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# TRANSACTING ON FACEBOOK MARKETPLACE: HEURISTIC AND SYSTEMATIC PROCESSING

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## Extended Abstract

*Facebook Marketplace ("Marketplace") links buyers and sellers in peer to peer based commercial transactions by embedding transactions in a social circle. The feature of mutual friend informs the seller if the potential buyer and seller have any common Facebook "friends." Based on a heuristic-systematic model of information processing, we theorize the sellers can apply the mutual friend feature as a heuristic cue, promoting heuristic processing, and influencing social judgments and attitudes. But what are the implications of the heuristic cue to the systemic processing of content on Facebook? How does greater information access to Facebook profile, wall, and photos attenuate the effect of mutual friend on content evaluation? The survey data was collected from one U.S. Southwestern region involving sellers who had posted listings on Marketplace. The study examined the seller evaluation of buyer content on Facebook and found biased effects of heuristic processing on systematic processing. With profile access, the bias effect of heuristic processing on systematic processing was attenuated. The findings have practical implications on how technical features of social networking sites can affect human information processing through various bias and attenuation effects.*

*Keywords: social media, peer to peer transactions, heuristic-systematic model, mutual friend, profile access.*

## 1 INTRODUCTION

On May 14, 2007, Facebook launched **Marketplace**, an Internet based commerce site, which lets users post free classified ads or "listings." On college campuses, Marketplace is used to sell electronics, text books, school supplies, lease housing, and find roommates and employment. In addition to accessing the listings, buyers and sellers have access to information that the transacting parties have on their Facebook profiles which includes biographical information, communication with other users and event based information. The quantity of information available to buyers and sellers is determined by privacy settings or the "access" the user allows to non-friends.

When a prospective buyer opens a specific posting on Marketplace, the posting indicates if a buyer and seller share a common person among their Facebook friends. The mutual friend feature of Facebook is touted as a killer feature (New York Times 2009). Tong et al (2009) found that an overabundance of Facebook friends had a negative influence, but prior studies have not examined the impact of **mutual friends** and moreover, how such impact influences judgments in a transactional context.

We investigate how sellers on Facebook Marketplace are influenced by the presence of mutual friends in their assessment of a buyer, representing validity seeking behavior. Heuristic-Systematic Model (HSM) (Chaiken 1980, Chen and Chaiken 1999) and its variant, the elaboration likelihood model (Petty and

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Cacioppo 1986), are examples of dual processing theories. Dual processing theories are validity seeking cognitive models where individuals engage in information processing to seek greater clarity of reality (Evans 2008). The theories recognize that "social judgments are not always formed on the basis of relatively effortful processing of judgment-related information" (Chen and Chaiken 1999). The theories suggest that people process information using different modes of cognitive processing that can be differentiated by being more or less effortful (Chen and Chaiken 1999). The dual processing theories examine both the information content and surrounding context (Gilbert 1999). Using HSM, we develop hypotheses linking mutual friend to the mode of heuristic processing and photo, wall, and profile content assessment to the mode of systematic processing. We also examine a contextual factor - access to the buyer's Facebook profile - which reflects the extent to which sellers have access to the buyer's personal content. We examine how profile access moderates the effect of mutual friend.

Although these modes of processing have been examined in an online context before, they have not been examined in such personal information rich context as Facebook. The vast amount of information that a seller may have on a buyer is likely to comprise of contradictory or ambiguous information. We hence respond to the call by Chen and Chaiken (1999): "Greater attention needs to be directed at assessing the nature of heuristic and systematic processing in ecologically meaningful settings in which several motives are potentially relevant, as well as the factors that may lead perceivers to engage in one form of motivated processing over another" (p. 79).

# 2 FACEBOOK MARKETPLACE

## 2.1 Facebook

The content on Facebook is conveyed through photos, walls, and profiles. Photos exist in three categories: (1) profile pictures (displayed with users' name as their identification), (2) personal albums (collections of pictures, generally on a particular theme; trips and social events are common albums), and (3) tagged photos (uploaded without the users' consent by other users). The user has complete control over the uploading of these pictures to Facebook. Photos are conceptualized to depict cues on the **social quality,** the physical and social attractiveness of the buyer. Such social quality has been found to be important in eliminating undesirable transaction partners (Riegelsberger et al 2003).

Facebook profiles have distinct categories of personal information that users can disclose, including background information, work and education information, philosophy, arts and entertainment, sports, activities and interests, basic information ("About Me"), and contact information. Users expend significant effort in honing and perfecting their profiles to transmit an image of themselves (Turkle 2011).

