

THE EFFECT OF SYSTEM GENERATED CUES ON MICROBLOG REWARDING REPOST BEHAVIOR – A SOURCE CREDIBILITY PERSPECTIVE

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ABSTRACT

This study investigates system generated cues (SGCs) that influence microblog users' reposting behavior from the perspective of source credibility. A comprehensive set of SGCs were identified through an exploratory qualitative study (study 1) to reflect each source credibility dimensions (ie. expertise, trustworthiness, attraction and co-orientation), and were later adopted in a quantitative study (study 2) to test robust nature of the conceptual framework of source credibility and its impact on users' actual repost behavior when incentives are presented to them. Data indicate that by holding expected reward and perceived cost constant, all dimensions of source credibility were found to have significant main effects on repost behavior, with no interaction. Number of friends to @ was found to be inversely related to repost behavior. Implications of these findings are discussed, along with limitations of the current study and directions for future research.

Keywords: Online advertising; Social media; Microblog rewarding reposts; System generated cues; Source credibility

1. Introduction

The rapid development of microblogging has leveraged the intensity of marketing battlefield for corporations and individuals by the means of "hot topic" creation and other relative behaviors. Almost all Forbes Fortune 500 companies adopted official microblogs to spread product-related information, socialize with target audience and alike, and in turn, build brand awareness [Ratliff & Kunz 2014]. Up to June 2016, China had over 242 million monthly active microblog users and the utilization ratio was 34%, a slight increase over the end of 2015 [CNNIC 2016]. Microblogging has also become the main source of view counts for e-commerce platforms. Users are able to click the advertisement links posted on microblogs and are then directed to online shopping websites such as Taobao, JD.com, etc. Based on the latest report issued by CNNIC, reposting is ranked one of the most frequently used functions of microblogging sites (52.8% of total active users frequently use this function), and in turn, generating more response and participation from other users [CNNIC 2016]. Therefore, it is of e-marketer's great interest to understand which factor would potentially drive consumers to repost marketing information, and thus it leads to abundant researches exploring determinates that promote reposting behaviors. Fu & Chau [2013] collected a large amount of Chinese microblog data and revealed that volume of followers are a key determinant of creating original microblog posts, reposting messages, being reposted, and receiving comments. Other scholars identified that emotion in both posts and

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reposts has positive effects on information propagation [Z. Wang et al. 2014]. In the context of online shopping, Pai & Tsai [2016] showed that a reciprocity norm functions as a proximal determinant of information-sharing behavior.

While considering the insightful contributions of abovementioned studies, to the best of our knowledge, very few studies explored the linkage between system generated cues (SGCs) and rewarding repost behavior on microblogs. We define rewarding repost as a way of spreading marketing information on microblogs specifically and it has inherent characteristics which defers from general microblog posts and reposts. After participants (i.e. microblog reposters) have successfully forwarded a post, there is a chance that some of them will be selected to enter a draw for potential gifts or financial incentives provided by the profile owner (i.e. a marketing company) who originally posted that microblog. However, various requirements such as to notify certain number of friends or become followers of the profile owner and so on, need to be satisfied before reposting in order for those reposters to be selected. Rewarding repost type of microblog will facilitate higher number of reposts compared to regular microblog posts (which mainly rely on eye-catching or innovative message contents other than incentives to drive repost behavior), even in the case of celebrities' posts and reposts, if an incentive is not attached (e.g., a regular post), it will result in a significantly reduced number of reposts than average number of reposts generated by rewarding repost type of microblogs [CNNIC 2016]. On the other hand, however, reposting too many uninteresting and irrelevant messages to friends in exchange for incentives would make reposters feel uncomfortable and thus attenuate their intention to repost [Y. Li & Shiu 2012]. Therefore, the current study is delineated to explore the driving forces of microblog users' reposting behavior, in the context of microblog rewarding reposts, which are found to have significant marketing value (than regular microblog post) for the original poster in microblogging site. Furthermore, many preceding studies argued that the key of microblog message diffusion through the means of user interaction (i.e., retweet, reply, bookmarking etc) depends greatly on the message content relevance and the close social relationship with users [Delre et al. 2010; Kim & Srivastava 2007; Kwak et al. 2010; Y. Li & Shiu 2012]. Take the work of Y. Li & Shiu [2012] for example, they proposed a dissemination mechanism for microblog advertising and found advertisement which adopts social advertising approach (i.e., sharing information between friends) are more relevant to receivers and has higher Click-Through-Rate (CTR) than broadcast-to-all approach (ie., communication is directed to all users), indicating that close social relationships and interaction can motivate credibility perception from users. However, little is known about whether credibility of a source could be reflected by SGCs observed, and in turn, influence information sharing behaviors. Westerman et al. [2012] examined how SGCs available in twitter impact perceptions of a source's credibility. They indicated that having a narrow gap between the number of followers and follows led to increased judgments of competence, which in turn, enhanced perceived source credibility. Our study intends to extend the understanding of how these SGCs eventually impact on the actual microblog reposting behavior from a source credibility perspective. In this article, we begin with an interview study (Study 1) that involves microblog users who are registered on Sina Weibo (the largest microblogging site in China) and frequently read/post microblogs, also have previously obtained rewards after reposting messages. The study collects the most credible SGCs adopted by users in deciding whether or not to repost, and explores which one of them will reflect typical source credibility dimensions such as Expertise, Trustworthiness, Co-orientation and Attraction. To rule out confounding variables and test our explanations further, we gathered quantitative data via Sina Weibo (Study 2), then proposed a model based on source credibility theories [Cho et al. 2009; Hovland 1954; Jin & Phua 2014; Pornpitakpan 2004; Tormala & Petty 2004] to investigate whether significant relationship exists between SGCs and final rewarding repost behavior by controlling potential impact of other variables (such as expected reward and cost) towards reposting [Higgins 1961; Williamson 1979], That is, is there still an effect of source credibility dimensions on Sina weibo users' reposting behavior after expected reward and cost are controlled for? The findings will help to uncover preferences for microblog rewarding repost behavior, as well as credible SGCs that microblog users consider when making repost judgment.

