Examine the importance of relationship commitment and trust in virtual community

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Abstract: Virtual Communities (VCs) have become a forum for people seeking knowledge to resolve problems and communicate with each other. The Internet makes participant relatively easy to switch for one VC to another VC that provides similar content or services. In volatile cyberspaces, VCs without specific domain knowledge may face challenges such as large populations, unstable memberships, and imperfect information and memory, which also affect knowledge flows within members. This study proposes a conceptual model based on commitment-trust theory (CTT) and investigates the continuance intention in VC. It seeks to theorize the antecedents and consequence of relationship commitment in the VCs and identify how CTT can be adapted in a knowledge sharing environment. The members of Programmer Club, a representative professional community in Taiwan, were chosen to participate in the survey, and 488 usable responses were collected in three months. Structural Equation Model (SEM) were used to test the model, the findings show that relationship commitment and trust is the strongest predictor of members’ continuance intention. Implications are proposed in the final section.

Key-Words: Commitment-trust Theory, Relationship Commitment, Virtual communities, Knowledge Sharing, Trust, Share value, Relationship Benefit, Relationship Termination Cost, Communication, Opportunistic Behavior

1 Introduction
Virtual Communities (VCs) have become a forum for people seeking knowledge to resolve problems and communicate with each other. The Internet makes participant relatively easy to switch for one VC to another VC that provides similar content or services. In volatile cyberspaces, VCs without specific domain knowledge may face challenges such as large populations, unstable memberships, and imperfect information and memory, which also affect knowledge flows within members[21]. The most important aspect of virtual communities (VCs) from the members’ perspective is the increase satisfaction, and engage behavioural intention to use VCs[10][11][15][21]. However, satisfaction does not always predict continuous usage [13]. If a number has many available choices, satisfaction will not always keep him or her from switching to other VCs. Recently, much research has investigated the members’ commitment to continuous use is critical to venders [14][17][18][20]. Relationship commitment adopt form Morgan and Hunt (1994) as an enduring desire to maintain a valued relationship. In organizational context, commitment is seen as central because it not only leads to such important outcomes as decreased turnover, higher motivation, and increased organizational citizenship behaviors[17].
In this study, we investigate the role of relationship commitment in members’ behavioral intention to continue use a VC in a voluntary content. It seeks to theorize the antecedents and consequence of relationship commitment in the VCs and identify how commitment-trust theory (CTT) [17] can be adapted in a VC environment.

2 Theoretical Background

2.1 Virtual Community and Relationship Commitment

Relationship development is one of the four needs – information, transaction, fantasy, and relationship – driving the formation of a VC [8] and it occurs when members participate and interact with one another long enough with sufficient human feeling. However, though participation may lead to relationship development, it does not guarantee the formation of relationship, not to mention strong relationship. If bad experience is encountered during participation and interaction with the others, relationship will not be developed [20].

Commitment to a relationship explains an individual’s positive attitude toward a social or exchange knowledge relationship and his motivation to remain in the relationship. This is important because VC is a kind of online social networks in which people with common interests, goals, or practices interact to share information and knowledge, and engage in social interactions [11]. It offers several ways for members to interact, collaborate, and trade. Commitment is the most direct and powerful predictor of persistence in a relationship. Highly committed individuals feel strongly dependent on their partners and the relationship. They have a long-term orientation toward relationships that they expect to develop further in the future [13].

Relationship commitment is an exchange partner believing that an ongoing relationship with another is so important so to warrant maximum effects at maintaining it; that is, the committed party believes the relationship is worth working on to ensure that it endures indefinitely [17].

2.2 Commitment-Trust Theory

This study is grounded in the well-known commitment-trust theory of relationship marketing, originally proposed by Morgan and Hunt (1994). According to the theory, Commitment and trust are central to successful relationship marketing, because they encourage marketers to (1) work at preserving relationship investments by cooperating with exchange partners, (2) resist attractive short-term alternatives in favor of the expected long-term benefits of staying with existing partners, and (3) view potentially high-risk actions as being prudent because of the belief that their partners will not act opportunistically [17].

