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Personalized Advertising in Public Environments: Perceptions and Consequences

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Grounded in theory on self-concept congruity and impression management, we examine effects of personalized advertising in public, where others are present and see the personalized content concurrently. We find an indirect effect of others' presence on consumers' attitudes and behavioral intentions, mediated by embarrassment and moderated by ad-self-concept congruity state.

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It's All Around You: The Pervasive Effects of Technology on Consumers' Lives

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Paper #1: Touching Versus Talking: Alternative Interfaces and the Extended Self

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Paper #2: Personalized Advertising in Public Environments: Perceptions and Consequences

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Paper #3: Understanding the Quantified Self: Effects of Self-Tracking on Mortality Salience and Health Motivation

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Paper #4: Thank You for Your Helping Hand! Ways to Avoid Negative Consequences of Customer Participation in Recovery of Technology Product Failure

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SESSION OVERVIEW

Technological innovation is transforming many aspects of consumers' lives – how we shop, how we use services and incorporate them into our lives, how we work, how we obtain information, how we pursue our everyday goals (Manyika et al. 2013). Despite these transformational technologies, little consumer research has examined the effects of using and interacting with technology on consumers' lives. The goal of this session is to explore the various and often unexpected ways that interactions with new technologies can affect consumers' information-processing and decision-making. Together the four papers examine various dimensions of this question: the extent to which technology affects consumers' self-concept and becomes a part of their extended self, the extent to which it affects consumers' goal pursuit, purchasing behavior, and the reactions the technology triggers when it fails.

Specifically, in paper #1, Brasel examines which type of technological feature (i.e., touch versus voice interface) is more internalized into the self as consumers interface with technology-based offerings. In paper #2, Heß and colleagues explore the influence in-store consumer tracking technology can have on consumers' self-concept and downstream purchasing behavior. In paper #3, Mende, Scott, and Nenkov explore consumers' use of self-tracking technology (e.g., FitBits) and its impact on mortality salience and the pursuit of self-relevant goals. In paper #4, Bilstein, Matta, and Hogreve study what happens to consumers when the technology they purchase fails, and the consumer has to continue to interact with the source of technological disappointment to get back on track. Taken together, these papers raise some important questions for discussion during the session, including: (1) Does the influence of technology on consumer behavior vary depending on whether the consumer has selected the technology (papers 3 & 4) or when the use of the technology is imposed on them (papers 1 & 2). (2) How does the use of technology af-

fect self-identity and well-being, and what is the downstream impact on goal pursuit and consumption?

In sum, the papers in this session (all in relatively advanced stages) further our understanding of consumer decision-making in the context of technology interaction and usage – topics that are under-researched and likely to be of substantial interest to the ACR audience.

Touching Versus Talking: Alternative Interfaces and the Extended Self

EXTENDED ABSTRACT

As mobile devices such as tablets and smartphones become the modal form of computer interaction, the primary method of interface has shifted from mouse and keyboard. Touchscreens have come to dominate the mobile computing space, and both Google and Apple have also made strong pushes into voice-control in recent years. But are all interfaces created equal? Prior work suggests that the interfaces used to access content can strongly affect the way that content is experienced, explored, and viewed (Rokeby 1998).

This research explores how touch and voice interfaces can trigger different ownership perceptions and relational paradigms, which in turn color consumer perceptions of the online content accessed through the device. Touch is especially relevant as it remains under-explored in the consumer literature (Peck 2010), and most smartphone and tablet interactions are conducted through a touchscreen. As a more direct metaphor for actually touching online content (in comparison to the more abstract mouse), touch should be a more transparent interface to use, and awareness of the device as a mediator between the user and the content being accessed should decrease. Touch interfaces have also been shown to generate stronger levels of psychological ownership (Brasel & Gips 2014). In addition, prior work suggests that smartphones and tablets may have a more direct association with a consumer's extended self due to this 'transparency' (Hein, O'Donohoe & Ryan 2011), but this has seen little empirical testing.

In contrast, a voice-controlled interface makes the 'command' aspect of the interface highly salient; the consumer voices an instruction, which the device then executes. This positions the device as an assistant or partner, rather than encouraging incorporation of the device into the extended self. This may not only decrease any artificial increase in psychological ownership, it may trigger relational associations such as distributive justice and locus of control. And rather than blur the lines between self and device, it may blur the lines between device and content instead.

