

"Shared Joy is Double Joy": The Social Practices of User Networks Within Group Shopping Sites

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ABSTRACT

Group-shopping sites are beginning to rise in popularity amongst eCommerce users. Yet we do not know how or why people are using such sites, and whether or not the design of group-shopping sites map to the real shopping needs of end users. To address this, we describe an interview study that investigates the friendship networks of people who participate in group-shopping sites (e.g., Groupon) with the goal of understanding how to best design for these experiences. Our results show that group-shopping sites are predominantly used to support social activities; that is, users do not use them first and foremost to find 'deals.' Instead, group-shopping sites are used for planning group activities, extending and building friendships, and constructing one's social identity. Based on these findings, we suggest improved social network integration and impression management tools to improve user experience within group-shopping sites.

Author Keywords

ecommerce; shopping; group shopping; group buying; impression management

ACM Classification Keywords

H.5.2 [User Interfaces]: User-Centered Design

INTRODUCTION

Electronic commerce (eCommerce) has rapidly transformed over the last several years with the emergence of social networks, app market places, and the proliferation of smart phones. One emerging area of eCommerce is group-shopping sites, such as Groupon, LivingSocial, Plum District and Half Off Depot. These sites entice consumers with wholesale prices and are built on a business model that combines coupon discounts and group-buying [13]. In most cases, users browse or receive notices (e.g., in email, phone notifications) about current shopping specials that require a certain number of users to purchase the item in order to

receive the reduced price. People then forward these notices to friends, family, or others who they think might purchase the item as well. Once purchased, users redeem a printable voucher from the business to receive their deal. Groupon Inc., the largest group shopping company online [2], grew revenue by 223% percent in 2010 and generated more than \$700 million in revenue [2] with a presence in more than 150 markets in North America and more than 100 markets in Europe, Asia, and South America [19].

While online group-shopping sites are becoming large players within the eCommerce sphere, we still know very little about how people are actually using them and to what extent the sites actually support the real needs of shoppers. To date, most research on eCommerce looks at the shopping practices of *individuals* on online web pages [8,11,29] or while mobile [26,27,36]. Hillman et al.'s study of trust in mobile commerce (mCommerce) revealed that small 'friendship' networks of online shoppers exist; yet they do not elaborate on the details of how they shop and how well group-shopping sites support their practices [12]. Understanding how users shop within these 'friendship' networks will provide us with a deeper understanding of the changes occurring within eCommerce and allow us to design shopping experiences more tailored to the needs of real end users.

To address this, we investigated the social dynamics of 'friendship' networks: groups of self-selecting individuals who jointly participate (at varying degrees) in shopping for products or services online. Based on semi-structured interviews with nineteen people, we document the details of 'friendship' networks, their core shopping practices, and the social implications formed as a result of their shopping behaviour. Surprisingly, we found that the main usage of group-shopping sites was often not about the shopping. That is, the goal of using the sites was not first and foremost about obtaining products or services. Instead, group-shopping users exhibited a larger set of social behaviours focused on social activities, such as event planning, building relationships, and identity construction—similar to activities found within social media sites. The challenge, however, is that the tools built into group-shopping sites are not focused on the social activities we uncovered in the same way that social

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networking sites and social media directly support group and social networks. This suggests a compelling avenue of interface design for group shopping that is focused more around friend networks and social activities, while still supporting the core routine of shopping as a group.

RELATED WORK

There exists a variety of research on general shopping and eCommerce. We discuss this first and then narrow in on existing studies of group shopping and buying.

Shopping and eCommerce

Consumers' behaviours consists of three distinct activities as it relates to commerce: shopping, buying, and consuming [34]. For our purposes, we refer to 'shopping' as the first two of these activities as they are often highly-interlinked when it comes to eCommerce [12]. Within this act of shopping, Tauber has identified both personal and social motivations for people to go to stores and shop. Personal motivations includes aspects such as diversion, self-gratification, physical activity, and sensory stimulation, while social motivations include a desire to have social experiences outside of the home, the need to feel a certain social status, and desires to exhibit one's own authority (by purchasing something) [34]. Turning to eCommerce, Roham and Swaminathan [29] developed a typology of online shoppers based on their shopping motivations. Types of shoppers included: convenience shoppers (motivated by convenience), variety seekers (motivated by variety across brands), balanced buyers (motivated by both convenience and variety), and store-orientated shoppers (motivated by physical store location). Our study reveals a new type of online shopper, motivated by social activities and impression management.

