MARKETING | RESEARCH ARTICLE

Joint contribution and consumption through online crowdfunding campaigns
Fan-Chuan Tseng¹*

Abstract: With the emergence of online social networks and entrepreneur projects, crowdfunding is gaining popularity to raise money for a new project. In the online crowdfunding platform, the members (including project initiators and supporters) share ideas to solve a problem and create favourable exchange conditions for the individuals’ as well as social benefits. In this study, an extended expectancy confirmation model is proposed and validated to explore the influence of supports’ individual traits, consumer values as well as their evaluation of the crowdfunding projects. Through the online questionnaire survey and quantitative analysis, the results show significant antecedents of supports’ confirmation and identify the influence of consumption value on satisfaction and future intention of online crowdfunding. This study suggests that the success of online crowdfunding campaign is not just derived from individuals’ prosocial orientation. Instead, consumers’ trait and cognition should be addressed so as to increase the benefits of collective action.

Subjects: Consumer Behaviour; Internet / Digital Marketing / e-Marketing; Marketing Management

Keywords: online crowdfunding; expectancy confirmation theory; consumer innovativeness; consumer identification; consumption value

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PUBLIC INTEREST STATEMENT
In recent years, online crowdfunding platforms have emerged as a popular approach through which entrepreneurs turn their innovation into a project profile to demonstrate the idea and prototype on the platform. Unlike the traditional way to get financial support from banks or angel ventures, the project creators can make a plea for individuals’ help to reach their funding goal. The reward-based crowdfunding can be regarded as a type of joint consumption. On the basis of joint consumption, it is important to find the innovative consumers as target audience. The crowdfunding activator must make sure the congruence between supporters’ expectation and actual performance. Consequently, consumption values related to the crowdfunding activity can have power to increase supporters’ satisfaction and intention to continue supporting other crowdfunding projects.
1. Introduction

In recent years, online crowdfunding platforms have emerged as a popular approach through which entrepreneurs turn their innovation into a project profile to demonstrate the idea and prototype on the platform. Unlike the traditional way to get financial support from banks or angel ventures, the project creators can make a plea for individuals’ help to reach their funding goal (Jegelevičiūtė & Valančienė, 2015; Lukkarinen et al., 2016). Online users can see the crowdfunding project and help the financial funding proposal as a support. After the funding project is closed, the status of new product to market will be updated and keep supports informed of the progress. According to Gerber et al. (2012), online crowdfunding campaign is related to the exchange of values from both entrepreneurs and funding supports. Not only the entrepreneurs’ innovative idea but also supports’ comment can be discussed in a collaborative manner. Previous studies have examined the external and internal factors affecting the success of online crowdfunding campaign. For example, supports’ perception of trust, enjoyment, and philanthropy (Bagheri et al., 2019; Kshetri, 2015; Seckler et al., 2015; Zhang & Chen, 2019) as well as campaign characteristics such as project novelty, campaign duration, and refunding policy (Lukkarinen et al., 2016; Xu et al., 2016) are proven to be important elements in the online crowdfunding campaign.

In the reward-based crowdfunding campaign, supports are promised to receive some kind of reward, which is considered as a crucial motivation for their participating and financial contribution in the crowdfunding platform (Kuppuswamy & Bayus, 2013; Ryu et al., 2020). One major form of rewards is that supports can order the product or experience services with lower price before the new offerings go to the market. A few supports can even contribute their innovation and expertise to the development of new products. Therefore, the reward-based crowdfunding can be regarded as a type of joint consumption. More specifically, entrepreneurs demonstrate their products or services ideas and funding supports pre-consume them. Drawn upon from the perspectives of marketing and consumer research, the funding behavior in the online crowdfunding platform is not just related to an altruistic action, but also relevant to consumer decision process.

Online crowdfunding projects are mostly in the stage of new product design development. The success of an online fundraising activity does not mean the achievement in production. The uncertainty of outcome results in a potential gap between consumers’ expectation and actual performance. It is noteworthy that why consumers are willing to participate the online project and how they evaluate the values of novelty are critical issues associated with social commerce. To our current acknowledge, studies on the expectation and continuance of online crowdfunding campaign are limited. This study attempts to explore both personality-based and cognitive antecedents of expectation and to understand the subsequent influence on continuance intention of online crowdfunding consumption. The following sections detail, in order, the theoretical perspectives, research hypotheses, data collection, data analysis, findings, and implications of this study.