Two studies were conducted to explore the role of alternative interfaces in how devices get incorporated into the extended self, and how interfaces can trigger certain relational norms. In Study 1, participants used an Android tablet either through Google voice controls or through traditional touchscreen controls to navigate the process of buying new bath towels from Amazon.com. As voice-control is not yet fully integrated into all shopping apps and programs, primarily being limited to text input rather than menu navigation, the experimenter was also surreptitiously controlling the tablet from behind the participant, using a Bluetooth mouse and to execute participant commands such as "yes" or making selections from a menu. While touchscreen participants exhibited the same self-incorporation as seen in

Study 1, voice-control participants showed little self-incorporation. In contrast, voice-control participants rated the tablet higher on relationship dimensions, thinking of it more as a partner and assistant than did touchscreen participants. This reflects in the responsibility measures; much like Study 1 touchscreen participants gave little credit for a successful transaction to the device. In contrast, voice control participants gave more credit to the device than to the store. Follow-up questions suggest that unlike the self and device becoming blurred as with touch interfaces, voice interfaces instead blur the line between device and the content accessed.

In Study 2, we explored how errors were processed in both interfaces. Using a large touchscreen monitor to control for baseline touchscreen error rates due to smaller phone screens, and a hidden assistant to control the computer in the voice condition, the error rate was experimentally controlled. Participants engaging in a shopping search task either experienced a level of error consistent with current voice interfaces (5-10%), or no errors, regardless whether they were controlling the machine via touch or text. This exposure lasted either one minute or five minutes. When using the touch interface, consumers placed the locus of control for errors onto themselves, and did not assign blame to the computer. When using the voice interface, consumers placed the locus of control for errors onto the computer, and perception of the computer as a separate entity increase. When the exposure is increased to five minutes, the results of the voice interface do not change. For the touch interface, however, the increased prevalence of errors beyond the traditional touchscreen baseline experienced in everyday life makes the interface more salient, moving it from the extended self into separate entity status.

In conclusion, the results of two studies suggest that touch and voice interfaces change consumer reactions to online content, but do so in different ways. Compared to traditional mouse-and-keyboard interfaces, touchscreens strongly encourage the consumer to incorporate the device into their extended self, essentially making the device transparent in the online shopping process. In contrast, voice controls establish the device as a partner or assistant, and make the device an active intermediary in the online shopping process. Taken together, these results reinforce that all interfaces are not created equal, and that research must explore the interfaces used to access content to the same degree as content itself.

Personalized Advertising in Public Environments: Perceptions and Consequences

EXTENDED ABSTRACT

Personalized advertising has emerged as a major marketing trend. A steady growth of the collection and usage of personalized information not only characterizes the online world and the private lives of consumers, but increasingly expands into public life areas, such as retail stores or shopping malls, which presents new research questions. Extensive research has examined e-mail marketing, personalized online marketing and personalized postal and telephone marketing (e.g. Alreck & Settle, 2007; Goldfarb & Tucker, 2012; Pavlou & Stewart, 2000; Schumann, v. Wangenheim, & Groene, 2014; Speck & Elliott, 1997), but the results cannot be directly applied to the public context due to specific challenges faced in this field of study: in public, other shoppers are present. Unlike online advertisements where the consumer is the only one who sees the advertisement, personalized content shown in public can also be seen by other shoppers.

Study 1 investigates the interplay between personalization and the presence of others, with a 2(other shoppers present: yes/no) × 2(personalized advertisement: yes/no) between subjects experiment.

Participants read a scenario about shopping in a store that uses new consumer tracking technology (either with other shoppers or alone) and seeing an ad on a monitor in the store, which was personalized to consumers' personal physical metrics or not. Participants then indicated their attitude toward the store and behavioral intentions. ANCOVAs reveal 2-way interactions for attitude ($p = .03$) and behavioral intentions ($p = .008$). Contrasts reveal that under personalization, consumers are less favorable when others are present for attitude ($M_{\text{others}} = 3.98$ vs. $M_{\text{alone}} = 4.77$, $p = .01$) and behavioral intentions ($M_{\text{others}} = 4.01$ vs. $M_{\text{alone}} = 4.74$, $p = .01$); these effects are attenuated when the ad is not personalized ($ps > .20$).

Further, consumers have no influence on the content shown to them on public screens, meaning they cannot control the impression they make on other shoppers as a consequence of the content shown to them. Grounded in theory on self-concept congruity and research on impression management, we examine the perceptions and consequences of personalized advertising in public environments. Specifically, we address the question when and how the presence of other shoppers affects consumers' attitudes and behavioral intentions when exposed to personalized content.