Communication between users on Facebook that is visible (public) to others is enabled by wall postings. Each user has a wall where other users post personal communications, links, videos, etc. If Jane posts on John's wall, John can reply to Jane's post directly on his wall, making their conversation public to others. Another user could build on the thread between Jane and John. Walls are also populated by events the user is attending or creating, new photos, groups joined and created, and status updates. Collectively, we conceptualize the wall and profile as portraying **information quality** on the buyer, helping to validate assessment about the buyer (Riegelsberger et al 2003).

The **mutual friend** feature is crucial to the social architecture of Facebook. It helps to embed others in otherwise a dis-embedded Internet system (Riegelsberger et al 2003). When a user views another's profile the number of mutual friends is displayed with up to 7 thumbnail photographs of mutual friends. The mutual friend feature is also utilized to suggest friends through a "People You May Know" feature.

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Another important context feature in Facebook is **Access**. Users can regulate who has access to wall information as well as tagged photographs, profile pictures and the photo albums. Four broad options exist, share information with (1) everyone, (2) friends of friends, (3) friends only, and (4) customized; users can select certain groups of friends to have access to certain information. During our study, tagged photos were visible to all under the default privacy settings.

### 2.2 Marketplace

Marketplace allows a user to find items for sale by others in their network, listings of friends and listings in close geographies. Marketplace does not facilitate the purchase directly; no payment or shopping services are provided and there is no buyer or seller protection for fraudulent transacting parties. After finding a listing, a buyer contacts the seller (via Facebook email or chat over private communication).

In a typical Marketplace transaction, a seller will list background information about the product, including price and a description. The buyer can send a Facebook message to the seller to express interest. The potential buyer can view the seller's profile, the extent to which depends on the seller's privacy settings. After the buyer expresses interest, the seller can also view the buyer's profile (depending on privacy settings). The number and identity of mutual friends is also revealed.

In March 2009, Facebook granted control over the development and management of Marketplace to Ooddle, an online classifieds firm. The survey was conducted in the preliminary stages of Ooddle's management of Marketplace. Users' profiles and the wall have largely remained unchanged. At the time of the survey, postings were searchable by network and friends. However, the layout and searching mechanisms have changed somewhat since we conducted our survey. A sample Marketplace listing at the time of the study is shown below (Figure 1). Next we briefly review the theoretical background for the study that examines the effect of mutual friends and the seller's access to a buyer's information on the seller evaluation of buyer.


*Figure 1: Sample Marketplace listing*

## 3 THEORETICAL DEVELOPMENT

Facebook is an important source of online information, but we know little about the conditions and processes that influence validity judgments. In the online context more broadly, the cognitive studies have focused on understanding information usefulness (Sussman and Siegel 2003) and information adoption (Sussman and Siegel 2003, Zhang and Watts 2008). Sussman and Siegel (2003) found that the usefulness

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of information in email messages was dependent on the way that the information was processed. Ferran and Watts (2008) examined how people processed information differently when it was delivered via videoconference rather than face-to-face. Zhang et al (2010) examined the effect of online reviews on consumers' decision making behavior. Zhang and Watts (2008) examined how individuals process rich content on online communities and found that at the higher level of disconfirming information, the individuals scrutinized the message more and engaged in more systematic, or more effortful processing, and less in heuristic, or less effortful, processing.

The studies above were based on dual-processing theories of human information processing that describe how individuals process information that they receive or access. These theories are widely accepted among cognitive psychologists and other fields concerned with information processing (Evans 2008). The theories originated from individual-level, laboratory-based social psychological research examining single messages (Eagly and Chaiken 1993). In field based contexts, users identify and examine many pieces of information. There is less likely to be a clear direct relationship between specific information evaluated in the context of a particular buyer and more general relationship between argument quality and attitudes toward the transaction and future plans to use the platform. Moreover, except studies such as Zhang and Watts (2008) and Zhang et al (2010), there has been little on how different features of the online sites impact processing of content, transactional experience and behavioral intentions to use the site. This study is a small step toward filling this gap in the literature.

### 3.1 Heuristic-Systematic Model of Processing

Of the dual processing theories, we base the study on Heuristic-Systematic Model (HSM) as it has been found to be applicable in a wide range of validity-seeking contexts (Eagly and Chaiken 1993). In HSM, people process information in two ways – heuristically and systematically. When encountering information, people can apply existing heuristics to process information economically, so called heuristic processing. Or they may scrutinize the information and apply greater cognitive effort, so called systematic processing.

By evoking heuristics or pre-existing frames, people engage in less effortful ways to process information (Moskowitz et al 1999). During heuristic processing, people may evoke simple decision rules such as "mutual friend implies trustworthy buyer" to assess content (Chaiken et al. 1989). Alternatively, they may disregard such heuristics and analyze the content in detail to assess the validity of content on its own merit, independent of the context information such as a mutual friend. The systematic processing is more effortful and involves carefully scrutinizing and making particularistic judgments regarding the merits of the information. The implication is that the mode affects judgment (Chaiken and Eagley 1993).

As individuals receive and access information on rich online sites, they are found to be engaged in both types of processing modes (Zhang and Watts 2008). Due to human cognitive limitations, individuals are unable to process all information systematically that they encounter. People use various heuristics to ease the cognitive load. For example, heuristics play a vital role in deciding which emails we delete without reading (Watts and Curley 2007). The selection of processing mode is impacted by the information importance and relevance, time constraints, individual's discretion, distractions, and disruptions (Watts and Curley 2007). Zwang and Watts (2008) encourage studies of design features and how they impact the two processing modes.

The feature of mutual friend informs if the parties have any common Facebook "friends." We theorize that individuals use the mutual friend feature as a heuristic, encouraging heuristic processing. When a mutual friend exists, the seller no longer feels that the transaction is an atomistic arms-length exchange but rather embedded in existing relationships (Granovetter, 1985; Uzzi 1997). The presence of a mutual friend conveys comfort and safety in transacting experience (Klein and Rai 2009). The presence of a mutual

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friend is similar to the cue of "source credibility" that is well studied and triggers "authority, expertise, trustworthiness" (Chaiken et al., 1989). Koh and Sundar (2010) examine how a website or web agent labeled as "specialist" triggers a cue of authority or expertise and results in less scrutiny of content on a website. When a common Facebook friend exists, the potential buyer is viewed to share norms and values, positively impacting the transactional experience. Positive transactional experience increases the intention to use Marketplace again.

H1a: The presence of a mutual friend is positively associated with higher transactional experience

H1b: The presence of a mutual friend is positively associated with higher behavioural intention to use marketplace

H1c: Positive transactional experience is positively associated with higher behavioural intention to use

In a study of online communities, Zwang and Watts (2008) examined systematic processing indirectly through argument quality of the content-based arguments, or "situational relevance of a message's information content." According to Zwang and Watts (2008), "We consider messages that are pertinent to solving the problem at hand to be of high perceived quality ….When members of an online community carefully read a message and contemplate its validity, they are engaging in systematic information processing" (p. 76). We adopt a similar definition of systematic processing, but use the term information quality instead of argument quality to convey systematic processing. Information quality refers to content validity pertaining to Facebook's wall and profiles. Content that is assessed with high quality has been demonstrated to be associated with higher adoption (Zwang and Watts 2008). We theorize that information content on Facebook's wall and profile that is assessed with higher quality lead to higher transactional experience and higher intention to use Marketplace again.

Social quality reflected in photos may or may not lead to higher transactional experience and higher intention to use Marketplace again. In an online context, some have found photos to reduce efficiency of interaction as photos "cluttered the interface without providing any added functionality" (Riegelsberger et al 2003, p. 122). Others suggest photos contain much ambiguous social information due to limited context and incomplete information (Walther et. al. 2009). Such ambiguity can be problematic for both deep and heuristic processing. However, photos can help convey the "realness of the person" and strengthen the ability to differentiate bad transacting parties from good ones (Riegelsberger et al 2003). Following latter findings, we theorize that social quality will positively impact the attitude about the transactional experience and increase the behavioral intention to use Marketplace.

H2a: Higher information quality is associated with higher transactional experience

H2b: Higher information quality is associated with higher behavioral intention

H2c: Higher social quality is associated with higher transactional experience

H2d: Higher social quality is associated with higher behavioral intention

Prior studies on online communities have suggested the simultaneous presence and influence of both heuristic and systematic processing, but treated them as independent not influencing each other (Zhang and Watts 2008, Zhang et al 2010). Nevertheless, in their post hoc analyses, Zhang and Watts (2008) raised questions about possible interdependencies. They were specifically concerned that a heuristic did not directly influence the attitudes and behavior but indirectly influencing, or biasing, argument (i.e., information) quality, known as the bias effect in HSM (Chaiken and Maheswaran 1994).. The implication of their concern in the current context is that the presence of a mutual friend would lead a seller to think

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more favorably about the message content of the buyer depicted in photos (social quality) or in Wall or Profile.

The bias effect is at times conveyed as "mindless social responses" (Koh and Sundar 2010, p. 118) similar to stereotyping and other category based processing. Heuristics create expectancies about subsequent encountered content. For example, heuristics may bias the subsequent evaluation so that the inconsistencies in content are less attended to and more confirming evidence as opposed to disconfirming evidence in the content is attended to, resulting in assessment of higher information and social quality. When the mutual friend exists, a seller would be expected to discount unsettling or conflicting content on the buyer site and look for confirming positive content. The bias effect suggests that the mutual friend may affect transaction experience indirectly by influencing perceptions of information quality.

H3a. Information quality is higher when a mutual friend is present

H3b.Social quality is higher when a mutual friend is present

H4a. Mutual friend presence influences transactional experience via information quality.

H4b. Mutual friend presence influences transactional experience via social quality

### 3.2 Attenuation Effect of Profile Access

Facebook users can allow varying degrees of access to their profile, photos, and wall through privacy setting options. The greater the access (more open the privacy settings), the more the seller can view buyer information. Though there are a high number of permutations of privacy setting, generally access is the ability to view all buyer profile information including profile, wall, and photos. No access means the seller could only view the buyer's profile pictures, basic profile information, and be informed of the mutual friends. The seller might be able to better differentiate the relevant information from the irrelevant social quality and information quality, and make judgments when they have more access to the buyer content. When the seller has greater access to the buyer's Facebook content, we theorize that the bias effects from the mutual friend are diminished.

H5: Access to buyer's profile information is associated with the diminished impact of mutual friend on information quality and social quality.

## 4 METHODOLOGY

We tested the hypotheses using an online survey in a Facebook network of a large university in the Southwestern part of the United States in late 2008. The survey was sent to those members in the network that had recently listed items on Marketplace of the university network. Excluding the 8 incomplete responses, 204 respondents completed the survey fully, yielding a response rate of 32.9%. We chose a survey to investigate the behavior to study the complex phenomenon in its natural state.

### 4.1 Sample Selection

A computer program was developed that pulled all the listings on Marketplace from the university's network. The survey was sent to those sellers who had made a posting in the fall of 2008 related to housing (e.g., to sublease their apartment or find a roommate). We selected this time period to ensure that the respondents still had a vivid memory of their evaluation of the buyer. To increase the sample, we randomly chose a set of sellers that had recently made postings regarding goods of electronics, cars, text books, and tickets to entertainment. We chose these transaction targets because they represented varying levels of seller risk. Only postings that had been active for approximately a month were targeted for the

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survey to ensure that the user had completed their use of Marketplace. Of the total sample of 641 respondents 204 responded, 117 were leasing apartments and 87 were selling other goods.

The survey was sent either via Facebook messaging platform or via university email system outlining the purpose of the study, guarantees for privacy, and a link to the survey. A $15 iTunes gift card was made available for everyone who completed the survey. Two reminders were sent to complete the survey.

### 4.2 Survey Development

To develop the survey, eight people were interviewed who had recently listed on Marketplace. The interviews suggested that those who had mutual friends with the potential buyer used the Facebook profile and the wall to seek affirmation of "normalcy". The sellers used vague criteria for information evaluation such as "want to get comfortable with" and "what kind of person." Facebook photos were an exception and used to disconfirm and exclude more than affirm in terms of the social qualities of the buyer. For example, one of the lessors was a religious Muslim and she used the photos for the evidence of "drinking." The interviewees expressed a range of satisfaction with their Marketplace experience. The sellers had received from 0 to 12 different replies from potential buyers. One who was unsatisfied with the Marketplace experience found that there was a disconnect between information available on the profile and the ideal characteristics of the buyer. After evaluating the information on Facebook, the sellers proceeded to coordinate the rest of the transaction via face-to-face meetings, phone, or Facebook messages. The interviews pointed out the importance of asking separately about the profile, wall, and the photos. Photos in particular appeared to be evaluated differently from the profile and wall.

The surveys for goods and apartments were almost identical. The phrase "rent" was changed to "cost" and "price." The goods survey also had two additional questions asking for the category of goods and a short description of what was being sold. The survey respondents were asked to recall information about the person they eventually leased the apartment to or sold the goods to, or, if no such person was found, the person they would have most liked to lease to. The survey asked members to focus on their transaction experience, the evaluation of (potential) buyer profile, wall, and photos. We adopted and adapted previously validated scales in order to measure quality of profile and wall information (INFORMATION QUALITY) (Bailey and Pearson 1983) and quality of photos (reflecting buyer's SOCIAL QUALITY including social and physical attractiveness) (McCoskley and Mc Gain 1974). We also modified previously validated scales to assess TRANSACTION EXPERIENCE. Although the above mentioned constructs were measured with reflective indicators, the intentions to use Marketplace again (INTENTION) was measured via formative indicators as the dimensions of the constructs are not necessarily correlated. We asked the survey respondents of any mutual friends and whether feedback from mutual friends was solicited (MUTUAL FRIEND). We also asked about their access to the buyer's profile information (ACCESS). We measured access with one indicator as having access or not having access is a unidimensional construct (Nunnally 1978).The items are listed in Appendix.

We also collected information on a number of control variables such as respondent age, gender, major and years in college, willingness to trust others users views of ecommerce, comfort in using Facebook, and the extent to which the sellers communicated with the buyer via non Facebook channels. We analyzed the variant of the research model in which we included these control variables but they did not change the analytical results. We report on the results that do not include the control variables.

## 5 RESULTS

We compared the factor structure and loadings for the data sets from the apartment and goods surveys and found no significant differences; hence, we combined the two data sets into one for further data analyses.

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The survey respondents were 21 years of age on average, ranging from 18 to 45 years. 62% were female, 75% used Facebook daily and had 540 Facebook friends on average. Of those who responded, half of the buyers had found a buyer (e.g., lessee). On average, the successful sellers were contacted by 4.3 buyers as opposed to the average unsuccessful sellers had 2.0 buyers. The number of friends that the successful seller had in their network was also 30% higher. Ninety-six people reported to having a common friend with the buyer and 31 contacted one or more mutual friends to seek information on buyer.

We used Partial Least Squares (PLS) for data analysis. PLS makes minimal demands on sample size, sample data distribution, and residual distributions (Chin 1998). The specific PLS Software we used was SmartPLS. PLS is preferred over covariance based methods because the model includes a formative construct.

### 5.1 Measurement Model

The adequacy of the reflective scales was assessed through tests of convergent validity, discriminant validity, and reliability. For convergent validity, all factor loadings should exceed 0.7 and average variance extracted (AVE) for each construct should exceed 0.5 (Gefen et al 2000). For discriminant validity, all items should load more strongly with their corresponding construct than on other constructs (Gefen et al 2000). Table 1 shows that criteria were met. In addition, Table 2 shows that the square root of the AVE is greater than all of the inter-construct correlations, further supporting adequate discriminant validity. Reliability was assessed using composite reliability (in addition to AVE) and all of the composite reliability coefficients were above the recommended 0.70 threshold (see Table 2). The formative scale of Intention is not subject to the same validity and reliability criteria. We assessed the validity of Intention scale and found that the item-to-construct correlations were significant at the 0.01 level. Each item's corrections with Intention were higher than the correlations with other constructs. We also assessed the extent of common method variance. We performed Harmon's one factor test by including all reflective items in a principal components factor analysis. No single factor accounted for the majority of variance, suggesting no substantive common method variance among the reflective scales.

Table 1: Loadings, Cross-Loadings, and AVEs for Reflective Scales

| Construct | Items | TRANS EXP | INFO QUAL | SOCIAL QUAL | AVE |
|---|---|---|---|---|---|
| Transaction Experience | TE1 | **0.904** | 0.345 | 0.227 | .772 |
| | TE2 | **0.853** | 0.269 | 0.101 | |
| Information Quality | IQ1 | 0.299 | **0.919** | 0.667 | .863 |
| | IQ2 | 0.296 | **0.931** | 0.664 | |
| | IQ3 | 0.301 | **0.905** | 0.645 | |
| | IQ4 | 0.312 | **0.927** | 0.656 | |
| | IQ5 | 0.336 | **0.939** | 0.615 | |
| | IQ6 | 0.382 | **0.945** | 0.641 | |
| | IQ7 | 0.337 | **0.936** | 0.632 | |
| | IQ8 | 0.354 | **0.929** | 0.617 | |
| Social Quality | PQ1 | 0.194 | 0.665 | **0.963** | .909 |
| | PQ2 | 0.201 | 0.666 | **0.950** | |
| | PQ3 | 0.163 | 0.657 | **0.953** | |
| | PQ4 | 0.180 | 0.678 | **0.970** | |
| | PQ5 | 0.183 | 0.630 | **0.932** | |

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Table 2: Reliability and Correlations for Constructs

| Construct | Composite Reliability | TRANS EXP | INFO QUAL | SOCIAL QUAL | MUTUAL FRIEND | ACCESS |
|---|---|---|---|---|---|---|
| Transaction Experience | 0.87 | **.876** | | | | |
| Information Quality | 0.980 | 0.353 | **.929** | | | |
| Social Qual | 0.980 | 0.193 | 0.691 | **.953** | | |
| Mutual Friend | -- | 0.132 | 0.307 | 0.288 | **.779** | |
| Access (single item) | --- | 0.134 | 0.411 | 0.348 | 0.289 | **1.00** |
| Intention (formative) | --- | 0.487 | 0.561 | 0.525 | 0.266 | 0.325 |

Notes. Boldface numbers on diagonal are the square root of AVE. Off-diagonal numbers refer to correlations among constructs. For single-item constructs, only correlations are presented. For discriminant validity, diagonal elements should be larger than off-diagonal elements.

### 5.2 Structural Model

The hypotheses were tested by examining the structural model. The test of the structural model includes estimating the path coefficients, which indicate the strength of the relationships between the independent and dependent variables, and the $R^2$ value. A bootstrapping resampling procedure (500 samples) was used to determine the significance of the paths within the structural model. Results of the analysis are shown in Figure 2 and summarized in Table 3.

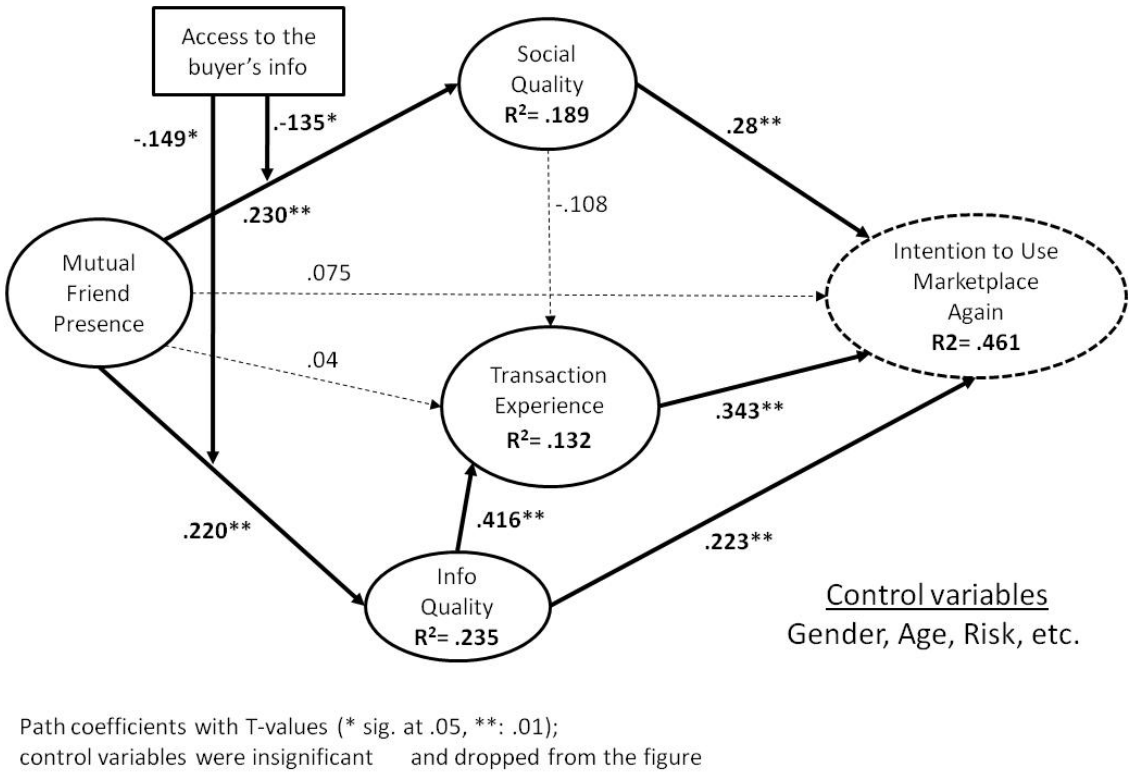


Figure 2 Results of PLS Structural Model Analysis

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Table 3: Mediation Results

X=predictor variable; M=mediator variable; Y=dependent variable

| Path | X->Y | X->M | M->Y | Mediated Model (controlled for M) |
|---|---|---|---|---|
| **Info Quality as a Mediator** | | | | |
| Mutual Friend -> Trans exp | 0.139* | | | 0.030 |
| Mutual Friend- Info quality | | 0.317*** | | 0.317*** |
| Info Quality -> Trans Exp | | | 0.355*** | **0.345*** ** |
| **Social Qual as a Mediator** | | | | |
| Mutual Friend -> Trans exp | 0.139* | | | 0.088 |
| Mutual Friend- Social qual | | 0.307*** | | 0.307*** |
| Info Quality -> Trans Exp | | | 0.196*** | **0.169*** |
| **Transactional Experience as Mediator** | | | | |
| Mutual Friend -> Intention | 0.160** | | | 0.075 |
| Mutual Friend->Trans Exp | | 0.139* | | 0.139* |
| Trans Exp -> Intention | | | 0.368*** | 0.343** |

# 6 DISCUSSION

Facebook is known for its rich content that takes a variety of forms including walls, profile, and photos. Yet, little is known how this content influences judgments of transactional experience and behavioral intention. Moreover, Facebook includes design features that allow parties to know if they share common Facebook "friends" (mutual friend) and allow users to regulate who has access to what information. We theorized a number of effects involving the mutual friend presence and the seller's access to a buyer's information on the seller evaluation of buyer's information quality and social quality, and consequences on transactional experience and behavioral intention to use Facebook again.

The results suggest support for both the bias and the attenuation effect in HSM. The mutual friend feature was the source of bias on the seller evaluation of the buyer. The mutual friend appeared to be used by the seller as a heuristic of a credible buyer. When a mutual friend was present, a seller appeared to pay less attention to inconsistencies in buyer content, and therefore the mutual friend presence biased the perceptions of information quality. The access to the buyer content appeared to attenuate this bias. The study is important as it suggests that the technical features of online sites can have a significant effect on information evaluation and judgment.

Moreover, the study found that only informational content (profile and wall) favorably contributed to transaction experience; whereas social quality of photos had a negative association with transaction experience. The social quality (social and physical attractiveness) conveyed by photos did have a positive overall impact on intention to use Marketplace in the future. Our qualitative data suggest that the sellers found it hard to assess the photos and even found themselves distracted by them during the transaction experience. Others have found mixed or negative effects of photos on judgments (Riegelsberger et al 2003, Jordan et al 2011).

For practice, this suggests that the popular features like photos can have little positive impact at the transaction level. Improved understanding of how users process information in online sites should help to design online sites that provide content that leads to more robust user evaluations and judgments.

Future research should examine the effect of photos and other high social presence media on user judgments in online contexts. By evoking a distraction conflict theory, Robert and Dennis (2005) argue

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that the greater the social presence of the media, the greater the degree of cognitive effort the user has to expend to process the content. Photos induce motivation to process them but the question arises whether people are able to process them. Is there enough information to fully grasp what is happening, enough time to process and ability to reprocess the content of photos? Photos in particular are high in context richness; whereas the profile and the wall postings are low in context specificity. The media low in social presence induces less motivation but requires less ability to process. Robert and Dennis (2005) label this as paradox of richness as rich media simultaneously acts to both improve and impair performance.

The study has many limitations, a few of which are mentioned here. The study used indirect conceptualization and measurement of systematic processing and heuristic processing. Our sampling was limited to one university network.We examined Marketplace as a platform when the platform was still relatively new to many Facebook users. The transactional experience accounted for only 13% of the variance in the model, while behavioral intention accounted for 46% of the variance in the model. Other important variables are missing in the model.

## References


Bailey, J.E. and Pearson, S. (1983). Development of a Tool for Measuring and Analyzing Computer User Satisfaction. Management Science, 29 ( 5), 530-545.

Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. J. Personality Soc. Psych. 39 (5), 752-766.

Chaiken, S. and Maheswaran, D. (1994). Heuristic processing can bias systematic processing: effects of source credibility, argument ambiguity, and task importance on attitude judgment, Journal of Personality and Social Psychology, 66 (3), 460-473.

Chaiken, S., Liberman, A., Eagly, A.H. (1989). Heuristic and systematic information processing within and beyond the persuasion context. In Uleamn, J.S. and Bargh, J.A (eds), Unintended Thought, Guildford Press, New York, 212-252.

Chen, S. and Chaiken, S. (1999). The Heuristic-Systematic Model in its Broader Context, in Chaiken, S. and Trope, T. (Eds), Dual Process Theories in Social psychology, Guildford Press, New York, 73-96.

Chin, W.W. (1998). The partial least squares approach for structural equation modeling, in Marcoulides, G.A. (ed), Modern Methods for Business Research, Lawrence Erlbaum Associates.

Eagly, A.H. and Chaiken, S. (1993). The Psychology of Attitudes. Hartcourt Brace, New York.

Evans, J. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. Annu. Rev. Psychol. 59, 255-278.

Ferran, C. and Watts, S. (2008). Videoconferencing in the field: A heuristic processing model. Management Science, 54 (9), 1565-1578.

Gefen, D., Straub, D., and Boudreau, M. (2000). Structural equation modeling and regression: guidelines for research practice, Communications of the Association for Information Systems, 4 (7), 1-78

Gilbert, D.T. (1999). What the Mind's Not. In Dual-Process Theories in Social Psychology (Chaiken, S. And Tropeeds, Y. Eds), The Guilford Press, New York: 3-11.

