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Determinants of Successful Virtual Investment Communities

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24. Determinants of Successful Virtual Investment Communities

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Abstract

Online investing has seen a rapid growth. It has provided individual investors with the ability to control their own investments. Individual investors use virtual investment communities (VICs) to seek, disseminate and share relevant information. VICs are one of the largest subsets of virtual communities. Yet, very little is known about what contributes to the success of VICs. This research undertook a quantitative survey to explore the determinants of successful VICs. Based largely on the work of Lin (2008) which examined the success factors of virtual communities, this study explored the impact of system characteristics (information quality, system quality, service quality) on member satisfaction and social factors (trust, social usefulness) on a sense of belonging. The impact of member satisfaction and sense of belonging on member loyalty were then assessed. Some surprising results emerged which could be largely attributable to the very distinctive nature of VICs which differentiates it from most virtual communities.

Keywords

Online Investing, Virtual Communities; Virtual Investment Communities, Member Loyalty, Member Satisfaction, Sense of Belonging

1. Introduction

Online investing has seen a rapid growth since the rise of the Internet (Lee 2009). Online investing enables individual investors to control their own investments without the intervention of an advisor, thereby providing them with greater convenience, and an opportunity to lower transaction costs (Konana & Balasubramanian 2005). Individual investors use virtual investment communities (VICs) to seek, disseminate and share stock-related information (Guet al. 2006). This type of stock-related information provides them with the ability to make better investment decisions by enabling them to monitor the decision-making of other individual investors (Oh & Sheng 2011). The VIC platforms also provide a number of comprehensive online financial services and tools that allow individual investors to manage their financial interests through an integrated service (Oh & Sheng 2011). Online investing has fundamentally changed the way individual investors participate in stock markets, as well as the way in which financial firms differentiate their product offerings and services (Campbell & Cecez-Kecmanovic 2011; Konana & Balasubramanian 2005).

Despite the rapid increase in the growth of online investing, very little is known about what contributes to the success of VICs. Given the growth of this type of investment and the significant economic potential of such communities, it is important to ascertain how to facilitate their success so that they do not wither as many virtual communities have done (Sangwan, 2005). Lin (2008) conducted a comprehensive study of the determinants of successful virtual communities, focussing on the system and social factors. This study replicated Lin's (2008) study in a VIC context, using a positivist online survey of individual investors to ascertain what the determinants of successful VICs are.

The following sections first provide an insight into the background literature, then present the research model with justification for the development of the hypotheses. The research methodology is next described and the various statistical analyses are presented. The findings are then discussed and conclusions were drawn.

2. Literature Review

The literature review presents an overview of three core concepts of this research: online investing; virtual investment communities; and success factors of virtual communities.

2.1 Online investing

Online investing is “the set of activities undertaken by individual investors in connection with the independent management of their investing accounts with online brokers” (Konana & Balasubramanian 2005). Online investing provides investors with greater convenience, improved ease of access, lower transaction costs, and the ability to individually control their own investments (Campbell & Cecez-Kecmanovic 2011; Konana & Balasubramanian 2005). Independent transactions typically result in lower commission rates as advisors are no longer involved (Konana & Balasubramanian 2005). Internet technology has also enabled numerous online investor services to be made available by various investment sources such as stock exchanges, brokerage firms and investment advisors (Campbell & Cecez-Kecmanovic 2011). All these benefits have led to a rapid growth in online investments (Konana & Balasubramanian 2005)

Online investing has provided some significant challenges (Campbell & Cecez-Kecmanovic 2011; Konana & Balasubramanian 2005). The shift of control in the investment process has not merely shifted responsibility with regard to the actual placement of the trade orders, but also resulted in many alterations to the decision-making processes surrounding the investment (Konana & Balasubramanian 2005). These processes include multiple psychological distortions that can affect the way individual investors evaluate the economic returns they receive from online investing (Konana & Balasubramanian 2005). Individual investors often do not respond effectively by using all the information available to them (Hirshleifer et al. 2008).