The emergence of online shopping has forced retail businesses to no longer just compete on price, selection and extended hours [3]. eCommerce has forced retail to engage in "entertailing"—entertainment and retailing—to remain competitive. Entertailing involves leveraging "bricks and mortar" advantages [3], such as face-to-face interactions and a physical space, to have the customer be engaged longer and potentially spend more money. This same concept of "entertailing" can also be carried over to eCommerce in the form of increased dynamic experiences [7]. Childers et al. tells us that "a technology orientated perspective that attempts to treat shopping media as cold information systems, rather than hedonic environments, is likely to be fundamentally misguided, especially for products with strong hedonic attributes" [7].

A lot of research has been done to explore trust in eCommerce. The assumption is that online shopping is often risky because people must provide confidential information (e.g., credit card details) on the web, there is no physical store to go to if problems arise, and there is a lack of human interaction (which may help to promote trust and security) [11]. As a result, researchers have suggested

various trust models that focus on suggesting mechanisms to ensure trustworthiness in eCommerce sites [11,12,20,21]. These include building trust through similarities between the company and consumer, creating a history of past transactions, and presenting a public presence that is respected and shows integrity [20]. We also see that, as it relates to mobile commerce, small social networks (e.g., friends, family) provided a persuasive impact on trust while shopping on a mobile device [12]. This was a result of the shoppers trusting the shopping recommendations they received from friends, which translated into trusting the company offering the product [12].

Group Shopping and Buying

The idea of shopping with others is not a new concept. Studies by Miller et al. in the late 1990s show that even though most people preferred to shop alone, there were times when people highly valued being able to shop with friends, partners, and other family members [22]. This was despite findings showing that shopping with others, in particular family members, would often create interesting social challenges (e.g., teenagers shopping with parents) [22]. We also see many companies developing marketing strategies focused on the idea of 'group shopping'. For example, offline "club plans", such as those created by the Great Atlantic & Pacific Tea Company and the Larkin Company date back to as late as the 1800s [13]. Their online counter-parts, such as Mobshop, Mercata and Letsbuyit, have been trying to achieve the success Groupon currently has since the late 1990s.

Research on 'user network shopping' describes how people in 'virtual communities' discuss and influence the shopping behaviors of others [8,28]. Here virtual communities relate to people who discuss products and shopping over computer-mediated communication systems such as Internet message boards, online chat rooms, and virtual worlds. Study findings show that groups of individuals in these communities do not shop together online but instead influence the purchasing behaviours of others in the community by suggesting normative behaviours [28]. Thus, the idea of a virtual community is distinctly different than the shopping networks we describe.

Past research on mobile commerce [12] explored users' routines and behaviours for mobile shopping where they communicated requirements for successful mCommerce designs in the future. Within this study, a clear user type emerged—those who participate in small social networks when shopping on group-shopping sites such as Groupon. These participants described their daily routines as habitual processes of checking group-shopping sites then engaging a set of "shopping buddies" to discuss, shop, and finally participate in the purchased service [12]. Beyond this, we do not see any detailed user studies that have looked at group-shopping websites and the behaviours of users who use these sites.

In summary, the related work provides a backdrop for understanding network shopping within eCommerce. We return to these topics in our Discussion section where we also introduce additional literature on social networking, social media, and awareness in order to situate our findings.

STUDY METHODOLOGY

We conducted semi-structured interviews with users of group-shopping sites to understand their shopping networks and routines during the spring months of 2012. We chose this method specifically so the interviewer could create a positive rapport with the interviewee in the hopes of collecting personal data on shopping and relationships.

Participants

We recruited nineteen participants (6 male, 13 female) through word of mouth, social media and online forums focused on shopping. All participants were from the same metropolitan city within North America. Ages of participants ranged from 19 to 62 and occupations varied heavily (e.g., health practitioners, administrative assistants, students, stay-at-home-moms, designers, fitness instructors, systems administrators). Participants' technical abilities ranged from beginner to expert. Participants were all frequent users of group-shopping sites. Participants also ranged in terms of the shopping sites they used. All but one used Groupon. Seven participants said they used Living Social, four participants used OneSpout to aggregate their deals, three used Swarm Jam, and two reported using local group-shopping sites exclusively (e.g., what is an example of a local site?). Participants had all used group-shopping sites between six months and three years; thus, nobody was a novice group-shopping site user.