Granovetter, M. (1985). Economic Action and Social Structure: The Problem of Embeddedness, American Journal of Sociology, 91 (3), 481-510.

Jordan, Alexander H., Benoît Monin, Carol S. Dweck, Benjamin J. Lovett, Oliver P. John, and James J. Gross. (2011). Misery Has More Company Than People Think: Underestimating the Prevalence of Others' Negative Emotions, .Personality and Social Psychology Bulletin, 37(1), 120-35.

Klein, R. and Rai, A. (2009). Interfirm strategic information flows in logistics supply chain relationships, MIS Quarterly, 33 (4), 735-762.

Koh, Y.J. and Sundar, S.S. (2010). Heuristic versus systematic processing of specialist verus generalist sources in online media. Human Communication Research, 36, 103-124.

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Moskowitz, G.B., I. Skurnik, I. A.D. Galinsky, A.D. (1999).The history of dual-process notions and the future of preconscious control. In Chaiken, S. and Trope, Y. (Eds) Dual-Process Theories in Social Psychology. Guilford Press, NY.
New York Times, (2009) Facebook's Killer Feature: The Mutual Friends List December 2.
Nunnally, J. C. (1978). Psychometric theory (2nd ed.). New York: McGraw-Hill.
Petty, R.E.and Cacioppo, J.T. (1986). Communication and Persuasion, Springer-Verlag, New York.
Riegelsberger, J., Sasse, M. A., & McCarthy, J. (2003). Shiny happy people building trust? Photos on e-commerce websites and consumer trust. In Proceedings of CHI 2003. ACM Press.
Robert, L.P. and Dennis, A.R. (2005). Paradox of Richness: A Cognitive Model of Media Choice, IEEE Transactions on Professional Communication, 48 (1), 10-21.
Sussman, S.W. and Siegel, W.S. (2003). Informational Influence in Organizations: An Integrated Approach for Knowledge Adoption. Information Systems Research, 14 (1), 47-65.
Tong, S.T., Van Der Heide, B. and Langwell, L. (2008). Too much of a good thing? The relationship between number of friends and interpersonal impressions on Facebook, Journal of Computer Mediated Communication, 13, 531-549.
Turkle, S. (2011). Alone Together: Why We Expect More from Technology and Less from Each Other, Basic Books, New York.
Uzzi, B. (1997). Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness, Administrative Science Quarterly, 42 (1), 35-67.
Watts, S.and Curley, K. (2007). Controlling Adaptation at the Edges: Dual-process exploration capability, working paper, Boston University.
Walther, J.B., van Der Heide, B., Hamel, L.M. and Shulman, H.C. (2009). Self-Generated Versus Other-Generated Statements and Impressions in Computer-Mediated Communication: A test of warranting theory using Facebook. Comm. Res. 36 (2), 229–253.
Zhang, K.Z.K, Lee, M.K.O, and Zhao, S.J. (2010), Understanding the informational social influence of online review platforms, ICIS Proceedings, St. Louis, MO.
Zhang, W. and Watts, S.A. (2008). Capitalizing on content: information adoption in two online communities, Journal of the Association for Information Systems, 9 (2), 73-94.

## Appendix A: Survey Items

**(all measured on a 7 point scale except where indicated otherwise)**

INTENTION TO USE MARKETPLACE : feel safe using Facebook to find a buyer; intend to use Facebook more and more in the future; intend to use Marketplace in the future; Marketplace motivates to take action;
TRANSACTION EXPERIENCE: TE1:To what extent was Facebook able to FACILITATE you in finding a buyer? TE2:To what extent was using Facebook to find a buyer an ENJOYABLE experience?
INFO(rmation) QUALITY (of Profile and Wall) IQ1:How complete was the information (quantity of information on profile)? IQ2:How seemingly accurate was the information? IQ3:How consistent was the information? IQ4:Was the information adequate? IQ5:How complete was the information? IQ6:How accurate was the information? IQ7:How consistent was the information? IQ8:Was information adequate?
SOCIAL QUALITY (Social and Physical Attractiveness of buyer): PQ1: The buyer looks attractive; PQ2The buyer's appearance is very pleasing; PQ3 The photos are unsettling to me; PQ4The photos tell me that the buyer likes to have fun; PQ5The photos tell me that the buyer has many friends
ACCESS**:** Did you have access to the buyer's Facebook profile? (Yes/no)
MUTUAL FRIEND PRESENCE**:** 1=no mutual friend, 2= mutual friend exists (number of friends provided), 3=yes, mutual friends exist; one or more mutual friends asked for their opinions about the buyer.