

ARE ONLINE COMMUNITY CITIZENSHIP BEHAVIORS BOUNDED BY INDIVIDUAL DIFFERENCES? A MULTILEVEL INVESTIGATION

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ABSTRACT

This study develops a multilevel theoretical model, examining the direct and joint effects of two individual-level factors (prosocial values and exchange ideology) and contextual-level variables (member citizenship behaviors, MCBs) on online community citizenship behavior (OCCBs). The model and hypotheses were tested with data collected from 340 members nested in 34 online communities using the hierarchical linear modeling (HLM). Results indicated that prosocial values, exchange ideology, and MCB positively related to OCCBs. Additionally, MCBs weaken the negative relationship between exchange ideology and OCCBs.

Keywords: Consumer participation; Online community citizenship behaviors; Prosocial values; Exchange ideology; Online communities of consumption

1. INTRODUCTION

Consumer participation (CP), viewed as the automatic process and spontaneous behaviors, has become an important issue in an online community of consumption (OCC) (Yen et al., 2011); that is, groups of consumers who are “implicitly or explicitly structured around consumption and marketing interests” (Kozinets, 1999, p. 254). The major source to perpetuate the vitality and longevity of online communities comes from the active participation of members (McWilliam, 2000; Williams & Cothrel, 2000; Bagozzi & Dholakia, 2002), particularly for the voluntary behaviors, because such CP that are performed at consumers’ sole discretion can positively enhance the effective operation and advancement of online communities based on the literature of organizational citizenship behavior (OCB) (Organ, 1988). For example, a consumer may notify the community manager of the improvement or may inform another consumer of positive things about the online community. Thus, this study terms these participative behaviors as online community citizenship behaviors (OCCBs).

Given that participation in online communities is generally a matter of volitional choice (Bagozzi & Dholakia, 2002), a crucial issue has become a recognition of which individual differences might enhance or hinder the degree of exhibiting OCCBs by the consumers. The vast majority of research on online communities has found motivational facilitators, one type of individual differences, to understand the consumer participation (e.g., Dholakia et al., 2004; Hennig-Thurau et al., 2004; Chan & Li, 2010). In addition, based on social exchange theory (Blau, 1964), reciprocity is considered another well-known rule of exchange when individuals engage in social interaction. Although a norm of reciprocity is a human universal, not all individuals value reciprocity to the same degree (Cropanzano & Mitchell, 2005); that is, some individuals may regard exchange norms as necessary while others do not. However, extant studies haven neglected the impacts of exchange ideology as an individual difference on community participation, making the examination of social exchange in the online environment incomplete.

The key feature of community participation involves complex and resources exchange processes. According to social learning theory (Bandura, 1977) and social information processing theory (Salancik & Pfeffer, 1978), many forms of individual behaviors are strongly shaped by the others' attitudes and behaviors in the immediate social context, interpreting the importance of contextual-level factor. Given that the nature of an OCC is a context of ongoing learning and collaboration, social others are viewed as critical sources of information and important immediate referents. Surprisingly, no research has investigated the effects of CBs of social others, namely member CBs (MCBs), in promoting the exhibition of individual OCCBs. Furthermore, person–situation interaction theory posits that person and situation variables interplay to affect actual behaviors (Endler & Magnusson, 1976; Magnusson, 1990, 1999). However, the related studies pay no attention to examine this important omission because the effects of individual differences on their exhibition of OCCBs are likely contingent on the community environment. Therefore, this study further proposes that MCBs acting as a moderating role have the impacts on the relationship between individual differences and OCCBs.

To address the above research gaps, the objectives are as follows. First, this study builds a multilevel framework to investigate how individual behaviors are influenced not only by individual differences at the micro level but also by MCBs at the macro level. Second, we propose that MCBs will also act as a situational moderator (i.e., the cross-level effect) on the relationship between individual differences and individual OCCBs. Figure 1 shows the multilevel perspective on a critical issue that remains important gaps in online context.

2. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1. Online communities of consumption

Online communities are defined as “social aggregations that emerge from the Internet when enough people carry on public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace” (Rheingold, 1993, p.5). Many online communities are organized around consumption and marketing interests (Kozinets, 1999) and make individuals engage in collective activities (Chan & Li, 2010). OCCs are those networks of people interest in “affiliated groups whose online interactions are based upon shared enthusiasm for, and knowledge of, a specific consumption activity or related group of activities” (Kozinets, 1999, p.254). Research on marketing recognizes these communities as influential sources that build distinctive market segments (Kozinets, 1999; Bagozzi & Dholakia, 2002; Kim et al., 2004) and represent word of mouth networks (Brown et al., 2007). Through OCCs, individuals form relationship with other like-minded individuals, share for specific consumption-related experiences, and participate in social interactions (Kozinets, 1999; Hoffman & Novak, 1996).