Method

Our study contained two parts:

1. Sharing Map. First, participants were asked to draw a "Sharing Map" that depicted the people with whom they had significant online shopping interactions. Here participants would draw or write the names of friends, family, and acquaintances. For example, Figure 1 shows a reproduced sharing map based on one of the participant's drawings. This participant wrote "Me" in the center of the map and then drew lines to point to the people that they shared with and the people who shared with them. In this case, the participant used the direction of the arrowhead to indicate who was sending information about group-shopping deals. Double-headed arrows indicated mutual sharing of deals. Some people even wrote or drew the method used for sharing (see "phone" in Figure 1).

The maps produced by participants varied heavily, however, they all served an important purpose of opening up the conversation and providing grounded examples that the participants and interviewer could refer to when discussing their shopping practices. This is consistent with past studies that have used a similar technique [9,23,33].

After participants completed the map they were asked to explain what they had drawn and why. We asked who the people were and how the participant knew them, why and how the participant shared with them and how often, how their relationships on the map related to their non-shopping relationships, and how the map had developed over time (e.g., expanding or getting smaller based on a changing shopping network).

2. Semi-Structured Interview. Next participants completed a semi-structured interview that lasted between twenty and fifty minutes. Questions were divided into three areas:

a. **Background.** The first section looked at the participants' background on group-shopping sites. Questions explored how long they had used group-shopping sites, what sites they used, and what devices the participants used while browsing and shopping these group-shopping sites.

b. **Sharing Routines.** The second section focused on understanding participants' sharing habits. Participants were asked if they shared the deals, and if they did how they usually shared them with others (e.g., phone, text, email, instant messenger), who they shared them with, and what device they used for sharing (e.g., phone, tablet, pc, laptop, etc.). Participants were then asked to recall the last time *they* shared a deal with someone else and to describe the activity. Finally, participants were asked to think of the last time a deal was shared with *them*. Questions around this instance aimed to understand why the participant received the share, who it was from, and how it was shared with them. Participants were also asked how representative these experiences were of their broader routines.

c. **Purchasing Routines.** The final part of the interview asked participants to think of two specific instances, the last time they shopped online (not using a group site), and the last time they bought something using a group-shopping site. We, again, wanted to get a detailed and grounded understanding of their activity. Participants were also asked how representative these recent experiences were of their broader shopping routines and if they could think of any instances of shopping that were unusual or interesting.

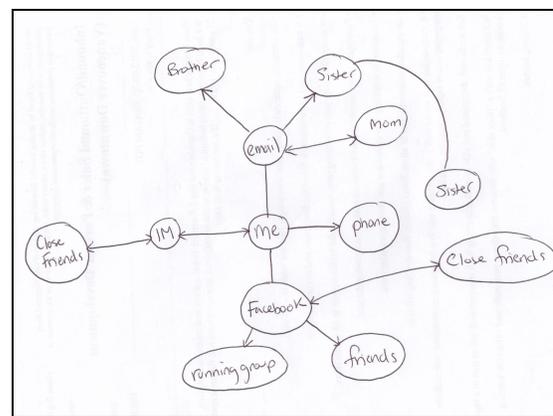


Figure 1. A participant's Sharing Map (reproduced).

Data Collection and Analysis

We recorded and transcribed audio for all portions of the study. Each transcription was then analyzed using open, axial, and selective coding to draw out the main themes [33] and compare our findings across participants. From these codes, categories and broad themes emerged, which are discussed in detail below.

First, we outline the attributes of the ‘groups’ of people that our participants included as part of their shopping networks. Second, we outline their routines for sharing shopping information with others. Third, we describe the unique purposes behind their network shopping activities.

GROUP-SHOPPING NETWORKS

Our ‘sharing map’ activity coupled with the interviews revealed that participants all had a distinct notion of who was a part of their shopping network.

Network Size

Participants were asked how many people they frequently shared shopping deals with. Answers ranged from three to twenty people with a median response of seven individuals. It was clear that this number was nearly always purposely-selected and directly related to the participant's ability and desire to provide quality interactions either online or offline with these people. That is, participants wanted to ensure they could maintain a good relationship with these individuals. For example, P9 indicated that she kept her network small because she was "picky". Other participants also expressed similar attitudes of quality over quantity when sharing.