2.2 Virtual investment communities

Virtual investment communities (VICs) are a subset of virtual communities and are one of the most widely known and used (Konana & Balasubramanian 2005). A virtual community is “a group of people who discuss their interests using electronic communication” (Shang et al. 2013). They provide value to their members in two main areas: information value and social value (Shang et al. 2013). VICs focus on individual investors and stock-related information (Campbell & Cecez-Kecmanovic 2011; Sangwan 2005). Individual investors use VICs to seek, disseminate and share stock-related information (Campbell & Cecez-Kecmanovic 2011;

Gu et al. 2006). Stock-related information posted on VICs provides individual investors with the ability to make better investment decisions by monitoring the decision making of other individual investors (Campbell & Cecez-Kecmanovic 2011). VIC platforms also provide a number of comprehensive online financial services and tools to allow individual investors to manage their financial interests through a single integrated service (Oh & Sheng 2011).

Individual investors that use VICs do so typically to become successful stock investors (Campbell & Cecez-Kecmanovic 2011). The value of VICs can be explained using economic and psychological perspectives (Park et al. 2010). From an economic perspective, VICs provide individual investors with timely investment information at a much lower search and processing cost (Park et al. 2010). This perspective implies that individual investors seek information rationally, objectively, without any bias and integrate the information into their investment strategy to obtain better investment performance (Park et al. 2010). The psychological perspective, however, indicates that VICs may not necessarily make individual investors more informed because of the psychological biases experienced by individual investors (Park, et al, 2010). For instance, individual investors prone to sensation seeking trade more frequently because of overconfidence (Grinblatt & Keloharju, 2009). Furthermore, messages posted on VICs are believed to be subjective and there can be disagreement as to the truthfulness, importance and reliability of these messages (Gu, et al. 2006). Individual investors can even intentionally provide misinformation or hearsay in an attempt to strategically influence others (Campbell & Cecez-Kecmanovic 2011).

Although research has been conducted on the motivation of individual investors to participate in different types of VICs, how shared information is interpreted, and how financial markets are impacted (Gu et al. 2006), as well as how individual investors establish social interaction and share knowledge within a VIC (Campbell & Cecez-Kecmanovic 2011) there had been no research which has examined the success factors of VICs specifically. However, research had been conducted into the success factors of virtual communities.

2.3 Success factors of virtual communities

Research conducted into the success factors of virtual communities has identified sociability and usability as the key determinants (Preece 2001). Alternatively, technical characteristics such as technical support and online communication techniques were seen as more important for success (Johnson 2001). Combining both these perspectives, Lin (2008) developed a model of determinants of successful virtual communities. She based her model on DeLone and McLean's (1992; 2003) model of IS success. With the transformation of the IS success model to the virtual community, a move in focus from IS use to one of belonging to a virtual community, and a change from net benefits (to the organisation) to member loyalty to the virtual community, was required (Lin 2008). A sense of belonging to a virtual community is one of the key components required for participation in a virtual community and is considered to be one of the measures for virtual community success (Blanchard & Markus 2004; Lin 2008). It is also important for virtual communities to attract and keep members as loyalty plays a key role in the expansion of virtual communities (Lin 2008). DeLone and McLean's (2003) dimensions of information quality, system quality and service quality were retained as system characteristics; while the social factors of trust and social usefulness were introduced. The social factors impacted on a sense of belonging while the system factors affected members' satisfaction, which also affected a sense of belonging. The latter two factors ultimately influenced member loyalty. Lin's (2008) model thus presented a feasible option for conversion to the VIC context.

