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Key Success Factors of Crowdfunding: From a User Experience Perspective

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Abstract

The growing crowdfunding has integrated the concept of Web 2.0 and virtual community, and gradually developed into the fastest scheme of raising funds particularly for start-ups in creativities and innovations. This paper aims to explore crowdfunding contributors' *emotional experiences* when making their monetary contributions to the crowdfunded projects. This study examines contributors' *interactivity* and *perceived similarity* among other crowdfunding users, and incorporates the theoretical concepts from experiential value.

The study highlighted online user behaviors and utilitarian value of products, such as *consumer returns on investment* (CROI) experiences; further investigated crowdfunding contributors' inner pleasure, i.e. *aesthetic experiences* and *emotional reactions*. The findings suggest key factors for successful crowdfunding websites allocate the appropriate resources to operate the crowdfunding and achieve success.

Keywords: Crowdfunding, User Experience, Creativities and Innovations

1. Introduction

The growing crowdfunding has integrated the concept of Web 2.0 and virtual community, and gradually developed into the fastest scheme of raising funds particularly for start-ups in creativities and innovations. This paper aims to explore crowdfunding contributors' emotional experiences when making their monetary contributions to the crowdfunded projects. This study examines contributors' interactivity and perceived similarity among other crowdfunding users, and incorporates the theoretical concepts from experiential value. Lambert and Schwienbacher [1] defined crowdfunding as "an open call, essentially through the Internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes."

Crowdfundings can be operated successfully through the empowerment by the virtual community. The internet virtual community is the foundation of a large number of Crowdfunding smooth developments. FlyingV's founder Lin Hong pointed out that Taiwanese concept about Crowdfunding is still very new and lower acceptance. Therefore, the initial goal of FlyingV was to facilitate a friendly market environment for crowdfunding. Another founder Xie Lun said, a great crowdfunding website should allow members to have the best user experience, and streamline the online procedures and make users feel handy to invest in any project. This study aims to investigate *user experience* with the crowdfunding website will likely lead to enhance users' intentions in raising pledges for crowdfunding projects.

Generally recognized, a virtual community is a group of electronic media to communicate with other users [2]. Fion, Douglas and Moez's [3] study from the interaction point of view, the definition of virtual community as a technology supported network space. Communication and interaction with the participants, then build the relationship with other users. Because Internet technology development, community participants through a variety of Internet tools. It is fast and easy to interact with other members, various activities and transactions. Virtual allows community participants in virtual communities for people who produce many fantastic things in space and virtual experience.

The interactivity of website platform allows users to express their opinions and create dialogues, and to interact with others by contacting, making friends, communicating and information exchange. In addition to the get better information of the project, users also deepen emotional reliance on each other. Due to similar backgrounds, viewpoints, values, personalities and emotional reactions, Crowdfunding users and projects organizers tend to

express their concerns by sharing feelings regarding similar topics. Hence, perceived similarity is the other main antecedent of our model.

This study was based on the interactivity and perceived similarity between Crowdfunding users, and incorporates the concepts from customer experiential value, such as emotional reactions, feelings, fun, senses, and aesthetic experiences. Our study analyzed the emotional experiences that internet users gain while using Crowdfunding, that is, assesses the attitude of users through their subjective experiences within the communication process.

2. Literature review

2.1 Experiential value

Huang [4] considered a successful website must meet the user for website usability and hedonic needs. Based on Holbrook's [5, pp.21-71] experiential value theory, Mathwick, Malhotra and Rigdon [6] proposed the influence of customer value on consumer satisfaction with retail services. They demonstrated that customer value is typically built on experiential perception and is the result of direct or indirect interaction during the consumption process.

In Mathwick's et al [6] research labeled four quadrants as: (1) *Aesthetics (visual appeal and entertainment)*. This has two major features. One is experience perceived through the senses (e.g. sight, hearing, taste and touch), which offer consumers immediate satisfaction. (2) *Playfulness (escapism)*. An interesting trading behavior is a reflection of inner happiness; it is derived from activities engaged in fascinating. It offers consumers the feelings of escapism life. (3) *Service excellence*. This value is generalized consumers appreciation of a service provider who demonstrates expertise and offers a reliable service performance. It is associated with whether service providers provide customers with promised services. (4) *Consumer returns on investment (CROI)*. This value reflects the utilitarian aspects of shopping, and describes active investment in economic, temporal, behavioral, psychological resources and feelings or emotions that yield rewards. What consumers receive in return and exchange process.