Morgan and Hunt (1994) developed the key mediating variable (KMV) model of relationship marketing. The K MV model positioned commitment and trust as mediating variables between five antecedents (relationship termination cost, relationship benefits, shared values, communication, and opportunistic behavior) and five outcomes (acquiescence, propensity to leave, co-operation, functional conflict, and decision making uncertainty). (Fig. 1)

According to the K MV model, the more losses that are expected of a relationship termination, the more committed the different parties will be to each other. When exchange partners share the same values, commitment to the relationship will increase. Trust is affected by the communication between the exchanging parts. Communication, the formal and informal sharing of information through frequent two-way dyadic interchanges, also plays an important role in realizing the benefits from a relationship. Opportunistic behavior refers to any violation of promises about a party’s appropriate or required behavior perceived by another party in a relationship. When individuals try to maximize their own outcome (i.e., opportunistic behavior) at the expense of others, trust will decrease.

Trust exits when one party believes that the other is trustworthy and is confident about the other party’s future behavior. Trust has a positive impact on and is a major determinant of relationship commitment [13].

Why individual continues to transfer their expertise to someone they don’t know? One possible
reason is that sharing behavior is the only way to maximize her or his utility and minimize the costs to gain needed knowledge in VCs. Perhaps a sense of commitment could be developed in the during participation and interaction with the others. Table 1 summarizes the different theories adopted in this study to explain participants’ willingness to continue use in a particular virtual community.

Table 1: Relationship Commitment Literature

<table>
<thead>
<tr>
<th>Authors</th>
<th>Context</th>
<th>Method</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jang et al. [12]</td>
<td>Korea Electronic</td>
<td>Survey/SPSS</td>
<td>Commitment → Brand Loyalty; Interaction → Commitment; Reward → Commitment;</td>
</tr>
<tr>
<td></td>
<td>Commerce</td>
<td></td>
<td>The hosting type of a community has moderating effect and that community commitment increases brand loyalty.</td>
</tr>
<tr>
<td>Vatanasombat et al. [20]</td>
<td>USA online Banking</td>
<td>Survey/Amos</td>
<td>Commitment →(-) Customer Retention; Trust →(-) Customer Retention;→ Commitment; Relationship Termination Cost → Commitment; Perceived Empowerment → Commitment; Communication → Trust; Security → Trust</td>
</tr>
<tr>
<td>Mukherlee &amp; Nath [18]</td>
<td>UK online retailing</td>
<td>Survey/LIS-REL</td>
<td>Trust → Commitment; Share Value → Commitment; Communication → Trust; Opportunistic →(-) Trust; Privacy → Trust; Security → Trust; Share Value → Trust; Commitment → Behavioral intention; Trust → Behavioral intention</td>
</tr>
<tr>
<td>Li et al. [13]</td>
<td>USA Electronic Commerce</td>
<td>Survey/PLS-Graph</td>
<td>Commitment → Stickiness intention; Trust → Stickiness intention; Trust → Commitment Quality of alternatives → Commitment; Investment → Commitment; Satisfaction → Commitment; Satisfaction → Trust; Communication → Trust; Opportunistic →(-) Trust</td>
</tr>
</tbody>
</table>

Note: → is positive impact; →(-) is negative impact

3 Model Development and Research Hypotheses

As shown in Fig.2, this study based on commitment-trust theory with modify constructs derived form VCs context. The dependent variable is an individual’s behavioral intention to continuous use the VC. Using behavioral intention in the investigation of commitment has been justified in many prior studies [2][14][18][20].

Prior studies indicate that a decision maker continues a line of actions to reflect an affective bond with the actions, to avoid losing various investments associated with earlier actions, and/or to justify that his or her earlier decision was right[14]. Therefore, the model focuses on intention to continue use VC is posited directly influence by relationship commitment and trust, and the antecedents (relationship termination costs, relationship benefits, shaved values, communication, and opportunistic behavior). This leads the following hypotheses.