3. Development of hypotheses and research model

Drawing on Lin's (2008) model as a basis, the following research model (Figure 1) and hypotheses were developed:

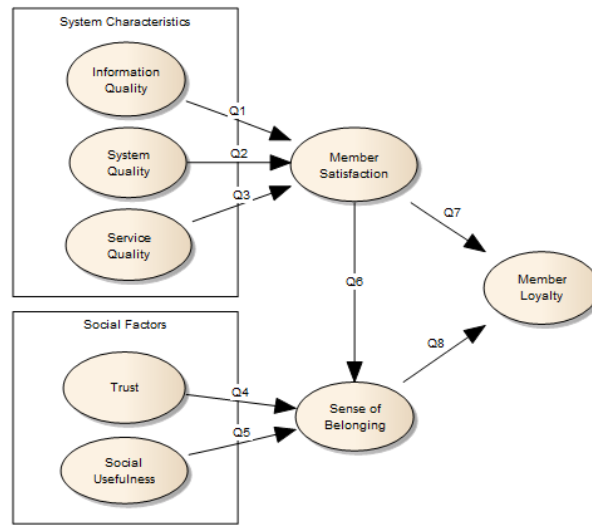


Figure 1: Research Model

Information quality is defined by the characteristics of the output offered by the virtual community, such as accuracy, timeliness and completeness (Petter & McLean 2009) and being up to date and well formatted (Lin 2008). Not only has information quality been identified as one of the three constructs for successful virtual communities (Sangwan 2005) but the value of VICs has been noted as depending largely on the quality of the messages posted on the VIC (Gu et al. 2006). We thus hypothesize that:

H1: Information quality positively affects member satisfaction with the VIC

System quality is reflected in the performance of the technical system in terms of reliability, convenience, functionality, other system metrics (Petter & McLean 2009), and the ready availability of information (Lin 2008). An investor's participation in a VIC depends on the VIC characteristics and value propositions which include community size, the volume of messages and information processing cost (Gu et al. 2006). This leads to the following hypothesis:

H2: System quality positively affects member satisfaction with the VIC

Service quality refers to the effectiveness of the services provided by the virtual community (Lee et al. 2009) and includes the support the members receive (Petter & McLean 2009). Service quality is measured using responsiveness, reliability and empathy of the support staff of the virtual community (Lee, Kim & Gupta 2009; Petter & McLean 2009). VICs provide various integrated services such as financial news, stock charts and free email accounts. Different VICs also provide different levels of integrated services (Gu et al. 2006). Service quality can have a significant effect on member satisfaction (Lee et al. 2009). Thus, we hypothesize that:

H3: The service quality provided by the VIC positively affects member satisfaction with the VIC

Trust in a virtual community is the act of believing that the other members of the virtual community have provided truthful and accurate information to the virtual community (Lin

2008). In this instance, the concept of trust can be broadly divided into trust in the website and trust in the members of the VIC (Lu et al. 2010), but for simplicity, a single level construct of trust was used. VICs do not provide face-to-face contact and, therefore, require the members to trust the information posted is truthful and not misleading (Campbell & Cecez-Kecmanovic 2011). A lack of trust creates a major barrier to establishing a successful virtual community (Lin 2008; Lu, Zhao, & Wang 2010). When members of a virtual community trust one another, they will be more inclined to participate in the community and feel a sense of belonging (Lin 2008). This leads to the following hypothesis:

H4: Trust positively affects sense of belonging to a VIC

Social usefulness of a virtual community is the perceived support that a member receives from other community members (Lin 2008). This support includes respect, recognition and approval (Lin 2008). Social usefulness also involves how a member is perceived by other members of the virtual community and how they form relationships with other members. Their social interactions are important in this socially embedded environment (Campbell & Cecez-Kecmanovic 2011; Konona & Balasubramanian 2005). Members of a virtual community seek the approval of other community members when participating in the community and that the social usefulness has a positive effect on the sense of belonging (Lin 2008). Thus, we hypothesize that:

H5: Social usefulness positively affects a member sense of belonging to a VIC

Member satisfaction includes the approval or likeability of the virtual community and its output (Petter & McLean 2009). The satisfaction of the individual member's expectations is one of the requirements of successful virtual communities (Sangwan 2005). Not only must they be satisfied with the content provided but also their interaction with the virtual community (Lin 2008). Member satisfaction has an effect on the individual net benefits which are represented by member loyalty to the virtual community (Lee, Kim & Gupta 2009). For instance, the size of a VIC can affect the level of message 'noise' posted on the VIC, thereby impacting the information processing cost and thence the member satisfaction of the individual investor (Gu et al. 2006). This leads to the following hypotheses:

H6: Member satisfaction positively affects member sense of belonging to a VIC

H7: Member satisfaction positively affects member loyalty to a VIC

Members of virtual communities form sociable relationships with other members to create a **sense of belonging** (Hampton & Wellman 2001). A sense of belonging has been identified as critical for successful virtual communities as without it they would cease to exist (Lin 2008). The fulfilment of emotive needs through relationship building and interaction is one of the three constructs of successful virtual communities (Sangwan 2005). A sense of belonging is represented by involvement in the virtual community, and member loyalty measures the member involvement in a virtual community (Lin 2008). This leads to the following hypothesis:

H8: Sense of belonging positively affects member loyalty to a VIC

Individual investors can easily become members of virtual communities which have fewer requirements than traditional communities (Lin 2008). However, a constant or growing membership is necessary for the survival of the virtual community. **Member loyalty** creates a stable pool of members which is essential for the community's survival (Lin 2008). Member loyalty reflects the involvement of the individual investor in the virtual community (Lin 2008) and it includes the individual investor's intention to return to the virtual community, participate in the community operations, and communicate with other members (Lin 2008).

4. Methodology

As the research was explanatory and sought to largely replicate an already validated model (Lin 2008) in a VIC context, a deductive approach was adopted (Saunders et al. 2009). A positivist paradigm guided the research and a quantitative research method was employed. An online survey was conducted for data collection.

A combination of non-probability sampling methods was used. The questionnaire was distributed via the online survey tool, SurveyMonkey, to 7689 Fin24.com Dashboard users via promotional invitation emails. Fin24.com is a VIC platform provider and possibly the largest in South Africa. South Africa's stock exchange is the Johannesburg Stock Exchange (JSE). By 2014, the market capitalization was US\$1,007 billion (JSE 2016). The questionnaire was also hosted on Fin24.com's website. Respondents self-selected to complete the anonymous survey. Snowball sampling was also used giving the respondents the opportunity to share the survey with other investors. The survey was available for three weeks. The final sample included 449 respondents, from which 373 was completed successfully.

The survey questions were based on those used by Lin (2008) but they were adopted and supplemented with concepts of VICs that had surfaced in the literature review. The survey questions were categorised according to the research model constructs (information quality, system quality, service quality, trust, social usefulness, member satisfaction, sense of belonging, and member loyalty). All of the constructs were measured using multiple items, and their response options were provided with a five-point Likert-type scale (Saunders et al. 2009).

As the questionnaire was largely replicated and adopted from Lin (2008), this lent support to the validity of the research instrument and thus no pilot study was conducted.

5. Data Analysis

The majority of the respondents were English (61%) or Afrikaans (24%) speaking. English is the primary language of South African businesses. Most respondents (56%) were between 20 and 40 years old (20-31 (28%); and 31-40 (28%)). The majority (27.4%) were from Business and Financial Operations occupations with 16.6% from Management and 14.8% from Computer and Mathematical occupations. This distribution was as expected, given the nature of the content and medium of VIC operations. Although 349 (93.6%) classified themselves as individual investors, only 70.2% of the respondents indicated that they were a member of a VIC. The majority (60.6%) of the respondents used the VIC to fulfil an interest or hobby, 45.3% as a basis to perform transactions, and only 13.4% used VICs for the socializing.

5.1 Measurement model

The measurement model was tested for discriminant and convergent validity (Lin 2008). Factor analysis was conducted and five factors emerged which explained 68.7% of the variance in the data (see Table 1). The Eigenvalues for the factors are also shown in the table.

The five factors are in contrast to the eight identified by Lin (2008). The items for Information Quality and System Quality grouped together as one factor. Also, the items for Social Usefulness and Sense of Belonging grouped together, as did Member Satisfaction and Member Loyalty. Service Quality and Trust showed high factor loadings from their own items.