2.2 Interactivity

Interactivity is the essence of the original concept of interpersonal communication [7]. In recent years, were widely used in the social media. Hoffman and Novak [8] divided virtual interaction into two forms: interpersonal interaction and machine interaction. The computer network virtual communities, with two-way interactive qualities, provide safe and isolation of interactive channels which changed the past only passive audience reception location. Allows users with active cascaded, interactive capability [9, pp167-194][10, pp.3-25][11][12].

Community network is to establish and maintain the pipeline of contact with other people, to promote exchanges and interaction between interpersonal. So that consumers can build relationships with other members, exchange of ideas, opinions, and information [13][14][15]. In this interactive process, consumers can perceive other consumers to really understand his particular problem, so as to promote mutual understanding.

2.3 Similarity

Byrne, Griffitt and Stefaniak's [16] research from interactive psychology perspective said, individuals interact with the environment through the formation of the phenomenon of consciousness. And who will form on the perception and evaluation of the interaction in the process of interaction, then impact others behavior. When individuals with similar others, users will have positive thoughts and assessment. We can say, in this interactive process will have more positive behavior patterns arise.

2.4 Usage attitude

Fishbein and Ajzen's [17, pp.21-52] theory of reasoned action (TRA) pointed out attitude is the positive or negative evaluation of a person for the people, events, things and behaviors. This can direct response to individual people and things, and behavioral liking or offensive attainment. Ajzen [18, pp.11-39] according the theory of reasoned action (TRA) evolved theory of planned behavior (TPB) also used attitude for affect intention to engage in a behavior.

3. Research method

3.1 Conceptual model

This study investigated how Crowdfunding users feel and what they experience via interactions with Crowdfundings and other users. Specifically, we argued that responses of Crowdfunding users to the two main components of interactivity (i.e. interpersonal interaction and machine interaction) and similarity have impact on the four dimensions of experiential value: aesthetics, playfulness, service excellence, and CROI.

3.2 Hypothesis

The questionnaire survey was conducted on the web, targeted at those who have funded a project over Taiwan's largest crowdfunding webstie (<https://www.flyingv.cc/>). The following are the research hypotheses discussed in this study.

3.2.1 Interactivity and experiential value

Froehle's [19] research said when the customer service staff and consumers in the process of communicating through an intermediary system in interaction with the

intermediary system higher, customers will feel more positive. Keng and Ting [20] research found that interactivity have a positive impact on the user's experiential value. Hsu, Hsu, Tang and Liang's [21] research found that web Interactivity of blog have a positive impact on the user's experiential value. Ferryanto's [22] research also found that Facebook user's interpersonal interaction and machine interaction have a positive impact on the user's experiential value. Here we formulated the following hypotheses:

- H1. A positive relationship exists between interpersonal interaction and perceived aesthetics (visual appeal and entertainment) value.
- H2. A positive relationship exists between interpersonal interaction and perceived playfulness (escapism) value.
- H3. A positive relationship exists between interpersonal interaction and perceptions of service excellence value.
- H4. A positive relationship exists between interpersonal interaction and perceived CROI value.
- H5. A positive relationship exists between machine interaction and perceived aesthetics (visual appeal and entertainment) value.
- H6. A positive relationship exists between machine interaction and perceived playfulness (escapism) value.
- H7. A positive relationship exists between machine interaction and perceptions of service excellence value.
- H8. A positive relationship exists between machine interaction and perceived CROI value.