2.2 Online community citizenship behaviors (OCCBs)

Following the definition of Yen et al. (2011), OCCBs was defined as “*discretionary effort directed toward preserving, supporting, and improving the online community*”. Research on OCB has utilized Organ’s (1988) taxonomy, which was operationalized by Podsakoff et al. (1990), including five dimensions—altruism, courtesy, conscientiousness, sportsmanship, and civic virtue. However, not every behavior in the organization is suitable in every situation (e.g., the context of OCC). To make the broader scale to measure consumer OCCBs, this study suggests four distinct dimensions that consumers actually exhibit behaviors in OCCs from the literature of customer CBs (e.g., Bettencourt, 1997; Groth, 2005) and online communities (Yen et al., 2011; Wiertz & de Ruyter, 2007) to fit the definition of OCCBs: *recommendation, helping others, providing feedback and sportsmanship*.

The first three behaviors are known to belong to the CP in OCCs (Yen et al., 2011). *Recommendation* refers that consumer spreads positive word-of-mouth about the OCC. It is a willingness to promote the community to others (Bettencourt, 1997; Rosenbaum & Massiah, 2007), and contribute the development of a positive image and recruit new consumers to maintain its vitality. *Helping others*, has been widely studied in the voluntary behaviors (e.g., Groth, 2005; Rosenbaum & Massiah, 2007). It refers that consumers provide solution to assist others. For example, consumers exhibit their efforts to resolve conflicts/problems and to help others learn more about the services provided by the platform. *Providing feedback* (to the community) refers that consumer shows the concern for improving of the community and propensity for suggesting positive changes (Bettencourt, 1997; Gruen et al., 2000; Kim et al., 2004; Rosenbaum & Massiah, 2007). Providing feedback gives constructive suggestions to online communities for preparing themselves in order to meet consumers’ needs.

The final dimension of OCCBs is *sportsmanship*, a form of citizenship behavior, which refers to “a willingness to tolerate the inevitable inconveniences and impositions of work without complaining” (Organ, 1988; Organ and Konovsky, 1989). Because CP in online communities is not contractual bound, sportsmanship in the online community is an important individual attribute corresponds to his/her desire to display a goodwill tolerating inconveniences and his/her willingness to tackle challenges (Wiertz & de Ruyter, 2007). In an online setting, it reflects that consumers hold the positive attitude to participate in the activities of community and willingness to withstand undesirable circumstances for the harmonious of the community, even when things go wrong.

2.3 Individual-level antecedents of OCCBs: Prosocial values and exchange ideology

Given that OCB are prosocial behaviors that benefits others, rather than oneself (Organ et al., 2006), organizational psychologists (e.g., Konovsky & Organ, 1996; Bettencourt et al., 2001) have recognized that individual-difference variables are associated uniquely with OCBs, such as prosocial values (Rioux & Penner, 2001; Halbesleben et al., 2010) and exchange ideology (Ladd & Henry, 2000). The former, *prosocial values*, represents “the concern for immediate others as well as the welfare of all people” (Muethel et al., 2011); the latter, *exchange ideology*, captures “the strength of an employee’s belief that work effort should depend on treatment by the organization” (Eisenberger et al., 1986, p. 503). According to the conception that consumers are “partial employees” of an OCC (Yen et al., 2011), consumers with prosocial values or exchange ideology may influence themselves in contributing activities that greatly affect the effective functioning of an OCC. Therefore, it is suggested that factors affecting OCBs in the real world would also similarly affect OCCBs in the online environment.

Participation in OCCs is characterized by self-organization and absence of personal acquaintances, individual motives are powerful spurs to facilitate them for participating in online environment. For example, consumers

share suggestions and ideas with others driven by their intrinsic and extrinsic motivations (e.g., Wasko & Faraj, 2000). However, consumers' voluntary contribution (i.e., OCCBs) mostly depends on their self-initiatives as the community administrator does not have formal control over their behaviors. Thus, in the context of OCC, this study places a consumer's intrinsic motivation at the focal point. On the other hand, according to social exchange theory (Blau, 1964), individuals engage in a series of interactions that are usually interdependent and contingent on the actions of others. This suggests that consumers are susceptible to the mutual exchange relationship within a given OCC or OCC member because they have expectation to receive the likely behavioral responses. According to above discussed contradiction that exists in individual values, this study therefore proposes two individual differences regarding the exchange relationship—prosocial values and exchange ideology- that are more closely linked to individual OCCBs.

Prosocial values is the personal disposition at the opposite pole from selfishness, driving individual engagement in the activity itself to realize their intrinsic needs, rather than for external outcomes or rewards. In the workplace, similar findings have indicated that employees have a greater tendency to engage in OCBs because they are less individualistic and show concern for others (McNeely & Meglino, 1994; Moorman & Blakely, 1995). As noted by Deci & Ryan (1985), to a certain extent, human behaviors are ruled by psychological needs. In the context of OCCs, *prosocial values* refers to an individual's desire that increases the welfare of others. Previous studies in electronic network have found that individuals contribute their knowledge to others because they enjoy helping others (Wasko & Faraj, 2000). In addition, Hars and Ou (2002) have investigated that altruism disposition is an internal factor to drive individual to participate in the Internet-based communities of open-source projects. Furthermore, consumers' concern for other consumers is one of the primary factors leading to their online articulations via consumer-opinion platforms (Hennig-Thurau et al., 2004). This suggests *prosocial values* enables consumers to have the orientation to be obliging for others, in turn, they are inclined to engage in spontaneous behaviors for benefiting the community's operation. Given this, this study expects that prosocial values will be a positive predictor of OCCBs.