2. Theoretical background and hypotheses

2.1. Expectation-confirmation theory (ECT)

ECT was originally proposed by Oliver (1980) in the consumer behaviour research to study consumers’ purchase decision process. Four main constructs—expectations, perceived performance, confirmation, and post-purchase satisfaction are posited in ECT model. Expectation-confirmation is a comparison between customers’ expected outcomes of one specific consumption and ex post performance that customers evaluate. Spreng et al. (1996) argue that expectations are associated with anticipated products attribute to predict future purchase behaviour. Perceived performance after one uses the product or service is compared with initial expectation. The assessment of the perceived difference between expectation and performance can affect consumers’ psychological state. More specifically, a positive confirmation judgment is likely to lead to satisfaction, thereby influencing the repurchase intention (Chen et al., 2013).
Based on the ECT, Bhattacherjee (2001) proposes a post-acceptance model of IS continuance by including the perceived usefulness as a construct of ex-post expectation. Several post-adoption expectations in IS research such as individuals' perceived playfulness, self-efficacy, subjective norm, etc. have been validated to support the effects on IS satisfaction and continuance intention (Chen et al., 2012; X. Lin et al., 2017; C. S. Lin et al., 2005; Y.-Y. Chen et al., 2010). Besides, some studies integrate psychological traits and cognitive dimensions to be antecedents of confirmation. For example, Y.-Y. Chen et al. (2010) argue the influence of Internet self-efficacy on confirmation of expectations with the Internet shopping. Chen et al. (2013) prove that technology readiness positively affects confirmation of expectations of mobile service users. The study of Carillo et al. (2017) investigates the influence of media dependency on the level of confirmation; the results show that while an individual depends on a given media to search information and benefits, positive experiences and cognitive appraisals arise to facilitate subsequent actions.

2.2. Consumer innovativeness
Consumer innovativeness refers to the tendency to accept novel products or brands rather than remain with previous adoption behaviours (Li et al., 2015; Mansori et al., 2015; Roehrich, 2004). Within the marketing context, innovative product usage behaviour has been an important topic that consumers buy or use a product or service in the relatively early stage of diffusion process. From the perspective of personality traits, consumer innovativeness refers to an individual's tendency to adopt a new application soon after it appears in the market (Chang & Tseng, 2015; Kaushik & Rahman, 2014; Li et al., 2015). Previous studies (e.g., Atakan et al., 2014; Mansori et al., 2015) have discussed the relationship between consumer innovativeness with evaluation of new product development, brand extension strategy, acceptance of novelty, and seller-buyer communication. Innovative consumers intend to adopt new products rather than existing products because of consumers' attraction to products' uniqueness and originality or anticipation of creativity and productivity to improve performance (Venkatraman & Price, 1990; Voss et al., 2003). In addition to the desire of experiencing new products, consumers' creativity with using products in new ways is also explicated in consumer innovativeness (Ridgway & Price, 1994).

In general, innovative consumers are described as curious, variety-seeking, novelty-seeking, information-seeking, and cognitive individuals (Wood & Swait, 2002). In an effort to measure the concepts of consumer innovativeness, Venkatraman and Price (1990) distinguish the consumers' desire for new experiences in terms of cognitive and sensory innovativeness. Cognitive innovativeness refers to an individual's practical flavour to discover facts, enjoy novel experiences, and learn new skills out of curiosity. Sensory innovativeness is the tendency to enjoy experiences of fantasy and excitement from thrilling or adventurous activities. Through exploratory information seeking and acquisition of consumption-related knowledge, customers' cognitive stimulation needs are satisfied to solve their daily life problems. In contrast, sensory consumers prefer risky and innovative products that provide intrinsic pleasures (Baumgartner & Steenkamp, 1996). Besides, Wood and Swait (2002) examine the personal characteristics of innovative consumer-based on two needs: (a) need for cognition—propensity to systematically process information, and (b) need for change—intrinsic comfort level with change, risk, and unusual stimuli. According to the propensity to seeking exploratory information of marketplace or maintain the feeling state toward online community, customers involved in online crowdfunding activities such as new product development are generally regarded as lead users with open innovation (Ordanini et al., 2011). Therefore, this study proposes the first hypothesis as follows,

H1: consumer innovativeness has a positive influence on confirmation of online crowdfunding campaign support.

2.3. Prosocial orientation
Prosocial orientation is defined as voluntary propensity to benefit others in the forms of “sharing, donating, caring, comforting, and helping” (Caprara & Steca, 2007; Sproull et al., 2005). According to social capital theory, one’s prosocial actions are derived from the feelings of closeness, shared identity,
and common objectives in the group (Coleman, 1988). Individuals donate their effort to help other people so as to enhance their own image, increase social approval, expect future reciprocity, keep positive mood, or maintain ongoing relationships with others (Caprara & Steca, 2007). Moreover, prosocial consumption emerges when consumers are willing to pay more for prosocial products to satisfy both self-interested and collective-interested benefits (Ross & Kapitan, 2018). In the voluntary online community, it is easy for someone to ask for help while others contribute time and effort to share information or offer emotional support (Grange et al., 2017; Tseng & Kuo, 2014). Similarly, online crowdfunding platform users may be motivated by altruism based on their desire to help other people. Intrinsic enjoyment emerges and the altruistic benefits is satisfied (Amichai-Hamburger & Furnham, 2007). Online funding project initiators are usually strangers to the consumers. Prosocial orientation plays a critical role for individuals who are willing to pay for presales of products or services that is not sold in the market, or even donate funds with no expectation of reward (Dai & Zhang, 2019). Therefore, the second hypothesis is proposed as follows,

\[ H2: \text{prosocial orientation has a positive influence on confirmation of online crowdfunding campaign support.} \]

2.4. Consumer identification

The concept of consumer identification is an issue of the consumer relationship with certain company (both for-profit and nonprofit organization) offering “goods, services, experiences, information, and ideas” in the marketplace (Bhattacharya & Sen, 2003), concerning the perceptions and beliefs about one company’s culture, value, image, and reputation to help satisfy the consumer’s self-definitional needs (Atakan et al., 2014; Bhattacharya & Sen, 2003). More specifically, drawn upon the social identity theory, consumer identification emerges when certain company characteristics cultivate the values that an individual hold in esteem and keep consistent with his personal characteristics (Hildebrand et al., 2010). Consumers tend to continuously compare their self-concept to products that have similar or desired attributes and demonstrate cognitive or affective responses to product design (Atakan et al., 2014). The common characteristics with the company not only help the construction of self-identity, but also increase the individual’s sense of ownership and belonging in relation to the company. The study of Karaosmanoğlu et al. (2011) proves that consumer identification is a psychological state with a positive effect on consumers’ perception of a company.

