

**Motivation Crowding in Online Product Reviewing:
A Qualitative Study of Amazon Reviewers**

Abstract

This research explores online reviewers' motivations and how different motives interact with one another. Through in-depth interviews with Amazon reviewers and a six-month observation of the reviewers' forums, the study found that extrinsic motivation may crowd out or crowd in intrinsic motivation in different scenarios. If a reviewer becomes driven mostly by status recognition and reciprocal obligation, their initial intrinsic enjoyment may suffer a crowding-out effect. The reviewer's motivation mix can also be in a state of flux as they rise through the ranks. This research sheds new light on motivation crowding and offers implications for online review management.

Keywords: online reviews, motivation crowding, intrinsic motivation, extrinsic motivation, self-determination theory, fake reviews

Introduction

Online customer reviews play an increasingly important role in consumers' purchase decisions. A typical online customer review consists of a numeric star rating summarizing the reviewer's overall evaluation of a product and a short text of more detailed rendition of the consumption experience. According to recent marketing surveys, two-thirds of consumers trust customer opinions posted online (Nielsen, 2015) and 91% of shoppers read online reviews before making purchase (Brightlocal, 2016). Academic research has also documented the impact of online customer reviews on product sales: an increase in the average rating score or an addition of favorable review could have a positive impact on product sales (Anderson, 2012; Chevalier & Mayzlin, 2006).

However, what we know about reviewers is still very limited. As Hernández-Ortega (2018) points out, to better understand the impact of online reviews, we should not only study *what* is being said in these reviews but also *who* says what. Reviewers generally are reluctant to disclose much of their personally identifiable information such as name and occupation. At the time of writing this manuscript, no reviewer ranked top 50 on Amazon.co.uk used their real name. The reviewers' public profile pages are often left blank. Precisely because most reviewers choose to hide behind pseudonyms, Amazon provides a special "Real Name" badge to encourage posting review with real identity. On the contrary, like many other online spaces, a small percentage of most active reviewers on Amazon are contributing to the vast majority of the content (Baeza-Yates & Saez-Trumper, 2015). The important role of these active reviewers and the scarcity of information about them beg the question: Who are these people and why are they writing so many product reviews?

On the surface, online reviewing is a type of prosocial behavior that is costly to reviewers and primarily benefits other consumers. To this end, it is similar to contributing programming codes in open source software (OSS) communities, where programmers voluntarily spend time to write software codes, which ultimately benefits the OSS community and beyond (Lerner & Tirole, 2002). Prior research has identified a variety of motives behind these prosocial behaviors, including intrinsic motivation such as enjoyment and altruism, as well as extrinsic motivation such as reputation and career advancement (Oreg & Nov, 2008; von Krogh, Haefliger, Spaeth, & Wallin, 2012). While intrinsic and extrinsic motivation may each have distinctive effects on

prosocial behavior, they may also interact with each other in different contexts (Ariely, Bracha, & Meier, 2009; Festré & Garrouste, 2015). Because online reviews have significant impact on consumers' decision-making, some manufactures and sellers send free sample products to selected consumers, along with explicit request for positive review. This practice casts a shadow over the credibility of online customer reviews that are supposedly being generated by genuine customers.

As multiple motives may be behind the online reviewing phenomenon, the complexity of reviewers' motivation in this seemingly prosocial act warrants further research. As von Krogh et al. (2012) stated, despite a large body of literature on voluntary online knowledge contribution, little attention has been paid to *the interaction between different types of motivation* and how the interaction shapes contributor's behavior. Even fewer studies in the Information Systems (IS) field use qualitative methods to investigate online reviewers' motivation mix. The important research problem that Roberts et al. (2006) raised – “how are the motivations of contributors related, i.e., are they independent, complementary, or contradictory?” – remains unanswered.

This is an important question for academics and practitioners alike. The interaction between types of motivation is still strongly debated among psychologists and economists, particularly about the generality and empirical relevance of “motivation crowding out” – an observation that providing extrinsic incentives can sometimes undermine intrinsic motivation for performing a certain act (Festré & Garrouste, 2015). A study of online reviewers' motivation mix and motivation interaction contributes novel empirical evidence to the debate. For IS researchers, this topic is of great relevance in many human–system interaction scenarios, where different motives are at play. For example, in a recent commentary about gamified information systems, Liu et al. (2017) called for more research into how to achieve effective gamification designs by leveraging a variety of intrinsic and extrinsic rewards that are interacting with each other. Similarly, in Zhao et al.'s (2016) study of social Q&A communities, the authors stated that little research has investigated how extrinsic motivation moderates the impact of intrinsic motivation on knowledge sharing in online communities. These recent papers all point to the opportunity for IS researchers to enrich the theory of motivation and to offer practical insights into how to leverage extrinsic rewards to encourage desirable actions in online spaces.

Through in-depth interviews with 27 reviewers on Amazon.co.uk and a six-month observation of Amazon reviewer forums, this research aims to explore the online reviewers' motivation mix and how their different motives interact with one another. The present paper makes three principal contributions. First, as one of the first qualitative studies on online reviewers, this paper provides a rich and grounded description of why people contribute online reviews. Such a description is important to researchers and marketers, as it helps to understand motivational mechanisms of generating effective electronic word-of-mouth. Second, the study develops a preliminary framework depicting the interaction of extrinsic and intrinsic motivations in the context of online reviewing. The framework lays the ground for further theorization and empirical research on online reviewing or similar prosocial behaviors in online spaces. Third, the paper offers fresh insights, from review contributors' perspective, into the design and management of online review systems. These insights will help system designers to improve the review platforms to curb "fake reviews" (Luca & Zervas, 2016), while at the same time encourage genuine, high-quality contributions.

The remainder of this paper is structured as follows. In the next section, key literature on online reviewers' motivations is discussed to set the background for the empirical work. The paper then describes the qualitative methodology and the details of data collection and analysis. Next, the paper presents findings about motivation types and their interactions, followed by a discussion of theoretical and practical implications. The paper concludes with a set of suggestions for future research.