Hypothesis 1: Prosocial values is positively related to OCCBs.

Rooted in the notion of social exchange, exchange ideology is an important individual difference that affects reciprocity norms during social exchange processes (Cropanzano & Mitchell, 2005). Individuals with a strong exchange ideology are more carefully to track obligations (Cropanzano & Mitchell, 2005), to perceive unfairness and to feel they are being taken advantage of (Molm et al., 2003). On the contrary, individuals with low exchange orientation are less likely to care if exchanges are not reciprocated (Cropanzano & Mitchell, 2005). In addition, Takeuchi et al. (2011) have demonstrated that compared to individuals with a weak exchange ideology, those with a strong exchange ideology may interpret the same events or behaviors less positively or more negatively, suggesting that the utility of exchanges ideology is viewed as an important individual different variable in the social exchange relationship in determining individual perception, attitude, and behaviors.

On the other hand, a personal history of direct experience, observation, and persuasion by others concerning the value of reciprocity in the mutual (i.e., employee-organization) relationship would result in an employee with strong exchange ideology (Eisenberger et al., 2001). More especially, consumers with exchange orientation may result from their participation in the OCC because they contribute their efforts (e.g., time and knowledge) under the anonymous environment and expect that they should receive what they deserve according to reciprocity norms. Recently, Takeuchi et al. (2011) have confirmed that the strength of the employee's exchange ideology negatively influences the quality of his/her social exchanges with the organization (i.e., felt obligation to the organization), implying that the reciprocal value is more highly discounted for employees with a strong exchange ideology than

those with a weak exchange ideology.

Such negative relationship is reasonable in the online context because a more calculating and selfish individual may be less likely to display OCCBs that are discretionary in nature and there is no guarantee that individuals who use resources provided by others will ever return the favor. In the OCC context, *exchange ideology* refers to the individual's beliefs that participative efforts depend on treatment by other members. Consumers with a strong exchange ideology may be an inhibitor to suppress their OCCBs because they monitor their input and output more closely (Eisenberger et al., 1986), indicating the care for the favorableness of treatment received from the others. Conversely, consumers with a weak exchange ideology are not as sensitive to the social exchange reciprocation, they will exhibit the willingness of beneficial behaviors in involving the OCC activities whether they receive returns or not. Thus, this study expects that exchange ideology will be a negative predictor of OCCBs.

Hypothesis 2: Exchange ideology is negatively related to OCCBs.

2.4 Contextual-level antecedents of OCCBs: MCBs

Further, individual behaviors are guided by both personal factors and situational considerations (Lewin, 1951). Social scientists (Bandura, 1977; Robinson & O'Leary-Kelly, 1998; Wood & Bandura, 1989) have demonstrated that the importance of learning behavior by modeling of others in organizational contexts. Bandura (1986) noted that "virtually all learning phenomena, resulting from direct experience, can occur vicariously by observing other people's behavior and the consequences for them" (p. 19). Moreover, social information processing theory (Salancik & Pfeffer, 1978) can be interpreted that attitudinal views are transmitted with social context and posited the notion that individual behaviors are affected by others in their environment. Accordingly, Bommer et al., (2003) have found that the coworkers' level of OCB was the significant cue of social environment in facilitating the level of an individual OCB in the organizational context. This suggests that an individual is more likely to replicate "normal" behaviors by observing frequent citizenship episodes under their social situation.

Indeed, virtual communities are learning environments because members undertake and participate in various activities which promote various types of learning through negotiation processes (Henri & Pudelko, 2003). The context of an OCC is relevant to social learning because it is an ongoing situation in that consumers are not only contributors who express their ideas and experiences individually but also learners who learn acceptable behaviors (e.g., OCCBs) by taking part in activities held by the community members/administrators and observing beneficial behaviors (e.g., concerning for others, informing the problems to community managers, and tolerating the inconveniences) from members. In other words, individual OCCBs are directly influenced by the online social context because such voluntary behaviors provide social cues that lead to learning and further engender positive consequences. Consequently, the members' behaviors (i.e., MCBs) are very salient components as a contextual factor in an OCC to model individual OCCBs.

In this study, *MCBs* are defined as the perceived tendency that OCCBs are exhibited by members. In the organizational setting, citizenship climate make employees agree that individuals within an organization tend to engage in high levels of OCBs (e.g., Tepper et al., 2004). Similarly, consumers are more likely to exhibit their OCCBs in participating activities of an OCC where MCBs are common, signaling a harmonious climate and encouraging them to be good citizens, as opposed to being rare. Under such positively contextual influence, consumers will have an opportunity for imitating OCCBs exhibited by members (i.e., MCBs) and foster the occurrence of their OCCBs actively. Therefore, this study expects that MCBs will be a positive predictor of OCCBs.

Hypothesis 3: MCBs are positively related to OCCBs.

2.5 Cross-level effects on individual OCCBs

Based on an interactional view of behavior, actual behavior is determined by a continuous and multidirectional interaction between person and situation factors (Endler & Magnusson, 1976). For example, Grizzle et al. (2009) have found that environment (i.e., unit climate) is seen as the reinforcement to strengths the effect of employee customer orientation on employee customer-orientated behaviors in service setting. In line with literatures, the person-situation theory is applicable to investigate CP in an OCC because consumers involve in the continuous dynamic process of interaction. Accordingly, this study proposes that the MCBs play an important moderating role in the OCC context.