Unlike face-to-face interaction, online users can feel to be anonymous to express the positive or negative aspects of the self (Suler, 2000; Turkle, 1995). Internet becomes a unique cyberspace where individuals not only exchange information but also build their identity to enrich their life experience (Kanawattanachai & Yoo, 2007). The identification of oneself as a group member to feel a sense of belonging contributes to the collective good by exchanges their expertise and opinions. Although consumers are not formal members of an organization, Ahearne et al. (2005) argue that if the consumers find the company to be attractive with distinctive characteristics, they are more likely to regard the company as a social identifier and further support their positive product evaluation (Deng & Xu, 2017; Karaosmanoğlu et al., 2011). Similarly, crowdfunding supporters are willing to help as a way to feel part of a community (Gerber & Hui, 2013). Dai and Zhang (2019) also assume that people who have more social preferences for the funding goals are more likely to support funding activities in the platform. Accordingly, the third hypothesis is proposed as follows,

\[ H3: \text{consumer identification has a positive influence on confirmation of online crowdfunding campaign support.} \]

2.5. Consumption values

The theory of consumption values is developed by Sheth et al. (1991) in terms of functional value, social value, emotional value, epistemic value, and conditional value. The multiple
values are one’s beliefs about desirable outcomes and evaluative judgements in buying or using a product. More specifically, functional value is a traditional driver of consumer choice, reflecting a rational evaluation of product attributes such as reliability, conformance, durability, and price. Previous studies tend to measure perceived values according to what the consumer receives for what they pay (Zeithaml, 1988). In addition to the utilitarian values, intrinsic values also arise when consumer is influenced by interpersonal communication, aroused emotional responses (fear or romance), curiosity/novelty related to gaining skills to solve problems, and some situational associations to increase functional or social values (Gonçalves et al., 2016; Sheth et al., 1991). Holbrook (1994) regards the values as an experiential preference of escapism, visual appeal, interactivity, and social simulation. Prior studies have argued that consumption value was determined by the evaluative judgements of extrinsic and intrinsic values gained from the transaction between consumer and product. For example, Tang and Chiang (2010) study supports that blog users’ confirmation of expectations will positively affect their experiential value to continue blog use. Consumption values are gained from the experience that a product or service delivers and its perceived benefits (Guo & Barnes, 2007) and have significant contributions in explaining the consumer’s attitudes and choice behaviours (Gonçalves et al., 2016). While the online crowdfunding project is accomplished, the new product or service is available in the market and supporters can receive their rewards. Moreover, Gerber and Hui (2013) argue that supporters may be gratified with the social impacts derived from the crowdfunding activity. The fourth hypothesis is thus proposed as follows,

**H4:** confirmation of online crowdfunding campaign support has a positive influence on support’s consumption values.

Integrating the perspective of consumption values into ECT, this study further proposes the next four hypotheses to examine the post-adooption satisfaction and continuance intention.

**H5:** confirmation of online crowdfunding campaign support has a positive influence on satisfaction with the online crowdfunding campaign.

**H6:** support’s consumption values have a positive influence on satisfaction with the online crowdfunding campaign.

**H7:** support’s satisfaction has a positive influence on continuance intention of the online crowdfunding campaign.

**H8:** support’s consumption values have a positive influence on continuance intention of the online crowdfunding campaign.

All the proposed hypotheses are presented in Figure 1.

*Figure 1. Research Model.*
3. Research design

3.1. Measurement development
According to the theoretical perspectives mentioned above, this study employs seven research constructs, including consumer innovativeness (Lukkarinen et al., 2016; Venkatraman & Price, 1990; Xu et al., 2016), prosocial orientation (Caprara & Steca, 2007; Sproull et al., 2005), consumer identification (Deng & Xu, 2017; Karaosmanoğlu et al., 2011), confirmation (Bhattacharyea, 2001), consumption values (Sheth et al., 1991), satisfaction (Bhattacharyea, 2001), and continuance intention (Bhattacharyea, 2001).

- Consumer innovativeness: a support’s tendency to adopt new products or services and thereby enjoy the new experiences derived from sensory stimulation and consumption-relevant knowledge in product or service choice behavior.
- Prosocial orientation: a support’s benevolent orientation toward caring and helping other people to bring benefits to them.
- Consumer identification: a support’s evaluation of a crowdfunding campaign’s attractiveness by the similarity to his personal attributes and the supporter’s perception of unique characteristics in comparison with other campaign.
- Confirmation: a support’s perception of the congruence between expectation toward the crowdfunding campaign and the actual performance derived from the sponsorship.
- Consumption values: the concepts or beliefs about the desirable benefits through participation in the online crowdfunding campaign.
- Satisfaction: a support’s sensational response to the previous participation in supporting the online crowdfunding campaign.
- Continuance intention: a support’s intention to continue supporting the online crowdfunding campaign.