Research Background

In the marketing literature, online reviews are viewed as a form of electronic word-of-mouth (eWoM). Through an online survey of consumers, an early study of eWoM motivation identified social benefits, economic incentives, concern for others, and self-enhancement as primary reasons for consumers to write about their product experiences online (Hennig-Thurau & Walsh, 2004). An important conclusion of Hennig-Thurau and Walsh's study is that online reviewers are not a homogeneous group in terms of their motivation for contribution; instead, they may be categorized into distinct motive segments. Another study on reviewers' motivation by Peddibhotla and Subramani (2007) was based on a content analysis of 466 Top 1000 Amazon reviewers' profiles. The researchers identified a total of eight motivations in two categories: self-

orientation and other-orientation. They observe that reviewers are motivated by both self-oriented motives such as self-expression and other-oriented motives such as social affiliation. Owing to limitations of their reviewer profile data, the authors were not able to test their propositions or provide a rich context of how the motives worked and interacted.

In the IS literature, a small body of research on reviewer motivation relied on quantitative methods to uncover effects of some specific motivations. Cheung and Lee's (2012) survey study in a consumer review platform suggested that "sense of belonging" and "enjoyment of helping others" were most salient motivations for spreading eWoM. These prosocial motives, however, were not found prominent in Shen et al.'s (2015) work. Comparing reviewer behavioral data on Amazon.com and BarnesandNoble.com, Shen et al. show that reputation seeking drives reviewers' decisions of whether to write a review and for what products. Specifically, reviewers tend to choose popular products to review but strategically avoid crowded review segment to compete for readers' attention. Such attention-seeking strategy is more evident when reviewer reputation is quantified by a ranking system, such as Amazon's Top Reviewers league table (<https://www.amazon.co.uk/review/top-reviewers>). Shen et al.'s observations echo Lampel and Bhalla's (2007) Web survey results in that "identity building" and "status seeking" are particularly important for online reviewers' continued contribution.

IS researchers have also paid attention to material and monetary incentives in online reviewing. A few recent studies used experimental methods to examine the impact of incentives on review quality and valence. Wang et al. (2012) show that there are no significant quality differences between paid and unpaid reviews, but additional performance-contingent rewards tend to improve review quality. Li and Xiao (2014) report a laboratory experiment where guaranteed rebates from sellers propelled more buyers to leave reviews. However, in Wang et al.'s (2016) quasi-natural experiment, monetary incentives increased review volume but not review quality. Similarly, Cabral and Li's (2015) field experiments on eBay demonstrate that such incentivized reviews are likely to induce a positive bias in reviews due to reciprocity effect. A recent experimental study by Burtch et al. (2018) has compared the motivational effects of monetary incentives and social norms, finding that monetary incentive was more effective at driving larger volumes of short reviews, whereas social norms were more effective at motivating people to write longer reviews. They contend that paying people to write a review is likely to

undermine people's intrinsic motivation, but financial incentive and social norms combined could produce an additive effect of stimulating more and longer reviews.

A vast amount of research in the IS field seems to focus on the helpfulness of online reviews, possibly stimulated by Mudambi and Schuff's (2010) article in *MIS Quarterly*. Indeed, as online reviews proliferate on popular e-commerce platforms such as Amazon and TripAdvisor, the platforms increasingly rely on review readers' feedback to help determine the quality of the reviews. Such feedback is usually solicited by a question – “Was this review helpful to you?” Researchers have used data mining techniques to analyze large corpuses of review texts extracted from popular review platforms (e.g., Qi, Zhang, Jeon, & Zhou, 2016), where the reviews receive an aggregated “helpfulness” rating casted by anonymous readers. Properties of a customer review such as valence and readability are found to influence the helpfulness rating of the review (Mudambi & Schuff, 2010; Wu, 2013). Some studies have incorporated reviewer characteristics into statistical models of review helpfulness, such as whether a reviewer discloses their real name, the reviewer's overall reputation (e.g., “Top 100 Reviewer”), and the reviewer's past activities (e.g., frequency of posting reviews) (Forman, Ghose, & Wiesenfeld, 2008; Hernández-Ortega, 2018; O'Mahony & Smyth, 2010). However, reviewers' motivations for writing the reviews were never considered as part of the investigations.

In summary, prior research of online reviews has paid limited attention to reviewers' motivation and behavior. Most studies to date tend to focus on the reception of online reviews (helpfulness) or the effects of a particular motive (e.g., monetary reward and status seeking). Among the small set of studies on multiple motivations of reviewers, researchers seem to find different sets of motives in different empirical contexts. Aside from a rare exception of Burtch et al. (2018), very few scholars have explored potential interactions of different types of motivation in online reviewing. The present study aims to fill this gap by drawing upon psychology literature on motivation crowding and setting the empirical work in an iconic e-commerce review platform.

Methodology

Online reviewing is a voluntary behavior that is influencing, and being influenced by, commercial activities. Consumers, retailers, and review platform operators all have a stake in the situation and each party's interests shape reviewer attitude and motivation. Thus, it is a unique social context where different motivations and their interactions are likely at play. The complexity of the situation is not necessarily clear to casual observers or even reviewers themselves, nor does it readily fit a preconceived theoretical framework. The previous research on online reviews provides helpful intellectual background but no adequate answer for understanding motivation interactions. Thus, it is necessary to take a *qualitative, inductive* approach to “develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data” (Martin & Turner, 1986, p. 141).

To understand the motivation of online reviewers, the researcher first needed to decide how to recruit a sample of reviewers as informants for this study. According to Patton (1990), all types of sampling in qualitative research should aim to select “information-rich cases” for an in-depth study. Information-rich cases are “those from which one can learn a great deal about issues of central importance to the purpose of the research” (p. 169). Thus, the researcher purposefully selected e-commerce giant Amazon as the research site and the top reviewers on Amazon.co.uk as interview informants. Amazon pioneered online customer reviews and top Amazon reviewers are likely to have a rich experience of online reviewing. Moreover, focusing on Amazon places this study in direct dialogue with many prior studies where Amazon was also the empirical case in point.

Glaser (1978) suggest that a qualitative researcher should first go to the participant group, which they believe will maximize the possibilities of obtaining data, and then “track down more data and where and how to locate oneself for a rich supply of data” (p. 45). Following this principle, the researcher first browsed the online profiles of the top reviewers on Amazon (UK) Top Customer Reviewers league table (<https://www.amazon.co.uk/review/top-reviewers>), as well as those in the so-called “Hall of Fame.” Amazon states that the top rankings “showcase our best contributors at the moment, while the Hall of Fame honors those who have reached the pinnacle of the rankings each year.” Considering the huge number of unique reviewers on

Amazon, these top reviewers are expected to be among the most knowledgeable people who can provide a rich dataset.

