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Switching Propensity in Single-Homing and Multi-Homing Cloud Service Relationships

Sigi Goode
Research School of Accounting and Business Information Systems
The Australian National University
Canberra, Australia
sigi.goode@anu.edu.au

ABSTRACT

Retaining users is a problem for online services. Our study compares the commitment and switching propensities of single-homing users, who only consume services from a single provider, and multi-homing users, who consume similar services from multiple providers at the same time. Using a social capital lens, we test a relationship-commitment model on 109 cloud storage service users. While both types of users show similar levels of service provider commitment, switching propensity is governed by commitment and trust only for multi-homing users. For single-homing users, switching propensity is governed by trust. Trust is motivated more by shared values for multi-homing users, but more by mutual understanding for single-homing users.

Keywords

Cloud, Commitment, Switching, Relationships

INTRODUCTION

Conventional services are typically inseparable (Zeithaml et al. 1985): they are solicited and consumed in the same space. It is difficult for an individual to consume the same service from multiple providers at once in these circumstances. The online service market is different to other service environments, in that there is a separation between the user and the service provider. This means that there is a disconnection and ambiguity between where the service is initiated, where the service is executed, and where the service is ultimately consumed. As a result, users cannot easily know who the provider actually is and must hence search for signs of commonality between themselves and the provider. Service separation hence strains the social fabric that ordinarily provides a foundation for transactions.

The distance between user and provider means that we need to better understand this transaction relationship if we are to understand the processes behind switching between services. In a cross-industry survey, Ofcom (2010) observed the highest rates of switching for service industries. This paper examines the switching behavior of two types of service users. First, single-homing users consume services from one provider only, even though other providers exist. Second, multi-homing users consume similar services from multiple providers at the same time. Conventional wisdom has it that users that are loyal to a single provider demonstrate high commitment to the relationship, and are less likely to switch to a competitor. For multi-homing users, we would expect that provider commitment would be lower than single-homing users. Correspondingly, their propensity to switch would also be higher on the grounds that they can extract similar service outcomes from multiple service providers. Their perceptions of the value qualities of the provider are also likely to be lower than single-homing users, because they are not as invested in the relationship: they do not care about this provider, because another provider is likely to be just as suitable.

Social capital is a useful lens for understanding circumstances where social bonds are strained (for example, when actors cannot easily monitor each other). Applying a social capital lens to the service switching problem illustrates that the self-imposed constraint exhibited by single-homing users produces a supernormal reliance on trust in the relationship. Our findings also show that both user types show similar commitment and propensity to switch. Our study contributes to knowledge in two ways. First, there has been very little prior work into the concurrent consumption of multiple similar services. Prior research has explored the bundling of complementary services (Batt 2002) and service delivery from multiple providers (Berry 1995) but not the same service from multiple providers at the same time. Second, more practically, the study contributes insight into the behavior of users in the cloud storage context, a lucrative but challenging service area. Spending on cloud and other "as a service" offerings is forecast to grow to $258 billion by 2020 (Forrester Research 2011a): this popularity signals that we need to understand the commercial opportunities offered by cloud services (Brynjolfsson et al. 2010). There has been little prior research into how users signal propensity to switch between these cloud services. Our study addresses this gap.

This paper proceeds as follows. The next section discusses single- and multi-homing user relationships. The paper then presents its theoretical model and research hypotheses, based on a social capital perspective. The paper then discusses the research method, data gathering, and analysis. Finally, conclusions are offered.

HOMING IN USER RELATIONSHIPS

Relationships in many commercial encounters are dyadic (such as an employee/employer or a retailer/supplier). The concept of homing, in the market sense, relates to a user building a 'home' on a particular market offering (Eisenmann et al. 2006). Homing applies especially in two-sided markets (Rochet and Tirole 2003), comprising two groups of market actors, each with differing abilities and roles (for example, a service provider and service users) (Rochet and Tirole 2003). Two main types of homing are single-homing and multi-homing. Single-homing occurs when a user dedicates their use to one provider, even though other service providers are within reach (Armstrong 2006; Choi 2010). Multi-homing occurs when a user uses two or more providers for the same purpose (Armstrong 2006). From a user's perspective, multi-homing occurs when there are low barriers to provider compatibility (Doganoglu and Wright 2006) or switching costs (Docters et al. 2010).