3.2.2 Similarity and experiential value

Based on Byrne's [23] Similarity-Attraction Paradigm, individual person will look for similarities among members of the higher people attracted to each other, the final form relationships. Because of the members have similarities in values, personality and goals. Keng and Ting [20] research found that similarity has positive impact on user's experiential value. So we formulated the following hypotheses:

- H9. Perceived similarity among users and readers is positively correlated with aesthetics (visual appeal and entertainment) value.
- H10. Perceived similarity is positively correlated with playfulness (escapism) value.
- H11. Perceived similarity is positively correlated with service excellence value.
- H12. Perceived similarity is positively correlated with CROI value.

3.2.3 Experiential value and usage attitude

In cyberspace, user perception and attitude are influenced by experiences that include aesthetics, playfulness, service excellence, and returns on investment, which are generated by

the process of interpersonal or machine interaction [24]. Keng and Ting [20] research found that experiential value has positive impact on user's attitude. Hsu et al [21] research found that user's experiential value has positive impact on user's attitude of Blog. Chou [25] research said experiential value has positive influences on the user's attitude in exercising the AR. Here we formulated the following hypotheses:

H13. Perceived aesthetics (visual appeal and entertainment) value is positively correlated with usage attitude.

H14. Perceived playfulness (escapism) value is positively correlated with usage attitude.

H15. Perceived service excellence value is positively correlated with usage attitude.

H16. Perceived CROI value is positively correlated with usage attitude.

In this study, we used network questionnaire to explore Crowdfunding users in interactivity, perceived similarity, experiential value influence use attitudes. Basic questions of picking a single option, interactivity, perceived similarity, experiential value, and attitude used Likert five-point scales to respond. Questionnaire was divided into five phases: interactivity, experiential value, perceived similarity, attitude, and basic information.

We employed a questionnaire survey for the research method. We collaborated with one of Taiwan's most popular Crowdfunding website—flyingV and encouraged their users to participate in our web-based survey.

4. Data analysis

Data was analyzed with Structural Equation Modeling (SEM) to investigate the cause and effect of the model and to determine the goodness of fit of the conceptual model. As this study examined the degree of acceptance and usage attitudes associated with Crowdfunding users who pledged were surveyed.

4.1 Sampling

In total, 176 valid online questionnaires were returned. Male was 52.3 %; female 47.7 %. Most participants were between 19 to 25 age group (42.0 %) and 26 ~ 35 age group (40.9 %). Regarding numbers of pledged projects, most participants pledged only one project (50.6 %), some (22.2%) participated in 2 projects (22.2 %), and few (15.3%) engaged in 3 projects. Average amount of pledge, most is NT\$101~500 (40.3 %), second is NT\$501~1000 (29.5 %), and third is NT\$1001~3000 (15.9 %).

4.2 Reliability and validity

Reliability is generally measured using Cronbach's α , which measures the consistency of

variables in a survey. In this study, Cronbach's α of all constructs exceeds the recommended value of 0.7, meaning that the study had high internal consistency. The study factor loading obtained all the value exceeding 0.5, demonstrating good convergent validity.

4.3 Path relationships

Table II lists the outcomes of this study with a chi-square/d.f. value of 4.308, a GFI of 0.994, a NFI of 0.995, and a RMSEA of 0.050. Model fit indices of this study are acceptable.

Table II. The index for the model

Index	Suggestion value	Results
χ^2 (Chi-square)	Smaller is better	4.308
P value	>.05	P = .230
χ^2 /d.f.	< 2.00	1.436
GFI (goodness of fit index)	>.90	.994
AGFI (adjusted GFI)	>.90	.927
RMSEA (root mean square error of approximation)	<.08	.050
NFI (normed fit index)	>.90	.995
CFI (comparative fit index)	>.90	.998

Figure 1 appeared that interpersonal interaction enhanced the visual and aesthetic experiences as well as service excellence, thereby helping them escape from reality (path coefficients were 0.17, 0.18; $p < 0.05$). Conversely, interpersonal interaction did not significantly increase playfulness and economic values (CROI). On the other hand, machine interaction increased aesthetics value, playfulness value, service excellence and economic values (CROI) (path coefficients were 0.47, 0.35, 0.49 and 0.43; $p < 0.001$). Thus, analytical results underscore the importance of interactivity. Hence, the findings strongly support hypotheses H1, H3, H5, H6, H7 and H8. Nevertheless, H2 and H4 were not supported.