2. Literature Review

2.1. Sina weibo

Sina Weibo, launched in September, 2009, is the largest microblogging service in China. According to the latest weibo user behavior report from Weibo Data Center (WDC), the monthly active users of Sina Weibo reached 297 million in September 2016, a 34% increase compared to last year and the daily active users reached 132 million, exhibiting an ascending growth rate in the past year [Weibo-Data-Center 2016]. Similar to Twitter's messages called "tweets", each posted message in Sina Weibo is called a "weibo", and users are allowed to post their weibo with a 140-Chinese-character limit. The person/organization who originally posted that message is named weibo profile owner. Furthermore, users who repost this original message on purposes (ie. getting potential reward) are defined as reposters in our study. Functions of Sina Weibo are very similar to those in Twitter, such as retweets/repost (RT/RPs), mentions (@), and hashtags (#) [Jiang et al. 2015]. The major differences between Sina Weibo and Twitter are contents involved in user profiles. Sina Weibo collects more optional personal information, such as user locations and birthdays

etc. in user profiles [Jiang et al. 2015]. Sina Weibo provides powerful search engine application programming interfaces (APIs) for collecting and analyzing microblog messages. In study 2 of our research, we collected Sina Weibo account data through the APIs and later used them to explore potential drives of weibo reposting behaviors.

2.2. Source Credibility

Source credibility is defined as the perceiver's judgment about concerning the believability of a source [O'Keefe 2002], and a highly credible source is commonly found to induce more persuasion toward the advocacy than a low credible one, and in turn, resulting in buying, sharing or favorable word of mouth of that source [Pornpitakpan 2004]. Many preceding studies have attempted to identify the distinct dimensions of source credibility (O'Keefe, 2002 & Pornpitakpan, 2004). The dimensions of source credibility have been commonly identified to consist of expertise and trustworthiness. Expertise refers to the extent that a speaker is perceived to be capable of making correct judgment, and trustworthiness refers to the degree that an audience perceives the judgment made by that speaker is considered as valid [Hovland 1954]. However, It was found that constructs and the number of influencing factors of source credibility changed over time [Appelbaum & Anatol 1973], and varies from context to context [Cronkhite & Liska 1976]. O'Reilly et al. [2016] extended our understanding of eWOM impact by examining the role of source credibility and message relevance, and inspired by Hovland, the construct that they adopted to measure source credibility were expertise and trustworthiness. Their findings suggested that expertise and trustworthiness represented only the minimum threshold for establishing credibility. Once established, participants moved to the next phase where they assessed the relevance of the source's message to their own circumstance [O'Reilly et al. 2016]. Jin & Phua [2014] demonstrated that online popularity is an important predictor of social media users' source credibility when conducting their experiments to investigate the relationship between celebrities' tweets and consumers' source credibility perception. McCroskey & Teven [1999] proposed that goodwill (the degree to which a perceiver believes a source has the perceiver's best interests at heart), also needs to be considered as an additional dimension beyond expertise and trustworthiness to capture source credibility. A comprehensive source credibility measurement was developed by Cho et al. [2009] when introducing a collaborative reputation system for B2C commerce. They considered source credibility was reflected by dimensions of expertise (The extent to which a source is perceived as being capable of providing correct information), trustworthiness (The degree to which a source is perceived as providing information that reflects the source's actual feelings or opinions), attraction (The extent to which a source elicits positive feelings from audience members, such as a desire to emulate the source in some way) and co-orientation (The degree to which a source is similar to the target audience members, or is depicted as having similar problems or other characteristics relating to the use of a particular product or brand).

2.3. System generated cues (SGCs)

Walther [1992] proposed Social Information Processing Theory, which provides an important theoretical framework to understand how people make credibility judgments based on various social cues they observe, whether face-to-face or online. The key assumption of this theory suggested that multiple interactions are required for a person to form impression of others [Walther 1992; Walther et al. 2009]. Information provided in social media sites were either user generated by the means of collective intelligence [Baumol et al. 2013; Gai 2014; X. Wang & Li 2014] or system generated. Pioneering studies conducted in Twitter [Westerman et al. 2012, 2014] and Facebook [Harriet et al. 2015; Tong et al. 2008] found the increased information available (about others on social media platform) gives rise to more adoption of condensed social cues by users to effectively form impression of others. SGCs are pieces of information that are system or machine rendered [Yang et al. 2015]. These cues are typically presented by the relative microblogging sites' system based on the previous behavior of that system's users. For instance, the number of friends one has on twitter are SGCs. These cues are perceived to be generated by the so called "unbiased source" and are taken by perceiver to be a reliable indicator of social judgment [Westerman et al. 2012]. Sundar [2008] proposed a MAIN model that discusses the technological affordances which allow for the heuristic processing of cues in an online setting to make judgments about the credibility of an online source. He further explained the phenomenon in which people assign greater credibility to information that is verified or chosen by a machine or computer as they use the so called machine heuristics when evaluating online information. Information shared by ordinary Microblogging site users is perceived to have subjective feelings or political affiliations, etc. Gate-keepers (professionals who check information for veracity before publication) in traditional mass media would sometimes attach personal emotions when spreading opinions [Bro & Wallberg 2014; Shoemaker & Vos 2009]. As a result, people would have greater tendency to believe machine generated source, rather other those generated by humans [Sundar & Nass 2001], and as pointed out by Westerman et al. [2012], SGCs tell a story about the message and may have strong influence on viewers than the actual content of the message.

