

Motivations for and barriers to the use of social exchange in online communities: Case Kassi

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Abstract. This paper focuses on the motivations of users for the exchange of favours and items in an online community. Based on content analysis of survey data collected from 72 users Kassi, of an online gift exchange community, this study attempts to identify some of the motivations for its use, as well as reasons for its disuse. Using a classification based on earlier research, we attempt to understand why and how users engage and interact with the services supplied by Kassi.

Keywords: social media services, user acceptance

1 Introduction

Online communities have become increasingly popular in recent years. Despite this perceived popularity, some have been more successful than others. For example, why has Facebook become popular where hundreds of other social networking services have not? Why has eBay become popular as a sales medium where others have failed? In this study, we look at a relatively new online community for social exchange, and try to understand the motivations for its use, as well as reasons for its disuse from the user perspective.

In this study, we analyze survey data collected from the users of one social exchange service, Kassi (kassi.sizl.org), a platform for facilitating exchanges of favours and items within a local community such as a campus (Suhonen et al., 2009). Kassi was developed to support the generalized exchange of goods and services in a local context, and is focused on the exchange of everyday favours such as borrowing items, sharing information, and helping other community members in the course of their daily lives. Kassi is primarily a service for linking those who are able to give something with those who are in need, and these roles are expected to change case by case. The system does not encourage haggling over prices, or support a bidding process. For these reasons, participants in each exchange are free to agree on the terms of the deal.

Behind this relatively simple concept of using web technologies to facilitate gift exchange lies a more complex set of behavioural and motivational issues, which are explored in this paper. Our aim is to understand the reasons behind the use or disuse of Kassi from the user's perspective, and to explore possible connections between user experiences and user adoption of online communities and social exchange. In order to do this, we first review related literature on user acceptance of online services and motivations for the use of online services. This is followed by a description of Kassi and the survey of its use conducted in September 2009. Third, we categorize the survey findings utilizing concepts of Kim and Han's (2009) model for user adoption and perceived value using content analysis. We argue that the reasons for the use of Kassi are primarily related to utilitarian value, with users finding the service to be useful, while disuse of the service is primarily linked to competition from other services and a perceived lack of content.

2 Related literature

2.1 User acceptance and motivations for the use of online services

A number of studies have been published regarding the user acceptance of technology in general, some of which can be also applied to the more specific case of online acceptance. This section outlines a selection of central studies and examines their relevance to online exchange systems.

One of the most fundamental and influential studies on user acceptance of information technology is the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), which argues that individual acceptance of technology can be predicted based on the individual's attitude toward behaviour (such as an individual's positive or negative feelings about performing a behaviour), and the subjective norm (the person's perception that most people who are important to them

think that they should or should not perform the action) (Davis, Bagozzi, & Warshaw, 1989; Sheppard, Hartwick, & Warshaw, 1988). Thus, a user's acceptance of an online exchange system such as Kassi depends greatly on their attitude towards lending, borrowing or buying goods in a community, and the perceived opinions of their friends regarding the service.

Another important theory on user acceptance is the Technology Acceptance Model (TAM) (Davis, 1989) and its extension TAM2 (Venkatesh & Davis, 2000), which argue that technology acceptance is based on three constructs: perceived usefulness (the degree to which a person believes that using a system enhances their job performance), perceived ease of use (the degree to which the user believes that using the system is effortless) and the subjective norm (adopted from TRA) (Venkatesh & Davis, 2000). Similarly, the Theory of Planned Behaviour (TPB) (Ajzen, 1991) adopts the attitude toward behavior and subjective norm-constructs from TRA, and adds the construct of perceived behavioural control, which depicts perceptions of internal and external constraints on behaviour (Ajzen, 1991). A further permutation of TAM and TPB, aptly titled the Combined TAM and TPB (C-TAM-TPB), joins together constructs of from both (attitude toward behaviour and subjective norm from TPB and perceived usefulness from TAM) in order to provide a hybrid model (Taylor & Todd, 1995). In practice, this means that a user's acceptance of an online exchange system as Kassi is highly dependent on whether they consider the service to be useful and how difficult they feel that the service is to use.