From December 2016 to January 2017, using the email and personal website addresses displayed in the reviewer profiles on Amazon.co.uk, the researcher was able to recruit nine reviewers for semi-structured interviews. Among the nine interviewees, four were “Top 10” reviewers at the time and the remaining five were all in “Top 100.” Six of the nine interviewees were in the Amazon reviewers “Hall of Fame,” which is status recognition for those who ever reached “Top 10” reviewer ranking in the previous years. Six of the interviews were conducted through phone or Skype, and the average length of interview was approximately 60 minutes. Interviews were recorded and then fully transcribed to facilitate data analysis. The remaining three interviews were conducted through email, a medium insisted by the participants. In the case of email interview, the participants provided detailed answers to a list of open-ended questions sent by the researcher. Compared to the phone and Skype interviews, responses in the email interviews tended to be well composed and less spontaneous, as the interviewees had more time to reflect on their answers (Burns, 2010). To achieve a similar level of richness in data, multiple email messages with follow-up and clarifying questions were exchanged between the researcher and the interviewees.

As the researcher began to code the nine interview transcripts, emerging patterns required more data to confirm the core themes as well as to establish the relationships among the themes. In particular, the initial interviews suggested a fierce competition for higher ranks among the top reviewers. The initial data also implied an evolution of motivations as the reviewers’ rankings change over time. Thus, the researcher decided to recruit more interviewees of lower ranks (relatively new to online reviewing and/or less active in contributing) to explore how ranking and associated factors might affect motivation. According to Urquhart et al. (2010), this theoretical sampling is based on joint collection, coding, and analysis of data, whereby the process of data collection is controlled by the emerging theory. In this study, the researcher analyzed the first set of interview data of top reviewers through open coding and constant comparison and then sought additional data for comparison groups (e.g., high ranking versus low ranking) to fill gaps and expand the emerging codes in the initial data set.

As most of the lower ranking reviewers did not include an email address in their profiles, upon the suggestion of an interviewee, the researcher posted messages soliciting study participants on two forums: Amazon Customer Reviews Discussion Forum (<https://www.amazon.co.uk/forum/amazon%20customer%20reviews/>) and Top Reviewers Discussion Forum (<https://www.amazon.co.uk/forum/top%20reviewers/>). These public forums are part of the Amazon’s “Customer Discussions” online space where anyone can read the discussions but only logged-in Amazon users can post messages. The recruitment messages were posted in January 2017, and 18 reviewers responded to the researcher. Fourteen interviews were conducted over the phone or Skype and four over email. The average length of phone/Skype interviews was 50 minutes. At the time of the interviews, the participants’ reviewer rankings ranged from just outside “Top 100” to below #17,000. Many interviewees, especially those interviewed through email, were reluctant to reveal other personal details such as age, occupation, or even gender. Hence, the participants’ demographic information is not reported here. The interview format and the interviewees’ Amazon reviewer ranking are summarized in Table 1.

Table 1. Interviewee Ranking and Interview Format			
Reviewer Ranking	Number of interviewees	Phone/Skype interview	Email interview
Top 10	4	4	0
Top 100	5	2	3
Top 500	8	5	3
Top 1000	5	4	1
Below 1000	5	5	0
Total	27	20	7

In line with the recommended practice of data triangulation for high validity in qualitative research, the researcher also observed the two reviewer discussion forums from November 2016 to April 2017 and selectively collected postings that were relevant to this study. Approximately 50 discussion threads consisting of more than 3000 replies were read. These threads were either directly related to motivation for contributing reviews or attracted unusually high number of

replies. A subset of information-rich messages with a total word count of 5064 was extracted from the discussion threads for coding.

The researcher began the data analysis with line-by-line open coding by assigning descriptive codes to passages of the interview transcripts and forum postings. Wherever possible, the researcher adopted the *in-vivo* coding method by using the interviewee's own words as codes (Miles, Huberman, & Saldana, 2013). This was to ensure that the initial coding stayed as close as possible to the raw data. For example, when speaking about accepting freebies, interviewees use various terms such as "regret," "reluctance," and "feel pressured" to describe conflicting thoughts and motives. The researcher used these in-vivo codes as he was going through the transcripts with little effort to combine the codes. The open coding process generated more than 100 codes. Some of the codes were highly descriptive and had conceptual overlap with one another. The researcher then compared the coded instances to establish the underlying conceptual uniformity of each code. In doing so, similar codes were merged and many of the in vivo codes were grouped and renamed to achieve a higher level synthesis. For example, when re-reading the transcripts after the open coding, the researcher noticed that almost all the "regret" and "reluctance" mentioned by interviewees with regard to accepting freebies was due to a reciprocal obligation that they felt toward the freebie provider. This observation led the researcher to consider "reciprocity" as a sensitizing concept (Bowen 2006) to (re)interpret the data.

As codes were being consolidated into core themes, the emergent themes were compared to each other with the aim of establishing logical connections among them. Again using the running example about accepting freebies, while the connection between material reward and direct reciprocity is obvious, the researcher also noticed that most interviewees described reciprocal obligation in relation to "not having fun" or "not very interesting." Therefore, the researcher induced that material reward in this context resulted in a reciprocal mindset, which, in turn, affects negatively on reviewers' intrinsic enjoyment of writing reviews. The researcher then moved to the phase of selective coding and focused on codes that relate to the core category in sufficiently significant ways to be used in a parsimonious theory (Glaser & Holton, 2004).

An example of codes from the open coding but excluded from the subsequent analyses is "altruism." Although frequently appearing in studies of online communities, altruistic motive

only appeared in two interviews and one forum post in this study. A closer examination of these three instances revealed that altruism was either a secondary factor in motivating the person's continued reviewing behavior or was spoken as "my personality" or "that's who I am." More importantly, the researcher is interested in interactions of motivations rather than a comprehensive set of all motives of online reviewers (which might not be so different from those already identified in the online community literature), and altruism does not seem to be connected with other motives in this particular context. This could be because online reviewing is largely an individualistic act and there is a lack of social affiliation among reviewers. This point, along with other peripheral observations from the data, is discussed toward the end of this paper.