I only send it to people if I thought they would be interested in it, I wouldn't just send it out for the sake of it. – P13

Most participants reported that they felt the size of their network was either expanding (seven participants) or staying consistent (ten participants), while two reported that their network was decreasing in size. In both cases this was due to a loss of local friends, one being because of a romantic break-up and the other because of moving to another country. For networks that were increasing in size, it was because people found more friends that they realized they could include in their shopping exchanges given similar interests, etc. It is important to note that participants talked about those who were in their shopping network from their own perspective. That is, we do not know if the people who participants described would similarly include themselves in the participant's shopping network, if asked.

Network Makeup

In the sharing activity, participants either drew their sharing networks in groups or wrote labels such as “family”; or, participants would just simply list the names of actual people then describe their relationships. Across all participants, shopping networks included a mix of family members (included by 17 people), co-workers (included by 5 people), friends (by 18 people), or acquaintances (by 7 people). A little over half of the participants had networks

predominantly formed with just family and friends, and a little under half focused on acquaintances.

We noticed that each participant had a core network of people who they frequently shared deals with. At times, they would infrequently share with others who might be considered extended friends or they might occasionally post to an online forum of strangers. But, generally speaking, social shopping networks contained those people with whom participants had a close relationship.

I'm more likely to say directly to a girlfriend 'hey you were looking for this so here it is', but with guy friends just something if I think it's cool like really good price on some martial art classes or when they put up a coupon for the gun range I'll just post it on the wall on Facebook if anyone's interested they would just happen to stumble on it. – P1

In some instances people would be a little more aggressive and tag individuals who they wanted to see the post.

I did tag two people on [my wall post]. For [a music festival], I did that just to see if anyone wants to go. – P9

Throughout the remainder of the results, we will refer to one's shopping network as the core group of individuals that they shared with and occasionally point out how participants went beyond it.

Overall, the most surprising part of network composition was that participants easily defined whom they shared with. When questioned about people who were left off the map, the participants either indicated that they could not think of an instance when they would share with anyone else or no one else was really part of their network. They would simply be described as just "one-offs".

SHARING ROUTINES

Within their social shopping networks, participants had distinct ways in which they shared with others. This related to their perceptions about what deals others would like to know as well as knowledge of the routines of others. We also saw interesting dynamics based on how participants ‘placed’ themselves in their network (e.g., centrally or not).

The Matching and Mismatching of Shopping Interests

First, it was clear that participants shared shopping deals the most with people who had similar interests and goals for shopping, activities, etc., as perceived by the participants. Thus, their shopping network consisted of people who were ‘like them’ and this reflected itself upon the shopping deals where they assumed they had similar interests as well.

[Who I share with the most] would be a tie between these two people R. and S. They're both probably the most similar to me in terms of always wanting to try new things... – P6

When participants were asked if they had sent any shares (forwarded information about deals) that might be regarded as spam or misaligned to their network, they emphatically

denied this could be the case. Further, they would describe the intimate knowledge of recipients' routines and activities to *prove* that group-shopping deals they shared would be well received by the recipient.

I obviously know my friends and my family really well and if I think that they like it then I send it to them. – P10

Despite their assertion that *they* had never shared items that others would not like, participants talked about situations where someone in their shopping network had shared a deal with *them* but it was not actually of interest. They described this as a negative experience.

It was my best friend from high school, [she shared a deal with me for] American Apparel. I don't shop there but she does. - P3

While some participants mentioned that it was probably an oversight on their friend's part, some did indicate it would affect their online shopping relationship going forward. For example, in P17's case, when asked if anyone had ever considered anything anyone ever sent him as spam, he indicated his mom's shares were not what he was looking for and would now ignore her shares.

[My mom] sends me lots of silly things so I don't really pay attention [to them]. – P17

Only one participant reported having shared or been shared something where the sender's goal was to get a cheaper deal for *herself* (rather than the shopping network). Thus, people remarkably had the interest of the network in mind when sharing shopping deals and purposely tried to share in a way that might help others, rather than just themselves. This relates to impression management, which we discuss later on. Our results also show that the number of reported negative experiences related to deal sharing was small, but they did occur. In these cases, there is a mismatch in what people think others will find valuable, which is hard for the sender to realize.

Hubs vs. Clubs

Participants were not only certain of the groups within the network with which they shared with, they were also sure of the roll they played within those groups. This relates to the amount that they shared with others and the ways in which sharing occurred amongst network members. Two types of user groups clearly emerged within the data.