	Factor - 1	Factor - 2	Factor - 3	Factor - 4	Factor - 5
IQ1	0.154701	0.200920	0.096790	0.674252	0.014386
IQ2	0.205295	0.069085	0.160882	0.795675	0.136664
IQ3	0.168370	0.196697	0.012033	0.747996	0.081331
IQ4	0.232502	0.083603	0.114496	0.756122	0.117085
IQ5	0.204396	0.154439	0.073694	0.750381	0.073356
SQ1	0.017909	0.408183	0.221514	0.579045	0.196747
SQ2	-0.005149	0.379794	0.247585	0.574293	0.160717
SQ3	0.118587	0.346838	0.230524	0.450062	0.275983
SEQ1	0.066759	0.735507	0.170666	0.269418	0.195494
SEQ2	0.112182	0.878985	0.083926	0.203278	0.039508
SEQ3	0.129936	0.895762	0.082492	0.169185	0.037599
SEQ4	0.196702	0.808111	0.021055	0.238849	0.097635
TR1	0.345531	0.154897	0.273613	0.287787	0.609209
TR2	0.268877	-0.007649	0.358595	0.092441	0.656271
TR3	0.345503	0.175792	0.104375	0.164997	0.762395
TR4	0.282064	0.162435	0.205960	0.151106	0.755405
SU1	0.784896	0.127638	0.057870	0.122748	0.204023
SU2	0.825758	0.101607	0.093819	0.118298	0.169932
SU3	0.731655	0.070442	0.233660	0.110618	0.210737
SU4	0.705939	0.068384	0.226392	0.164880	0.209937
SB1	0.706299	0.074284	0.235285	0.318353	0.130124
SB2	0.475874	0.188187	0.490961	0.195019	0.229614
SB3	0.645936	0.110614	0.317176	0.263604	0.116757
SB4	0.566548	0.157154	0.383307	0.169888	0.250419
MS1	0.143862	0.122273	0.726517	0.140714	0.318156
MS2	0.038150	0.088052	0.638662	0.440084	0.282890
MS3	0.093980	0.168931	0.721016	0.367962	0.276192
ML1	0.293438	0.066348	0.750778	0.153275	0.200282
ML2	0.428948	0.049466	0.715743	0.017388	-0.018764
ML3	0.450459	0.085692	0.714198	-0.019884	0.008894
Expl.Var	4.967040	3.575736	4.221173	4.669944	2.792788
Prp.Totl	0.165568	0.119191	0.140706	0.155665	0.093093
Eigen	11.16746	3.21855	1.83788	1.73748	1.27301
% Var.	39.88377	11.49481	6.56386	6.20529	4.54648

Table 1: Factor Loadings

No item double loaded onto two or more factors and thus the discriminant validity was demonstrated. With regard to convergent validity, only two items' loadings failed to exceed the recommended value of 0.5, as suggested by Hair and Anderson (1998), with questions SQ3 and SB2 scoring 0.45 and 0.48 respectively. However, as the scores were close to 0.5 both items were retained for further analysis. Although these findings differed from Lin's (2008) findings, it was decided to keep Lin's (2008) original construct groupings in order to replicate her study as originally intended.

The discriminant validity of the research model was tested with Spearman's correlations of potentially overlapping constructs (Lin 2008). These are presented in Table 2 together with other descriptive statistics. None of the Spearman results had correlations exceeding the criterion of 0.9 as suggested by Hair et al. (1998). This implies that no multicollinearity existed among the various constructs (Lin 2008).

The reliability of the constructs was tested using the Cronbach Alpha scores of the constructs. As this research was explanatory, a minimum threshold of 0.7 was set (Santon 1999). All constructs met this requirement and could thus be regarded as reliable.