Lastly, motivation literature and relevant IS literature (particularly studies on motivations for online knowledge sharing) were reviewed to inform the theory building and to situate the findings within the context of existing research. To assess the *reliability* of the coding, the researcher selected a random sample of five interview transcripts and compared the coding with that generated independently by another researcher who was not connected with the study. The initial Cohen's Kappa value for each category was 0.72 or higher, and disagreements were resolved after discussion. To further assess the *validity* of the data analysis, a draft report of findings was distributed to interview participants at a form of member checking. The feedback confirmed the accuracy of the researcher's interpretation of data. No code or interpretation was altered after the member checking.

Findings

Many motivation researchers accept Deci and his colleagues' (Edward L. Deci & Ryan, 1985; Ryan & Deci, 2000) self-determination theory (SDT), in that motivations fall into two broad categories: *intrinsic motivation* that arises from the inherent value of the activity for the individual and *extrinsic motivation* that arises from the desire to obtain some external rewards apart from the activity itself. SDT postulates that people feel self-determined when they have autonomy in choosing an action and how to engage in the activity. However, the sense of autonomy is undermined when people feel driven by some external end, such as material reward

or intangible reputational reward, to undertake an activity. Central to SDT is the *perceived locus of control*, which can shift from inside to outside as self-determination is being challenged.

On the basis of codes and themes emerging from the data, the researcher applies the broad categorization of motivation types (i.e., extrinsic versus intrinsic motivation) in presenting the findings. The most salient intrinsic motivation of reviewers was enjoyment, and the key extrinsic motivations were material reward, direct reciprocity, and status recognition.

Key Motivations

Enjoyment – “I enjoy reviewing”

Typical phrases in this category of intrinsic motivation include “it’s fun,” “I enjoyed reviewing,” and “I find it interesting.” Virtually, all interviewees indicated that writing reviews has been an entertaining and enjoyable experience. Given below is an illustrative excerpt from the interviews:

“I have reviewed things myself that were pointless to review. ... I was just doing it for a laugh, really. ... Generally at heart you have to enjoy reviewing. I mean, whatever people’s motivation is – they want ranking, perceptions of glorifying or potential job offers, or want to sell stuff at boot sale – you have to be interested in reviewing!”

Product reviews are not meant only for personal interest. Once posted, the reviews are being read, rated, and commented by other consumers. A main part of the enjoyment derives from self-expression. Being able to express personal opinions on a public platform gives great satisfaction to reviewers. This seems particularly motivating for people who just started to write reviews: “I recall my awed astonishment how easy it was to get my opinion published. ... Amazon wanted my opinion and published it, just like that. It was a heady feeling.”

Material Reward – “I write reviews so I can get freebies”

It is evident from the interviews and the Amazon forum discussions that external reward – in the form of free product samples, or “freebies” – plays an important role in online reviewing. All the “Top 100” reviewers in this study acknowledged that they had been offered free products or vouchers in exchange for their reviews. These external incentives are a motivational factor for many, but reviewers show ambivalent attitude toward freebies. Many discussion threads on the Top Reviewers Discussion Forum were related to receiving “doggy” requests and accepting

freebies. How and to what extent these freebies affect the reviewers' reviewing behavior has been subject to heated debate on the forums.

One thread titled "You can't trust a review when the product has us free or heavily discounted in return for the review" attracted 112 replies. Some concurred with the original poster: "So far every review I have read about an item that has been given to someone free has been 5 stars. Even if they pretend to criticize it, it still gets 5 stars." Nevertheless, others expressed disagreement: "I write reviews on amazon of every product I buy and also of some that I get free or discounted. ... I have given 2 and 3* reviews for things I have got for free but whilst they worked I didn't think they were the greatest."

Others downplayed the significance of the extrinsic motive. A former No. 1 reviewer commented in the interview:

"To be dead honest, no one is gonna earn any significant money reviewing on Amazon. You're just not. You are not allowed to be paid for starters. Even if you sold the products, for the amount of time you put in, I mean, it's not good wages. Let me put it like that. It was never a financial incentive as such for me."

Direct Reciprocity – "You got the obligation coz you agreed to review"

Reciprocity is a sense of mutual indebtedness and obligation in the act of favor giving and receiving. In online community literature, general reciprocity is a common motivation for contributing knowledge because the contributor expects their own requests for knowledge being met in future (Kankanhalli, Tan, & Wei, 2005). However, the data of this study provide little evidence that the mutual indebtedness exists between reviewers. All interviewees said that they read other people's product reviews, but few indicated that they contributed reviews with the principle of general reciprocity in mind. Instead, reviewers' sense of obligation was oriented toward the persons who sent them products for review. That is, the reviewers felt an obligation of direct reciprocation to write a positive review for the product they accepted. Many interviewees either hinted or explicitly described a reciprocal relationship with freebies providers – "I accepted stuff they sent me so in return I had to review them."

Moreover, several interviewees described a “socially induced” direct reciprocity (Fradkin, Grewal, Holtz, & Pearson, 2015) developed between them and freebie providers. Socially induced reciprocity occurs when buyers interact socially with sellers and consequently reluctant to review sellers negatively. When asked about the worst product they ever reviewed or the things they did not like about reviewing, several interviewees described similar experience like the one below:

“I made a mistake once accepting a self-published book. It was absolutely bloody awful. I read as much bit I could bear and skipped the rest. And the trouble was the author was so sweetly sincere and I just could not bring myself to give it a one- or two-star review on Amazon that it deserved. ... Since then, I have not accepted any self-published books at all. I mean, you don’t want to be horrible to them. It’s published; it’s a properly published book. It would be horrible to do that, wouldn’t it? I learned my lesson.”

Ranking/Status Recognition – “I need some kind of recognition”

The data suggest that reviewer ranking (a quantified recognition) is a particularly important motivator for reviewers. According to Amazon, “A reviewer's rank is determined by the overall helpfulness of all their reviews, factoring in the number of reviews they have written” (<https://www.amazon.co.uk/gp/customer-reviews/guidelines/top-reviewers.html>). In other words, the ranking status of a reviewer is determined by both the quantity and the quality (i.e., helpfulness) of reviews the person contributed. To climb up on the Amazon reviewers ranking table, a reviewer must keep producing high-quality reviews. For most reviewers, the ranking is an acknowledgement of their reviewing effort:

“It has something to do with validation. I think that deep down all reviewers crave some kind of validation and acknowledgment. Amazon doesn't really offer validation, acknowledgment or appreciation, so the ranking is the only way to satisfy that craving.”

While a reviewer can produce as many reviews as they want, the quality of reviews is decided by “helpful” votes casted by review readers. Helpful votes from readers are themselves a form of recognition, but they also contribute to the reviewer’s ranking. “Unhelpful” votes are particularly damaging to a reviewer’s ranking because, according to an interviewee, “a negative vote is worth 4-7 positives.” Such reputation systems are supposedly to encourage a virtuous cycle of continued contribution: high-quality reviews attract helpful votes that push up the

reviewer's ranking, which, in turn, motivates more high-quality reviews. However, as reviewers are competing against each other for recognition, some are trying to game the system by voting down their competitors.

Interaction of Motivations

The data show that there is an overall pattern of extrinsic motives complementing each other (motivation addition), but different extrinsic motives can either undermine (crowd out) or reinforce (crowd in) intrinsic motivation.

Motivation Addition: Material Reward (extrinsic) and Status Recognition (extrinsic)

For top reviewers, the *two extrinsic motives – material reward and status recognition – are mutually reinforcing*. A constant inflow of freebies gives the reviewer more opportunity to write product reviews. Sometimes top reviewers will receive pre-release samples before the products are available for sale. Those early reviews will certainly have a wide readership and more likely to attract helpful votes. Aiming to improve their ranking status in the league table, a reviewer produces more reviews and receives more helpful votes, which sellers take notice of and send in more freebies. Hence, material reward and status recognition positively affect each other. One interviewee used to review books only, but as her reviewer ranking moved up, she began to review other products. She explained:

“And of course, the more review you do, the more you go up in the ranking. You can read perhaps only about two books a week and provide two reviews. If you're getting thousands of other things, you can write loads and loads reviews. That would help you to get up the rankings and get more votes.”

Another reviewer who currently ranked around Top 1000 said: “I recently geared up to review a bit more coz I wanted to break into the Top 100. Or maybe even Top 50. I don't know. But I'm starting to get offers of free stuff already. They help my ranking coz I've got more gadgets to play with and more to say on Amazon.”

Motivation Crowding-out: Direct Reciprocity (extrinsic) and Enjoyment (intrinsic)

As explained earlier, reciprocity in this context refers to the direct reciprocation between reviewer and freebies provider. This type of reciprocity sometimes conflicts with reviewers'

sense of autonomy and made the reviewing less “fun.” Thus, *material reward can undermine a reviewer’s intrinsic motivation through the obligation of direct reciprocation*. A supposedly “fun” activity can be turned into an unpleasant obligation due to the existence of external reward:

“You got the obligation coz you agreed to review these things and they are just coming at you. You can’t cope with this, you can’t give up this, it’s just like a job. Houseful of cardboard boxes, loads and loads of things you don’t even really want. ... [Now with a new Amazon policy that bans freebies] I can go back like what I used to do with books. I like doing the book reviews.”

“You feel some kind of obligation. I guess it’s a natural psychological response: someone has given you something, you have to give something back in return. It’s part of the reason why I’m really not into it. Firstly, I don’t get lots of time. Secondly, I’m just not interested in reciprocating with people who I don’t really have any relationship with.”

Moreover, when a seller sends a reviewer a free product for reviewing, the reviewer is expected to write a positive review about the product in return. As an interviewee admitted: “I do think you are sometimes pushed ... Not so much for me, but some of the reviewers. If they get it free, they are likely to write a nice, glowing review so that they get more stuff. I think if they were too nasty, they won’t send them anymore.”

In some occasions, the obligation of reciprocation is socially induced, which makes objectivity even more difficult to maintain. An interviewee described his dilemma:

“The worst experience has to be a book I was asked by a writer to review fairly recently. ... It was a truly awful read, so bad it was cringe making. I could have wept for the author because I knew I was going to have to be honest. I felt compelled to revisit the review after a fortnight to try and make the review a bit less nasty.”

Motivation Crowding-in: Status Recognition (extrinsic) and Enjoyment (intrinsic)

Status recognition and enjoyment of reviewing are mutually reinforcing. Studies of online knowledge contribution have long established the effectiveness of simple recognition (e.g., a short thank-you message) in motivating continued contribution (Cheshire & Antin, 2008). Many

interviewees stated the importance of being appreciated as a reviewer and enjoyed the “good feeling” of receiving helpful votes and thankful comments from readers:

“I have to confess that, particularly in my situation, getting helpful votes I do like it. ... I think for a lot of people it is a motivating factor. You asked about my first review and I can remember writing it and just thinking – ‘I might as well try this.’ A day later someone had voted helpful and I thought ‘oh, that’s nice!’ You know, it kind of encouraged me to do some more.”

“The comments I get back – people saying ‘thank you for the review, this has been great’ – helps! It’s like I-need-an-appreciation type of personality. It’s actually a good feeling to have when someone said ‘hey, it’s a great review. Thanks for having helped me avoid buying this product or helped me buy this product.’ That’s the main incentive in reviews, at least early on.”

The importance of recognition and its influence on intrinsic enjoyment change as a reviewer moves up the ranks:

“I didn’t notice the ranking thing until I was about 14,000 and even then didn’t really bother about it. I’d only posted about 30 reviews by the time I got to about the 2000 mark and it was only last year that I got into the top 1000. It was the new system which put me in the top 50. Yes I was really pleased about that - still am - and I’d like to be in the top 10 - for personal satisfaction as much as anything.”

The reinforcing effect of status recognition on enjoyment can also work through the “gamification” of ranking system:

“It was not until 6 months ago that I realized how high ranking I was. ... I was ranked close to a thousand, which is amazing, right? It started out with 9 million. I was like, people actually like this! The fact that they rank it, the fact that it goes up, it turns into gamification. So it becomes another incentive, to be in that top ranking.”