MCBs may act as a situational enhancer because the presence of MCBs enhances the mutual exchange process among consumers, allowing them to more easily involve in member-member interactions and actively participate in the activities of an OCC. High level of MCBs provides consumers who have prosocial values with the opportunity to act on their positive posture toward realizing obliging desires, thus resulting in the exhibition of their OCCBs at greater frequency. In other words, as consumers observe members with high tendency to engage in the discretionary behaviors (i.e., MCBs are high), such as protecting others from unfair and satisfying others' needs, individual levels of prosocial values should have a strong effect on OCCBs because the environment sends clear signals to consumers that such beneficial behaviors are encouraged and exhibit a common cognitive representation of a situation that members engage in cooperative behaviors in a spontaneous way. In contrast, when the MCBs are scanty, individual levels of prosocial values maybe have less effect on OCCBs since the environment characterized by apartness constrains the exhibition of such participative behaviors. The interaction between the prosocial values and MCBs creates a synergy and more effectively directs consumer behaviors toward engaging in OCCBs, indicating that the environment reinforces and magnifies the effect of prosocial values on OCCBs. Consequently, this study proposes the following:

Hypothesis 4: MCBs moderate the effect of prosocial values on OCCBs, such that the positive effect is stronger when MCBs are high.

The theory of situational strength (Mischel, 1977) states that the perceptions of situational variables influence the degree to which individual differences impact their behaviors. In the organizational context, when organizational values are strongly held and perceived, individuals behaviors will be dictated to a greater extent by the values of the organization and their personal judgments are given less importance. Conversely, individuals will rely heavily on their own values and judgment to guide their behaviors when organizational values are not weak. This implies that the strong situations dominate individual characteristics by exerting pressure to induce behavioral responses. Such arguments also have received support from previous studies that discuss the personality-behavior relationship (e.g., Barrick & Mount, 1993). Therefore, situational strength theory helps identify situational conditions (i.e., MCBs) for the exchange ideology - OCCBs relationship.

Situations in which consumers strongly perceive the MCBs provide consumers with more information about expected behaviors (i.e., positive, helpful and cooperative behaviors) when participating online activities, thus their reliance on individual differences toward carefully tracking obligations and expect others' equal returns to determine OCCBs is reduced because they attempt to align themselves with situational conditions. Therefore, when the level of MCBs is high, the impact of individual differences is less pronounced, leading to an attenuation of the exchange ideology in effecting OCCBs. However, in weak situations that MCBs are absent, consumers are unsure what behaviors are expected of them in an OCC and tend to rely on their own judgments to direct their actions,

resulting in greater negative impact of exchange ideology on OCCBs. Without such behavioral cues in an OCC, this reliance on the individual self to make behavioral decisions allows that individual differences play a key role in determining the behaviors they exhibit (Mischel, 1977). Accordingly, MCBs will alleviate the negative relationship between exchange ideology and OCCBs. Therefore, this study proposes the following:

Hypothesis 5: MCBs moderate the effect of exchange ideology on OCCBs, such that the negative effect is weaker when MCBs are high.

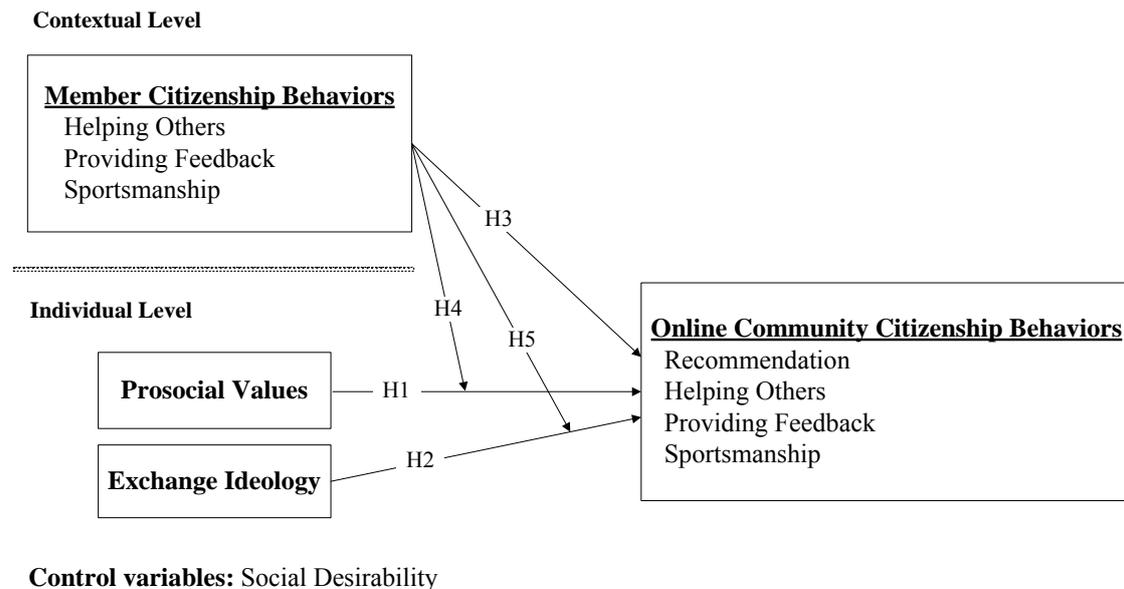


Figure 1. The multilevel model of OCCBs.