A questionnaire was developed for measuring the constructs, which was then examined by an expert panel consisting of three crowdfunding supporters to examine the construct validity in terms of ease of understanding, logical consistencies, and context fitness. Most measurement items were examined and adopted to maintain consistency, while some items were revised to relate specifically to this study. For example, consistent with five aspects of consumption values (functional, social, emotional, epistemic, and conditional, this study argues that online crowdfunding can promote a new product on the market (e.g., through participation in the online crowdfunding campaign, I can buy a novel product) or meet consumers’ affective and cognitive needs (e.g., through participation in the online crowdfunding campaign, I can know other people who engage in creative design or entrepreneurial activities). The measurement items of the constructs are presented in Appendix, which are measured on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

3.2. Participants and data collection
In Taiwan, Facebook and PTT Bulletin Board System are the two most commonly used social media websites. On a convenience sample basis, a public recruitment letter were posted on the websites to invited volunteers who had experience in supporting the fund-raising campaign. 269 valid survey responses were collected and brought into further examination and analysis. The demographic information of the respondents is shown in Table 1. Male respondents were less likely than female respondents to participate in online crowdfunding campaign, and half of the respondents were age 21–30 years. For the experience to support an online crowdfunding campaign, over 70% of respondents had supported 1–3 projects. Over 70% of the respondents had fewer than 3 projects of online crowdfunding.

To examine the possible relationship between respondent profiles and research results, this study conducted a two sample t-test for difference based on gender (male/female), age (21–30 years/ others), and experience (3 projects/others). The results in Table 2 revealed that sample means were almost equivalent in relation to gender and age. Respondents with more experience in supporting
| Characteristics                     | Items                  | Frequency | Percent (%) |
|------------------------------------|------------------------|-----------|-------------|
| Gender                             | Male                   | 122       | 45.19       |
|                                    | Female                 | 148       | 54.81       |
| Age                                | Less than 20 years     | 22        | 8.15        |
|                                    | 21–30 years            | 157       | 58.15       |
|                                    | 31–40 years            | 77        | 28.52       |
|                                    | 41–50 years            | 12        | 4.44        |
|                                    | Above 51 years         | 2         | 0.74        |
| Experience being a crowdfunding campaign supporter | 1–3 projects          | 196       | 72.59       |
|                                    | 4–6 projects           | 46        | 17.04       |
|                                    | 7–9 projects           | 12        | 4.44        |
|                                    | Above 10 projects      | 16        | 5.93        |
| The maximum amount pledge          | Less than NT$1,000     | 127       | 47.04       |
|                                    | NT$1,001–2,000         | 51        | 18.89       |
|                                    | NT$2,001–3,000         | 38        | 14.07       |
|                                    | NT$3,001–4,000         | 22        | 8.15        |
|                                    | NT$4,001–5,000         | 7         | 2.59        |
|                                    | Above NT$5,001         | 25        | 9.26        |
| The number of online crowdfunding platform visited | 1                     | 147       | 54.44       |
|                                    | 2                     | 68        | 25.19       |
|                                    | 3                     | 35        | 12.96       |

crowdfunding campaigns expressed more tendency in various aspects. More discussion will be presented in section 4.3.

4. Data analysis

4.1. Measurement model: construct validity and reliability

The measurement model was assessed by using partial least square (PLS) because of its “minimal demands on measurement scales, sample size, residual distributions” (Chin et al., 1996). The first step in measurement validation was to assess the internal consistency through Cronbach’s alpha (Cronbach, 1951; Nunnally, 1978). The alpha value of 0.70 is generally described as good, while a value of 0.60 is moderate and acceptable (Nunnally & Bernstein, 1994; Taber, 2018). The reliability and internal consistency are reasonable in this study. Besides, the factor loadings of the measurement items with their respective constructs were examined for the individual item reliability. All the item loadings meet the minimum requirement of 0.5. Convergent validity, referring to the degree to which different measures in a construct convey the same meaning (Hair et al., 2009), was assessed according to the average variance extracted (AVE) and composite reliability (CR). All AVE and CR values of each construct were higher than the recommended level0.5 and 0.7, respectively. Table 3 presents the results of internal consistency and convergent validity. Discriminant validity, measured by the square root of the AVE, was compared with the correlations among the constructs. As shown in Table 4, all square roots of the AVE values were higher than the correlations between all pairs of constructs. Thus, all the constructs and items meet the requirements of measurement scale validation.

4.2. Structural modelling: hypothesis testing

After assessing the validity and reliability of the research constructs, the research model was tested with the structural equation modelling method. SmartPLS was used to test the research hypotheses by measuring the model paths. The path coefficient of each hypothesis and explained variance (R²) of each dependent construct is presented in Figure 2.
The results reveal that the supporter's confirmation with online crowdfunding campaign was significantly influenced by consumer innovativeness (H1, $\beta = 0.162, p < 0.05$) and consumer identification (H3, $\beta = 0.595, p < 0.01$). The mediated effect of confirmation on supporters' satisfaction (H4, $\beta = 0.536, p < 0.01$) and consumption values (H5, $\beta = 0.659, p < 0.01$) are supported. Consistent with ECT, satisfaction was found to be a critical antecedent of continuance intention to support an online crowdfunding campaign (H7, $\beta = 0.431, p < 0.01$). Finally, this study examined the extensive influence of consumption values on satisfaction and continuance intention. The results confirmed that consumption values had a positive effect on satisfaction (H6, $\beta = 0.196, p < 0.01$) and continuance intention (H8, $\beta = 0.461, p < 0.01$). However, the relationship between prosocial orientation and confirmation is not supported with an insignificant path coefficient (H2, $\beta = 0.095$).