Unbalanced Sharing

The majority of our users (twelve participants) classified themselves as participating in unbalanced sharing. This meant they sent out more deals than they received. These participants described themselves as being a "hub", or "that type of person who brings everyone together".

I probably send more information out than I get in but that's like me... Maybe like 3 to 1 ratio. – P10

Usually it's one-way thing, I mean I don't have lot of friends who participate in online coupon things so there's

maybe 2 other die-hards who will post on their Facebook wall. – P1

Balanced Sharing

The other seven participants described themselves as sharing equally with others in their shopping network. With these participants, they described the activity of sharing as being part of a club or partnership and occurred in one of two ways. First, there were those participants who had a balanced relationship and were essentially in a partnership of two where they would have a 'shopping buddy'. They would most often shop with this person and it was reciprocated. She gets everything. Every time I buy something. She is probably one of my closest friends. She gets cooking, she gets products, she gets restaurants and she gets travel deals... – P2

Second, there were some participants who were part of close-knit shopping network with more than two people. Here, again, sharing was balanced amongst the network.

I have three main people who we email back and forth in terms of 'did you see today's deals and did you check this out?' - P11

Mediums Used for Sharing

Participants shared deals with others using a variety of technological mediums. Nine people said they shared using Facebook wall posts, nineteen people said they used email, nine people said they would call people, five people said they sent text messages, four people said they used an instant message service (e.g., Facebook Messenger, Skype, Google Chat) and two people indicated they would talk to someone face-to-face.

Participants, again, talked about having intimate knowledge of the routines of their recipients. This time they described knowing of what technology the recipient would use most often or would represent the best way to reach this person. Deals would be forwarded or sent to the person using this preferred medium. Participants also talked about these mediums in terms of the comfort level the recipient would find in them. This relates to topics such as privacy, e.g., where other friends of the person may also see the deal and potentially judge them.

He uses Facebook a lot and posts a lot on his wall, so I knew he would be comfortable with that and I felt it was really fast way for him to see it. – P6

Depends on their own lives -- my mom doesn't she is not [into] computers; she does not have a computer or anything like that. Sometimes I'll send it to my brother to pass it onto her but [I might] phone directly to her so that's there is no 3rd party involved, sometimes family members can interfere and not send an message and stuff so I'll phone her directly. - P16

Email was often described as the easiest way to communicate and facilitate social activities. Participants would forward deals or copy and paste a link into the email;

these emails were often triggered by the daily emails sent by group-shopping sites.

He forwarded it to me via email. It is probably easiest to forward, and literally he is a lazy [guy], so it was probably just ease. I forwarded [mine] via email. [I am] lazy too. Because I get them on my email and just press forward and send it. - P19

However, some participants said that when excitement for the deal or urgency was high they would turn to a more synchronous form of communication for instant responses—the phone. For example, this often occurred when the deadline for a deal was drawing close.

Well occasionally we actually phone each other...like if she tries to email and I don't get back within certain period of time she'll just phone me [and say] 'have you checked your email? What do you think, I'm just going to buy this right now?' Sometimes we do the buy for a friend so she is like, 'heads-up, are you interested in this I'll just buy one for you... - P11

If it was deal that I thought he would really like I would either call him at work or text message him. - P1

SHARING PURPOSES

Given our results thus far, as well as one's intuition, the expectation would be that the purposes behind participants' network shopping efforts would be to first and foremost purchase products at reduced prices. Yet when we analyzed the participants' responses around their motivations and goals more deeply, we found it most surprising that group-shopping sites were doing more than just supporting shopping. Instead, they were more deeply supporting social activities. These activities reached beyond what one might expect and revealed an underlying purpose, which played a significant social role in these users' social lives. Here we found three 'social' sharing purposes: event planning, building friendships, and identity construction.