Construct	Mean	S.D	Cron. Alpha	1	2	3	4	5	6	7	8
1. Information Quality	3.58	0.70	0.86	1.00	0.62	0.43	0.38	0.30	0.37	0.37	0.22
2. System Quality	3.79	0.63	0.78	0.62	1.00	0.49	0.37	0.24	0.30	0.35	0.22
3. Service Quality	3.63	0.73	0.90	0.43	0.49	1.00	0.33	0.24	0.29	0.28	0.19
4. Trust	3.12	0.91	0.86	0.38	0.37	0.33	1.00	0.54	0.53	0.55	0.50
5. Social Usefulness	2.90	1.12	0.89	0.30	0.24	0.24	0.54	1.00	0.71	0.57	0.60
6. Sense of Belonging	2.83	1.16	0.88	0.37	0.30	0.29	0.53	0.71	1.00	0.68	0.68
7. Member Satisfaction	3.13	1.25	0.89	0.37	0.35	0.28	0.55	0.57	0.68	1.00	0.67
8. Member Loyalty	3.06	1.28	0.88	0.22	0.22	0.19	0.50	0.60	0.68	0.67	1.00

Table 2: Descriptive Statistics, Reliability Coefficients and Spearman’s Correlations

5.2 Multiple Regression Analysis

Multiple regression was used to predict the value of a dependent construct based on other independent constructs (Keller & Warrack 1999). It thus allowed for the examination of the hypothesized paths and also the paths from the antecedent variables directly onto the ultimate dependent variable, Member Loyalty. Thus multiple regression was first executed with all constructs as independent variables and Member Loyalty as the dependent variable. The results appear in Table 3. The overall R^2 of 0.803 indicates that 80% of the variance in Member Loyalty is explained by Information Quality, System Quality, Service Quality, Trust, Social Usefulness, Sense of Belonging and Member Satisfaction. Information Quality, Social Usefulness, Sense of Belonging and Member Satisfaction, have significant correlations of $p < 0.05$, indicating a significant relationship between each of them and Member Loyalty.

Regression Summary for Dependent Variable: Member Loyalty						
R= .89636358 R ² = .80346767 Adjusted R ² = .79969855 F(7,365)=213.17 p<0.0000						
Std.Error of estimate: .57455						
	b*	Std.Err. - of b*	b	Std.Err. - of b	t(365)	p-value
Intercept			0.519262	0.203232	2.55501	0.011023
Information Quality	-0.072647	0.031510	-0.132923	0.057654	-2.30553	0.021697
System Quality	0.012406	0.032337	0.025065	0.065337	0.38363	0.701475
Service Quality	-0.029197	0.027405	-0.051611	0.048443	-1.06539	0.287403
Trust	0.005895	0.030702	0.008269	0.043068	0.19199	0.847855
Social Usefulness	0.187545	0.045000	0.214731	0.051523	4.16764	0.000038
Sense of Belonging	0.282630	0.057387	0.311895	0.063329	4.92502	0.000001
Member Satisfaction	0.491954	0.049481	0.504808	0.050774	9.94220	0.000000

Table 3: Multiple Regression Analysis on Member Loyalty Using All Constructs

Following the research model, the impact of Information Quality, System Quality and Service Quality each as independent variables on Member Satisfaction as the dependent variable was tested.

Regression Summary for Dependent Variable: Member Satisfaction						
R= .28316795 R ² = .08018409 Adjusted R ² = .07270591						
F(3,369)=10.722 p<.00000 Std.Error of estimate: 1.2047						
	b*	Std.Err. - of b*	b	Std.Err. - of b	t(369)	p-value
Intercept			0.982380	0.412276	2.382824	0.017686
Information Quality	0.183672	0.066553	0.327507	0.118671	2.759805	0.006072
System Quality	0.018089	0.069021	0.035618	0.135905	0.262079	0.793407
Service Quality	0.134144	0.058351	0.231085	0.100520	2.298910	0.022068

Table 4: Multiple Regression Analysis on Member Satisfaction as the Dependent Variable

The overall R^2 shown in Table 4 is 0.0801 which indicates that only 8% of the variance in Member Satisfaction was explained by Information Quality, System Quality and Service

Quality. Information Quality and Service Quality had significant correlations of $p < 0.05$ thus indicating a significant relationship between each of them and Member Loyalty. In contrast to Lin's (2008) findings, there was not a significant relationship between System Quality and Member Satisfaction.