3. Study 1: Interview with Sina Weibo Users

The main purpose of this exploratory study was to collect the most credible SGCs adopted by users in deciding whether or not to repost a weibo in the context of rewarding repost. In addition, this study explored which SGCs would potentially reflect the common source credibility dimensions suggested by [Cho et al. 2009; Hawkins et al. 2004]. Later we would observe those SGCs revealed in particular when gathering quantitative data from Sina weibo.

3.1. Method

The grounded theory (GT) method was adopted in this study for data collection, coding and analysis. This method provides flexible guidelines that allows researchers to build theories and develop concepts through sufficient data collection and analysis [Denzin & Lincoln 2005]. Contrary to other research methods that often begin with a predetermined sample size, the GT method forces researchers to continue collecting data until no new evidence appears so that they could be convinced that the data are of robust nature [Strauss & Corbin 2015]. Therefore, after the data has been analyzed back-and-forth over an observational period, the researchers become confident about the development of their theories and publication of their results [Glaser & Strauss 2009]. Data collection occurred over the course of a 6-month period, and thirty students (aged from 20 – 25) were recruited (after the theoretical saturation was achieved) from Zhejiang Normal University via a purposeful approach [Engle 1999], which is that, they are registered on Sina Weibo, frequently read/post weibo, and have previously obtained rewards from the profile owner after reposting his/her weibo. University students were selected due to their leading adoption and use of the Internet and social media. Also according to the latest official report from (WDC), about 80% of total weibo users are youngsters aged between 18-30 [Weibo-Data-Center 2016], thus we consider our current sample selection is appropriate to represent the majority of Sina weibo users. All participants were interviewed by the authors on the campus of Zhejiang Normal University, and interviews were tape-recorded and subsequently transcribed. Following typical qualitative research practices [Engle 1999; O'Reilly et al. 2012].

We first explained what source credibility and SGCs are. Then we asked participants open-ended interview questions as follows:

1. In the context of rewarding repost, despite of a weibo's source credibility, what drives you to repost weibo the most and why? (Adopted by O'Reilly et al [2012]; O'Reilly et al [2016])
2. Would you tend to use SGCs when evaluating source credibility of a weibo? If so, recall some of the cues that you used. (Adopted by O'Reilly et al [2012]; O'Reilly et al [2016])
3. Which SGCs would you consider in making judgment to perceive a weibo source that is being capable of providing correct information and why? (adopted from Cho et al [2009])
4. Given that all weibo have the same motive (ie. to make users sharing news, events or product promotion in exchange for incentives, etc), which SGCs would you consider in making judgment to perceive a weibo you read is trustworthy and why? (adopted from Cho et al [2009])
5. Which SGCs would you consider in making judgment to perceive a weibo source that is similar to the target audience members in terms of personal and message characteristics and why? (adopted from Cho et al [2009])
6. Which SGCs would you consider in making judgment to perceive a weibo source that elicits positive feelings from audience and why? (adopted from Cho et al [2009])

In addition, participants were asked to share examples of their experiences of a recent rewarding repost, and when they became winners in reward draws after repost, the experiences they had to redeem the reward. After all the interviews were completed, the transcripts were reviewed by the participant in a member-checking effort to make sure what they were trying to say was described precisely [Strauss & Corbin 2015].

3.2. Results and discussions

First, we learnt that, by holding source credibility constant, most participants considered the reward itself (22 of the 30 interviewees), in the forms of reward value or reward quantity, are the most influential drive to facilitate repost. Some considered cost (7 of the 30 interviewees), in which they had to spend some efforts both before the repost (eg. follow the profile owner's weibo account, forward message, @ friends, attach words or pictures, follow other weibo profile owners) and after (eg. travel to another city to obtain rewards, or need to have internet access to receive a mobile recharge voucher) to redeem rewards. One participant did not give clear answers. This result is in line with existing research that investigated the role of initial trust and incentives when predicting consumers' sharing behavior with E-vendors [Hofacker et al. 2010]. Hofacker et al. [2010] found that "subjects did not claim to be more willing to provide information in the presence of incentives, but in fact, as indicated by their behavior, were more inclined to do so". Therefore, we would infer, in the context of rewarding repost on Sina Weibo, users would more likely to weigh the quality of reward and cost to redeem when deciding whether or not to repost.

All interviewees stated that they tend to use some SGCs to evaluate source credibility of weibo. They also provided a list of SGCs (eg. Number of tags of profile owner, similarity of tags and rewarding repost weibo (tag consistency), weibo account age of profile owner, number of status/time line updates of profile owner, verification

icon of profile owner, number of followers of profile owner, number of likes on the “rewarding repost” weibo, number of replies by the profile owner on the “rewarding repost” weibo, number of comments on the “rewarding repost” weibo, number of profile pictures of the profile owner, daren label² and level of the profile owner, number of follows by the profile owner, number of friends of profile owner, and number of images on the “rewarding repost” weibo). Furthermore, answers of SGCs regarding dimensions of source credibility are shown in table 1, each interviewee’s quote indicates his/her belief about which SGCs he/she would use to measure relative dimensions. For example, 26 out of 30 interviewees believed that “Daren label”, especially the actual level of that label (Daren level), is appropriate to consider when evaluating expertise. We selected answers based on participants’ quotes as to which SGCs would reflect each dimension of source credibility appropriately. Answers were translated in English by a researcher for consistency. Example quotes are presented on Table 2.