3. METHODOLOGY

3.1 Procedures and Samples

The research model was tested with data from members of the leisure-oriented activities about travel and gourmet in Taiwan because such type of OCCs achieves the highest traffic volume and posting rate on the Internet. In order to exclude inactive communities, this study modified the specific criteria that were proposed by Ridings et al. (2002) and finally identified 50 online communities: (1) The community has at least 100 members; (2) The community has been in operation for at least two years; (3) The community must have at least 10 postings per day over a randomly selected one-week period; (4) The community must have at least 15 different individuals posting over a randomly selected one-week period; and (5) At least 50% of postings must have at least one reply over a randomly selected one-week period. A list of 45 qualified communities willing to participate in the study. The hyperlink connecting to the Web survey was posted on the message board of each community at roughly six months and members with sharing experience were cordially invited to support this survey.

The title of the questionnaire explained the purpose of this study and ensured the anonymity and confidentiality. To ensure that there were enough respondents per community to provide reliable estimates of MCBs, this study conducted analyses on each community with 10 respondents and then closed the questionnaire linking. By the time

this survey was concluded, 450 questionnaires were collected. 11 communities from the sample were eliminated because of its low within-group agreement on the survey data. The qualified questionnaires of communities resulted in a total of 340 complete and valid ones from 34 OCCs for data analysis. This study had a final usable sample of 169 male (38%) and 281 female (62%). Most consumers (57%) were between 18 and 25 years old, 60% have college degree and 67% respondents have jointed history over six months. 46% read articles over six times per week and 39% posted the forum more than two times a week.

3.2 Individual-level Measures

All measures of this study were modified to fit the study setting from previous research. Because the study was conducted in Taiwan, using the parallel-translation method (Churchill, 1979), question items were translated by two translators that one person retranslates from English to Chinese and second person retranslates back to English to jointly reconciled all differences and ensure equivalency of meaning. Then, the suitability of the Chinese version of the questionnaires was verified by fifteen experts and senior members who subsequently proposed several refinements to enhance the validity of the items and improve their readability. Additionally, previous research has shown that respondents from Asian countries are more likely to select the mid-point in response scales (Shiomi & Loo, 1999; Si & Cullen, 1998) and the subjects were Taiwanese who may also have valued modesty, this study assessed all of the research constructs using an even number of response points to minimize the effects of this cultural tendency. Confirmatory factor analysis (CFA) was conducted to valid the adequacy of items using AMOS 5.0 (Arbuckle, 2003).

3.2.1 Prosocial values

Prosocial values was measured with eight items adapted from Rioux and Penner (2001). On a 6-point Likert-type scale ranging from 1 (very strongly disagree) to 6 (very strongly agree), consumers indicated the extent to which they have desires to increases the welfare of others. CFA revealed that all items significantly loaded on one factor ($p < 0.001$), with acceptable level of factor loadings (> 0.70) (Fornell & Larcker, 1981). High scores reflected higher trigger to participate the OCC.

3.2.2 Exchange ideology

Exchange ideology was measured with 5-items scale developed by Ladd and Henry (2000). All items were using a 6-point Likert-type scale rating from 1 (very strongly disagree) to 6 (very strongly agree), consumers indicated the extent to which they assess beliefs about participative efforts that depend on treatment by social others. All of the items significantly loaded on one factor. The high scores represent that they are sensitively affected by how others treat them.

3.2.3 OCCBs

Drawing on previous studies (Groth, 2005; Rosenbaum & Massiah, 2007; MacKenzie et al., 1993) and interviews with experienced members, this study generated appropriate dimensions of OCCBs that engaged related activities of OCCs. OCCBs were captured in term of recommendation (5 items), helping others (6 items), providing feedback (3 items), and sportsmanship (3 items) and measured with a 6-point Likert-type scale ranging from 1 (does not engage in this behavior) to 6 (very frequently engages in this behavior). Consumers assessed the extent to which they engaged in voluntary behavior directed toward activities in an OCC. The items assessing sportsmanship were reverse scored. Based on the CFA results, one item had factor loadings less than 0.70 and was removed from recommendation. The remaining items significantly loaded on the respective factors. Finally, scale scores, consisting of 16 items, were created such that high scores reflected more frequency of OCCBs and then were combined into a single global construct as suggested by researchers (Posdakoff & MacKenzie, 1994;

Posdakoff et al., 1997).

3.2.4 Control Variable

Social desirability is the control variable in this study. Given the potential identity implications of admitting to inducing jealousy, five measures of social desirability was included (Hays et al., 1989). The scale used a 6-point Likert-type scale ranging from 1 (does not engage in this behavior) to 6 (very frequently engages in this behavior). After removing three items with low loadings (< 0.70), the CFA result revealed that the remaining items significantly loaded on the assigned factor.

