Fifth, as a result of verifying the mediating effect of website trust, five paths were significant (fulfillment-> website trust->store trust, privacy-> website trust-> store trust, enjoyment->website trust->store trust, dog-centered->website trust->store trust, community->website trust->store trust). Finally, a hierarchical regression analysis was conducted to test the moderating effect of loneliness. In step 1, the control variables composed of sex, frequency of use, etc., the independent variable in step 2, the control variable in step 3, and the interaction terms between the independent variable and the control variable in step 4 were introduced into the model step by step. As a result, the increase in R² in the added model 4 The moderating effect was found to be significant in interaction terms such as loneliness *efficiency, loneliness*availability, loneliness* fulfillment, loneliness*personalization, and loneliness*community.

The implications of this study are as follows. First, with the companion dog market proliferating, companion dog websites are increasing rapidly. As functional differentiation becomes difficult due to the development of technology, the service quality of website is increasingly affected by the differentiation of added services. Focusing on the service quality, this study has been the first to develop a measure of service quality of companion dog website considering the characteristics of dog. It is expected that this will

greatly contribute to the development of academic research and practical applications on companion dog websites. Second, as the dogs are living creatures, consumers are directly affected by trust. This is because trust plays a more important role than offline in terms of risk and complexity reduction in non-face-to-face activities and high uncertainty of websites and e-commerce. When trust is a priority in choosing website, trust in website or store has a significant impact on consumer satisfaction or purchase intentions. The results of this study show that the service quality of fulfillment, enjoyment, community, and dog-centered of the website directly influences the website trust, and that the privacy of the website affects the trust of the website to ultimately increase store trust. In order to improve the quality of service for companion dogs, service providers must first ensure that buyers must be able to easily access the services they want, order them accurately, and provide a system that allows them to pay their bills accurately, and deliver order information to the merchants to ensure that the services they order are delivered to buyers properly. Third, in order for customers to feel the excitement and fun of using the website, they must make the website's design visually superior. In addition, they must provide personalized and diverse information that can identify the needs of dogs by analyzing the behavior of the dogs as a pet. Fourth, they provide services that can understand the psychological state of dogs, and provide services to improve them. However, it is important to provide selected information according to the buyer's needs, as it can be rather unpleasant to provide information that the buyer does not want. Emotional management is needed to form a community to provide information on the gathering of dog counselors so that they can communicate and empathize with each other. Furthermore, it is necessary to strengthen the level of security that buyers are

concerned about, such as payment information and personal information used in transactions, so as to instill trust in safety. Finally, the results showed that the degree of loneliness felt by the consumers necessitates companion dogs, so emphasizes the service quality of companion dog website. Service providers should be aware of their psychological needs and provide them with appropriate services. This provides emotional and social support, safety, security, entertainment, happiness and rest to the consumers in the face of social changes, such as low birth rates, low marriage rates, aging societies, and population cliffs. It will help to promote psychological health and well-being, thereby easing social problems.

The study conducted a survey of participants who only owned dogs and did not consider future companions. Website services may vary in the level of recognition of website services depending on the level of individual technology availability, but there are limitations in measuring the usability of the website without adding participants' level of technology use. Subsequently, we will add more technology usage levels and consider the cultural level, technology education level, and usage level of various countries, so that more accurate analysis is possible.

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