Table 1. Summary of Quotes for Interview Questions 3-6

Source Credibility	Expertise (a source that is capable of providing correct information)	Daren level (26/30 quotes) Verified (29/30 quotes) Weibo account age (21/30 quotes) Number of followers (29/30 quotes)
	Trustworthiness (a weibo that is perceived as trustworthy)	Weibo likes (24/30 quotes) Weibo comments (20/30 quotes) Weibo replies by the profile owner (19/30 quotes)
	Co-orientation (a source that is similar to the target)	Tag consistency (25/30 quotes) Number of follows by the profile owner (22/30 quotes)
	Attraction (a source that elicits positive feelings)	Number of images contained on posted weibo (26/30 quotes) Number of profile pictures (20/30 quotes)

Tong et al. [2008] examined how a SGC (the number of friends one has on Facebook) impacts perceptions of a profile owner’s popularity, extraversion, and social attractiveness. They found a curvilinear pattern between the system-generated number of friends one had and social attractiveness. This finding was later proved in studies in the context of twitter [Westerman et al. 2012] that the number of followers and follows would lead to increased judgment of competence. Burt [2000] argued people who have high connectivity are often those who are able to bridge structural holes in a network and are thus able to disseminate information across many people. In this study, number of followers was found to be the most appropriate measure of expertise dimension (29/30 quotes), this was consistent with Lee & Sundar [2013]’s findings that when a professional source with many followers, participants tend to perceive the content to be more credible than when a layperson source with many followers. [Jin & Phua 2014] also found that a celebrity endorser with a high number of followers was significantly associated with higher ratings on physical attractiveness, expertise and trustworthiness compared to a celebrity endorser with a low number of followers. To sum up, these researches implied that SGCs such as number of follower and follows would potentially be used by viewers (in our case, reposters) to evaluate the source’s credibility. However, there is little theoretical guidance to date as which SGCs would fall into which source credibility dimensions. Nevertheless, the findings of this exploratory study provided some practical insights from a perspective of weibo reposters, and in turn, would shed light for the following quantitative study (study 2).

² Sina weibo also offers ‘Daren’ label to those weibo account which has large number of followers, posts etc, so that the users who obtains this label would be benefited by ‘Celebrity Charm’ effect as their weibo posts become more influential towards a wide range of audience. The higher the ‘Daren’ level, the more influential the weibo.

Table 2. Example Quotes Across Four Dimensions of Source Credibility

Expertise	Trustworthiness	Co-orientation	Attraction
<p>Daren level: “People spend effort to obtain the Daren label and have done so many things to upgrade it to a higher level so I don’t think they would risk it by posting fraud messages or do something not professional.”</p> <p>Verified: “I personally would not trust an expert’s weibo account if it’s not verified, because currently Sina weibo are flooded with fake people providing false information.”</p> <p>Weibo age: “Sometimes I am confused when found multiple verified weibo account for the same organization. This cue gives me further information to distinguish which one is official. If a company’s weibo account was registered before the company was established in the market, it would be fake.”</p> <p>Number of followers: “Even you would be able to add fake followers; nevertheless, it is still a sign to show the expertise of weibo account.”</p>	<p>Number of likes: “Obviously this is the first piece of information that I am looking for under posted weibo, and it is an unbiased cue.”</p> <p>Number of comments: “User comments serve as a signal for hot topic. The more comments the more I am convinced about the validity and trustworthiness of the weibo.”</p> <p>Weibo replies by the profile owner: “At the time I notice a lot of replies been posted to clarify issues or concerns of reposters, it is a positive sign showing that the profile owner has treated the rewarding repost weibo seriously, or at least the activity would probably not be something fake.”</p>	<p>Tag consistency: “I always check the poster’s tags, if it is not relevant to the content of the rewarding post, I would question the veracity of it.”</p> <p>Number of follows by the profile owner: “I tend to follow weibo account that has similar personalities or interests, so I would think that the cue reflects co-orientation at some degree.”</p>	<p>Number of images: “Images are always handy for attraction! I wouldn’t bother looking at the weibo content if images are not attached”.</p> <p>Number of profile pictures: “I once looked at an online video that invite people (who claims they don’t pay much attention to one’s physical attractiveness) to participate in a neuro experiment, their brain signals told they do care about attractiveness! It was very funny!” So I think one’s profile pictures would attract lots of weibo view counts.</p>

4. Study 2: Quantitative Study

Study 1 revealed potential SGCs that capture the common source credibility construct. We now examine whether significant relationship exists between dimensions of source credibility and the actual reposting behavior of reposters. Also we intended to rule out confounding variables mentioned in study 1 (reward and cost) by treating them as control variables in our proposed model.

4.1. Theories and Hypotheses

Yoon et al. [1998] found that the dimensionality of source credibility was remarkably similar across cultures, and influence of the source credibility dimensions varied by the dependent variables. Attractiveness, expertise, and trustworthiness were equally important to purchase intentions. All three dimensions affected involvement with the advertisement message equally. In the context of online C2C communications, O’Reilly et al. [2016] highlighted when the receiver deems the source to have an appropriate level of expertise and knowledge of the subject at hand, and appears to be without bias or motive regarding what action the receiver takes because of the message, then the source is more likely to be deemed credible. They further posited that online source credibility is directly linked to how likely a consumer is to believe and use the information from a particular source. [Doney & Cannon 1997] verified that some characteristics of salespersons, such as expertise, likeability, and similarity to customers, played a significant role in building trust and strengthening the link between the customer and the supplier firm. Subsequently, Trust leads to actions, mostly risk-taking behaviors [Y. D. Wang & Emurian 2005], such as sharing personal information online [Tait & Jeske 2015] or facilitating long-term commitment between manufacturers and retailers [Kumar 2005]. In the case of rewarding repost on Sina weibo, we would assume that when users deem the profile owner was attractive and has expertise, and the weibo he/she posted is considered as unbiased and trustworthy, users would likely consider the

source as credible and would subsequently repost weibo (holding reward and cost constant). Hence, it leads us to tender:

H1: Expertise positively impacts weibo reposting behaviors.

H2: Trustworthiness positively impacts weibo reposting behaviors.

H3: Attractions positively impacts weibo reposting behaviors.

O'Reilly et al. [2016] posited that message relevance is a key determinant of eWOM, a concept of persona similarity is proposed as an important dimension of message relevance. Persona similarity refers to the focal consumer's assessment of how alike the source is to them in terms of character, background, and expectations [O'Reilly et al. 2016]. It is also widely accepted in the literature that even in the offline environment, a source that is similar to receiver in terms of character, background, and expectations will have a stronger effect on a receiver than a dissimilar source [Cairns 1991]. It is common that people tend to like similar others and would perceive the ideas and attitudes held by those similar others to be more appropriate and relevant to themselves. Consequently, they would more likely to share options of those similar others or use the product recommended by those people [Thompson & Malaviya 2013]. Hence in the case of rewarding post on Sina weibo, we predict:

H4: There is a positive relationship between co-orientation and reposting behavior.

In addition, based on result from study 1, we intend to control the effect of expected reward and cost on repost by treating them as covariates. Higgins [1961] proposed the "quantity" and "value" as the two important variables in his formation of the exchange theory. Therefore we would pay more attention to data that describes reward quantity and value after data collection. Williamson [1979] divided cost according to the temporal order of events as prior behavior cost and post behavior cost. We follow this theoretical guidance together with evidence from study 1, and infer prior behavior cost as the effort and time spent by reposters before reward draws (ie. follow the profile owner, @ certain number of friends, etc), and infer post behavior cost as the effort and time reposters would perceive to redeem the reward when they have won the reward (ie. collect the reward in person or simply get the reward online). We proposed our research model in Figure 1.

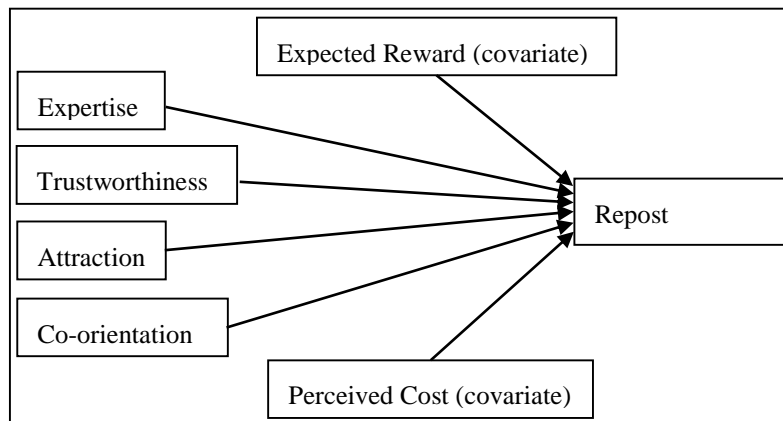


Figure 1. Model of Factors Influencing Repost Behavior on Sina Weibo

Buccafurri et al. [2015] mentioned two ways to acquire weibo data: one is to use the APIs provided by Sina weibo platform to retrieve data directly; the other is to utilize web crawler to gather all relative data from World Wide Web. The former is more convenient and effective, but with limited data quantity; the latter has the advantage of large data quantity, but they are often disordered or ambiguous.

We chose the API method using Aptana Studio to write PHP script with the aim to extract more weibo information content, then later received data feedback in the form of JSON. Data collection occurred over the course of a 3-month period (from May 2015 to August 2015). Total of 2402 weibo account data were randomly captured through API. In accordance with our research design, we excluded data without "Rewarding Repost" tags to make sure we obtain only valid data for analysis. Eventually we were left with 252 valid account data.

This study measured number of reposts as dependent variable which demonstrates users' actual reposting behavior. Four dimensions of source credibility were captured based on SGCs suggested from study 1, Expected reward is explained by reward value and quantity. In our case of rewarding repost, we measure value of reward (such as souvenirs and tickets, etc.) directly according to their market price, and reward quantities were also directly retrieved through API data. Perceived cost was interpreted by data relative to cost prior and post to repost. Table 3 provides the detailed view of all variables.