There has been little prior research into the relationship commitment effects of these different types of users. Prior macro-level research implicitly holds that, in aggregate, multi-homing users ought to exhibit lower relationship commitment because they use multiple providers for the same purpose (Hagiu 2006). Multi-homing users move between suppliers at will and hence must exhibit lower commitment. Coincidentally, trust itself has also not been explored in the homing context, though it might be reasonable to assume that trust behaviors can be lower for multi-homing users because they are not forced to consider the possibility of transaction downsides. Should they believe that a partner might be risky, multi-homing service users could switch to another provider. This argument would be consistent with prior research on trust in multiple providers (Schaupp and Carter 2010). Reduced trust may also act as a loss-avoidance prophylaxis for multiple service users (Molm 2003).

THE SOCIAL CAPITAL FRAMEWORK

Our focus in this study is on the behaviour of individual social actors with respect to separated service offerings. These individual users may choose a range of services to meet their needs, or they may patronise just one service provider. A fundamental concept affecting both multiple provider and single provider patronage is that there is a disconnection between the user and the provider. Regardless of whether the user uses one provider or many, the user must still rely on the service provider to faithfully and effectively deliver the service (even when the user cannot easily verify that this is the case).

Social capital provides a useful framework for understanding this reliance. Social capital reflects a cooperation between individual actors (Durlauf 2002) based on social understanding and agreement. Social interaction produces a general relationship fabric that can be used for undertaking future social transactions (Adler and Kwon 2002; Bandura 1986). This fabric describes social capital, an agreed social structure which facilitates the interaction within and between structures, based on a shared approach to interaction (Coleman 1988).

We adopt Cohen and Prusak's (2001 p. 4) definition of social capital, which is "the stock of active connections among people: the trust, mutual understanding, and shared values and behaviors that bind the members of human networks and communities and make cooperative action possible". The three principal components to this definition are shared values, mutual understanding, and trust. Shared values correspond to feelings of norms and common aspirations (Fukuyama 1995). It reflects a belief between parties that they exhibit compatible and corresponding standards of behaviour (Paldam and Svendsen 2000). Evidence of shared values provides stakeholders with an understanding of the equivalence (or otherwise) of their attitudes towards exchange relationships. Mutual understanding describes a perception that each party comprehends and appreciates the other party's needs. With a mutual understanding between relationship partners, it is easier for them to agree on plans of action because they each feel that their needs and expectations are understood (Paldam and Svendsen 2000). These expectations build a 'mutual knowledge' about the social interaction (Cramton 2001), reinforcing supportive social exchange (Chen and Hung 2010). Trust reflects a perception of reliable benevolence and a perception that another party will not damage the relationship (Mayer et al. 1995). Trust hence confers a sense of dependence among partners, allowing both parties to form a more solid foundation on which to transact.

Social capital forms the basis of our theoretical framework, shown in Figure 1. In summary, we argue that shared values and mutual understanding between the user and the provider drive trust in the relationship. Following from commitment-trust theory, trust and commitment both affect the user's propensity to switch service providers. Each of these constructs and their relationships are explained below.
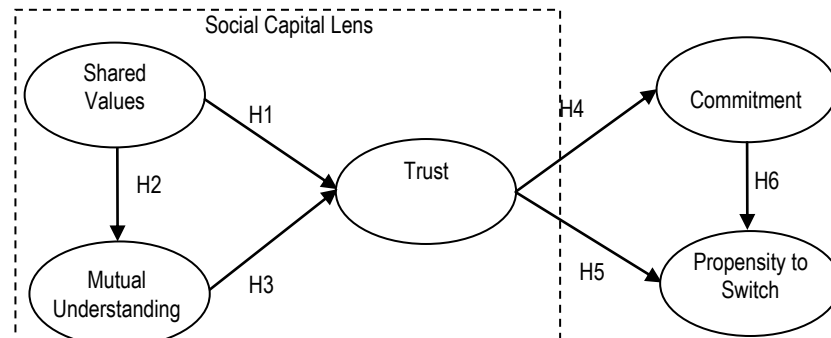
Figure 1 Research Model

Shared Values and Trust

Following from social capital theory, we argue that shared values are positively related to trust. The social capital perspective on trust behavior is that a sense of shared values and standards between parties make transactions possible (Paldam and Svendsen 2000). When transaction parties perceive that they have like-minded standards, customs and approaches to behavior, they then believe that the other party is more likely to treat them and the relationship appropriately (Fukuyama 1995; Putnam 1993). This perception of benevolence builds a sense of trust between the parties (Fukuyama 1997). We propose two hypotheses about this relationship. First, we propose a positive relationship between shared values and trust for both single-homed and multi-homed users. Shared values is an important precursor to trust (Fukuyama 1997), and therefore both types of users will perceive at least some compatibility in their service provider choices. This leads to our first main hypothesis:

H1a Shared values are positively related to trust

We propose that single-homing users will feel higher perceptions of shared values than multi-homing users. When service use is optional, single-homed users can evaluate alternative providers and then select a compatible option before committing. However, multi-homed users do not need to pre-emptively assess the shared values of each service provider. As a result, the relation between shared values and trust propensity is reduced. We hence argue that users who can assess alternative providers will choose one that matches their values, leading to trust. In contrast, users who can choose from a range of providers do not need to restrict themselves and hence the association between perceived shared values and trust will be lower. This leads to our next sub-hypothesis:

H1b The relationship between shared values and trust is greater for single-homing than multi-homing users

Shared Values and Mutual Understanding

Social capital theory tells us that a perception of mutual understanding underpins the social fabric for exchange relationships (Nahapiet and Ghoshal 1998). Mutual understanding represents a sense of agreement between two parties (Chang and Chuang 2011). Shared values allows mutual understanding to develop. The shared nature of these behavioral standards allows both parties to see that they have common interests. They can hence develop a sense of mutual understanding between each other. We propose two hypotheses for this relationship. First, we argue that both single-homing and multi-homing users will see a positive relationship between shared values and mutual understanding. Both types of relationships are likely to depend on a shared understanding of the user's requirements in the service relationship. This leads to our second main hypothesis:

H2a Shared values is positively related to mutual understanding

We then argue that the perception of shared values will be lower for multi-homing users than for single-homing users. If multi-homing users can move between providers as necessary, then they do not need to rely as deeply on shared values in the transaction. As a result, they care less about a mutual understanding between them and the provider. This leads to the next sub-hypothesis:

H2b The relationship between shared values and mutual understanding is greater for single-homing than multi-homing users

Mutual Understanding and Trust

Mutual understanding lets parties see that their relationship preferences are recognized in the transaction (Paldam and Svendsen 2000). Mutual understanding builds a sense of constancy and acceptance between parties,

thereby strengthening trust (Cohen and Prusak 2001). Therefore, mutual understanding contributes to trust by allowing both parties to develop a reliable mutuality with regard to the relationship. We propose two hypotheses for this relationship. First, mutual understanding is positively related to trust for both single-homing and multi-homing users. The social capital lens holds that mutual understanding and trust support social exchange. If the user's relationship with the provider is a type of exchange, then mutual understanding will positively affect trust for both groups of users. This leads to our third main hypothesis:

H3a Mutual understanding is positively related to trust

Second, we argue that a single-homing user have stronger perceptions of mutual understanding than a multi-homing user. Similar to shared values, a single-homing user ought to be able to evaluate alternative service providers before investing in a given relationship. These users can therefore choose a provider that they believe is likely to understand their needs and requirements. This perception of mutual understanding builds trust for these users. However, multi-homing users are less likely to depend on mutual understanding because they may not need to observe the same level of mutually understood signals. Therefore, a multi-homing user is less likely to exhibit a strong relationship between mutual understanding and trust. This leads to the next sub-hypothesis:

H3b The relationship between shared values and trust is greater for single-homing than multi-homing users

Trust and Commitment

Building on the core of relationship marketing theory, trust contributes to relationship commitment (Morgan and Hunt 1994). Trust develops a sense of dependability and reliability in the partner. Therefore, the parties can rely on each other into the future (Garbarino and Johnson 1999). This reliance leads to a commitment to preserving the relationship. We propose two hypotheses for this relationship. First, trust is positively associated with commitment in both groups of users. Both single-homing and multi-homing users are likely to want to trust their service providers so that they can rely on the provider's services: this reliance allows the users to begin using the provider's services. Both user types are likely to want to continue to benefit from this trust. This leads to our fourth main hypothesis:

H4a Trust is positively related to commitment

The relationship between trust and commitment will be greater for single-homing users than for multi-homing users. Single-homing users have made a significance investment in their provider: having used this particular provider's services to fulfill their needs. Hence, they are likely to be unwilling to lose their investment by switching to another provider. Similarly, multi-homing users are less likely to value trust and commitment as highly. Because these users can move between providers in order to meet their service requirements, they do not have to exhibit such strong commitment to any one provider. Their trust in the provider will hence have a lesser effect on commitment compared to multi-homing users. This leads to our next sub-hypothesis:

H4b The relationship between trust and commitment is greater for single-homing than multi-homing users

Commitment and Propensity to Switch

Propensity to switch reflects a user's desire to patronize another provider's services. When a user displays a high switching propensity, they exhibit an increased probability of moving their consumption to another provider (Mittal and Lassar 1998; Patterson and Smith 2003). Highly committed users are likely to have a lower propensity to switch (Wong and Sohal 2003). When a user is committed to a relationship, they want to remain in that relationship and hence show less compulsion to seek out another provider in the first place. We offer two hypotheses for this relationship. First, commitment is negatively related to switching propensity for both user groups. A user with greater commitment will be less likely to want to switch. Single-homing users are committed to one provider and, as a result, are less likely to be interested in switching away from that provider. A multi-homing user who exhibits feelings of commitment is also less likely to switch. Therefore, we expect a negative relationship for both user groups. This leads to our fifth main hypothesis:

H5a Commitment is negatively related to propensity to switch

The second hypothesis is that the relationship between commitment and propensity to switch is stronger for single-homing users than multi-homing users. In other words, multi-homing users that are able to move between service providers are likely to be receptive to other providers even while using the current one. However, single-homing users, who are facing self-imposed constraints, are less likely to be searching for other service satisfiers. Hence, the relation between commitment and propensity to switch will be lower for multi-homing users than for single-homing users. This leads to our next sub-hypothesis:

H5b The relationship between commitment and propensity to switch is greater for single-homing than multi-homing users

Trust and Propensity to Switch

Trust is inversely related to a propensity to leave. When an individual trusts another party, they exhibit feelings and beliefs of dependence and reliance. They bond with the other party in order to fulfill this ongoing reliability (Patterson and Smith 2003). When an individual experiences trust, they are less inclined to want to switch away from the relationship, for two reasons. First, they do not wish to risk the trust feelings already given and received in the relationship. Second, they believe that alternative parties are not yet as trusted or as trustworthy as the incumbent provider (Lazzarini et al. 2008). We offer two hypotheses for this relationship. First, trust is negatively related to propensity to leave for both user groups. If both groups exhibit trust, they will both show less tendency to switch and thereby jeopardize their trust position (Colwell and Hogarth-Scott 2004). Therefore our sixth main hypothesis is:

H6a Trust is negatively related to propensity to switch

Second, we argue that single-homing users are more likely to feel invested in the relationship than multi-homing users. Single-homing users seek their fulfillment from one provider, who holds a valued position as a trusted sole partner. By contrast, a multi-homing user will show a weaker relationship between trust and propensity to leave because they are less dependent on the relationship. Their trust feelings will allow them to use the services of a range of providers and hence their propensity to switch away from the current provider is higher. Therefore our final sub-hypothesis is:

H6b The relationship between trust and propensity to switch is lower for single-homing than multi-homing users

RESEARCH METHOD AND SETTING

Improved networking bandwidth, cheaper network access and larger data storage capacity have led to a rise in popularity of online cloud storage services, which allow users to store files and data archives for later access and retrieval. Cloud storage mechanisms are hence attractive to users because they provide convenient access to files and data without being restricted to a single networked device: users may access files regardless of their network location. Many such sites also allow users to access their file hosting services through mobile and portable device applications. However the market is also highly competitive and users may switch between services and providers. Misunderstanding the user service relationship can be costly, especially for online firms, because approximately 76% of users who have had a bad experience with an online firm signal that they will not patronize that firm again (Forrester Research 2011b). The cloud storage service model is a useful context in which to examine user homing and commitment, because users can consume services from one provider, or multiple providers, without exclusion.

We chose a questionnaire survey as the most appropriate data collection method because it allowed us to gather a range of variables across respondents at once. This approach was useful because alternative data gathering techniques would require closer access to respondents. Where possible, we adapted validated survey items from prior research (Nunnally and Bernstein 1967). To measure trust and relationship commitment, we adapted items from marketing and service relationship commitment-trust studies of Ulaga and Eggert (2004) and Morgan and Hunt (1994). We adapted questions about mutual understanding from literature on sharing friendships and social interaction in service encounters (Price and Arnould 1999). Within the survey, we presented respondents with a list of 18 popular cloud storage services. We also gave respondents the opportunity to nominate service providers we had not included. Following pre-testing, the survey instrument was operationalized through a market analysis firm tasked with distributing surveys. Potential respondents had to first answer a multiple choice question about which online services, if any, they had regularly used in the past month: those who signaled that they had used a cloud storage service could proceed to the full survey.

ANALYSIS

We received 298 responses. We discarded three incomplete responses, leaving 295. We then artificially constructed two subsample groups from the respondent group. First, users who only used one storage provider comprised the single-homing group (n=54). We collected all respondents who used seven and eight providers at once (n=55) to comprise the multi-homing group. With regard to respondent demographics, gender was weighted more towards males, with 84 male and 25 female respondents. Approximately half of the respondent group had used cloud storage services for more than two years, indicating that respondents would have a reasonable level of experience with these storage services. More than half of the respondents were aged between 20 and 30 years, but the survey garnered a reasonable number of responses from older users also.

Common method bias was assessed using procedures advocated by Podsakoff et al. (2003). Prior to data gathering, we attempted to control for common method bias by randomly ordering instrument items. After data collection, we used Harman's (1976) single factor test in a principal CFA of all items in the study. The test

revealed nine components with Eigenvalues greater than one. Variances ranged from 1.9% to 37%. This evidence suggests a low likelihood of common method bias.

We used Partial Least Squares (PLS) techniques for model analysis and specification. PLS is robust to sample size and distribution non-normality (Cassel et al. 1999). All constructs were modeled reflectively. Convergent validity, the degree of inter-item correlation (Campbell and Fiske 1959), was assessed using item loadings for each construct. Table 1 shows the results for each outer path in the research model, and the t-statistics for each item. All loadings were significant at the .001 level, suggesting acceptable convergent validity.

Table 1 Research Constructs and Survey Items

Construct	Item Label	Item	Single-homing		Multi-homing		Literature Source
			Val.	t-statistic	Val.	t-statistic	
Propensity to Switch	PROPSW1	I may cease my relationship with this cloud service within the next six months.	0.87	31.04***	0.76	8.38***	(Morgan and Hunt 1994; Ulaga and Eggert 2004)
	PROPSW2*	I won't leave this cloud service within the next year.	0.94	77.53***	0.80	15.93***	
	PROPSW3	I may cease my relationship with this cloud service within the next two years.	0.86	25.35***	0.75	8.71***	
	PROPSW4	I am likely to leave this relationship with this cloud storage service in the next	0.88	31.50***	0.85	24.37***	
Commitment	RELCOMMIT1*	I am not very committed to the relationship with the cloud service. *	0.89	38.69***	0.90	49.12***	(Morgan and Hunt 1994; Ulaga and Eggert 2004)
	RELCOMMIT2	The relationship with the cloud service is very important to my activities.	0.93	79.56***	0.88	35.66***	
	RELCOMMIT4	My relationship with the cloud service is something I really care about.	0.75	12.50***	0.80	13.28***	
Trust	SUPPTRUS1*	This cloud service is not trustworthy. *	0.90	62.35***	0.86	27.03***	(Morgan and Hunt 1994; Ulaga and Eggert 2004)
	SUPPTRUS2	This cloud service is sincere at all times.	0.80	22.09***	0.86	25.53***	
	SUPPTRUS3	In our relationship, this cloud service is a firm that I have great confidence in.	0.87	32.09***	0.87	34.30***	
Shared values	SHARVAL1	In general, the cloud service's opinions and values are a lot like mine.	0.85	21.57***	0.82	13.80***	(Morgan and Hunt 1994; Ulaga and Eggert 2004)
	SHARVAL2	I like and respect the cloud service's values.	0.88	45.06***	0.90	47.47***	
	SHARVAL3	The cloud service and I share a very similar set of values.	0.93	72.73***	0.88	30.76***	
	SHARVAL4*	I don't share the same values as this cloud storage service. *	0.83	18.77***	0.87	32.18***	
Mutual Understanding	MUTUAL1	I feel that this cloud service understands my needs.	0.92	46.49***	0.84	25.07***	(Price and Arnould 1999; Price et al. 1995)
	MUTUAL2	In general, there is mutual understanding between me and this cloud service.	0.84	22.07***	0.92	77.75***	
	MUTUAL3	There is a mutual understanding between this cloud service and I.	0.81	19.23***	0.76	8.32***	
	MUTUAL4	I think both this cloud service and I know what I want in this relationship.	0.86	37.28***	0.87	33.15***	
* Reverse coded item							