A fifth model that has been applied to the user acceptance of online services is the Motivational Model, which states that acceptance is based on both extrinsic motivation (the perception that users want to perform an activity because it is considered instrumental to achieving outcomes that are separate from the activity itself, such as promotions or payment) and intrinsic motivation (the perception that users will perform a certain activity for no other reason than the process of performing the activity itself) (Venkatesh, 2000). Thus the motivations for using a service such as Kassi could either be intrinsic, as in the case of connecting with friends online, or extrinsic, as is the case for selling items in exchange for money.

Another relevant model is the Model of PC Utilization (Thompson, Higgins, & Howell, 1991), which despite its name is argued to be well suited for studying a wide range of information technologies including online exchange systems. The model examines job-fit (the extent to which an individual believes that using a technology can enhance their job performance), complexity (the degree to which an innovation is perceived as difficult to understand and use), long-term consequences (outcomes with a future payoff), affect towards use (any feelings associated to the use of the technology), social factors (such as interpersonal agreements), and facilitating conditions (factors in the environment that make accomplishing goals easier) (Thompson, Higgins, & Howell, 1991).

Similarly, the Innovation Diffusion Theory considers a number of constructs when predicting information technology acceptance (Rogers, 1995). Relative advantage (the degree to which an innovation is perceived as being better than its predecessor), ease of use (degree of perceived difficulty in use), image (the degree to which the system is perceived to enhance the user's image or social status), visibility (the degree to which the user can see others in the organization using the system), compatibility (the degree to which an innovation is perceived as being consistent with existing values and norms), results demonstrability (the tangibility of results produced by the technology) and voluntariness of use (the degree to which the system is used out of free will) all play a part in the theory (Rogers, 1995). In the case of Kassi, a user would therefore be more likely to adopt the service if the interface is perceived as easy to use,

and the system produced tangible results, for example in the form of a purchase, sale or an exchange of favours taking place.

Next, social cognitive theory applies the constructs of outcome expectations- performance (the performance-related consequences of a behaviour), outcome expectations- personal (the personal consequences of the behaviour) self-efficacy (a judgment of the user's own ability to use the technology), affect (the user's liking for the behaviour), and anxiety (behaviours affecting anxious of emotional reactions) to the user acceptance of information technology (Compeau & Higgins, 1995). Similarly, the Unified Theory of Acceptance and Use of Technology (UTAUT) combines a number of the constructs mentioned above to build a unified model. Constructs such as performance expectancy, effort expectancy, social influence and facilitating conditions combine with moderators such as gender, age, experience and voluntariness of use to lead to behavioural intention and observable use behaviour (Venkatesh et al., 2003).

To summarize, the basic concept underlying most user acceptance models relevant to online exchange communities involve the following three constructs in some way: individual reactions to using information technology, intentions to use information technology, and actual use of information technology.

2.2 Framework of the study

Similarly to the studies outlined above, Kim and Han (2009) argue that the adoption of mobile data services can be analyzed from two perspectives: the antecedents of adoption intention (defined as utilitarian value, hedonic value and social value) and the antecedents of perceived value (defined as interpersonal influences and external source's influences) (Kim & Han, 2009). Utilitarian value is defined as value derived through the means of accomplishing some task-related goal, hedonic values as something that reflects enjoyment, pleasure or conversely, anxiety related to the use of the service, and social value as a desire for social outcomes or elevated social status. While these antecedents drive adoption intention, interpersonal influences (defined as the extent to which the members of a social network influence each other's behaviour) and external sources' influences (defined as the extent to which sources such as TV, the internet or other secondary sources affect behaviour) are believed to drive the perceived value of the service.

In this study, we utilize these concepts to categorize the survey responses into motives to use the service (utilitarian, hedonic and social values) and sources of moderating influences to these motives (from interpersonal and external sources). These will be discussed in more detail in the following chapters.

3 Description of Kassi platform and services

Kassi is a web service that aims to help people exchange favours and items in their local communities. The service has been designed for use in Aalto University (Helsinki, Finland) campus setting, as a part of a research project that develops new social media services and studies their use. The development of Kassi began in the summer of 2008, and the open beta version was released in the autumn of 2009. Kassi aims to help students in the course of their studies and everyday activities by enabling borrowing, buying, selling and giving away items as well as giving and receiving favours in the form of services and assistance. Users can help each other in any way they like, by for example sharing information, using skills, or by participating

in time-consuming tasks. Exchanges taking place on Kassi typically help solve problems that people do not face every day. For example, the service may be helpful when changing apartments or acquiring books and material for a course that is about to begin.