Table 3. Measurement Overview

	Measured Dimensions	Observed Variables
Expected Reward (Covariate)	Value of Expected Reward	Value of reward (reward_value)
	Reward winning quantity	Reward winning quantity (reward_quantity)
Cost (Covariate)	Perceived cost prior to repost	Number of weibo to follow (follow_num) Number of friends to @ (at_friends_num)
	Perceived cost post to repost	Effort spend to redeem reward (get_reward_in_person, get_reward_online)
Source Credibility	Expertise (EXP)	Daren Level (EXP1)
		Verification (EXP2)
		Weibo account age (EXP3)
		Number of followers (EXP4)
Trustworthiness (TRU)		Number of weibo likes (TRU1)
		Number of weibo comments (TRU2)
		Number of weibo replies by profile owner (TRU3)
Attractiveness (ATT)		Number of weibo images (ATT1) Number of profile pictures (ATT2)
Co-orientation (CO)		Tag consistency (CO1)
		Number of follows by the profile owner (CO2)
Behaviour	Repost (REP)	Number of reposts (reposts_num)

Table 4. Factor Loadings for All Source Credibility Constructs

	EXP	TRU	ATT	CO
EXP1	0.859			
EXP2	0.840			
EXP3	0.826			
EXP4	0.603			
TRU1		0.757		
TRU2		0.778		
TRU3		0.753		
ATT1			0.864	
ATT2			0.783	
CO1				0.917
CO2				0.931

4.2. Results and discussions

We employed confirmatory factor analysis to test the construct validity of source credibility dimensions in our model. The adjusted R^2 of KMO and Bartlett's test was 0.697 ($p < 0.001$). Four factors were extracted (explains 72.414% of total variance). As Table 4 shows, factor loadings for all variables under four dimensions of source credibility exceeded acceptable criteria of 0.6, this indicated all the above SGCs adequately explains the expertise, trustworthiness, attraction and co-orientation dimensions respectively. Overall, the factor analysis results confirmed with our previous model design. Consequently, we can say that our source credibility constructs are well captured by the observed SGCs [Floyd & Widaman 1995]. Moreover, the correlation between each pair of dimensions within 'source credibility' did not exceed 0.6. Given the weak relationship among the constructs (depicted by Table 5), and further collinearity diagnostic check (depicted by Table 6) on all independent and control variables revealed that variance inflation factors are less than 10, we have strong ground to believe that there are indeed four dimensions without potential collinearity issues and our model has relatively good validity for testing hypotheses [Chang & Taylor 2015].

Table 5. Correlation of Dimensions

	EXP	CO	TRU	ATT
EXP	1			
CO	0.1374	1		
TRU	0.1291	0.1943	1	
ATT	0.2216	0.3595	0.4498	1

Table 6. Collinearity Diagnostic Check

Variable	VIF	Tolerance
EXP	1.18	0.8501
CO	1.26	0.7950
TRU	1.47	0.6825
ATT	2.68	0.3737
Reward value	1.03	0.9755
Reward quantity	1.09	0.9178
Follow number	1.12	0.8919
@ friends number	1.22	0.8193
Get reward in person	2.22	0.4511
Get reward online	1.94	0.5156

We performed both Negative binomial regression and Poisson regression analysis to test each hypothesis. We put both expected reward (ie. reward value and quantity) and perceived cost (ie. number of weibo account to follow, number of friends to @, redeem reward in person, redeem reward online) as control variables when we conduct those regression analysis. Through the comparison of Akaike's Information Criterion (AIC) and Log likelihood, the negative binomial distribution model offers better goodness of fit than poisson distribution, furthermore, variance and mean need to be approximately equal in order to perform poisson regression [Adkins & Hill 2011]. However, the test of alpha indicated the variance is significantly greater than the mean during the negative binomial regression. Consequently, we adopted regression results from the former distribution model for analysis (Depicted in Table 7).

Table 7. Negative Binomial Regression Results

REP	Coef.	Robust	z	P>z	95% Conf. Interval	
EXP	0.1057207	0.0507279	2.08	0.037**	0.006296	0.205146
CO	0.2427067	0.0585531	4.15	0.000***	0.127945	0.357469
TRU	0.2091744	0.0609544	3.43	0.001***	0.089706	0.328643
ATT	0.4634125	0.0633423	7.32	0.000***	0.339264	0.587561
EXP*CO	-0.032313	0.0620717	-0.52	0.603	-0.15397	0.089346
EXP*TRU	-0.045729	0.0438255	-1.04	0.297	-0.13163	0.040167
EXP*ATT	-0.070909	0.0576115	-1.23	0.218	-0.18383	0.042007
CO*TRU	0.0385073	0.0486669	0.79	0.429	-0.05688	0.133893
CO*ATT	-0.017633	0.0598028	-0.29	0.768	-0.13484	0.099579
TRU*ATT	-0.026001	0.0389847	-0.67	0.505	-0.10241	0.050408
reward_value	-0.000044	0.0030875	0.01	0.989	-0.00601	0.006095
reward_quantity	0.0002186	0.0002962	0.74	0.461	-0.00036	0.000799
follow_num	-0.115434	0.1222942	-0.94	0.345	-0.35513	0.124259
at_friends_num	-0.090951	0.0406185	-2.24	0.025**	-0.17056	-0.01134
get_reward_in_person	-0.332935	0.1825274	-1.82	0.068*	-0.69068	0.024812
get_reward_internet	-0.166735	0.1543961	-1.08	0.280	-0.46935	0.135875
_cons	5.853169	0.1852318	31.60	0.000	5.490121	6.216216
/lnalpha	-0.526676	0.0684005			-0.66074	-0.39261
alpha	0.590565	0.0403949			0.51647	0.675290