Evolution of Motivation Mix

In a forum post entitled “The Evolution of Obsession,” a Top-500 reviewer reflected on his “evolution” as a reviewer by listing 20 development stages. This list, as the reviewer admitted,

was “half serious,” but he believed the stages “can be applied to everybody else, or most people anyway.” The 20 stages described in the post can be abridged as follows: 1-6: *Started reviewing personal purchases now* → 7: *“Suddenly discovered I was a Top 1000 Reviewer, and thought ‘Oh’”* → 8-9: *“Liked being recognised” and “wanted to stay in the Top 1000”* → 10-13: *Wanted to become higher ranked and eventually got into the Top 50* → 14-15: *“Started getting targeted by a neg-dishing troll. Didn't like it. ... HATE it”* → 16-18: *Dropped from Top 50 to Top 500 – “grumpy for a while” but now “less grumpy”* → 19-20. *Stopped caring about ranking and reviewed less.* These stages illustrate how the role of motives may change over time and how unhealthy competition for ranking could undermine one’s genuine interest in reviewing.

In the interview, a former No.1 reviewer also described a similar trajectory:

“I think it’s changed over time. As I said, when I first moved to England, I was a lot of miles away from my girlfriend. I was bored. And then it sort of became – actually, this is a way in which you can be helpful. And also, after you wrote a couple of reviews you get noticed and get a lot of positive feedback. Actually, I quite like that. ... And when I reached the Top 200 level, I was like – oh my god, why am I ranked so high? Maybe I can see if I can improve it. ... Now this is a very very small thing in my life.”

A reviewer’s motivation mix may also change to respond to changes in the reviewing environment. At the time of the data collection, Amazon UK started to implement a new policy that banned reviewing for free or discounted products (except for books) provided by sellers. In addition, under the new rules, a reviewer is limited to post a maximum of five reviews per week of nonverified purchases. The reviewers’ reactions to these changes were mixed. While some hailed the changes as “excellent news,” some reviewers were less positive. A former No.1 reviewer declared on the discussion forum: “Looks like my last review will be a book once I have finished it.” Several interviewees said they felt disappointed and demotivated, as illustrated by this excerpt below:

“I feel resentful because I missed out on the freebie bonanza when I was ‘entitled,’ and even more resentful because Amazon has put off the honest sellers who would have given me good products which I could have reviewed honestly with a clear conscience. ... I will continue writing reviews on Amazon ... but I don't know for how much longer.”

A Top 10 reviewer explained why he was moving away from Amazon to another online review platform:

“I think Amazon’s initial policy was too blunt, too radical. It’s just completely closed everything out. And it led sellers to try even worse ways to get around the system. ... they’re limiting reviewers to write only 5 a week, but that kills their ranking system! ... They just want someone actually bought this, not review it to write a review. The thing is - they [shoppers] are not gonna write a review unless they are really angry or things like that. So yeah, that’s why I am going towards some other channel to spend my time on.”

These comments suggest an *overjustification effect* (Lepper, Greene, & Nisbett, 1973) that causes the imbalance to the original motivation mix. The overjustification effect occurs when an expected extrinsic reward dominates a person’s motivation to the point that the extrinsic reward must be continuously offered to sustain the activity. Removing the reward will lead to lost interest in the activity and prior intrinsic motivation will not return.

Discussion

Consistent with IS and marketing literatures, this study confirms that online reviewers – like programmers in OSS projects and answerers in Q&A communities – are driven by a mix of intrinsic and extrinsic motivations. While some motivations are additive, extrinsic motivation may crowd-out or crowd-in intrinsic motivation under certain circumstances. If we consider purely intrinsic and purely extrinsic motivation as two polar ends of a whole spectrum of combinations of the two types of motivation, motivation crowding theory describes the movements along the continuum: moving either toward the extrinsic end (crowding-out) or toward the intrinsic end (crowding-in) (Frey & Jegen, 2001; Lepper & Greene, 1978). The movement is usually caused by a change in the perceived nature of the task in a particular context.

In this study, movement to either end has been found and is depicted in Figure 1. The lines without arrow heads represent *additive or complementary* relationship between the two connected motivations – in this case, Material reward complements Status recognition, and Material reward also leads to Direct reciprocity. The double oval arrow line between Status recognition and Enjoyment represents a *crowding-in* effect, while the two opposing arrow lines

between Direct reciprocity and Enjoyment represents a *crowding-out* effect. Next, we discuss theoretical implications of these conceptual relationships in the perspective of SDT and motivation crowding.

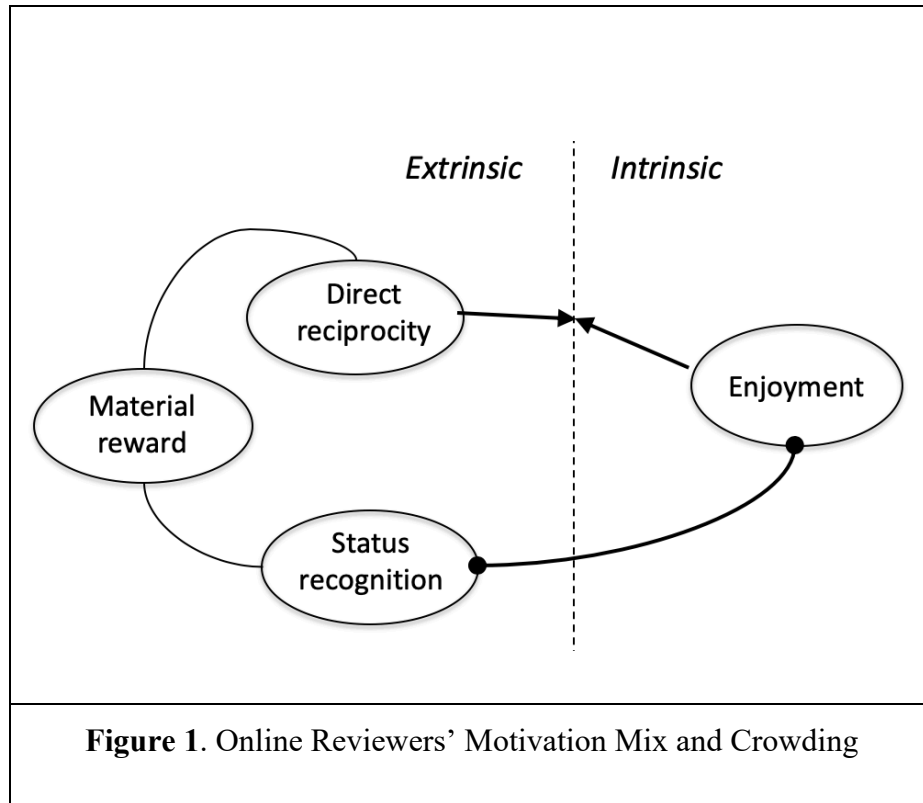


Figure 1. Online Reviewers' Motivation Mix and Crowding

Theoretical Implications

As stated at the beginning of this paper, several IS scholars have called for more research into the interaction of extrinsic and intrinsic motivations in various contexts of online knowledge sharing (Liu et al., 2017; Roberts et al., 2006; von Krogh et al., 2012). Such inquiries have the potential to enrich theorization of human motivation by providing context-specific and nuanced understanding of how different types of motivation work together or against each other. This is still an active research area across social sciences disciplines. The present study represents one of the first attempts to theorize motivation crowding effects in the context of e-commerce product reviewing. We show that extrinsic motivations such as material reward, status recognition, and direct reciprocity interact differently with the intrinsic enjoyment of writing product reviews.