Social Event Planning

We found that social event planning was the most apparent form of social activity being supported by group-shopping. Every participant described at least one instance of social planning that related to their shopping and many described a large number of these. That is, participants were trying to plan activities and events with the people in their shopping network by sharing a shopping deal. Activities included, planning lunch dates with co-workers, attending music concerts, and shopping offline together (by sharing clothing vouchers). People also tried to suggest or plan trips with others by sharing deals related to traveling. This included whitewater rafting trips, "booze cruises", and trips halfway around the world:

I send it to them and say 'hey, any interest in going out for dinner? Here is a Groupon.'" - P19

I shared it with a friend that was coming into town and couple of my friends on here as it was cruise thing and that

was quite recently. It was like a wine tasting thing like 3 hour cruise. I thought they would want to do it with me because they are Brits too so it thought it would be good thing for us to do to explore. - P13

We were surprised to hear participants describe their decision process for buying items. Here they predominantly talked about whether the activity would be good socially and very rarely, if ever, did they think about the cost of the item or whether it was a good deal or not. Their focus was nearly always on the social nature of the activity. Thus, social shopping sites remove any perceived risks associated with the purchase (by making the cost small), thereby allowing users to spend less time worrying about the actual shopping purchase and more about how they will partake in the actual activity.

Building Friendships

We also found that a large number of participants shared deals to build new or existing friendships. We saw examples of this earlier when participants would post open invites on their Facebook Wall and share deals with people outside of their normal shopping group. Participants also reflected on how the group-shopping sites had changed their relationships and their social lives. For example, this included thinking about whether the interactivity brought them 'closer' to their friends:

I am a lot more social... in the whole scheme of things the Groupon sites, they are great and I like them a lot and I think they are great way to make your own social circle. Especially for me I was bit withdrawn before. I don't, I wasn't one of these people - I'm really not social but then when I started having things to talk about or to share with people then this is really easy right. - P16

It has definitely brought us all closer together... we are trying out different places...and doing things that you would necessarily think to do... - P11

While the participants would mention the low cost of the items being a very real component to their interest in the service, the deals really just seemed to allow them to not worry about money and focus on the social implications of their shopping and purchasing.

It has dramatically changed my social life for sure. I was recently laid off at work... without these deals I wouldn't be able to eat out at all. I actually have a social life... - P11

We did this weightless thing, it was so cool and it was something we would have never done, but it was half price and it was one of our birthdays... we are trying different things so I think it allows you also get out of your little comfort zone a bit because - you are thinking - that's so cheap and I always wanted to learn how to do that - P11

Identity Construction

Participants also very clearly used the sharing of deals to present, create, and construct a preferred identity for themselves. While participating in the sharing of these

deals, participants were very aware of the image they were projecting. Participants described their acts of sharing as an extension of not only their online identities but also their offline ones as well. For example, P7 described how he enjoys forwarding Groupon emails because the clean aesthetic of the email reflects well on him:

The nice thing about Groupon is it has good colour schematics, good presentation you don't feel like you are forwarding for example lame joke... - P7

Other participants talked about network shopping being a way to further project their desired social role. This might include being a network leader, a particular type of person (e.g., nerd), or having general personality attributes, (e.g., being “cool”).

To be honest I am the nerdier guy, so I'm sending the deals out, not lot of people are sending me deals. - P4

I'm a manager so I am always looking at any kind of Groupon... for anything like paintball outings, go-kart outings that can be fun as a group, that kind of thing... [I] look like the cool guy. - P15

Several participants talked about being helpful people. In these cases, the sharing of deals was seen as increasing one's social value in the network or amongst their friends. For example, one participant described posting fitness membership deals and a running shoe deal on a Facebook Running Group he was part of. He informed us his goal was to 'help out' other members of the network. Several participants described similar incidents:

I told them they can take bartending course for \$39 and got really positive feedback - P4

I share because... it is like that old idiom, 'shared joy is double joy' - P12

CHALLENGES AND IMPROVEMENTS

Participants also expressed concerns spanning a variety of topics related to group-shopping. First, some participants expressed concern over the privacy of their friends' email addresses when sharing within a group-shopping site.

I want to be helping my friends, not signing them for a service that they curse me for. - P12

Second, participants told us that the time limit of deals became problematic because of indecision or a lack of knowledge as to how many people had received the deal, or were going to purchase the deal.

[Sometimes] there is too many of us trying to decide, so we won't book it, 'cause we just forget about it'. - P13

[My partner] wants to do [the activity deals] all the time. So when I see them I forward them off to him and say, 'want to get the guys together', but that has yet to happen. But [my partner] doesn't forward it on to his buddies, because he is lazy... We also get busy and forget, and they are usually expired by that point. - P19

Third, many participants told us that deals often did not match what they were interested in. These related to the deals sent to them directly by the group-shopping websites.