In the perspective of similarity, it could also been concluded that similarity perceived by users positively influences the four components of experiential value: aesthetics, playfulness, service excellence and CROI (path coefficients were 0.13, 0.36, 0.18, and 0.34; $p < 0.05$), among which playfulness and CROI had more effects. The results indicated that users want to commit themselves to a Crowdfunding when they perceive much similarity to project funder or other users. Thus, users maintain positive and constructive attitudes toward a Crowdfunding and perceived a Crowdfunding as valuable, confirming H9, H10, H11, and H12.

Additionally, a positive correlation existed between the attitudes of users toward Crowdfunding and their experiential value in aesthetics and CROI (path coefficients were

0.21 and 0.33; $p < 0.001$). The analytical results supported H13 and H14. Nevertheless, H13 and H14 were not supported. We proposed that users browse over crowdfunding with social media (e.g. facebook) probably because they like to pledge money for their interested products or projects, but less relevant to seeking information. Thus, we concluded that playfulness values and service excellence only showed minor influence on users' commitment to crowdfundings.

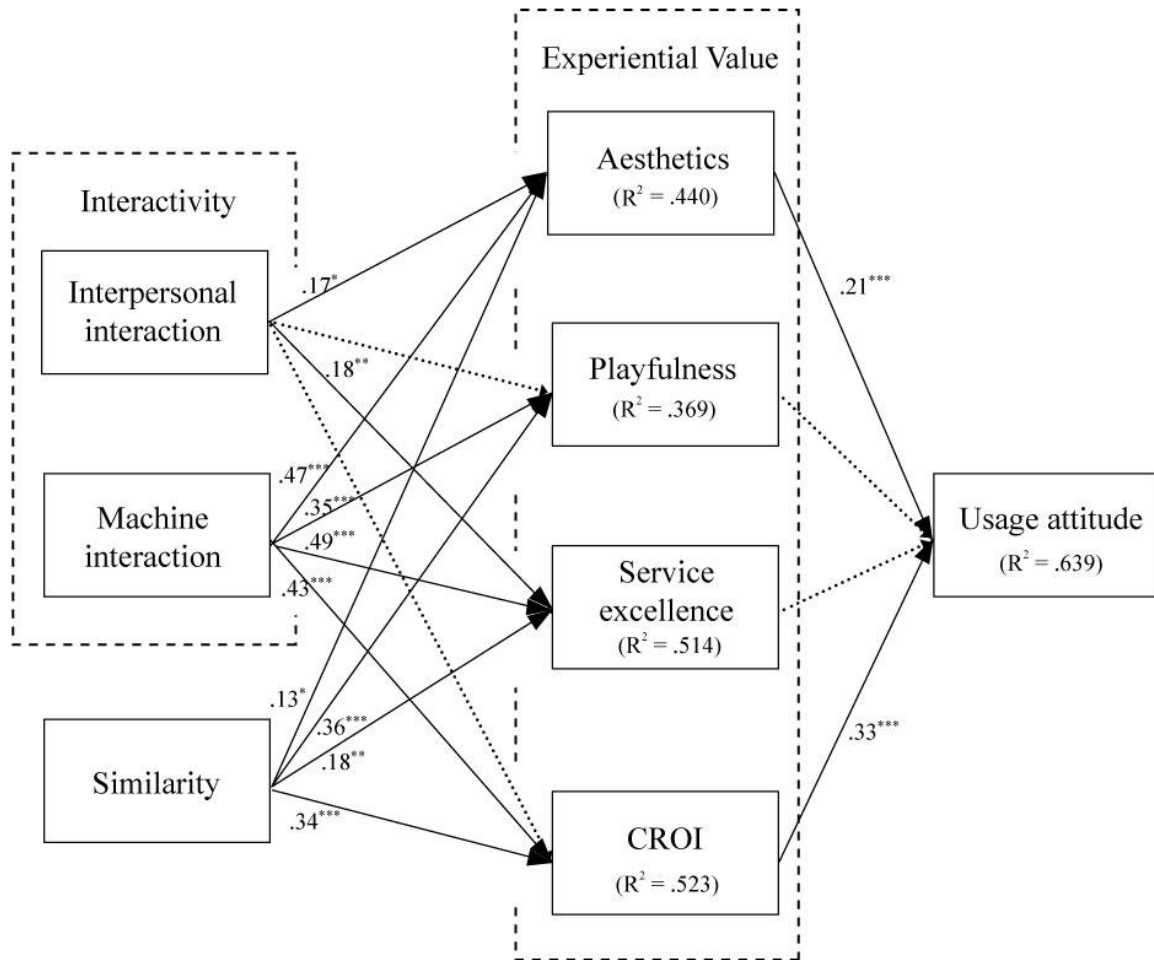


Figure 1. Path relations and parameter estimates of the research model

Note. * denotes significance at the $P < .05$, ** $P < .01$, *** $P < .001$;

-----> Denotes not supported hypothesis

5. Conclusions

Table III showed the study hypothesis and result. The findings strongly support hypotheses H1, H3, H5, H6, H7, H8 H9, H10, H11, and H12. Nevertheless, H2, H4, H14 and H15 were not supported.

Table III. The path coefficient and results

Hypothesis	Path relationship	Path coefficient	Result
H1	Interpersonal interactivity→ Aesthetics value	.17 [*]	Supported
H2	Interpersonal interactivity→ Playfulness value	.02	Not supported
H3	Interpersonal interactivity→ Service excellence value	.18 [*]	Supported
H4	Interpersonal interactivity→ CROI value	.09	Not supported
H5	Machine interactivity→ Aesthetics value	.47 ^{***}	Supported
H6	Machine interactivity→ Playfulness value	.35 ^{***}	Supported
H7	Machine interactivity→ Service excellence value	.49 ^{***}	Supported
H8	Machine interactivity→ CROI value	.43 ^{***}	Supported
H9	Similarity→ Aesthetics value	.13 [*]	Supported