In contrast to Roberts et al.'s (2006) finding that there was no association between knowledge contributor's competence rank and intrinsic motivation, we have found a *crowding-in effect* between reviewers' status recognition and their intrinsic enjoyment. This type of crowding-in effects is less discussed in psychology literature than the crowding-out effect (Frey & Jegen, 2001), but status recognition such as competence rank can be a powerful motivator when it adds to one's intrinsic enjoyment in performing an act. According to Amabile (1993), extrinsic motivators supporting a sense of competence without undermining self-determination will enhance intrinsic motivation. Deci et al. (1999) conducted a meta-analysis of 128 psychology lab experiments and concluded that intangible reward such as verbal praise has a significant positive effect on intrinsic motivation in performing interesting tasks. In the context of online reviewing, when the helpfulness voting and the reviewer league table ranking mechanisms work as intended, they serve as positive nonmaterial feedback that validates a reviewer's competence. Hence, we propose the following proposition:

Proposition 1: When supporting a sense of competence in online reviewers, extrinsic motivation of status recognition crowds in intrinsic enjoyment.

Osterloh and Frey (2000) argue that extrinsic reward has two potential effects: controlling and informing. The controlling effect strengthens perceived external control and the feeling of undermined self-determination, whereas the informing effect contributes to one's perceived competence and strengthens the feeling of internal control. Depending on which effect is prominent in a specific context, intrinsic motivation is reduced or increased. In this case, while status recognition informs one's competence, material reward exerts a controlling effect through direct reciprocity. The reviewers' self-determination suffers from freebie providers' demand for positive reviews because they feel obliged to write positive reviews out of reciprocation. The perceived locus of control was therefore shifted toward the outside.

On the other hand, despite the fact that almost all interviewees in this study began online reviewing out of intrinsic reason, several of them declared that they would stop reviewing for Amazon if they no longer receive freebies. This indicates an overjustification effect in that a person wrongly attributes their intrinsically rewarding performance to some extrinsic reward, which is offered *after* they have started performing the act (Tang & Hall, 1995). As a result, if the external incentive is withdrawn, the overall motivation can drop to a level that is lower than

that before the extrinsic reward was provided. This effect is particularly salient in creative tasks (Amabile, 1983). In Lepper et al.'s (1973) classic study, preschool children are found to be less likely to continue to engage in an unrewarded yet intrinsically motivated drawing task after receiving an unnecessary extrinsic reward. Likewise, once reviewers are being rewarded with incentives to write reviews, which they would otherwise have done out of intrinsic interest, they become less likely to continue doing it in future without the incentives.

Taking all these together, we theorize the crowding-out effect of material reward as follows:

Proposition 2: Material reward crowds out reviewers' intrinsic enjoyment when: a) the obligation of reciprocating material reward impairs reviewers' self-determination and b) the withdrawal of material reward overjustifies reviewers' extrinsic motivation for writing reviews.

Another theoretical insight from our empirical study is that a reviewer's motivation mix may depend on their tenure and current ranking. Research of online knowledge sharing usually investigates contributors' motives at a given time, without considering the evolvement of one's motivation *over time*. However, there is evidence in the human resource management literature that people's workplace motivation changes. Amabile's (1993) work preference survey results show a consistently negative correlation between worker's age and the effect of extrinsic motivation across a variety of professions. That is, people become less strongly driven to pursue material and other external rewards as they progress in their careers. Similarly, we have discovered that Amazon reviewers' motivation mix is in flux and may evolve as years go by and their ranks change. Generally, most reviewers start reviewing with intrinsic motivation of fun or enjoyment. Then, as the reviewing activity is being rewarded by status recognition on Amazon reviewer's league table and freebies, extrinsic elements become more prominent in the motivation mix. After a while, however, many reviewers feel a loss of self-determination due to external influences and decide to "take a step back" from pursuing extrinsic benefits, which resulted in intrinsic interest taking center stage again. This novel observation leads to:

Proposition 3: Online reviewers' motivation mix evolves over time, such that motivation crowding effects are moderated by the reviewer's tenure and status ranking.

Lastly, there is a surprising lack of evidence of social relationships among the Amazon reviewers. This observation is in stark contrast to prior online review studies where the notion of

online community is often invoked. For example, Cheung and Lee (2012) conclude that a sense of belonging is an important motivator for online review contribution; Peddibhotla and Subramani (2007) identify “social affiliation” as one of the most prominent other-oriented motives for reviewers; Hennig-Thurau and Walsh (2004) suggest that a discussion forum for eWoM contributors can “build a sense of community by increasing their familiarity with other users” (p. 51). Our interviewees in this study expressed little interest in interacting with peer reviewers as a “community,” partly because their work requires little social interaction with one another (unlike OSS projects), and partly because the reviewers view each other as competitors. The interview data indicate that the fierce competition for status recognition, coupled with the alleged manipulations of helpfulness voting, greatly undermine the trust among reviewers. The Top Reviewers Discussion Forum, in the words of an interviewee, is “populated by and dominated by trolls. The main participants ... are there just to incite fights and pick victims. That’s not a ‘community.’” Another interviewee expressed the same bitter feeling toward the forums: “We all want to be loved, appreciated, respected and so on, but the bitchy Amazon review boards and forums are definitely not the place to discover such ideals!” Hence, we propose that:

Proposition 4: Peer competition and anti-social behaviors on e-commerce review platforms hamper the development of a sense of community among reviewers.