According to Hair et al. (2009), the predictive quality of a research model can be assessed according to the percentage of total variance it explains ($R^2$). The research results showed that consumer innovativeness and prosocial orientation as well as consumer identification accounted for 45.2% of the variance in confirmation with the online crowdfunding campaign, which further accounted for 43.5% of the variance in consumption values. Confirmation and consumption values together accounted for 46.4% of the variance in supporters' satisfaction. Finally, continuance intention explained 50.4% of the variance in satisfaction and consumption values.

| Construct                                      | Gen1-Gen2 | Age 1-Age 2 | Exp1-Exp2 |
|------------------------------------------------|-----------|-------------|-----------|
| Consumer innovativeness| t-value | 1.66 | -2.46 | 3.88 |
| Consumer innovativeness| P-value | 0.098 | 0.015 | 0.000 |
| Consumer innovativeness| t-value | -1.74 | -0.77 | 0.62 |
| Consumer innovativeness| P-value | 0.084 | 0.444 | 0.534 |
| Prosocial orientation| t-value | 0.26 | -0.56 | 2.44 |
| Prosocial orientation| P-value | 0.792 | 0.574 | 0.000 |
| Confirmation| t-value | -0.13 | 0.68 | 2.86 |
| Confirmation| P-value | 0.896 | 0.499 | 0.005 |
| Consumer identification| t-value | 0.18 | 1.20 | 2.05 |
| Consumer identification| P-value | 0.855 | 0.231 | 0.042 |
| Consumer identification| t-value | -0.35 | 1.78 | 1.32 |
| Consumer identification| P-value | 0.723 | 0.076 | 0.189 |
| Consumption values| t-value | 0.69 | 1.03 | 4.34 |
| Consumption values| P-value | 0.491 | 0.305 | 0.001 |
| Consumption values| t-value | 0.14 | 0.90 | 2.44 |
| Consumption values| P-value | 0.892 | 0.369 | 0.016 |
| Consumption values| t-value | 0.32 | 1.28 | 1.01 |
| Consumption values| P-value | 0.747 | 0.201 | 0.313 |
| Consumption values| t-value | 0.13 | -0.24 | 2.86 |
| Consumption values| P-value | 0.890 | 0.809 | 0.005 |
| Consumption values| t-value | 0.03 | 1.52 | 2.350 |
| Consumption values| P-value | 0.974 | 0.1296 | 0.020 |
| Satisfaction| t-value | -0.98 | 0.47 | 3.22 |
| Satisfaction| P-value | 0.529 | 0.640 | 0.002 |
| Continuance intention| t-value | -0.15 | 0.63 | 4.46 |
| Continuance intention| P-value | 0.882 | 0.533 | <0.001 |