Likelihood-ratio test of alpha=0: $\chi^2(01) = 3.4e+04$ Prob>= $\chi^2 = 0.000$

*** P < 0.001, ** P < 0.05, *P < 0.1

Summarizing our results, all hypotheses were supported given the significant parameter estimate ($p < 0.05$), which indicates that expertise ($p = 0.037$), co-orientation ($p < 0.001$), trustworthiness ($p = 0.001$) and attraction ($p < 0.001$) all exhibit significantly positive influence on repost behavior. It was consistent with Pornpitakpan's review on source credibility. He summarized that the main effects of all source credibility dimensions seem to show that higher source credibility results in more persuasion in terms of both attitude and behavioral measure [Pornpitakpan 2004]. Yoon et al. [1998] found that attractiveness, expertise, and trustworthiness were equally important to purchase intentions. However, it is worth noting that co-orientation seems to be more closely related to repost behavior compared to expertise in the current study. The critical difference between our study and that of Yoon's lies in the fact of sample selection. Yoon et al. [1998] recruited participants from both Korean and American cultures whereas our study only involves Chinese participants. Therefore, any peculiarities of the sample in terms of cultural diversity may have an outsized effect on the final results. In addition, we examined the effects of source credibility on the actual behavior whereas Yoon and Colleagues investigated how source credibility influences attitude and intentions, and it is quite common that intention does not necessarily lead to behavior. An interesting experiment conducted by Hansen et al. [2014] found that when viewers in YouTube perceives an advert as having higher source credibility, they would be more willing to engage interactively (eg., search, rate or comment) with that advert. More specifically, the authors suggested that when the advert is generated by consumers who are thought to have higher personal similarity with potential viewers, the advert itself would be deemed as credibly than when it is generated by experts (i.e. Firm-Generated-Advert). Taking together the findings from the current study, we would predict that when making behavioral decisions other than intentional judgments online, co-orientation may play more influential role than expertise in shaping consumers' source credibility perception, and subsequently promote or inhibit their online behaviors. Nevertheless, a source with high expertise alone could also trigger favorable behavioral outcomes. As another previous research demonstrated, subjects would rely on a peripheral cue as a basis for their judgment, and a source higher in expertise would elicit greater persuasion compared to the one with lower expertise [Yalch & Elmore-Yalch 1984]. This dovetails nicely with the finding from another study that when public announcement is made by online health commenters who possess high expertise, it would significantly increase consumers' vaccination attitude and behavior compared to similar announcement made by commenters with low expertise [Kareklas et al. 2015]. Hence, the significant effect of expertise on number of reposts may imply that reposters would find a verified source with high daren level, longer weibo account age and larger number of followers to be credible, and in turn, more likely to repost the weibo for incentives. Regarding trustworthiness, Walster & Festinger [1962] found that an overheard message would more likely to influence participants because in this case, the speakers would be unaware of them and therefore did not intend to persuade them. However, the intentions (i.e. to repost weibo in exchange for incentives) were made very clear to all reposters in our study, and according to our findings in both study 1 and study 2, we would assume that when intention is constant, people repost weibo by considering those unbiased SGCs (eg. number of comments of that weibo) as judgment criteria for trustworthiness. In the context of online vocation planning, Ayeh [2015] also demonstrated how the actual adoption rate of a consumer-generated-media (eg., Trip Advisor) could be significantly improved by enhancing trustworthiness of the platform. Source attractiveness were also found as critical antecedent of persuasive eWOM messages in many studies [Berger 2014; O'Reilly et al. 2016; Teng et al. 2014; Xu 2013], take the study of Xu [2013] for example, the author investigated the effects of news cues in a social bookmarking website on users' source credibility perception and found that the attractive news cues would be viewed as highly credible and newsworthy, and in turn, facilitate higher click-through-rate from users. Consequently, this lead us to infer that when the profile owner had attractive profile pictures and attach images on his/her weibo, the diffusion effect (ie. get reposted) would be enlarged. In terms of co-orientation, Walster et al. [1966] found that a highly credible source was more persuasive than a low credibility one when he or she presented messages congruous with his or her own self-interests. When studying similarities between nutrition source and the recipient, Feldman [1984] showed that the greater the perceived similarity, the greater the influence on the nutrition behavior and attitudes of participants. In the context of evaluating helpful online product reviews, consumers tend to perceive reviews written by others (who possess higher personal similarity to them) to be more helpful, and thus make more purchases of that product than when they feel themselves less relevant towards others [M. Li et al. 2013]. In this study, reposters could make judgments based on profile owners' tags to see if the weibo is consistent with profile owner's self-interest, or search for further cues by browsing the profile owner's follow list, because normatively speaking, people tend to follow ones with similar interests. Furthermore, if reposters perceive the profile owner to be like them in terms of education, background, lived experience, or other similar dimensions, then they will perceive the source's message to be more believable, and thus more likely to repost that message.

In addition to the significant main effects of four source credibility dimensions observed above, we also noted that interaction effect wasn't existed between any pair of dimensions. This might imply that as long as reposters are satisfied with at least one dimension of source credibility, they would view the source (eg. profile owner's profile) as

credible and would subsequently repost the weibo of that source. McGinnies & Ward [1980] revealed that the trustworthy communicator was more influential than was the untrustworthy one, whether or not he was an expert. Expertise and physical attractiveness of the source were also found to have significant main effects on opinion agreement and liking, with no interaction [Horai et al. 1974]. Our result support those above studies in the context of weibo rewarding repost. However, our result is not consistent with studies of source credibility effect in domain of eWOM which suggest that both source expertise and trustworthiness are needed in order for users to view the source as credible [O'Reilly et al. 2016], one possible explanation of this inconsistency would be that in the era of social media, information being spread are too fragmented so reposters' focus on hot topics are easily shifted from time to time (i.e. there might be breaking news about the turmoil in Turkey today, but tomorrow, people might begin discussions about the affairs of a famous football player). Therefore, reposters would not bother to spare extra effort to undergo all stages of source credibility validation, so long as the reward itself is compelling and the source is credible enough (ie. source demonstrated some degree of expertise or trustworthiness or attraction or similarities), they would go ahead and repost. In addition, we would infer that when the expected reward and cost are held constant, reposters may rely primarily on heuristic judgments of SGCs. This possibility is in line with the findings of Metzger et al. [2010] who found that people often rely on heuristics when making credibility judgments online.