Practical Implications

This study has significant implications for customer review platform designers and managers. Encouraging and managing reviewer motivations, especially balancing their intrinsic and extrinsic motives, are challenging tasks for e-commerce platforms. Although the Amazon reviews platform has been relatively successful in leveraging extrinsic motivations of reputational and material rewards, the platform is less effective in tackling what Deci (1975) called “the corruption effect” of motivation crowding-out. If the controlling effect of extrinsic motivation dominates, reviewers either find their work less intrinsically interesting or submit themselves to the principle of direct reciprocity by reviewing purely for freebies or even payment. In the latter case, the credibility and value of online reviews become questionable. The

spread of “freebie-in-exchange-for-review” practice on Amazon has already raised the public’s suspicion over reviewers’ effort and motivation of contribution (e.g., Elliott, 2018).

As reviewers’ motivation mix evolves overtime, an important implication for review platforms is that they should undertake *different strategies when motivating reviewers of different tenure*. For novice reviewers, nonmaterial positive feedback from readers and the platform company can create a powerful “recognition-enjoyment” crowding-in effect. The platform needs to ensure visibility of product reviews contributed by new users, so that they are motivated to continue contributing. This is particularly important for popular products that attract many reputed veteran reviewers. Chua & Banerjee (2017) observe a Matthew effect (“the rich grow richer”) in that reviews written by reputed reviewers on Amazon are more likely to be read by consumers and those by novice reviewer may be ignored. To curb the Matthew effect and cultivate the crowding-in effect, review platforms could consider an algorithm that selects quality reviews from novice reviewers and highlight them on the product review page, in addition to the usual sorting mechanisms based on popularity and recency. For longer-tenure reviewers, the review platform needs to be proactive and fair in policing tactic helpfulness voting, so that a reviewer’s rank adequately informs their competence.

Finally, this study raises questions about Amazon and other e-commerce platforms’ strategies in dealing with fake reviews. As review writing is driven by a range of interacting motives including material reward, the platform companies need to have a more nuanced view of what fake reviews really are. Fake reviews are generally understood as reviews written by people who did not actually purchase the product or service (Choi, Mattila, Van Hoof, & Quadri-Felitti, 2017). However, as this study shows, many of the prolific reviewers had accepted free products and written high-quality reviews that were considered very helpful by consumers. While banning material incentives might help reduce the number of biased reviews, it also takes away one important motivator for some veteran contributors. Another recent move by major review platforms is to only allow “verified” purchasers to post reviews. However, according to interviewees in this study, the strategy cannot guarantee the authenticity of reviews because some sellers promise a refund of purchase through offline (outside the platform) reimbursement. Technical solutions such as automated fake review detectors remain inaccurate and sometimes counter-productive (Heydari, Tavakoli, Salim, & Heydari, 2015). For example, fake reviews could mimic different styles to appear authentic: they could be hyperbolic in tone and offer

sketchy details, but they could be in cultivated and articulative language with convincing details (Banerjee & Chua, 2014). False positives produced by a detection system may not only alienate the individual reviewer but damage the collective morale of enthusiastic reviewers in the long run.

One interviewee, albeit an isolated case, spoke about his frustration over fake reviews and how the frustration motivated his actions. He was once ranked Top 200, but has recently decided to delete all his positive reviews and focus on writing critical reviews only. He explained: “For me, I think there are too many fake reviews on the site. It’s never used to be like that. It bothers me, which is why I decide to review more so that I can tell other people. ... So my reviewing is almost being a crusade to counterbalance. ... And hopefully encourages other people to give their views, who are really people bought the products.” This reviewer’s comments point to a possible route of *grassroots review moderation* that supplements the top-down model of fake review prevention or detection. Despite a lack of sense of community, there are still a small number of individuals who voluntarily take steps to “counterbalance” the influence of fake reviews. These individuals may be motivated by a commitment to the platform (Bateman, Gray, Butler 2011), or a moral duty of “making things right.” Yet, centrally managed review platforms like Amazon leave little room for these “crusaders” to play the “leader” role as described in Preece and Shneiderman (2009). Leveraging the motivation of this small group of reviewers, coupled with an automated detection system, could be the key to solving the fake review problem.

Conclusion and Future Work

One of the most intriguing questions for motivation researchers is the nature of relationship between intrinsic and extrinsic motivations. Some suggest that the two can co-exist but inherently incompatible, while others believe they can be mutually reinforcing. This qualitative study of Amazon reviewers provides fresh evidence that the two types of motivation can operate in an additive fashion, but the balance of the motivation mix is vulnerable to changes in the e-commerce system context. Extrinsic rewards such as “freebies” can crowd out intrinsic motivation, as the obligation of reciprocation may impair reviewers’ self-determination and a

withdrawal or reduction of the material reward could overjustify reviewers' extrinsic motivation for writing reviews. Moreover, this study has found that the mix and the dynamics of different reviewer motivations change over time, which is a novel observation not previously documented in the literature.

Future work may use quantitative methods to assess the propositions we have induced from the qualitative data. For example, a field experiment may manipulate different mixes of extrinsic motives (freebies, direct reciprocity, and league table ranking) to test how reviewers of different tenure react to different conditions in terms of perceived locus of control and strength of intrinsic motivation. Survey questionnaires can also be developed to gauge online reviewers' willingness to engage in community-building and collective actions of curbing fake reviews. A large-scale, longitudinal survey based on a representative sample of Amazon reviewers could also be carried out to validate the observations about motivation evolvment over a period of time.

This study is based on empirical work conducted on one e-commerce review platform – Amazon. As mentioned in the discussion, the design, the affordances, and the constraints of the platform have undoubtedly shaped the motivation and behavior of reviewers. Other e-commerce companies' (e.g., eBay) customer review systems might differ from Amazon's in various ways. Reviewers on service review platforms such as TripAdvisor and Yelp might also display different patterns of motivation mix from those on Amazon. Moreover, product reviews in other social media formats (e.g., video, tweet) might be driven by different sets of motivations and the review contributors might behave differently from those on e-commerce platforms. For instance, marketing researchers have found significant differences in brand-related user-generated content across YouTube, Facebook, and Twitter (Smith, Fischer, & Yongjian, 2012). Hence, the present work offers a valuable reference for future research on online reviewers, but the findings here might not be entirely transferrable to other reviewing contexts.

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