To assess discriminant validity, we inspected the item loadings to construct correlations and the square root of the Average Variance Extracted (AVE). These are shown in Table 2, segregated by analysis group. Table 3 shows the square root AVE values (in bold along the centre line for each respondent group), which were higher for each item than the correlations for other constructs (Fornell and Larcker 1981). Almost all items load the greatest onto their respective constructs, shown in bold. Some item loadings did not load as strongly for single items within groups, but we elected to retain them in the analysis because of their strong effects in the other group. Overall, the results show acceptable discriminant validity. Table 3 also shows that composite reliability exceeded the threshold of 0.7 (Hair et al. 2006). AVE values were above the threshold of 0.5 (Anderson and Gerbing 1988), revealing acceptable construct reliability. Table 4 shows the results of the path variance testing. Figure 2 shows the path coefficients for the final model.

Table 2 Item and Construct Cross Loadings

	Shared Values		Mutual Understanding		Trust		Commitment		Propensity to Leave	
	S	M	S	M	S	M	S	M	S	M
SHARVAL1	**0.85**	**0.82**	0.66	0.59	0.56	0.61	0.51	0.62	-0.33	-0.44
SHARVAL2	**0.88**	**0.90**	0.68	0.69	0.73	0.72	0.69	0.73	-0.46	-0.54
SHARVAL3	**0.93**	**0.88**	0.70	0.66	0.71	0.70	0.65	0.66	-0.33	-0.34
SHARVAL4	**0.83**	**0.87**	0.63	0.65	0.65	0.71	0.57	0.70	-0.44	-0.47
MUTUAL1	0.69	0.70	**0.92**	**0.84**	0.70	0.64	0.64	0.59	-0.49	-0.21
MUTUAL2	0.70	0.75	**0.84**	**0.92**	0.62	0.66	0.55	0.66	-0.37	-0.18
MUTUAL3	0.69	0.59	**0.81**	**0.76**	0.57	0.47	0.66	0.54	-0.38	-0.22
MUTUAL4	0.74	0.72	**0.86**	**0.87**	0.73	0.60	0.60	0.59	-0.47	-0.28
SUPPTRUS1	0.65	0.71	0.71	0.60	**0.90**	**0.86**	0.65	0.66	-0.54	-0.56
SUPPTRUS2	0.72	0.70	0.65	0.58	**0.80**	**0.86**	0.60	0.72	-0.49	-0.49
SUPPTRUS3	0.61	0.77	0.65	0.62	**0.87**	**0.87**	0.52	0.72	-0.70	-0.57
RELCOMMIT1	0.60	0.76	0.65	0.62	0.65	0.73	**0.89**	**0.90**	-0.49	-0.60
RELCOMMIT2	0.59	0.75	0.64	0.66	0.59	0.71	**0.93**	**0.88**	-0.45	-0.53
RELCOMMIT4	0.64	0.59	0.57	0.53	0.52	0.69	**0.75**	**0.80**	-0.23	-0.51
PROPSW1	-0.33	-0.33	-0.46	-0.17	-0.58	-0.36	-0.33	-0.43	**0.87**	**0.76**

PROPSW2	-0.43	-0.46	-0.54	-0.28	-0.67	-0.56	-0.51	-0.54	**0.94**	**0.80**
PROPSW3	-0.49	-0.31	-0.55	-0.13	-0.59	-0.41	-0.48	-0.41	**0.86**	**0.75**
PROPSW4	-0.34	-0.49	-0.37	-0.29	-0.52	-0.60	-0.31	-0.60	**0.88**	**0.85**

Table 3 Latent Variable Correlations, Square Root AVE, Composite Reliability, AVE and R^2 Values

		Commitment	Mutual Understanding	Propensity to Leave	Shared Values	Trust		AVE	Composite Reliability	Cronbach Alpha	R^2
Single	Commitment	**0.86**						0.74	0.89	0.82	0.47
	Mutual Understanding	0.72	**0.86**					0.73	0.93	0.91	0.66
	Propensity to Leave	-0.47	-0.55	**0.89**				0.79	0.94	0.91	0.45
	Shared Values	0.70	0.82	-0.45	**0.87**			0.76	0.93	0.90	
	Trust	0.69	0.82	-0.67	0.79	**0.86**		0.74	0.89	0.82	0.69
Multi	Commitment	**0.86**						0.74	0.90	0.82	0.69
	Mutual Understanding	0.71	**0.82**					0.68	0.91	0.88	0.65
	Propensity to Leave	-0.64	-0.29	**0.79**				0.63	0.87	0.81	0.44
	Shared Values	0.82	0.81	-0.51	**0.87**			0.75	0.92	0.89	
	Trust	0.83	0.70	-0.63	0.84	**0.86**		0.74	0.90	0.83	0.68