We use a conceptualization of different ad-self-concept congruity states adapted from Sirgy (1982) to analyze the effects of perceived match or mismatch between the image of a personalized ad and the self-concept of targeted individuals in a public environment: *ad-self-concept congruity*, referring to a match between a product-image perception and a self-image belief; *positive self-incongruity* which is the comparison between a positive product-image perception and a negative self-image belief; and *negative self-incongruity* referring to the comparison between a negative product-image perception and a positive self-image belief. Research reveals impressions individuals try to construct in public depend on their self-concept (Latané, 1981; Leary & Kowalski, 1990). In doing so, individuals attempt to control the way others perceive them and try to leave the best possible impression when in public (Latané, 1981; Leary & Kowalski, 1990). Moreover, consumers are highly sensitive when in the presence of others (Bearden & Etzel, 1982; McFerran, Dahl, Fitzsimons, & Morales, 2010), even when these others don't interact with them (Argo, Dahl, & Manchanda, 2005). We propose, when consumers are exposed to personalized content in presence of other shoppers on a public screen and if others are aware of the fact that it targets a certain consumer, then the consumer can no longer control the way in which the other shoppers perceive him. We expect that presence of other shoppers will potentially impact consumers' attitudes, behavioral intentions and emotional reactions, depending on ad-self-concept congruity state, such that under positive advertising-image perception and a negative self-image belief (*positive ad-self-concept incongruity*) presence of others will negatively influence attitudes, behavioral intentions and emotional reactions, but not under negative ad-self-concept incongruity nor under ad-self-concept congruity.

We test the effects in study 2 which was a 2(other shoppers present: yes/no) × continuous (ad-self-concept congruity) between subjects experiment. Participants read a scenario about shopping in a retail store, which uses consumer-tracking technology. Participants were shown an exercise-clothing ad and were told that the ad was personalized towards them, based on their recorded metrics they provided at the beginning of the survey. We manipulated the presence of other shoppers both in the scenario language and in the visual depiction of the scene. Participants then indicated their attitude toward the store, behavioral intentions, and embarrassment.

ANCOVAs revealed other shoppers × ad-self-concept congruity two-way interaction on attitude ($p = .03$) and on behavioral inten-

tions ($p = .002$); the main effects of other customers and ad-self-concept congruity were non-significant ($ps > .41$). Spotlight analyses reveal that under *positive ad-self-concept incongruity*, attitude levels were lower with other people present (vs. no others present) ($M_{\text{Absent}} = 5.22$ vs. $M_{\text{Present}} = 4.58$; $B = -.63$, $t = -2.33$, $p = .02$) and behavioral intentions ($M_{\text{Absent}} = 4.95$ vs. $M_{\text{Present}} = 4.30$; $B = -.64$, $t = -2.81$, $p = .005$). Under ad-self-concept congruity and under negative ad-self-concept incongruity, the effect is attenuated ($ps > .19$).

Moderated mediation (Hayes 2013; model 8) revealed that under *positive ad-self-concept incongruity* embarrassment mediated the negative indirect effect of other peoples' presence on attitude ($\beta = -.46$, 95 % CI [-.81, -.17]) and behavioral intentions ($\beta = -.41$, 95 % CI [-.71, -.16]). This mediation pattern did not appear for *ad-self-concept congruity* or for *negative ad-self-concept incongruity* states.

Our findings expand research on personalized advertising (e.g. Goldfarb & Tucker, 2012; Pavlou & Stewart, 2000, Alreck & Settle, 2007; Speck & Elliott, 1997; Schumann, v. Wangenheim, & Groene, 2014) by providing evidence that personalization is perceived as negative in a store, especially when others are present. Further, we contribute to distinct types and conceptualizations of congruity (e.g. Sirgy et al., 1991; Sirgy et al., 1997; Kressmann et al., 2006) between self-concept and advertising (e.g. Hong & Zinkan, 1995). Prior empirical research on self-concept congruity did not differentiate between different incongruity states, but our results demonstrate that it is important to examine the direction of the incongruity.

Understanding the Quantified Self: Effects of Self-Tracking on Mortality Salience and Health Motivation

EXTENDED ABSTRACT

Propelled by an explosion of digital technologies, millions of consumers monitor the intricacies of their lives, using wearable devices and other tools to track themselves, a trend often referred to as the "quantified self" movement. Despite the fast-evolving impact that self-tracking has on consumer lives, no marketing research has examined the consumer experience of self-tracking and its psychological facets in detail. This research identifies a potentially unforeseen consequence of self-quantification—increased mortality salience, or accessibility of thoughts related to one's death (Greenberg, Solomon, and Pyszczynski 1997), which could have important implications for consumers' information processing and behavior. A significant amount of research has examined the consequences of increased mortality salience (Burke, Martens, and Faucher 2010; Greenberg et al. 1997), but less research has studied factors that might increase mortality salience in consumers' daily lives. In this research, we examine self-quantification as one such important factor. We propose that exposure to a self-tracking device has the unintended effect of increasing the salience of death-related concerns, which we show has a positive effect on consumers' health motivations, a boost that serves as a defense against the mortality salience threat. Moreover, we explore how a common marketing practice of encouraging consumers to anthropomorphize (i.e., imbue humanlike characteristics onto a non-human entity; Epley, Waytz, and Cacioppo 2007) their self-tracking devices (e.g., Adidas calls its device "My Coach") might interplay with the mortality salience effect we propose. We suggest that anthropomorphization might offer another mortality salience defense, making the health motivation boost we predict unnecessary, resulting in an undesirable backfire effect.