Gen1: Male/Gen2: Female; Age1: 21–30 years old/Age2: other than 21–30
Exp1: more than 3 times/Exp2: 1–3 times
| Construct                        | Item | Mean | SD  | Factor loading | AVE | CR  | Cronbach's α |
|---------------------------------|------|------|-----|----------------|-----|-----|---------------|
| **First-order construct**       |      |      |     |                |     |     |               |
| Consumer innovativeness         |      |      |     |                |     |     |               |
| Sensory                         | INS2 | 2.149| 0.941| 0.734          | 0.556| 0.862 | 0.800         |
|                                 | INS3 | 2.465| 0.942| 0.778          |      |      |               |
|                                 | INS6 | 2.535| 1.047| 0.771          |      |      |               |
|                                 | INS7 | 2.316| 0.972| 0.734          |      |      |               |
|                                 | INS10| 2.491| 1.103| 0.708          |      |      |               |
| Cognitive                       | INC2 | 3.245| 1.094| 0.654          | 0.542| 0.824 | 0.723         |
|                                 | INC6 | 3.684| 1.060| 0.787          |      |      |               |
|                                 | INC7 | 3.149| 1.220| 0.806          |      |      |               |
|                                 | INC8 | 3.710| 0.967| 0.687          |      |      |               |
| Prosocial orientation           | PRO1 | 4.156| 0.699| 0.744          | 0.590| 0.896 | 0.861         |
|                                 | PRO2 | 4.249| 0.658| 0.730          |      |      |               |
|                                 | PRO3 | 4.059| 0.744| 0.819          |      |      |               |
|                                 | PRO4 | 4.022| 0.751| 0.794          |      |      |               |
|                                 | PRO5 | 4.071| 0.789| 0.762          |      |      |               |
|                                 | PRO6 | 4.007| 0.827| 0.756          |      |      |               |
| Confirmation                    | CON1 | 3.721| 0.862| 0.882          | 0.776| 0.912 | 0.856         |
|                                 | CON2 | 3.706| 0.831| 0.913          |      |      |               |
|                                 | CON3 | 3.840| 0.781| 0.847          |      |      |               |
| Consumer identification similarity | SIM1 | 3.651| 0.755| 0.758          | 0.643| 0.900 | 0.860         |
|                                 | SIM2 | 3.431| 0.836| 0.836          |      |      |               |
|                                 | SIM3 | 3.532| 0.860| 0.843          |      |      |               |
|                                 | SIM4 | 3.491| 0.907| 0.824          |      |      |               |
|                                 | SIM5 | 3.944| 0.827| 0.744          |      |      |               |
| Consumer identification distinctiveness | UQ1 | 3.907| 0.810| 0.827          | 0.866| 0.903 | 0.652         |
|                                 | UQ2  | 3.877| 0.820| 0.851          |      |      |               |
|                                 | UQ3  | 3.952| 0.800| 0.796          |      |      |               |
|                                 | UQ4  | 3.565| 0.884| 0.765          |      |      |               |
|                                 | UQ5  | 3.494| 0.997| 0.795          |      |      |               |
| Consumption values functional   | VAF1 | 4.071| 0.808| 0.888          | 0.618| 0.825 | 0.677         |
|                                 | VAF2 | 3.227| 0.955| 0.585          |      |      |               |
|                                 | VAF3 | 4.123| 0.749| 0.850          |      |      |               |
| Consumption values emotional    | VAE1 | 4.271| 0.671| 0.762          | 0.654| 0.850 | 0.737         |
|                                 | VAE2 | 4.089| 0.761| 0.858          |      |      |               |
|                                 | VAE3 | 3.647| 0.87 | 0.811          |      |      |               |
| Consumption values social       | VAS1 | 3.543| 0.996| 0.831          | 0.680| 0.865 | 0.766         |
|                                 | VAS2 | 3.253| 1.025| 0.832          |      |      |               |
|                                 | VAS3 | 3.636| 1.017| 0.811          |      |      |               |
| Consumption values novel        | VAC1 | 4.033| 0.782| 0.849          | 0.714| 0.882 | 0.798         |
|                                 | VAC2 | 3.851| 0.921| 0.884          |      |      |               |
|                                 | VAC3 | 3.766| 0.884| 0.799          |      |      |               |
| Consumption values conditional  | VAX1 | 3.576| 1.031| 0.743          | 0.661| 0.853 | 0.742         |
|                                 | VAX2 | 3.896| 0.860| 0.845          |      |      |               |
|                                 | VAX3 | 3.796| 0.883| 0.846          |      |      |               |

(Continued)
### Table 3. (Continued)

| Construct               | Item | Mean  | SD    | Factor loading | AVE   | CR    | Cronbach’s α |
|-------------------------|------|-------|-------|----------------|-------|-------|-------------|
| Satisfaction            | SAT1 | 3.918 | 0.762 | 0.867          | 0.820 | 0.932 | 0.890       |
|                         | SAT2 | 3.948 | 0.784 | 0.936          |       |       |             |
|                         | SAT3 | 3.993 | 0.766 | 0.911          |       |       |             |
| Continuance intention   | INT1 | 3.677 | 0.926 | 0.712          | 0.584 | 0.894 | 0.857       |
|                         | INT2 | 3.554 | 0.957 | 0.759          |       |       |             |
|                         | INT3 | 3.903 | 0.848 | 0.724          |       |       |             |
|                         | INT4 | 4.019 | 0.773 | 0.798          |       |       |             |
|                         | INT5 | 3.777 | 0.876 | 0.821          |       |       |             |
|                         | INT6 | 4.004 | 0.754 | 0.766          |       |       |             |
| Second-order construct  | INS  | 2.395 | 0.758 | 0.760          | 0.720 | 0.836 | 0.636       |
|                         | INC  | 3.446 | 0.804 | 0.929          |       |       |             |
| Consumer identification | SIM  | 3.610 | 0.837 | 0.915          | 0.839 | 0.912 | 0.808       |
|                         | UQ   | 3.759 | 0.862 | 0.917          |       |       |             |
| Consumption values      | VAF  | 3.807 | 0.659 | 0.643          | 0.619 | 0.890 | 0.843       |
|                         | VAE  | 4.003 | 0.632 | 0.752          |       |       |             |
|                         | VAS  | 3.477 | 0.859 | 0.805          |       |       |             |
|                         | VAC  | 3.884 | 0.737 | 0.861          |       |       |             |
|                         | VAX  | 3.756 | 0.765 | 0.853          |       |       |             |

### Table 4. Square of correlation between constructs

|                   | 1    | 2    | 3    | 4    | 5    | 6    | 7    |
|-------------------|------|------|------|------|------|------|------|
| 1.Consumer innovativeness | 0.849 |      |      |      |      |      |      |
| 2.Prosocial orientation   | 0.065 | 0.768 |      |      |      |      |      |
| 3.Consumer identification| 0.091 | 0.385 | 0.916 |      |      |      |      |
| 4.Confirmation           | 0.222 | 0.335 | 0.646 | 0.881 |      |      |      |
| 5.Consumption values     | 0.168 | 0.409 | 0.724 | 0.659 | 0.787 |      |      |
| 6.Satisfaction           | 0.067 | 0.365 | 0.610 | 0.665 | 0.549 | 0.905 |      |
| 7.Continuance intention  | 0.181 | 0.512 | 0.714 | 0.644 | 0.698 | 0.684 | 0.764 |