The basic functionality of the service consists of user profiles and listings. Profile offerings are items and favours users have added to their user profiles for others to browse and request. Users are free to list as many items and favours as they are willing to perform or lend to others in their profile. Once added, these items and favours can be searched through and browsed by other users. When a user finds an item that they would like to borrow, they can make a query to borrow the item for a specific time using a simple form. The owner of the item is then free to either confirm or reject the reservation. If the owner of the item agrees to borrow the item for the requested time, the two can then arrange the practicalities of the object. The process is similar for exchanges of favours.

Listings, Kassi's second primary function, are announcements that resemble classified advertisements. Listings can be, for example, requests for a favour, advertisements for course books for sale, or carpooling proposals. Listings are primarily used when a user is looking for something that is not yet listed as a profile offering or when the user has a specific need or offer in mind. Thus, profile offerings are used for contributing something to others while listings are mainly used for requesting something from others. Listings are organized in categories (marketplace, carpooling etc.).

Users are able to communicate with each other using a private messaging system, or by commenting publicly on a listing. An exchange takes place when an item or favour is successfully shared between two users. In order for an exchange to be visible on Kassi, a user must formally close a listing or accept a profile offering. If users do not complete this process, the activity is not recorded as a completed exchange in the system.

4 Methodology

4.1 Empirical data

The empirical data used in this study was collected using a survey in which Aalto University students who had registered as Kassi users were questioned about their use of the site. An invitation to participate in the survey was sent by e-mail to all registered users. The material was collected in September 2009, with 72 respondents completing the survey. Participation in the survey was voluntary, and there were no monetary incentives. The respondents were predominantly students of technology, but some also students of business, art and design living in the greater Helsinki area. At the time of the study, many of them were in their late teens or early twenties, and had learned of the service as freshmen in introductory lectures at the university.

The survey consisted of both open-ended and structured questions. Users were asked a selection of detailed questions about their use of Kassi, as well as questions aimed at assessing their attitudes regarding the service. For example, participants responded to statements about the usefulness of the service, and the ideology of sharing that it represents, as well as their reasons for using it.

Open-ended survey responses concerning reasons for using or not using the service represent the key source of data. All respondents were asked what brought them to Kassi on their last

visit, as well as why or why not they had listed profile offerings. Additionally, users were asked to explain their reasons for use or non-use: frequent users were asked for their reasons for using Kassi, while infrequent users (or those who had only registered but not really used the service) were asked why they had not used Kassi, as well as what would increase their use of the service.

4.2 Research method

We used content analysis of data collected using the survey described above. Content analysis is the process of organizing written, audio, or visual information into categories and themes related to the central questions of the study according to a set of rigorous rules (Weber, 1996). In order to understand what drives to usage of non-usage of a service like Kassi, we classified the survey responses into the motives to use the service (utilitarian value, hedonic value, social value) and influences (interpersonal influences and external sources' influences) that moderate the motivational values.

Motivational values

Utilitarian value has been defined as value derived through the means of accomplishing some task-related goal (Kim & Han, 2009). For example, the survey response "*Buying items through this service is easy and cheap*" would be classified as referring to utilitarian value as it mentions a tangible task-related goal. Utilitarian value can also be negative, as demonstrated by the response "*I have not had a need for this service*".

Hedonic value, in turn, is defined as something that reflects enjoyment, pleasure or conversely, anxiety related to the use of the service (Kim & Han, 2009). The survey response "*I looked at what people are offering because it is entertaining*" signifies hedonic value, as does the response "*I find it irritating when people don't post profile pictures*".

Third, social value has been defined as a desire for social outcomes or elevated social status (Kim & Han, 2009). The survey response "*Joining this service early and not being anonymous is a good thing, because it can lead to benefits elsewhere*" demonstrates social value. Social value can also be negative, as exemplified by the response "*I'm embarrassed to ask for a loan because I have nothing to offer in return*".

Source of influence

While Kim and Han (2009) believe that these three motivational antecedent (utilitarian, hedonic and social value) drive adoption intention, they also believe that they are moderated by interpersonal and external influences that drive perceived value. They define interpersonal influences as the extent to which members of a social network influence each other. Thus, the survey response "*I responded to a friend request*" is an example of interpersonal influences. Similarly, external influences have been defined as the extent to which information from TV, newspapers, the internet, and other secondary sources influences behaviour. Therefore the survey response "*My friends don't use this service so I don't either, we all prefer Facebook*" refers to an external influence. This example could also be classified as an example of interpersonal influences, as responses can be classified under more than one category depending on content.

In order to improve the validity of the classifications, two researchers classified each response independent of each other, using the same guidelines (Holsti, 1969; Krippendorff,

2004). These responses were then compared, discussed and averaged out to produce the final classifications. The percentage of initial agreement between the two classifications was 88% for utilitarian value, 76% for hedonic value, 90% for social value, 97% for interpersonal value and 99% for external value, with a total percentage of agreement of 90%.

5 Findings

In this section, we will discuss the content of the text-based responses acquired from the study (see Appendix for the full list of questions). Responses to each question are first discussed based on Kim and Han's (2009) classification of antecedents of user adoption (interpersonal and external source's influences) and the perceived value (utilitarian, hedonic and social value) of the service followed by a discussion on the content of relevant individual responses to the question.

5.1 Reasons (not) to include a picture in the Kassi profile

29% of respondents had included a picture in their profile. For the purposes of this paper, their responses were separated from the 71% who had chosen not to include a profile picture, whose answers will be discussed later.

Of responses of the 29% who had chosen to include a profile picture, an average of 21% were classed as including some kind of reference to utilitarian value, 26% of responses were classed as referring to hedonic value, and 50% of responses contained a reference to social value. Similarly, 29% of responses included a reference to external sources' influence, while only 5% included a reference to external source's influence. Table 1. summarizes the classifications of the responses to the question.

	Motivation			Sources of Influence	
	Utilitarian value	Hedonic value	Social value	Interpersonal	External sources's
<i>Why have you included a picture in your profile?</i>	21 %	26 %	50 %	29 %	5 %
<i>Why have you not included a picture in your profile?</i>	61 %	3 %	51 %	4 %	0 %

Table 1. Classification of responses for question 1 (*Why have you (not) included a picture in your profile?*)

Based on this data, it can be concluded that social value is a central factor behind why users of Kassi choose to include a picture in their profile. Central themes found in the responses included a curiosity towards trying new things "*I just thought I'd try it*", hedonic values "*The picture is funny. Ha ha*", and a strong connection to the social and interpersonal aspects of the service "*It's more fun if people get some kind of picture of who they are dealing with*".

But what about those respondents who chose not to include a profile picture? The data suggests a tendency towards social and utilitarian values: popular responses include "*Not*

interested” and “I haven’t had time” as well as “I didn’t upload my picture, because I don’t want it to be in on the internet”.

In summary, those users who chose to upload a profile picture typically did so primarily for social reasons, and those who chose not to for utilitarian reasons.

5.2 Reasons (not) to use Kassi

As the aim of this study is to better understand the slower than expected adoption of the Kassi service, questioning the reasons for its use or disuse is essential. Responses to the question “why do you use Kassi often” showed a great preference for utilitarian value (77%), followed by hedonic value (27%), interpersonal influences (18%), external sources’ influences (9%) and finally social value (2%). Responses to the reverse question, (why do you not use Kassi more often?) followed the same pattern: utilitarian value was prevalent, (61%), followed by hedonic value and interpersonal influences (both 20%), external sources’ influences (9%) and social value (5%). Table 2. summarizes the classifications of the responses to the question.

	Motivation			Sources of Influence	
	Utilitarian value	Hedonic value	Social value	Interpersonal	External sources’s
<i>Why do you use Kassi often?</i>	77%	27%	2%	18%	9%
<i>Why do you not use Kassi more often?</i>	61%	20%	5%	20%	9%

Table 2. Classification of responses for question 2 (*Why do you (not) use Kassi?*)

Unsurprisingly, this implies that utilitarian value is the main reason behind why Kassi users prefer to use or not use the service. Positive utilitarian value manifested in the responses in terms of positive user experiences, for example “*buying things from here is easy and cheap*” or “*I’m interested in the items available for loan*”. Negative utilitarian value, on the other hand, centered on a lack of need for the service, with responses including “*I have not had the time to or interest in using it*” and “*I don’t live close enough to the centre of the community for it to be useful to me*”.

Hedonic value was also an important determinant behind why users chose to use the service, with curiosity being one of the main drivers: “*it’s interesting to read the announcements just for fun*”. External sources were often cited when explaining why the service was not being used more often: “*Facebook has filled the need*” and “*browsing the news.tky.tori group (a similar service) is easier*”.

To summarize, utilitarian value was the main driver behind both why people choose to use the service, as well as why they do not.

5.3 Previous experiences of the Kassi service

In order to obtain a better grasp of the experience of using Kassi, users were asked to describe their previous visit to the website in some detail. Again, the majority of the responses contained a reference to utilitarian value (79%), with hedonic value ranking second (23%), interpersonal

influences third (8%), social value fourth (7%) and external sources' influence last (3%). Table 3. summarizes the classifications of the responses to the question.

	Motivation			Sources of Influence	
	Utilitarian value	Hedonic value	Social value	Interpersonal	External sources's
<i>Description of previous visit to Kassi.sizl.org</i>	79%	23%	7%	8%	3%

Table 3. Classification of responses for question 3 (*Describe your previous visit to Kassi.sizl.org*)

This suggests that most users visit the site for utilitarian reasons: typical responses included “*I was looking for a pair of rubber boots or a cooking pot to borrow, but nobody was offering them*” and “*I went to see if anyone had responded to my query for flatmates*”. Hedonic values were also represented, with users stating that they visited the website for fun: “*I was sitting in a boring meeting, and needed something entertaining to do*”. Social and interpersonal values were also present, with users accepting friend request from others and looking at each other's profiles: “*I went to look at my friend's announcement, and got stuck browsing the new announcements.*”

In summary, previous visits to the website were overwhelmingly based on utilitarian value, with hedonic value coming second. External sources were rarely part of actual user experiences.

5.4 Reasons (not) to list favours or services or items available for loan

Users were also asked about the reasons behind why they had (or had not) listed a favour or a service or an item available for loan on the website. 10% of respondents had listed a favour or service, while 6% had listed an item available for loan. For favours and services, utilitarian value was ranked highest, with 100% of responses including a reference to it. The other motivational values and both sources of influence each received marginal references, each ranking at 5% or lower.

For items available for loan, utilitarian value was again the highest, (84%), with hedonic value, social value, interpersonal influences and external sources' influences each ranking below 10%. Table 4. summarizes the classifications of the responses to the question.

	Motivation			Sources of Influence	
	Utilitarian value	Hedonic value	Social value	Interpersonal	External sources's
<i>Why have you (not) listed a service?</i>	100%	1%	5%	2%	0%
<i>Why have you (not) listed an item available for loan?</i>	84%	8%	7%	2%	0%

Table 4. Classification of responses for question 4 (*Why have you (not) listed a service or an item available for loan?*)

Clearly utilitarian value is a major determinant behind why people choose to (or choose not to) list favours or services and items available for loan on Kassi. Responses regarding items available for loan typically stated that the owner didn't have anything to list: "*I don't have suitable items*" or wasn't interested in doing so "*I don't want to borrow things to strangers*". The case is similar for favours and services: the vast majority of respondents stated that they weren't offering suitable services "*I haven't had the time to think of favours I could offer*" or a signified a lack of interest "*I don't offer services*".

Some users also showed a distinct awareness of the social and interpersonal values related to dealing with other users: "*I like to help good friends, and they know what I'm good at. My life is busy, so offering favours to strangers does not feel necessary*". Interestingly, external sources played no part in why users list favours or services or goods for loan in Kassi.