H1: Relationship commitment positively affects behavioral intention in a VC.
H2: Trust positively affects behavioral intention in a VC.
H3: Trust positively affects relationship commitment in a VC.
H4: Relationship termination costs positively affects relationship commitment in a VC.
H5: Relationship benefits positively affects relationship commitment in a VC.
H6: Shaved values positively affects relationship commitment in a VC.
H7: Shaved values positively affects trust in a VC.
H8: Communication positively affects trust in a VC.
H9: Opportunistic behavior negatively affects trust in a VC.

![Figue2. Research Model](image-url)
4 Research methodology

4.1 Subjects and data collection
The research model was tested with data from members of one virtual community called Programmer Club. It is a well-known IT-oriented virtual community in Taiwan. Programmer Club was founded in April 2000; it had over 185,000 registered members by the end of Oct. 2008. A banner with a hyperlink connecting to our web survey was posted on homepage of Programmer Club from July 1 to September 30, 2008 and the members with knowledge sharing experience were cordially invited to support this survey. A number of respondents will be randomly selected for offering incentive payments amounting to US$10. This is done for increasing the incentives of participants and the quality of questionnaires. Of the 653 surveys received back, 488 were fully completed and usable for the purpose of this study.

The respondents were a diverse sample: 20% of the respondents were female; 80% were male. Their age ranged from 18 to over 45 years old, with 22% between 18 to 25 years old, with 30.7% between 26 and 30 years old, with 27.5% between 31 to 35 years old, with 10.9% between 36 to 40 years old, and with 9% over 40 years old. Their Programmer Club history ranged from one month to over 4 years, with 30% between one month to one year, and with 24.2% between one year to two years, and with 21.7% between two years to three years, and with 23.6% over three years. More than 98% had a college degree, 43.9% of the respondents reported they are programmers.

4.2 Construct measurement
Measurement items were adapted from the literature wherever possible. Based on Morgan and Hunt[17], minor modifications were made to fit the specific context of VC. New items were developed based on the definition provided by the literature. Specifically, behavioral intention was measured using scales adapted from Bhattacherjee[2]. Relationship commitment was measured using scales adapted from Morgan and Hunt[17], Bateman et al.[1]. Trust was measured using scales adapted from Chiu et al.[4] and Hsu et al.[9]. Relationship termination costs were measured using scales adapted from Burnham et al.[3]. Relationship benefits were measured using scales adapted from Gwinner et al.[7]. Shaved values were measured using scales adapted from Chiu et al.[4]. Communication and Opportunistic behavior were measured using scales adapted from Morgan and Hunt[17]. The attributes were then summarized to create a survey instrument, which asks respondents to identify the extent to which they agree/disagree with respect to their experience with usage on Programmer Club. Each item was rated on a scale of 1 to 5, where 1 equals “strongly disagree” and 5 “strongly agree.”

Pretests were conducted to ensure the instrument is acceptably valid. The instrument was first evaluated for content validity by three IS/KM scholars, and then further tested for reliability, item consistency, ease of understanding, and question sequence appropriateness. Fifty friends who have taken Programmer Club were asked to complete the questionnaire. Comments on question sequence, wording choice, and measures were solicited, leading to minor modifications of the questionnaire. Based on feedback from pilot test, several items were removed from our instrument.

5 Data analysis and results

5.1 Measurement model
The measurement model was evaluated in terms of convergent validity and discriminant validity. Factor loadings λ in the study exceeded 0.7 (see Fig. 3), which represents the measure model is significant due to high convergent validity. Composite reliabilities in the measurement model ranged from 0.87 to 0.92 (see Table 2) and were all above the minimum of 0.7 as suggested by Nunnally (1978). Average variance extracted (AVE) ranged from 0.63 to 0.79. For discriminant validity, diagonal elements should be larger than off-diagonal elements.

![Table 2 Correlations and AVE](image-url)
Comparing all the correlations and the elements on the diagonal, the results demonstrate adequate discriminant validity for all the reflective constructs. Hence, all two conditions for convergent validity were met.

