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ABSTRACT

How do audiences impact the memories shared on social media? We find that sharing experience on social media can ironically decrease memory of shared experience and sharing with a small group attenuates sharer's memories to a greater extent than sharing with a large group. This advantage is due to outsourcing memories to identifiable audiences and is diminished by enhancing the perceived heterogeneity of large group or decreasing the identifiability of small group.

KEYWORDS

Social Media, Sharing, Transactive Memory, Audience Size, Social Interaction

INTRODUCTION

Since word-of-mouth has been shown to attract new customers and increase sales (Berger and Iyengar 2013), companies have invested countless resources to encourage sharing consumption experiences on social media. Due to its connecting nature, social media allow people to either share with a few audiences (narrowcasting) or share with many people (broadcasting). Past research has only investigated how the audience shape what people share (Barasch and Berger 2014). Little is known about how the perceptions of audience impact the way the memories are remembered. We address this gap and propose that social media can impact memories shared; perceiving the audience size as small (large) will be more (less) likely to facilitate memory outsourcing and lead to memory attenuation.

THEORETICAL FRAMEWORK

Transactive memory systems (TMS) literatures suggest that close in-group members share responsibilities for remembering to enhance cognitive efficiency (Wegner 1987). The TMS partners can be the technologies and humans. For instance, perceiving the file has been saved on the computer (erased) lead to poorer (better) memory of the file (Sparrow, Liu and Wegner 2011). Participants' memory for the museum tour was worse when they had taken photos with the digital cameras as compared to only observing the objects (Henkel 2014). Recent evidences suggest that social sharing may lead to memory decay if people outsource their meaningful memories to the close partners rather than strangers (Huang and Rajagopal 2017a).

Huang and Rajagopal (2017b) further find that sharing via technologies can lead to identity memory decay when the technological platforms have human interacting features (e.g. anthropomorphism). Social media, the most popular technological platforms people share their experiences, are special for their inherent social nature and thus should facilitate humanized perception. Thus, we expect that sharing on social media can lead to memory decay. Further, we predict that the audience on social media matters. The relationships are closer and the connections are tighter when the group size is small (rather than large) because more interactions are possible among all members. As the group size increases, the connections disperse and the relationships become more superficial (Cooley 2015). Moreover, the coordination (work cooperatively) is an important indicator of memory outsourcing. Prior research has found that the small group has better performance on the student group project because group members can coordinate better as compared to a large group (Michinov and Michinov 2009; Jackson and Moreland 2009). Palazolo et al. (2006) compare the network size (4 vs. 20) and reveal that smaller networks has greater TMS accuracy (knowing who knows what). These results suggest that in social sharing context, memory outsourcing should be more likely to occur in a small rather than a large group.

RESEARCH HYPOTHESIS

Based on the above theorization, we propose the following research hypotheses

H1: Sharing experience on social media (versus not sharing) leads to diminished memory of experience.

H2: The effect of sharing experience on social media on diminished memory is stronger when sharing with small (versus large) size of audience.

STUDY 1

Study 1 tested the basic effect that the memory shared on social media will be weaker as compared to no sharing. (H1)

140 American Mturkers participated a one cell sharing 3 (writing and sharing on social media vs writing only vs. no sharing) between subject study for monetary reward. They were exposed to a travel scenario about a one-day tour to Hong Kong (tourism spot photos were provided). After encoding the same experience, they were randomly assigned to writing down this travel experience in details and sharing it on Facebook vs. writing it in details for self vs. no sharing (describing a book recently read). After the filler tasks, their memories were tested by free recall of travel experience. An ANOVA results supported our prediction that participants remembered less details when they shared their experiences on social media as compared to no sharing ($F(1,138)=4.45$, $p < .05$). Interestingly, writing it without sharing seems no difference from no-sharing ($F(1,138)=1.39$, $p >. 24$), which suggests that sharing action is critical for memory outsourcing.

STUDY 2

Study 2 examined that the memory decay will be stronger when the audience size is small than large (H2).

Ninety-five American Mturkers participated a one-cell audience size 2 (small vs. large) between-subjects study for money. After encoding the travel experience, they shared the entire experience on their own Facebook. Then they were randomly assigned to different audience size (small vs. large) conditions (adopted from Hamilton, Ratner, and Thompson 2011) by responding to a question "How many Facebook Friends do you think will pay attention to the travel experience that you shared just now?" from a 7 point Likert-type large audience scale (1 = 10 or below; 10 = 100 or above) or a small audience scale (1 = 100 or below; 10 = 1000 or above). We recorded their sharing content to ensure the same amount of encoding and sharing. They then participated in some filler tasks prior to recalling their travel experience. The dependent variables: free recall of the experience and perceived memory saved (saved/recorded/stored; 3-items, $\alpha = .91$) were measured before the demographics.

An independent sample t-test revealed a marginally significant difference on correct recall ($M_{large} = 6.06$, $M_{small} = 5.04$, $F(1,93) =3.39$, $p <. 07$), confirming that participants recalled less correct details of travel experience after sharing it on Facebook when they perceived their audience size is small as compared to large. Interestingly, the perceived memory saved results showed the opposite ($M_{large} = 4.53$, $M_{small} = 5.09$, $F(1,93) =2.98$, $p <. 06$), implying that participants believed the small group is a safer memory storage than the large group, thereby outsourcing more to the small group and leading to memory decay. The study 1 supported our notion that sharing memory on social media would result in memory decay (enhancement) when shared with a small (vs large) group of audience.

STUDY 3

Study 3 investigated the moderating effect of audience heterogeneity. Since the memory outsourcing was impaired by the large audience size due to the difficulty in identifying "who knows what", it should restore when enhancing the heterogeneity of the large group because the sharers should be better able to identify who may remember what they have shared. Moreover, heterogeneous group are perceived as more mindful than homogenous group (Morewedge et.al 2013) and thus a safer memory repository.

Ninety-four American undergraduate students participated a 2 audience size (small vs. large) x 2 audience heterogeneity (high vs. low) between-subjects study for credit. The scenario and study procedures were similar to study 1's. The audience heterogeneity (high vs. low) was manipulated by a research report indicating the diversity (vs. homogeneity) among people's social media audiences.

ANOVA results revealed a significant main effect of audience size ($F(1,90) = 3.76$, $p = .05$) and a directional interaction between audience size and audience heterogeneity on correct recall ($F(2,90) = 3.76$, $p =. 11$). As predicted, when the audience heterogeneity was low, sharing with the small group resulted in greater memory decay as compared to the large group ($M_{large}= 7.76$, $M_{small}=5.47$, $F(1, 90) = 6.13$, $p < .02$), replicating study 1 results; however, when the audiences became more heterogeneous, there were no significant difference between small and large size groups ($M_{large}=6.11$, $M_{small}=5.90$, $F(1, 90) = .05$, $p > .81$).

STUDY 4

Study 4 tested that the advantages of memory outsourcing (and thus memory decay) of sharing with smaller group will be impaired by the audience anonymity. 94 American Mturkers participated a 2 audience size (small vs. large) x 2 audience anonymity (yes vs. no) between-subject study. Participants shared their travel experiences with a small (vs. large) anonymous (vs. non-anonymous) group on a travel discussion forum. Free recall and Recognition memories were measured after the filler tasks. The experience recognition measure required

respondents to select details about the travel experience from a set of 24 statements (12 true and 12 false). Corrected recognition was computed by subtracting false recognition from true recognition (Dalton and Huang 2014).

An analysis of variance revealed a significant interaction between the audience size and audience anonymity on the free recall ($F(1, 90) = 4.72$, $p < .01$). When the sharing audience is non-anonymous, participants remembered fewer details when the audience size is small as compared to large ($M_{large} = 6.12$, $M_{small} = 4.83$), replicating previous findings; however, when the sharing audience is anonymous, the results reversed ($M_{large} = 6.09$, $M_{small} = 4.48$, $p < .01$). Corrected recognition of the travel experience showed the same patterns ($F(1, 90) = 8.46$, $p < .01$). The results imply that being able to identify "who may know what" is important for memory outsourcing. If the sharing audience is anonymous, the memory decay will be attenuated.

CONCLUSION

In sum, four studies demonstrate that social media can impact memories shared and the perceptions of audiences play an important role. The small audience size may trigger memory outsourcing and consequently attenuate memories shared. Increasing the perceived heterogeneity of the large group can make it function similar to the small group. Enhancing the audience anonymity can impair the memory decay caused by the small audience size. These findings have important implications for social media marketing. For example, encouraging sharing consumption experience may be detrimental to the brands if the sharer only has a few followers or if the sharer has a large size but diverse followers.

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