3.3 Contextual-level Measures

3.3.1 MCBs

Using a revised version of OCCBs measures that adapted from well-established instruments (Groth, 2005; Rosenbaum & Massiah, 2007; MacKenzie et al., 1993), this study developed an equivalent measure, which wordings were modified from the role of individual to onlooker, to access that the extent to which social others engaged in voluntary behavior directed toward activities in an OCC. Because recommendation behaviors of social others and two items from the construct of helping others that were “I often feel that I have a special responsibility to assist other members in this online community when they need help” and “I frequently look for opportunities to help other members in this online community” were not easily observed by consumers, MCBs were captured three dimensions in term of helping others (4 items), providing feedback (3 items), and sportsmanship (3 items) within the OCC and used a 6-point Likert-type scale ranging from 1 (does not engage in this behavior) to 6 (very frequently engages in this behavior). After those assessing sportsmanship were reverse scored, the items significantly loaded on the assigned factor respectively. Similar procedures were conducted to create an overall measure, consisting of 11 items, which high scores reflected more frequent MCBs

One-way ANOVA was performed to show that between-group differences were significantly higher than within-group differences ($F=2.38, p < 0.001$). As suggested by James et al., (1984, 1993), the inter-rater reliability of r_{wg} estimate is similar to that of other reliability coefficients, above the acceptable levels of 0.70. The mean r_{wg} value for MCBs was 0.83 and median was 0.84. This study then obtained the intra-class correlation ICC_1 was 0.12, with values of 0.12 as an acceptable level, and reliability of group mean ICC_2 was 0.58. The slightly low ICC_2 value may be difficult to detect emergent relationships because of the 0.60 as an acceptable level (Bliese, 2000). However, it should deal with aggregation if aggregation is justified by clear theoretical foundations and supported by high r_{wg} and significant between-groups variance (Chen & Bliese, 2002). Given this, this study concluded that contextual-level variables for MCBs were justified and aggregated consumer responses on MCBs to the contextual level (i.e., bottom-up process).

3.4 Analytical Approach

The theoretical model in the present study is multilevel in nature, including prosocial values, exchange ideology, and OCCBs at the individual level of analysis as well as MCBs at the contextual level. In addition, the data are hierarchical and nested within different communities. Therefore, using Hierarchical Linear Modeling (HLM; Bryk & Raudenbush, 1992) was the most appropriate analytical method to take into account the multilevel structures because conducting within the single level of analysis at a time prevents one from understanding the relationships involving antecedents at more levels and the consequences at a single level (Kozlowski & Klein, 2000). HLM is especially well suited for testing the type of cross-level interactions hypothesized here (Hypothesis 4 and 5). Building from suggestion by Hofmann and Gavin (1998), this study conducted grand-mean centering among the individual-level predictors. This option for centering provides better estimates and interpretability with the HLM

results, ensures that the effects of micro level are controlled for during testing of the incremental effects from the variables of macro level, and reduces potential multicollinearity between macro level intercept and slope estimates (Kreft et al., 1995; Hofmann & Gavin, 1998; Raudenbush, 1989). Subsequently, the HLM analytical technique has been applied to multilevel nested data in organizational innovation (Gumusluoglu & Ilsev, 2009), technology usage intentions (Cenfetelli & Schwarz, 2011), and open source software adoption (Qu et al., 2011).

3.5 Results

As shown in Table 1, the means, standard deviations, correlations, and internal consistency reliability of the study variables are reported. The matrix revealed the correlations below the suggested cutoff value of 0.8 (Asher, 1983). The squared root estimates of AVE for the constructs are greater than the correlations with all other constructs, indicating the test of discriminant validity was acceptable (Fornell & Larcker, 1981). All constructs exhibited acceptable levels of internal consistency reliability, ranging from 0.77 to 0.93.

Variables	Means	S.D.	1	2	3	4	5
1. Social desirability	3.75	0.67	(0.78)				
2. Prosocial values	4.55	0.82	0.26**	(0.93)			
3. Exchange ideology	4.12	1.02	-0.15**	0.06	(0.87)		
4. MCBs ^a	3.97	0.18	0.29**	0.43**	-0.16**	(0.77)	
5. OCCBs	4.06	0.58	0.39**	0.62**	-0.18**	0.52**	(0.83)

Note. ** $p < .01$

The diagonal of the matrix displays internal consistency reliability.

^a Means of this variable were assigned to consumers of the same community to calculate the individual-level correlations.

At the individual level, Table 2 presents the HLM results testing the multilevel effects on OCCBs. The values of within and between variance, model deviance, and total variance explained for every model also reported. Social desirability of the consumer is controlled for in all the hierarchical models. Hypothesis 1 and 2 propose that prosocial values is positively related to OCCBs, whereas exchange ideology is negatively related to OCCBs. The Model 1 in table 2 shows that prosocial values ($\gamma_{20} = 0.40, p < 0.001$) and exchange ideology ($\gamma_{30} = -0.05, p < 0.05$) have a significant relationship with OCCBs. Hence, the findings support Hypothesis 1 and 2.