Next, the independent variables of Trust and Social Usefulness were tested for their relationships with the dependent variable, Sense of Belonging. The results are shown in Table 5.

Regression Summary for Dependent Variable: Sense of Belonging						
R= .84781875 R ² = .71879664 Adjusted R ² = .71727662						
F(2,370)=472.89 p<0.0000 Std.Error of estimate: .61855						
	b*	Std.Err. - of b*	b	Std.Err. - of b	t(370)	p-value
Intercept			0.021267	0.117836	0.18048	0.856876
Trust	0.125745	0.035069	0.159837	0.044578	3.58560	0.000381
Social Usefulness	0.764314	0.035069	0.792994	0.036385	21.79430	0.000000

Table 5: Multiple Regression Analysis on a Sense of Belonging as the Dependent Variable

The overall R² 0.717 indicates that 72% of the variance in Sense of Belonging was explained by Trust and Social Usefulness both of which demonstrated significant correlations of $p < 0.05$, and thus significant relationships individually with Sense of Belonging. This finding is different to Lin's (2008).

The relationship between Member Satisfaction and Sense of Belonging was tested using Sense of Belonging as the dependent variable and Member Satisfaction as the independent variable. The results are shown in Table 6.

Regression Summary for Dependent Variable: Sense of Belonging						
R= .87747753 R ² = .76996682 Adjusted R ² = .76934678						
F(1,371)=1241.8 p<0.0000 Std.Error of estimate: .55869						
	b*	Std.Err. - of b*	b	Std.Err. - of b	t(371)	p-value
Intercept			0.277056	0.077984	3.55274	0.000430
Member Satisfaction	0.877478	0.024901	0.815921	0.023154	35.23934	0.000000

Table 6: Multiple Regression Analysis on a Sense of Belonging as the Dependent Variable

The overall R² of 0.769 indicates that 77% of the variance in Sense of Belonging was explained by Member Satisfaction. A significant correlation of $p < 0.05$ between the two constructs was evident and thus indicated a significant relationship between them. This corresponds with Lin's (2008) findings.

The final analysis was with Member Loyalty as the dependent variable and Sense of Belonging and Member Satisfaction as the independent variables. The results are shown in Table 7.

Regression Summary for Dependent Variable: Member Loyalty						
R= .88756697 R ² = .78777513 Adjusted R ² = .78662797						
F(2,370)=686.72 p<0.0000 Std.Error of estimate: .59300						
	b*	Std.Err. - of b*	b	Std.Err. - of b	t(370)	p-value
Intercept			0.156963	0.084168	1.86487	0.062990
Sense of Belonging	0.394328	0.049935	0.435159	0.055105	7.89688	0.000000
Member Satisfaction	0.521169	0.049935	0.534787	0.051239	10.43702	0.000000

Table 7: Multiple Regression Analysis on Member Loyalty as the Dependent Variable

The overall R^2 of 0.787 indicates that 79% of the variance in Member Loyalty was explained by Sense of Belonging and Member Satisfaction. Both Member Satisfaction and Sense of Belonging had significant correlations of $p < 0.05$ and this relationships with Member Loyalty. This corresponds with Lin's (2008) findings.

Figure 2 shows the strength and significant of the relationships between the variables.