5.2 Structural model and hypotheses testing
This study selected PLS for data analysis because of the use of noninterval scales, the absence of multivariate normality, and the small sample size. The ability to detect and accurately estimate the strength of interaction effects are critical issues that are fundamental to social science research in general and IS research in particular. As shown in Figure 3, all the hypotheses were supported. Relationship commitment is the strongest predictor of numbers’ behavioral intention in a VC, followed by trust as a significant but weaker predictor. Since PLS does not generate an overall goodness of fit index, one primarily assesses validity by examining the $R^2$ of the endogenous constructs and the structural paths. The variance in intention explained ($R^2$) in this study was 59%; in the studies of Bhattacherjee[2], Chiu et al.[5], and Jang et al.[12], they were 41%, 48%, 49%, respectively.

![Figure 3. PLS Model Results](image)

Hypothesis H4-H9 were supported and implied that the antecedents of relationship commitment (relationship termination costs, relationship benefits, shared values, communication, and opportunistic behavior) had significant effects on members’ relationship commitment($R^2=0.54$) and trust ($R^2=0.48$).

5.3 The split sample
The split sample was selected by the degree of commitment and trust (low or high commitment, low or high trust), and each was tested separately. As shown in Table 3, it seems obvious, that degree of commitment and trust had a significant moderating effect on the research hypotheses.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>LC-LT</th>
<th>LCT</th>
<th>HC-LT</th>
<th>HCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>0.37***</td>
<td>0.29n.s.</td>
<td>0.31*</td>
<td>0.62***</td>
</tr>
<tr>
<td>H2</td>
<td>0.34***</td>
<td>0.43n.s.</td>
<td>0.43***</td>
<td>0.11n.s.</td>
</tr>
<tr>
<td>H3</td>
<td>0.27**</td>
<td>-0.41n.s.</td>
<td>0.05n.s.</td>
<td>0.05n.s.</td>
</tr>
<tr>
<td>H4</td>
<td>0.15n.s.</td>
<td>0.14**</td>
<td>0.40*</td>
<td>0.21n.s.</td>
</tr>
<tr>
<td>H5</td>
<td>0.07n.s.</td>
<td>0.51*</td>
<td>0.09n.s.</td>
<td>0.32n.s.</td>
</tr>
<tr>
<td>H6</td>
<td>0.21*</td>
<td>-0.01n.s.</td>
<td>0.08n.s.</td>
<td>-0.22n.s.</td>
</tr>
<tr>
<td>H7</td>
<td>0.30***</td>
<td>0.18n.s.</td>
<td>0.17n.s.</td>
<td>0.27n.s.</td>
</tr>
<tr>
<td>H8</td>
<td>0.23**</td>
<td>0.35n.s.</td>
<td>0.46***</td>
<td>0.08n.s.</td>
</tr>
<tr>
<td>H9</td>
<td>-0.14n.s.</td>
<td>0.42n.s.</td>
<td>-0.18n.s.</td>
<td>-0.45***</td>
</tr>
</tbody>
</table>

$p<0.05, **p<0.01, ***p<0.001$, n.s. = nonsignificant

HC-HT: higher commitment and higher Trust group
HC-LT: higher commitment and lower Trust group
LC-LT: lower commitment and lower Trust group
LC-HT: lower commitment and higher Trust group

6 Conclusion
This study examined the importance of relational commitment and trust in virtual community. We developed different sets of measures for the antecedents and consequences of commitment and trust, i.e. relationship termination costs, relationship benefits, and opportunistic behavior in VC.

Behavioural intentions are positively affected by higher level of relationship commitment, and are positively affected by higher values of trust direct and indirect. Based on our findings (Table 3), in the case of lower commitment and lower trust, the commitment was found to be significantly influenced by the transtional factor (relationship benefits). Thus, in the case of higher commitment and higher trust, the commitment was found to be significantly influenced by the social factor (shared value, trust). Trust was found to be significantly influenced by the communication between members and the opportunistic behavior of other members.

From a practical standpoint, the VC vendors need to pay special attention to social capital in VC, emphasizing social usefulness. Vendors can conduct offline events and product related contests to enhance interaction in the VC. Members come together online and through interaction become committed to the VC. We should treat VC members as our partners, more maintain members connection and create commitment and trust.

An additional interesting avenue of investigation might be to consider whether longitudinal studies provide for stronger inferences.
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References: