

# The Effects of Community Characteristics and Member Retention of Virtual Communities

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## ABSTRACT

*This paper investigates the antecedents of member retention for virtual communities. This research theorizes the motivating mechanism from both perspectives of the information seekers and providers. Four antecedents - communication breadth, depth, responsiveness, and cross-posting - have a statistically significant influence on member retention. Furthermore, we have found that communication breadth and depth have a diminishing effect on the marginal impact on member retention as well as the interaction between these factors has a negative impact on member retention although each of them separately has a positive impact. The implications of this study help understand the dynamics of knowledge sharing in virtual communities.*

*Keywords: Communication, Knowledge Sharing, Member Retention, Usenet, Virtual Community*

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## INTRODUCTION

A virtual community (VC) refers to “groups of people who communicate and interact with each other via electronic media” (Romm, Pliskin, & Clarke, 1997). On an average day approximately 199 million American adults use the Internet (Pew/Internet, 2012). Among them, 181 million or 91% are involved in, at least, one virtual community activity (Pew/Internet, 2012). The type of media utilized by VCs spans a broad spectrum, including social networking services, blogs, e-mail listservs, business Web sites, and instant message groups. As can be inferred from these activities, internet based virtual community activities have become a

part of our daily routine (Fallows, 2004; Preece, Maloney-Krichmar, & Abras, 2003).

Researchers have studied a variety of subjects including the definition and classification of VCs (Lee, Vogel, & Limayem, 2003; Long & Baecker, 1997; Romm, Pliskin, & Clarke, 1997; Schubert & Ginsburg, 2000); the motivation for participation in VCs (Bagozzi & Dholakia, 2002; Dholakia, Bagozzi, & Pearo, 2004; Millen, Fontaine, & Muller, 2002; Preece, 2002; Ridings & Gefen, 2004; Tillquist, 1996; Wang & Fesenmaier, 2003), the communication environment in terms of social presence and the communication medium (Erickson, Halverson, Kellogg, Laff, & Wolf, 2002; Surinder S. Kahai & Avolio, 1998; Surinder S. Kahai & Cooper,

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1999; Miranda & Saunders, 2003; Pinsonneault & Heppel, 1997), and message tone (C. B. Smith, McLaughlin, & Osborne, 1997). Yet, there have been few empirical studies evaluating and measuring the VC success factors from both the participants' and the providers' perspectives (Preece, Maloney-Krichmar, & Abras, 2003), which in our opinion is necessary in order to obtain a balanced view of the phenomena.

There are three keys to creating and sustaining a VC: (1) member development, implying that communities require critical mass to remain active and hold the attentions of members; (2) asset management, referring to tangible or intangible resource bases generated within a VC; and (3) community relations, pointing out the group norm structures and guidelines to avoid unnecessary conflicts among VC members (Williams & Cothrel, 2000). It has been noted that the membership size of a community is essentially the potential energy of knowledge available to a potential participant in a VC, and

a stable and steady core of community members is important to the development of a sustainable community (Butler, 2001). Yet, it is this area that is under-explored, as we know little about what factors encourage people to participate and eventually become a steady member of a VC. This study attempts to address the dearth of theory and supporting empirical analysis and by developing a research model that investigates the antecedents of member retention in virtual communities in the context of USENET.

USENET has become a prominent stereotype of VCs because of size, diversity of community characteristics, and multi-faceted nature of dynamics in social interaction across various VCs. USENET is one of the largest worldwide online social interaction systems consisting of newsgroups of various topics such as computer (*comp.*), recreation (*rec.*), science (*sci.*), social (*soc.*), and controversial (*talk.*). Figure 1 and 2 present an example of various topics and an extended discussion thread of a USENET

Figure 1. An example of a topic list of a USENET group

The screenshot shows a web interface for the USENET group 'comp.lang.java.programmer'. At the top, there are search boxes and a 'Discussions' section with a '+ new post' link. Below this is a 'Description: Programming in the Java language.' and a table of topics. The table has columns for Topic, Rating, Messages, Author, and Date. The topics listed include 'How to make installer??', 'is clone a member function for array types?', 'test', 'A call for 1 million programmers', 'Great SWT Program', 'Tab taking keyboard focus away from applet\_HELP!', 'annotation processing in eclipse', 'Java RTE problem', 'java.lang.NoClassDefFoundError in quartz', 'Communicating with a servlet using NIO?', 'Where to read NIO data to?', 'Newbie wants to self-taught java', 'MAKE MONEY THROUGH NET WITHOUT INVESTMENT', 'UK jobs and Peoplesoft Java Interview Questions', 'Creating a web service out of a class in eclipse', 'hi all', 'How to use a printer never register in server and client sides in java?', 'Calling a method of a base class that is redefined in a extended class', 'Not too clear on the libraries available at run time', and 'What does this snippet do?'. On the right side, there is a 'Discussions' sidebar with 'About this group', 'Subscribe to this group', and 'Group info' sections. The 'Group info' section lists 13792 subscribers, high activity, English language, and categories like 'Computers > Programming'. The 'Related groups' section lists 'comp.lang.java.help', 'comp.lang.java.gui', and 'comp.lang.java.databases'.

Topic	Rating	Messages	Author	Date
<a href="#">How to make installer??</a>		7 new of 7	Ramon F Herrera (4 authors)	1:05pm
<a href="#">is clone a member function for array types?</a>		12 new of 12	Daniel Pitts (6 authors)	12:27pm
<a href="#">test</a>		4 new of 4	Daniel Pitts (4 authors)	12:18pm
<a href="#">A call for 1 million programmers</a>		32 new of 32	Daniel Pitts (16 authors)	12:16pm
<a href="#">Great SWT Program</a>	★★★★☆	2395 new of 2396	Owen Jacobson (44 authors)	11:41am
<a href="#">Tab taking keyboard focus away from applet_HELP!</a>		5 new of 5	kwat...@micahtek.com (2 authors)	11:16am
<a href="#">annotation processing in eclipse</a>		2 new of 2	Hendrik Maryns (2 authors)	11:02am
<a href="#">Java RTE problem</a>		5 new of 5	Howard Brazee (4 authors)	10:36am
<a href="#">java.lang.NoClassDefFoundError in quartz</a>		11 new of 11	Lew (8 authors)	10:35am
<a href="#">Communicating with a servlet using NIO?</a>		12 new of 12	Lew (7 authors)	10:33am
<a href="#">Where to read NIO data to?</a>		4 new of 4	tbit...@gmail.com (4 authors)	10:04am
<a href="#">Newbie wants to self-taught java</a>		13 new of 13	Lew (7 authors)	10:02am
<a href="#">MAKE MONEY THROUGH NET WITHOUT INVESTMENT</a>		1 new of 1	fgh (1 author)	8:12am
<a href="#">UK jobs and Peoplesoft Java Interview Questions</a>		1 new of 1	sandy (1 author)	7:03am
<a href="#">Creating a web service out of a class in eclipse</a>		3 new of 3	jaja (2 authors)	6:37am
<a href="#">hi all</a>		1 new of 1	mamta81 (1 author)	5:25am
<a href="#">How to use a printer never register in server and client sides in java?</a>		1 new of 1	xhy_China (1 author)	4:33am
<a href="#">Calling a method of a base class that is redefined in a extended class</a>		6 new of 6	robbie.desut...@gmail.com (5 authors)	4:11am
<a href="#">Not too clear on the libraries available at run time</a>		21 new of 21	Ramon F Herrera (11 authors)	2:40am
<a href="#">What does this snippet do?</a>		3 new of 3	Ramon F Herrera (2 authors)	1:13am

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