### Table 5. Hypotheses testing for the two groups

| Hypotheses                                      | Standard Coefficient | Significance of t-test |
|------------------------------------------------|----------------------|------------------------|
|                                                 | Exp1     | Exp2     |                        |
| H1. Consumer innovativeness → Confirmation      | 0.128    | 0.093    | 0.000                 |
| H2. Prosocial orientation→ Confirmation         | 0.100    | 0.015    | 0.871                 |
| H3. Consumer identification → Confirmation      | 0.595*** | 0.636*** | 0.003                 |
| H4. Confirmation → Consumption values           | 0.555*** | 0.748*** | 0.000                 |
| H5. Confirmation → Satisfaction                 | 0.587*** | 0.565*** | 0.000                 |
| H6. Consumption values → Satisfaction           | 0.018    | 0.180*   | 0.000                 |
| H7. Satisfaction → Continuance intention        | 0.406*** | 0.496*** | 0.000                 |
| H8. Consumption values → Continuance intention  | 0.529*** | 0.410*** | 0.000                 |

* P < 0.05 ** P < 0.01 *** P < 0.001
4.3. Subgroup analysis: experience

According to Table 2, the respondents who have participated in more online crowdfunding campaigns showed more positive results in various constructs. To further examine the effect of experience on relationship between constructs, a t-test was conducted to compare the mean between two groups (Table 5). The research results indicated that the hypotheses, except H1, H2, and H6, were supported in this study. However, respondents with more funding experience exerted more influence on H3, H4, H6, and H7 than less experience group. However, the group with less experience toward online crowdfunding campaigns could have more satisfaction and continuous intention as they received positive confirmation (H5) and perception of consumption values (H8).

5. Discussion and conclusion

With advances in science and technology and rapid change in global industry, enterprises of various types are actively investing in the research and development of innovative products. In doing so, they aim to increase profits and sales so as to securing a sustainable position in the market. Many innovative developers and small work teams have also begun to participate in such product development, with the aims of improving human life, work efficiency, and economic vitality as well as fulfilling goals through good entrepreneurial practice. The success of crowdfunding depends on the support of sponsors (Bagheri et al., 2019; Gerber et al., 2012; Zhang & Chen, 2019). Transactions have not only been transformed into online business practices but are also becoming an essential channel for the establishment of product brands and the maintenance of consumer relationships through active consumer participation (Atakan et al., 2014; Shiu & Luo, 2012; Shin, 2013).

This study focuses on individual-level traits, cognition, and behavioural intention to understand the factors and processes influencing customers’ intention to support the online crowdfunding campaign. Expectation-confirmation theory provides a theoretical framework for analysis of ex-post performance after consumers’ online crowdfunding support. This study argues that not only does the positive relationship exist between confirmation and continuance intention, but also consumers’ innovativeness and identification are critical antecedents of confirmation. New products or services have not gone to the market yet, and the possibility of online crowdfunding support decreases with increasing consumer-perceived risk. Consistent with Ridgway and Price (1994) and Wood and Swait (2002), consumers’ curiosity and risk-taking preferences help satisfy the need of exploratory information and feeling state, which creates a better customer experience and then confirm the expectation of online crowdfunding campaign. Meanwhile, the perception of salient characteristics of the online crowdfunding campaign is also proven as a critical driver of consumers’ confirmation. According to the perspective of symbolic consumption, individuals’ consumption choices are not only from the products’ functionalities or aesthetics but also from their symbolic meanings (Wattnasuwon, 2005), reflecting one’s taste, image, achievement, and distinction between myself and others. The greater identification with the online crowdfunding campaign can have more positive influence on consumers’ evaluation and retention (Homburg et al., 2015).

Moreover, this study utilized structure equation method to examine the mediating effect of consumption values on supporters’ satisfaction and continuance intention of online crowdfunding. The results reveal that emotional responses aroused by altruism, creativity, and self-accomplishment play...
an important role in the assessment of online crowdfunding, while the perceptions of novelty, fashion, and curiosity also contribute to supporters’ epistemic values that enhance their consumption experience. A rational evaluation can lead to multiple values after consumers bought or used a product (Zeithaml, 1988). Consequently, the values and satisfaction positively influence consumers’ future intention to support online crowdfunding campaigns. In this study, the prosocial orientation is not a critical factor to affect consumer’s evaluation of online crowdfunding. The plausible reason may be that consumers care more about the product innovation and values. The online crowdfunding campaign can regarded as a market opportunity instead of a charity or feelings of sympathy or empathy.

This study contributes both practical and theoretical implications for online crowdfunding creators to identify factors affecting consumers’ confirmation and extends the ECT model with consumers’ innovativeness, identification, and perceptions of value. For the practice of online crowdfunding activity and innovation development, it is important to find the innovative consumers as target audience. On the basis of joint consumption, the activator must make sure the congruence between supporters’ expectation and actual performance. Consequently, consumption values related to the crowdfunding activity can have power to increase supporters’ satisfaction and intention to continue supporting other crowdfunding projects. However, several limitations and suggestions for future research must be highlighted. First, this study collected data from online crowdfunding websites in Taiwan. Generalizing the results may be difficult and must be treated circumspectly. Second, convenience sampling inevitably results in self-selection bias and over-representation of subjects with strong opinions. Therefore, future studies should adopt a more rigorous sampling technique to obtain more reliable and objective data. Finally, this study did not examine the respondents’ residential area, occupation and variety of products or services through online crowdfunding campaigns. The future research and analysis can be conducted to gather more information and may provide valuable insights for entrepreneurial practices.