Another interesting set of findings involves control variables of both prior (number of friends to @ before repost) and post behavioral cost (redeem the reward in person after repost). Number of friends to @ was inversely related to repost behavior ($p = 0.025$), which implies the more friends the profile owner asked reposters to notify before repost, the more inhibited those reposters would become in reposting. One possible interpretation would be that Sina weibo has relatively weak monitoring mechanism on weibo platform and the low cost of committing fraud for dishonest profile owners (ie. marketers). Misleading and fake information or subjective opinions continuously spread over the platform. Comment cheating also exists in weibo as some weibo posters are purposely responding to their own posts (i.e. register multiple weibo accounts) in order to create hot topic illusion, and in turn, facilitate user participation. A reposter would first feel a sense of approach-avoidance conflict (i.e. this weibo is interesting and the reward is attractive, but what if my friend ridicules me of being fooled by the poster after I @ him this message?) before expose rewarding reposts type of weibo to his/her friends, then might decide to forgo reposting. To redeem the reward in person after repost also exhibited a marginal negative impact ($p < 0.1$) on repost behavior. It would be regarded as lack of convenience in the redemption process compared to receive reward online or by express delivery. This finding confirms with what has been documented in the literature that increased cost of effort or time spent would stimulate lower consumer satisfaction level, and in turn, resulting in decreased purchase or sharing behaviors [Kiku & N.K 2007].

5. Implications and Future Directions

Decades of source credibility researches have generated a vast number of intriguing interrelationship among its common construct [Pornpitakpan 2004] and external relationship with purchase intention [Yoon et al. 1998], persuasion [O'Keefe 2002], eWOM [O'Reilly et al. 2016] or diffusion features for link prediction [D. Li et al. 2016]. In light of Sundar [2008]'s MAIN model, preceding researches explored the use of some potential system generated cues (ie. number of friends) toward credibility judgments on Facebook [Harriet et al. 2015; Tong et al. 2008], and on twitter [Westerman et al. 2012, 2014]. The current research is an initial effort to explore SGCs (from the source credibility perspective) in the context of Sina Weibo (the microblogging site that penetrates 80% of Chinese internet users) and their connections to the users' actual repost behavior. We specifically identified a comprehensive list of SGCs which could potentially reflect each dimension of source credibility through an exploratory study, later we captured those SGCs suggested via API method on the weibo open platform to investigate their relations with repost behaviors.

From a theoretical perspective, our findings were in line with other researches [Walther et al. 2009; Westerman et al. 2012] which suggested an increased usefulness of social information processing theory [Walther 1992] by extending it to account for the reliable impressions that form in even a very limited exposure (a 140 character limit weibo) to a target (a reposter) through the means of SGCs. This study would also extend the understanding of how source credibility in the context of weibo repost, could be appropriately measured by SGCs assessable for reposters, and would have a subsequent impact on their actual repost behaviors afterwards. However, as noted by other studies [O'Reilly et al. 2016] in domains of online product review credibility and adoption, consumers would undergo a sequential evaluation process to measure source credibility, because dimensions such as expertise and trustworthiness represents a vital minimum threshold condition which must be met before a consumer will advance to the next element. This research was unable to address whether a sequential evaluation order also exist in appraising source credibility on Sina weibo. Future research might be able to evidence this issue by utilizing eye-tracking devices in laboratory

setting, particularly looking at the eye movement tracks, fixation (ie. duration of attention) and re-visiting (number of times looking at a stimuli) of the subjects on those SGCs suggested in our study.

From a practical perspective, the current study would provide some valuable insights for posters (i.e. marketers). Firstly, our findings suggested that weibo users would use SGCs on Sina weibo as heuristic cues to judge a source's (i.e. marketer) credibility and would then repost the posted message if it is deemed as credible. More specifically, although it is apparent that the optimal solution for marketers to enhance their credibility is to make themselves trustful across all dimensions such as obtaining verification icon or daren label, adopting official or attractive profile pictures while at the same time attach detailed images on the rewarding repost types of weibo, and make themselves relevant to activity theme or tags, it would still be wise to emphasize on a particular dimension (eg. weibo account attraction) to achieve favorable outcome (ie. large number of repost) if they are not able to improve all dimensions simultaneously. Secondly, the significant inverse relationship between perceived cost to repost and the actual repost behavior of reposters suggested that marketers need to put themselves into the shoes of reposters by offering easily redeemable rewards after repost and avoid aggressively pushing reposters to notify certain number of friends before repost as this would make them uncomfortable and hence inhibit them from reposting. Overall, all the above attempts would indeed shape marketer's account vitality, and enhance favorable perception from reposters. In addition, the reference value of our research would also be extended to corporate social responsibility promotion or public opinion sharing via variety of other SNS platforms in China (i.e. Wechat, Renren.com). It is worth noting that in the current study, we are unable to assess the actual repost rate of a weibo, but rather rely solely on the number of repost. Future work would consider adding number of views as control variable to further complement the findings of this study.

Finally, from the perspective of research object, it would be interesting to consider weibo reposting not only from individual level, social factors such as family influences or friend's recommendations also play a critical role in determining users repost behavior [Ajzen & Fishbein 1980]. Future research would include more control variables beyond expected reward and cost, to empirically test the robust nature of the conceptual framework of source credibility and its impact on weibo repost behavior.

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