Another interesting finding is that some users perceive offering services or goods for sale or trade on the platform as embarrassing: "*I don't know if I'm going to list anything. I have so many things and it would be embarrassing to list all of them, as some people have done*". Along the same lines, others find the social knowledge of what people in Kassi do more interesting than the actual services offered: "*The most interesting thing about Kassi is the social knowledge of what other people are doing and offering*". This means that some users, for example, find it more interesting to know that their friend owns a guitar than to know that he is willing to borrow one.

To summarize, utilitarian value is the key reason behind why users choose to list favours or services and items available for loan on Kassi, with the other classifications playing only a marginal part in the decision.

5.5 Experiences of Kassi events

Users were also asked elaborate on their experiences of Kassi events, with events meaning successful trades of goods, services or favours. 78% of respondents had not completed any Kassi events at the time of the survey, while 11% had completed 1 event, 6% had completed 2, 1% had completed 3, and 3% had completed 4 and 1% had completed 5.

When the responses were classified, utilitarian value was again ranked highest at 57%, with hedonic value placing second with 10%, social value third (87%), interpersonal influences fourth (3%) and external sources' influences last (0%). The following Table 5. summarizes the classifications of the responses to the question.

	Motivation			Sources of Influence	
	Utilitarian value	Hedonic value	Social value	Interpersonal	External sources's
<i>Description of previous visit to Kassi.sizl.org</i>	57%	10%	7%	3%	0%

Table 5. Classification of responses for question 5 (Describe your experiences of Kassi events)

Responses were predominantly positive, with users who had completed events mainly stating that the service works well. Responses signifying positive utilitarian value included “*Good. My item sold really fast!*” and “*It was very pleasant, but I knew the person from before*”. Interestingly, these positive responses do not seem to correlate with the low usage of the service.

6 Discussion

The reasons behind why people choose to use or not use Kassi seem to be primarily based on perceived utilitarian values. 77% of responses to the question “why do you use Kassi” were classed as referring to utilitarian value, with typical responses including “*buying things from here is easy and cheap*” or “*I’m interested in the items available for loan*”. Similarly, reasons for not using the service were also grounded in utilitarian values: 66% of respondents cited negative utilitarian value as the reason for not using the service, for example stating that “*I have not had the time to or interest in using it*” or “*I don’t live close enough to the center of the community for it to be useful to me*”.

Utilitarian value was also the primary motivational determinant behind why users visited the service. When asked about their previous visit to the Kassi website, 72% of respondents referred to utilitarian value. Typical responses included “*I was looking for a pair of rubber boots or a cooking pot to borrow, but nobody was offering them*” and “*I went to see if anyone had responded to my query for flat mates*”. Perceived lack of content, due to the evident lack of critical mass of users, seems to be discouraging returning visits to Kassi, slowing down the adoption rate further. However, hedonic value was also an important determinant behind why users chose to use the service, with curiosity being one of the main drivers: “*it’s interesting to read the announcements just for fun*”, and “*I was sitting in a boring meeting, and needed something entertaining to do*”. External sources were often cited when explaining why the service was not being used more often: “*Facebook has filled the need*” and “*browsing the news.tky.tori group (a similar service) is easier*”. Interpersonal and external influences were also present, but only in a marginal role, with users accepting friend request from others and looking at each other’s profiles: “*I went to look at my friend’s announcement, and got stuck browsing the new announcements.*”

7 Summary and Future Research

This study set out to study the motivations for and the barriers to the use of Kassi, an online gift exchange system for facilitating the exchange of goods, services and favours. Our empirical data consisted of 72 web survey responses of university students. This was achieved using content analysis. Our data indicates that utilitarian values are the main motivational drivers behind both why people choose to use the service, as well as why they do not. The main barrier to the use of the service seems to be primarily linked to competition from other services, predominantly Facebook, as well as user's perception of a lack of content.

There are some limitations to our study. The sample size was rather small, even though very representative of the user base at the time. In the next stage of our study, we will analyze the data from the second survey round. We expect that the user population has increased to include more business and art and design students in addition to the technical students, which is likely to have some effect on the results. It will also be interesting to see, if the modest significance of interpersonal and external influences has increased with larger number of users. We presuppose that utilitarian values will remain the dominant motivational value in a social exchange service such as Kassi, but the importance of particularly social values are expected to increase with the number of users.

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