If it was more that I would be interested in, because some of them are not relevant to my friendship circle or the people I know they would not like it so I wouldn't bother. - P13

Participants were asked if they had any improvements they would suggest for group-shopping sites to make them more useful. Some participants expressed a need for a contact list so they could easily select the people they wanted to share the deal with.

If each of these sites you could program a list of your contacts in there and then when you go check your vouchers you could just click on these people and just automatically send them the link, that would be great. - P11

A few mentioned they would like to know what their network was looking for so they could tailor it to their needs. One participant mentioned that she would like to be able to suggest deals and have better search functionality based on a tagging system.

DISCUSSION

The purpose of our study was to explore the dynamics of social networks that participate in group-shopping. We now summarize our findings, compare them to the related work, and make design suggestions for group-shopping sites.

Network Awareness and Sharing

First, our results showed that shopping networks were small, well known, and typically comprised of people with a close relationship. Group-shoppers also knew about their family and friend's technical infrastructure and preference for technologies when it came to choosing a medium to facilitate communication. Communication mediums ranged from email to Facebook and even face-to-face communication. The latter is similar to Ahmet et al's finding that the majority of mobile app recommendations were the result of face-to-face communication. These findings also align closely with prior research on family communication more generally. For example, Tee et al. [35] reported that extended family members—people who are related but do not live in the same household—knew a lot about their extended family member's technical infrastructure and preference for technologies when it came to choosing communication mediums. Neustaedter et al. [23] found that people have a range of needs for staying in touch with family and friends and articulated this into two broad clusters of contacts: those where a strong need of awareness was required, and the second, where the need was described as "more discretionary" [23]. We also saw this in our findings where participants had a close group of 'friends' in their shopping network, in addition to a more discretionary group that they shared with inconsistently and described as being 'outside of the group'.

Social Activities and Behaviors

Overall we found that group-shopping sites were predominantly used for supporting social activities amongst individuals in a friend network. These activities were similar to those found in recent studies that describe how people use Facebook to maintain an awareness of their friends' activities through location [5], coordinate offline socialization [6], and build relationships [14,17]. Yet despite this usage, we see that most group-shopping sites did not contain many features to support such activities well. Instead, people had technology workarounds where they would utilize a variety of different technologies (e.g., the phone, email, instant messenger, Facebook) outside of the group-shopping site to fulfill their social needs. This is because most group-shopping sites did not include listings of social contacts, there were limited tools for collaborative planning—such as events and the sharing of services—and they did not support peer-to-peer feedback (which is traditionally found in socially-designed systems as explored in [14]).

This is not necessarily bad, however, the usage of a multitude of tools *does* place additional effort on the user to, for example, remember contact lists, move pertinent content between mediums (e.g., transferring deal information from an email to text message), track one's activities across different mediums (e.g., knowing who has responded about a deal), and keep records of upcoming events based on purchases.

From these findings, we believe that group-shopping sites can benefit from similar design implications as described by both Barkhuus et al. [6] and Joinson [14]. Here we suggest that group-shopping sites include features and functionality that integrate existing friend networks (e.g., email contacts or social media friends). Such features should allow users to maintain interactions with their shopping network and allow friends to follow-up on their shared interaction. They should also give users the ability to easily send out invites for deals and organize their friend 'circles.' Our study showed that shopping networks consisted of well-defined (family, friends, co-workers, acquaintances), consistent network sizes, and consistent network sharing practices (Hubs vs. Clubs). Given this, social media models that support the clustering of contacts into a small group (e.g., Google+) would fit nicely with group-shopping sites. Social networks such as these have pre-existing data with detailed network context and this data can easily be used to create dynamic contact lists which already have functionality to facilitate and display feedback such as "likes", comments and event RSVP systems. The ability to provide feedback can help in the management of social identity and event planning.

Having access to one's current social network when sharing could also eliminate the need to know intimate details of how to share with a potential connection (e.g., which technology to choose) since social networks already have

personalized cross medium notification systems in place. This would also allow group-shopping sites to bring in other contextual information that might help remove misalignment of interests (e.g., sharing a deal that someone is actually not interested in). If users knew their friends liked particular services or products because they posted about them on a social networking site, this could inform their recommendation or improve alignment. One could also think about strategies beyond this where the act of using a 'social login' or a site that shares activity information with friends might also support recommendations. For example, Ticketmaster has recently introduced a service that allows people to see the seats their 'Facebook friends' have purchased, so they can plan accordingly for the event. This example of using social data with a shopping experience is an excellent example of ways to utilize social login when shopping.