At the contextual level, Hypothesis 3 states that MCBs are positively related to OCCBs. The results in Model 2 reveal that MCBs significantly predicted OCCBs ($\gamma_{01} = 0.39, p < 0.001$). Therefore, Hypothesis 3 is supported. As for the cross-level analysis, Hypothesis 4 and 5 predict to the cross-level interaction between individual-level factors and MCBs in predicting OCCBs. In Model 3, the results revealed that Hypothesis 4 regarding the moderating effect of MCBs is not supported ($\gamma_{21} = 0.02, n.s.$). As for Hypothesis 5, the result reveals that MCBs alleviates the negative relationship between exchange ideology and OCCBs ($\gamma_{31} = 0.33, p < 0.05$). This interaction effect was depicted graphically in Figure 2. The results of simple slope analysis confirm that the relationship of exchange ideology and OCCBs was stronger for those low in MCBs, than for those high in MCBs. Thus, these further analyses provide support for Hypothesis 5. Finally, the control variable, social desirability, was positively related to OCCBs in all Models ($p < 0.001$).

Table 2

Hierarchical Linear Modeling Results: Effects of Individual- and Contextual-level Variables on Individual OCCBs

	OCCBs		
	Model 1	Model 2	Model 3
Level 1			
Intercept (γ_{00})	4.06***	2.53***	1.95**
SD (γ_{10})	0.19***	0.19***	0.19***
PV (γ_{20})	0.40***	0.39***	0.29
EI (γ_{30})	- 0.05*	- 0.05 [†]	- 1.37*
Level 2			
MCBs (γ_{01})		0.39**	0.53**
Cross-level			
PV × MCBs (γ_{21})			0.02
EI × MCBs (γ_{31})			0.33*
n (Level 1)	340	340	340
n (Level 2)	34	34	34
Model deviance	397.46	391.57	390.32

Note. SD= Social desirability ; PV= Prosocial values ; EI= Exchange ideology

[†] $p < 0.10$. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

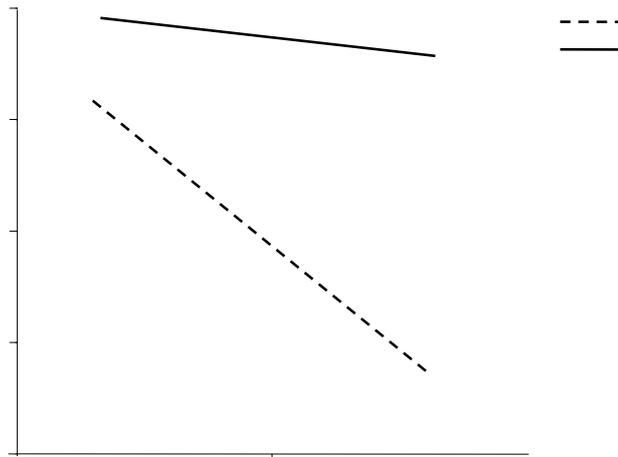


Figure 2. Interaction Plot: Moderating effect of MCBs on the exchange ideology- OCCBs relationship.

4. DISCUSSION

OCCBs are viewed as a kind of CP because these behaviors are vital for the maintenance and growth of an OCC; however, central questions in the *citizenship* behaviors of online community field regarding its antecedents and multifaceted behaviors receive little attention. In order to response theoretical gaps and provide an in-depth investigation to offer new insight, this study extends the extant literature in line with the suggestion of prior

research on OCCs, which argued that successful operation may derive from multiple-level factors (i.e., individual and community-level) (Rothaermel & Sugiyama, 2001). The study drew on a data set collected from a sample of OCCs and theoretically derived scales for individual-level (i.e., prosocial values and exchange ideology) and contextual-level (i.e., MCBs) antecedents of OCCBs. In sum, the findings provide evidence that prosocial values increases, but exchange ideology decrease OCCBs at the individual level. MCBs can persuade consumers to exhibit their OCCBs at the contextual level. Further, greater MCBs significantly alleviates the negative effect of exchange ideology on OCCBs in way that the impact of exchange ideology becomes weaker when MCBs is high than low. Therefore, this study offers several important contributions.

First, building on the concepts of CP (Yen et al., 2011) and OCB (Organ, 1988), this study looks a wide range of various behaviors regarding OCCBs that are appropriately related to marketing and management of OCCs. Second, this study is the first to develop a multilevel theoretical model to describe the antecedents which leads to more active OCCBs and validate hypotheses to advances existing knowledge by considering the multilevel effect, complementing the existing literature that examines the predictors of CP at the individual level (e.g., Dholakia et al., 2004; Chan & Li, 2010). Third, by focusing on the potentially important underlying variables (i.e., *individual differences and MCBs*) that are omissions among extant research, this study also takes a critical step towards understanding the influence of social context on the OCCBs because the theoretical and empirical portrait of how OCCBs is influenced by the online context remains unclear. Finally, the present study joins the multilevel approach to offer more robust results because such method appropriately models the multilevel nature of online communities and estimates more precisely and reliably the relative relevance of the contextual-level factors and the individual-contextual (i.e., cross-level) interaction effects.