Table 4 Structural Coefficients and Main Hypothesis Results

| Hypothesis	Single-Homing		Multi-Homing		Variance Coefficient
	Coefficient	*t*	Coefficient	*t*	
H1a Shared Values -> Trust	0.35	3.68***	0.74	7.11***	0.99**
H2a Shared Values -> Mutual Understanding	0.73	20.39***	0.74	21.61***	0.44
H3a Mutual Understanding -> Trust	0.54	5.82***	0.04	0.33	0.00**
H4a Trust -> Commitment	0.68	15.78***	0.73	29.30***	0.99**
H5a Trust -> Propensity to Leave	-0.66	7.39***	-0.33	2.28**	0.97*
H6a Commitment -> Propensity to Leave	-0.02	0.17	-0.36	2.51***	0.03*
***: p < 0.001; **: p < 0.01; *: p < 0.05					
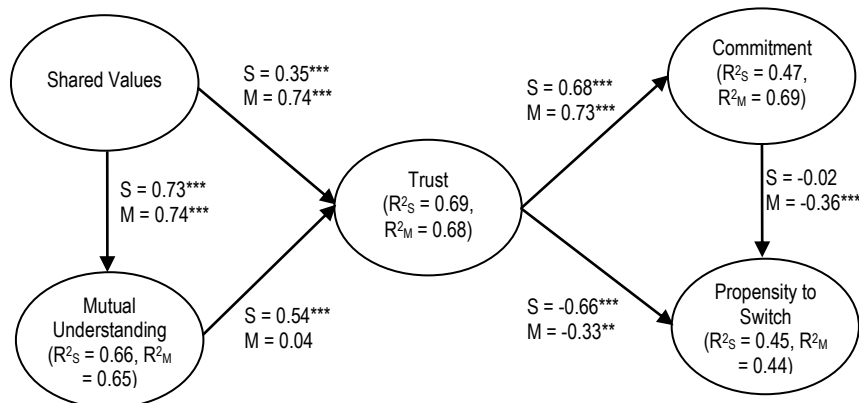
Figure 2 Structural Model of Relationship Commitment and Switching Propensity

RESULTS

Our analysis reveals similar R^2 values for each user group, indicating that the model explains similar levels of trust, commitment and switching propensity for both single-homing and multi-homing users. However, there are significant differences in the groups. These results are discussed below.

First, there was a positive relationship between shared values and trust for both groups ($\beta_S = 0.35$, p < .001, $\beta_M = 0.74$, p < .001), supporting H1a. The result suggests that when users perceive value compatibility with the service provider, they can develop trust. However, the effect between shared values and trust was significantly greater for multi-homing than single-homing users (t = 0.99, p < .001). In other words, users who consume the same data service from multiple providers place greater emphasis on shared values than users who restrict their service consumption to one service provider. We originally theorized that single-homing users placed greater emphasis on shared values because they could select a provider that met their requirements. Contrary to this theory, single-homing users placed lower emphasis on shared values and consequently we did not accept H1b.

Next, we saw a positive relationship between shared values and mutual understanding for both single-homing and multi-homing users ($\beta_S = 0.73$, p < .001, $\beta_M = 0.74$, p < .001). This finding supported H2a, supporting the

social capital theory of a close relationship between shared values and mutual understanding in social interactions. However, we did not observe a difference between groups (t = 0.44, NS) and did not accept H2b.

There was a positive relationship between mutual understanding and trust for single-homing users only (β_S = 0.54, p < .001, β_M = 0.04, NS) and we did not accept H3a. From social capital theory, we predicted an important relationship between these constructs for both groups because mutual appreciation underpins development of trusting relationships. Instead, we observed a positive association only for single-homing users (t = 0.00, p < .001). In turn, however, we did accept H3b that mutual understanding would be stronger for single-homing than multi-homing users. The results imply that mutual understanding is only important to those users who keep to a single provider: they appear to follow the familiar model of social capital, in that mutual understanding underpins the relationship fabric. However, multi-homing users do not depend on mutual understanding in order to commence the relationship, possibly because they can autonomously choose who meets their service needs.