H10	Similarity→ Playfulness value	.36 [*]	Supported
H11	Similarity→ Service excellence value	.18 ^{**}	Supported
H12	Similarity→ CROI value	.34 ^{***}	Supported
H13	Aesthetics value→ Usage attitude	.21 ^{***}	Supported
H14	Playfulness value→ Usage attitude	.04	Not supported
H15	Service excellence value→ Usage attitude	.12	Not supported
H16	CROI value→ Usage attitude	.33 ^{***}	Supported

Note. * denotes significance at the $P < .05$, ** $P < .01$, *** $P < .001$;

This study showed that crowdfunding users' positive *interpersonal interactivity*, *machine interactivity*, and *experiential value* likely lead to positive *usage attitude*, and among them, machine interactivity had the most influential impact on usage attitude. Crowdfunding users' *perceived similarity* influenced their *experiential value*. Crowdfunding users' *experiential value* was labelled into four quadrants as: *Aesthetics value*, *Playfulness value*, *Service excellence value* and *CROI value*. Our research results echoed Mathwick's et al [6] research, that is, users' experiential value affected their usage attitude, and *Consumer returns on investment (CROI)* demonstrated as the most influential factor.

Crowdfunding is a new market in Taiwan, and also a new research topic in the academic arena. Few studies, thus, can be found were relevant to crowdfunding and *experiential value*. This study attempted to validate a causal model involving interactivity, similarity,

experiential value and usage attitude. Our findings also reflected to the four dimensions of experiential value, proposed by Keng and Ting's [20].

This study findings likely further help the industry understand how to incorporate user experience as the success strategy to operate crowdfunding. First, to enhance users' crowdfunding intention can start with a user-friendly web interface design, reflected with positive experiential value. Secondly, the crowdfunding operators need to improve convenience and leverage user satisfaction. Based on our findings, crowdfunding project founders need to emphasize their projects unique and intriguing, and ensure the pledgers to be satisfied with their returns and rewards. In addition, when project founders launch their projects acquiring crowdfunding support, it would be worthwhile to promote their projects synchronously with the links of social media.

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