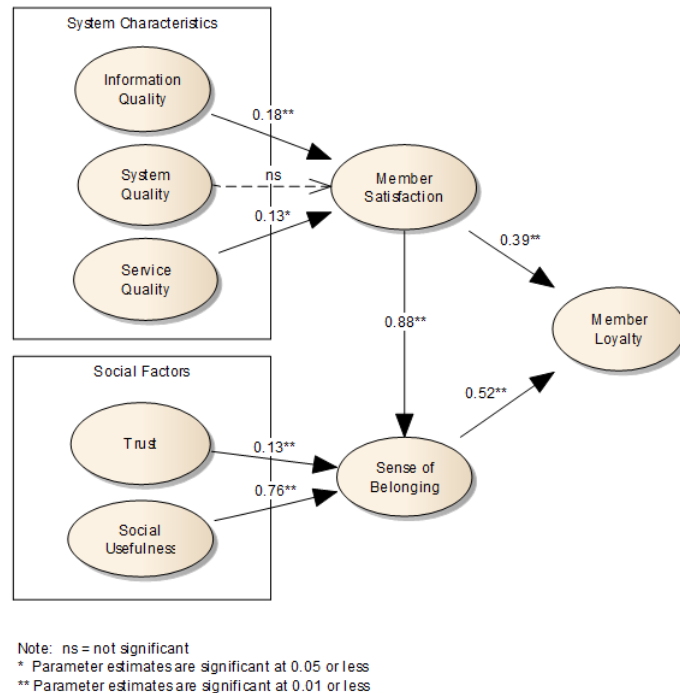


Figure 2: Results of Multiple Regression Analysis

6. Discussion and Conclusion

As this research was based on a valid model for the successful determinants of virtual communities, and as indications from the VIC literature were that it would apply similarly to VICs, there were a number of areas in which significant relationships did not emerge as expected. For instance, the initial factor analysis which resulted in five factors instead of the eight factors that Lin (2008) had identified was surprising, yet the pairing of social usefulness and sense of belonging, and member satisfaction and member loyalty were indicative of the strong relationships which emerged from the regression analysis. The pairing of information quality and system quality was logical but the stronger loadings of the information quality items indicated how system quality later failed to demonstrate relationships with either member satisfaction or member loyalty.

The regression analysis divulged some strong links: between member satisfaction and member loyalty, sense of belonging and member loyalty, and member satisfaction and sense of belonging. Thus the three ultimate determinants of success of virtual communities (Lin 2008), applies to a subset thereof, VICs. However, the initial factors which determine those dependent variables were noticeably different for VICs. Although there were significant links between social usefulness and both sense of belonging and member loyalty; and between

information quality and both member satisfaction and member loyalty; no significant relationships emerged between system quality and either member loyalty or member satisfaction each. Surprisingly, although there was a significant relationship between trust and sense of belonging, there was none between trust and member loyalty; and although there was no relationship between service quality and member loyalty, there was a strong one between service quality and member satisfaction. Furthermore, the low variance in member satisfaction attributable to the system factors was unexpectedly low.

The reason for these unexpected outcomes could be attributed primarily to the very distinctive nature of VICs. Although it could be argued that every sub-category of virtual community has different characteristics, the distinctions of VICs lie in the fact that the main goal (profit from investment) is a very strong driver, that the social aspect is more important in terms of how others can help one achieve that goal than a focus on more typical socializing. Hence, system quality appeared to have no significant relationships with any dependent variable, implying that the system was almost irrelevant to the members but that the information quality they got from the system was the important issue. In the same vein, the service quality was important insofar as it enabled the members to acquire the relevant information and get optimal use of the VIC and thus be satisfied in the achievement of their goals. Also, trust had a strong link to a sense of belonging (to a useful VIC) rather than to more general member loyalty. Social usefulness emerged as a strong determinant of success but, given the other strong relationships and insignificant ones, it seems that the usefulness referred more to helping the members achieve their goals than for the sake of socializing.

These results, although supportive of Lin's (2008) model in general, show distinct differences from her findings. This could be because of the different samples (hers were college students) but is more likely because of the very distinctive nature of VICs. Given the growth of online investing and the economically significant performance of VICs, it behoves VICs to take cognisance of the determinants of successful VICs and what they can do to enhance the effectiveness of their operations, lest they risk their continued survival.

The aim of the research was to determine the determinants of successful VICs. Some clear messages emerged from the findings as to what these determinants are, and where they differ from more general virtual communities. However, as yet this area has been minimally researched and scope exists for research (qualitative and quantitative) into member perceptions of successful determinants over time. Also different types of quantitative analysis could be executed, such as structural equation modelling, and this type of research could be replicated in other countries.

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