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Appendix

Measurement Items

**Consumer innovativeness|sensory** (Venkatraman & Price, 1990; Wood & Swait, 2002)

INS2 I would rather stick with a brand I usually buy than try something I am not very sure of. (*)

INS3 I think of myself as a brand-loyal consumer. (*)

INS6 If I like a brand, I rarely switch from it just to try something different. (*)

INS7 I am very cautious in trying new or different products. (*)

INS10 I usually eat the same kinds of foods on a regular basis. (*)

**Consumer innovativeness|cognitive** (Venkatraman & Price, 1990; Wood & Swait, 2002)

INC2 I lie to go window shopping and find out about the latest styles.

INC6 I like to browse through mail order catalogs even when I don't plan to buy anything.

INC7 I usually throw away mail advertisements without reading. (*)

INC8 I like to shop around and look at displays.

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**Prosocial orientation** (Amichai-Hamburger & Furnham, 2007)

PRO1 I would like to share what I’ve learned with others.

PRO2 I try to help friends solve a problem once I’ve figured it out.

PRO3 I try to be nice to people when something bad has happened to them.

PRO4 I try to help people when they have a problem.

PRO5 I try to cheer someone up when something has gone wrong.

PRO6 I try to help people learn new things.

**Consumption values—functional** (Sheth et al., 1991)

VAF1 Through participation in the online crowdfunding campaign, I can buy a novel product.

VAF2 Through participation in the online crowdfunding campaign, I can buy an inexpensive product.

VAF3 Through participation in the online crowdfunding campaign, I can buy an interesting product.

**Consumption values—emotional** (Sheth et al., 1991)

VAE1 Through participation in the online crowdfunding campaign, I can help the creative entrepreneur to accomplish his/her ideal.

VAE2 Through participation in the online crowdfunding campaign, I can devote myself and get the benefit of rewarding from the campaign.

VAE3 Through participation in the online crowdfunding campaign, I can feel a sense of accomplishment.

**Consumption values—social** (Sheth et al., 1991)

VAS1 Through participation in the online crowdfunding campaign, I can catch up with the latest fashion trend.

VAS2 Through participation in the online crowdfunding campaign, my distance with others can be shortened.

VAS3 Through participation in the online crowdfunding campaign, I can know other people who engage in creative design or entrepreneurial activities.

**Consumption values—novel** (Sheth et al., 1991)

VAC1 The online crowdfunding campaign can increase my sense of novelty.

VAC2 The online crowdfunding campaign can satisfy my sense of curiosity.

VAC3 The online crowdfunding campaign can help me keep contact with the latest fashion or service trend.
Consumption values (Sheth et al., 1991)

VAX1 People’s participation in the online crowdfunding campaign will increase my intention to join them.

VAX2 Through participation in the online crowdfunding campaign, I can experience the unique product or service.

VAX3 Through participation in the online crowdfunding campaign, I can review the latest entrepreneurial trend or market development

Confirmation (Bhattacherjee, 2001)

CON1 My experience with supporting the crowdfunding campaign was better than I expected.

CON2 The process in which I participated to support the crowdfunding campaign exceeded my expectations.

CON3 The reward offered from the crowdfunding campaign confirmed what I expected.

Consumer identification similarity (Deng & Xu, 2017; Karaosmanoğlu et al., 2011)

SIM1 The design concept of crowdfunding campaign is consistent my values.

SIM2 The management of crowdfunding campaign is similar with my behavior styles.

SIM3 The image of crowdfunding campaign fits my personal styles.

SIM4 The content of crowdfunding campaign can represent authentically my personal characteristics.

SIM5 The value that the crowdfunding campaign focus on is also what I concern.

Consumer identification distinctiveness (Deng & Xu, 2017; Karaosmanoğlu et al., 2011)

UQ1 The design of crowdfunding campaign is unique.

UQ2 The image of crowdfunding campaign is unique.

UQ3 The value of crowdfunding campaign is different from other products in the market.

UQ4 The characteristic of crowdfunding campaign is obvious.

UQ5 To be a crowdfunding campaign supporter can demonstrate my distinctiveness.

Satisfaction (Bhattacherjee, 2001)

SAT1 I am satisfied with the crowdfunding campaign that I support.

SAT2 I feel pleased about the crowdfunding campaign that I support.

SAT3 I am delighted to be a supporter of the crowdfunding campaign.
Continuance intention (Bhattacherjee, 2001)

INT1 I will recommend other people the online crowdfunding campaign.

INT2 I would like to participate in an orientation of crowdfunding campaign in the future.

INT3 If someone need entrepreneurial fund for startups, I will encourage him to try in the online crowdfunding platform.

INT4 I would like to support other’s entrepreneurship as being a crowdfunding supporter.

INT5 I intend to continue being a crowdfunding supporter.

INT6 I would like to assess the possibility of supporting a crowdfunding campaign which is recommended by someone else.