Hedonic Motives & Impression Management

Our results show that shopping within an online network can go beyond hedonic motivations, which include simply the pleasure of shopping. This involves "role shopping" [3] or "role playing", as identified by Tauber [34], where one uses shopping to present and construct a particular identity. Thus, even though the goal of group-shopping sites is to get people to buy items, people also use the site to project a particular identity. Goffman [10] defines identity from a sociological perspective as the mental model one has of him or herself. According to Goffman, identity is a performance by an "actor" to an "audience" (e.g., those observing), which is aided by other "cast members" (e.g., friends, colleagues) who help establish and maintain one's identity.

Currently, group-shopping users who participate in impression management have few ways to control their image or track the results of their presentation. Getting feedback of whether or not a friend purchased based on a recommendation or, more specifically, what they thought of a recommendation is imperative in developing this connection. Using Goffman's terms, first, current tools provided in group-shopping sites do not allow the 'actor' to provide awareness to either the 'cast' or 'audience' of the constructed identity. By this we mean that the actor (or user) must use other tools to share deals. The only people that see these are the direct recipients, or the cast. The larger audience that the actor may want to share this 'identity' with, his or her larger social network, does not see it since the communication is outside of a larger social networking system. This takes away the ability for an 'audience' to even partake—via surveillance or any other means—with the user's activity. It also means that the 'cast' has few ways to engage with the 'actor' in a reply to this sharing, which limits the feedback the actor can receive about this constructed identity. By more closely linking one's group-shopping activities with social networking features, users could more easily engage with all aspects of impression management.

Of course, there is the risk that providing social networking tools within group-shopping sites may pose privacy issues for some individuals. That is, some people may feel they are more 'on display' if group-shopping sites are linked with large networks of their friends. In these situations, it is of utmost importance that users are able to regulate who within their social network sees their shopping activities, such that they can further regulate how their identity is presented to their friends and family.

Our results on impression management are similar to other studies that found people similarly trying to construct a particular identity, even though the systems being studied were not meant for identity construction per se. For example, Volda et al. [37] found users in a workgroup setting felt pressure to adapt to office norms and participate in iTunes music sharing when they saw other co-workers participating [37]. People made use of iTunes as "an explicit mechanism of awareness" where the system would inform the office of the locations of users and help to establish impressions [37]. These results suggest to us, as does Volda et al.'s work [37], that users expect even non-social websites to aid in the construction and presentation of one's identity, whether they are built for it or not.

Similar to Volda et al.'s study—except not about impression management—Sadeh et al. [25] uncovered surprising results when they completed a study focused on understanding user's attitudes towards privacy when they interacted with location-sharing mobile applications. Results showed that even though the site was not intended for it, people used the application as a social awareness and engagement tool.

While our study focuses on group-shopping sites in particular, we believe that it along with studies by others, are beginning to reveal a larger social phenomenon that is occurring in technology usage: As people become more familiar with social networking sites, they begin to expect such features to be included within a broader set of technologies. Moreover, their practices with social networking sites extend beyond these sites and, if the sites do not support these behaviours, people find workarounds to achieve them. Considering how people have adopted social networking sites such as Facebook, it is not surprising to see that people are using and have expectations to use others sites as social tools. This is a hypothesis at best and future work should continue to explore such changing social expectations around online experiences.

CONCLUSION

Our study explored how networks of people shop online through group-shopping sites. The main finding is that group-shopping is about the social experience, and not just about shopping. Yet group-shopping sites are not designed for all of the social behaviours revealed in this paper. This suggests that group-shopping sites could be designed better.

What is most interesting about the user behaviours we uncovered is that unlike the social networking sites studied in the past (e.g., Facebook), these interactions are originating from a commercial application where shopping is assumed to be the primary purpose of activity and communication is done throughout a variety of systems not part of the shopping sites (e.g., email, Facebook). Through workarounds, users are instilling their social media acceptations around communication and social focus to other sites in different contexts. Moreover, the "good deals" lend themselves to this by creating a low risk mentality amongst users. This allowed users to forget about the logical aspect of shopping and focus mostly on the social experiences they gained by participating in group-shopping. These reveals a variety of opportunities for technology design where features found in social networking sites may begin to be incorporated within group-shopping to improve user experiences. We plan to explore such ideas as future work.

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