At the individual level, this study is the first to systematically examine the role of individual differences that have influences on OCCBs. The finding shows a positive relationship between prosocial values and OCCBs in OCCs. This result implies that consumers can receive intangible values when they help and coordinate with social others in the online context, leading to more active exhibition of OCCBs. On the other hand, the finding that exchange ideology is negatively related to OCCB is consistent with previous research that views exchange ideology as having an inhibitory effect on the quality of social exchanges (Takeuchi et al., 2011). As a result, this result indicates that individuals who do not sensitively affected by how others treat them are more likely to exhibit the OCCBs. Therefore, individual differences play a large role in shaping OCCBs in online communities. At the contextual level, in line with the finding of Bommer et al. (2003), this study confirmed the expectation that MCBs have a significant and positive effect on OCCBs. MCBs are considered the essentially behavioral cues of OCCBs. Because the nature of user-controlled participation in OCCs, MCBs can be drew a guideline to effectively encourage consumers to display vicariously OCCBs for smoothly functioning of OCCs. That is, consumers have the effect of the learned behavior by observing social others performing helpful behaviors, they in turn are more likely to make themselves engage in such behaviors (Bandura, 1986; Robinson & O'Leary-Kelly, 1998; Bommer et al., 2003).

On the cross-level effect, the cross-level interaction hypothesis with regard to the moderating effect of MCBs on the relationship between prosocial values and OCCBs was not supported in these data. According to the suggestion of Rioux and Penner (2001), prosocial values tends to be an enduring disposition that occurs across different situations. In other words, consumers with prosocial values are relatively stable aspect of individual dispositions to devote themselves to performing beneficial behaviors to social others, and not subject to situational variance. Therefore, given the enduring nature of individual characteristic (i.e., prosocial values), it is not surprise to find this result. Finally, this study further provides empirical evidence that MCBs have contextual effects systematically to model the effect of exchange ideology on OCCBs. Proposing and detecting this cross-level interaction effect is another important extension of the OCB regarding online contexts and exchange ideology literatures, because former areas of research have focused on the main effects and the latter research have generally highlighted their

moderating effects. This study advances the understanding that MCBs contribute to alleviate the most negative impact between exchange ideology and OCCBs. The results suggest that more OCCBs may be realized when exchange ideology are attenuated by enforcement of a positive MCBs. That is, MCBs provides a learning effect for consumers with high exchange ideology and enables those to become less sensitive to the social exchange and how much others treat them; hence, the greater the willingness for the consumer to spontaneously display OCCBs.

5.2 Implications for managerial practice

In practice, the findings have three implications. First, the results demonstrate that the powerful role of individual differences (i.e., prosocial values and exchange ideology) on consumers' OCCBs. Consumers' characteristics, however, are beyond recruiting control, managers should pay attention on such importance that individual difference influences their willingness to engage in OCCBs. Managers can design effective self-examination mechanisms (e.g., filling in the aptitude test, ranking personally preferences, and playing the psychological evaluation) to understand consumers predisposition to encourage participation.

Second, higher level of MCBs engenders more positive perceptions in consumers' minds, particularly in the technology-mediated communication. If managers want to induce consumers to display OCCBs, they need to realize that the community's context does matter. By developing of MCBs, managers should improve social relationships, build mutual trust and hold challenging activities to enhance the familiarity among the consumers. Moreover, a powerful way should be taken by observing, diagnosing and designing the community context. Thus, promoting positive climate of MCBs will produce opportunities for social learning and motive the consumers to engage in more citizenship behaviors.

Finally, the interaction effect of exchange ideology and MCBs suggests that fostering the level of MCBs can add incremental utility to subdue the negative impact of exchange ideology. Therefore, managers should make more effort (e.g., reputation mechanism) to model a number of behaviors (i.e., helping others, providing feedback and sportsmanship), this strategy is to constrain the possibility that consumers are inclined to rely on their individual dispositions to direct their actions. Through positive signals of MCBs, consumers' beliefs about participative efforts that depend on treatment by social others will be reduced and in turn they are more willing to perform more citizenship behaviors while participating.

5.1 Limitations and future research directions

While the study provided valuable insight for investigating the OCCBs from multilevel perspective, some potential limitations should be recognized. This may point out future research issues. First, since this study included only leisure-oriented activities of OCCs (i.e., travel and gourmet) and not be relevant for all type of OCCs, it may raise concerns about limited external validity. Citizenship behaviors in the OCCs focusing on consumptive activities might be different from that of online communities, such as gaming communities. Therefore, future research will have to verify whether the findings are generalizable to other type of consumptive products or services. Second, this study found that a good portion of the variance in OCCBs can be explained by the model. However, there may be other possible antecedents of OCCBs at individual and contextual level. Factor such as Big Five personality and community climate would influence such behaviors at different level. Additional research beyond the scope of this paper is needed to identify and investigate the other salient factors that contribute to the consumers' voluntary and discretionary behaviors.

Third, the data presented are cross-sectional, thus the supported relationships in this study can only be viewed as tentative. However, the development of participation behaviors in online communities is an ongoing phenomenon. This study assessed self-report data from consumers at a static point, thus losing time richness of explanation. In order to faithfully capture the complex, dynamic interaction and long-term relationships of participative behaviors, an ideal empirical study would be a longitudinal design to further examine the effect of OCCBs, such as the performance of OCCs. Finally, since OCCBs are influenced by control factor, social desirability, further research is needed to examine its influence on participative behaviors.

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