The results show a positive relationship between trust and commitment for both groups of users (β_S = 0.68, p < .01, β_M = 0.73, p < .001) and we accepted H4a. This finding was consistent with prior relationship marketing theory, in that perceptions of benevolent dependability lead to perceptions of a more durable and long-term relationship. However, the results also showed no significant differences in trust-commitment for the user groups (t = 0.86, NS) and we do not accept H4b. This finding implies that both groups of users exhibit comparable trust-commitment behaviors, consistent with the similar R^2 values for trust and commitment for both groups. This finding seems to challenge our understanding of the relationship, in that both kinds of users care about the quality of their relationship even though one type of user appears better able to leave.

There was a negative relationship between commitment and propensity to leave for the multi-homing group only (β_S = -0.01, NS, β_M = -0.36, p < .001). We did not accept H5a. This finding was a significant departure from our expectation that users who choose a single provider have a lower propensity to switch because their commitment is higher. Instead, we did not find a relationship between commitment and propensity to switch for single-homing users, observing a significant negative relationship for multi-homing users only (t = 0.01, p < .01). In other words, committed users of a single provider are not necessarily also unlikely to switch. Multi-homing users demonstrate perceptions that are more consistent with our expectations of commitment and low propensity to switch. R^2 values for commitment were similar in both groups (R^2 = 0.47 for single-homing users and R^2 = 0.69 for multi-homing users), which suggests that the model explains commitment acceptably for both groups. Yet, restricted users appear to demonstrate no effect on propensity to switch. The finding suggests that propensity to switch is not driven by provider commitment for single-homing users. We hence did not accept H5b.

The results show a significant negative relationship between trust and propensity to leave for both groups (β_S = -0.66, p < .001, β_M = -0.33, p < .01). We accepted H6a. The more a relationship partner trusts the other partner, the less likely they will be to switch away from that partner. The results also showed a significantly stronger relationship between these constructs for single-homing users (t = 0.98, p < .05), supporting H6b. In other words, propensity to switch is driven much more strongly by trust for single-homing users than for multi-homing users.

CONCLUSIONS

We began this study with a desire to understand the service commitment behaviors of single-provider users and multiple-provider users. We expected that single-provider users would exhibit a lower propensity to leave than multiple-provider users, because their levels of commitment would be higher. We also expected to see lower trust levels for multiple service users because they don't need to rely on one provider for their data access needs.

Contrary to expectations, we found similar propensities to switch for both user groups. This propensity to switch was driven by both commitment and trust for multi-homing users, but completely by trust for single-homing users. We also found that multi-homing users appear to build their trust on shared values rather than mutual understanding. Further, the relationship between trust and commitment was stronger for multi-homing users than single-homing users. The results imply that users who constrain their use to a single provider depend entirely on trust beliefs for their willingness to remain with their chosen provider. Whereas, users who can patronize multiple service providers are able to grow commitment and trust perceptions: in effect, users who pursue multiple service relationships seem to exhibit devotional aspects of commitment, while users who only use one provider display constrained commitment behaviors.

Our results suggest that allowing loyal users to partake of another provider's services might actually improve the user relationship by reducing their reliance on trust. This trust-based relationship could easily be damaged by an unforeseen shock – and because the user has very little commitment strength, they may elect to switch away from the provider altogether. However, by allowing or encouraging the user to look elsewhere for some of their service requirements, the provider may be able to grow more of this commitment intention in the mind of the

user. Also, if firms reap higher profits when users multi-home (Doganoglu and Wright 2006), then allowing users to pursue interactions with other firms may also have financial benefits.

The study may be open to several limitations. We restricted our sample artificially in order to evidence the different behaviors of two particular groups of users. Also, it is possible that single-homing users hold a special view of trust and commitment that makes these users somehow different. A larger sample would be needed to assess generalizability to, for example, users who switch between only two providers. The study focused on cloud storage services. Applications in other services may yield different results because of varying trust effects.

There are several areas for future research. First, we saw that single-homing users depend almost entirely on their trust to prevent them from switching: the online arena can be volatile, with numerous predictable and unpredictable challenges to data access. Hence, it would be useful to understand what shocks a firm can experience before these dedicated users begin to switch. One finding was that perhaps single-homing users don't appreciate shared values in their self-constrained relationships and are content with an *acceptable* level of shared values, but no more: multi-homing users, on the other hand, care more about shared values because they have little else to rely on in the data services context. Multi-homing users may also require better ongoing indicators of shared values in order to preserve the relationship because they can attitudinally shift to other providers as they see fit. We need to better understand the relative importance of shared values in these service engagements.

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