Exposure to a self-monitoring device should increase consumers' awareness of the possibility of their own vulnerability and ultimate death, which will activate proximal defenses to enable one to push the problem of death into the distant future (Greenberg et al.

2000). A common proximal defense used to remove death-related thoughts from focal attention is denying one's vulnerability to disease or premature death (Greenberg et al. 2000). We suggest that people would defend against the threatening awareness of their own mortality triggered by exposure to a monitoring device by increasing their motivation to lead a healthy (and hence long) life; that is, exposure to self-tracking devices should boost consumer health goal motivation.

Study 1. Participants evaluated a self-tracking band or a watch (a non-tracking device of identical design). Next, we measured mortality salience (4-item measure, e.g., "To what extent have you been thinking about death in the past several minutes?"; Van den Bos and Miedema 2000) and health motivation ("In the past several minutes, to what extent have you been thinking about: the importance of living a healthy life; making changes in your lifestyle to increase the likelihood that you will live longer"). Results revealed a main effect of self-monitoring on mortality salience and health motivation. Mediation analysis revealed a significant indirect effect of the self-monitoring on health motivation via mortality salience.

We next examined whether the association between self-tracking and health goal motivation might be influenced by the extent to which consumers anthropomorphize the tracking device. We propose that anthropomorphizing a self-tracking device can mitigate its effects related to mortality salience, as anthropomorphization "comforts people by providing relationships or companionship" (Wan and Aggarwal 2015, p. 122) and may be utilized to increase the predictability and comprehension of what would otherwise be an uncertain world, aiding one in constructing a meaningful and controllable worldview (Epley, Waytz, and Cacioppo 2007). Since construing oneself as a valuable participant in a meaningful universe is a well-established distal mortality salience defense (Greenberg et al. 1997), we propose that anthropomorphization could provide an effective buffer against death anxiety. If anthropomorphism indeed serves as a mortality salience defense, then people might not need to defend against mortality salience by boosting their health motivations.

Study 2. Using a 2 (self-tracking: yes/no) \times 2 (anthropomorphism: yes/no) design, we asked participants to evaluate either a tracking band or a watch. Procedure was identical to that in Study 1, except that participants in the anthropomorphism conditions were asked to personalize their monitoring band/watch by giving it a name and gender and using one word to describe its personality. We measured mortality salience as in Study 1 and measured health motivation asking participants indicate their motivation to engage in twelve everyday health-promoting behaviors (e.g., eat a well-balanced diet; get enough sleep; Moorman and Matulich 1993).

We found a significant main effect of self-monitoring on mortality salience, but no effect of anthropomorphization and no interaction between the two, showing that self-tracking increases mortality salience whether one anthropomorphizes their tracking device or not.

We then examined the health behaviors motivation index, and results revealed a significant self-tracking \times anthropomorphism interaction. In the no anthropomorphism condition participants reported significantly higher health motivation in the self-monitoring condition, replicating prior findings. In the anthropomorphism condition, however, these effects disappeared. These results support our contention that exposure to a self-tracking device (vs. a watch) increases people's health motivation as a defense against the threatening awareness of their own mortality. When participants have the chance to anthropomorphize their self-tracking device, however, these health motivation effects disappear, suggesting that anthropomorphism might be acting as a mortality salience defense, eliminat-

ing the need to deny one's vulnerability to dying by boosting health motivation.

Our studies offer novel theoretical insights, since prior research has not examined the effects of everyday consumer experiences (self-tracking) on morality salience, nor has it established anthropomorphization as a possible mortality salience defense. There is no evidence yet as to whether self-tracking devices might help consumers with the accomplishment of their health goals, as companies frequently claim. This research provides some much needed insight into the possible effects of self-tracking devices on consumers' lives.

Thank You for Your Helping Hand! Ways to Avoid Negative Consequences of Customer Participation in Recovery of Technology Product Failure

EXTENDED ABSTRACT

In this research we develop and test theory on the effect of customer participation in the recovery process on customer satisfaction after recovery for technology based services. By doing so, we extend prior research that has examined customer participation in recovery, most notably, Dong, Evans, and Zou (2008), and Roggeveen, Tsiros, and Grewal (2012). Dong and colleagues investigated customer participation in service recovery in the context of self-service technology (SST) and found that it had a positive effect on satisfaction with recovery, which in turn had a positive effect on customer intention towards future use of the SST. Roggeveen and colleagues expanded on the notion of customer participation by conceptualizing *customer co-creation of the service recovery* where "customers help shape or personalize the content of the service recovery through joint collaboration with the service provider" (p. 772). Those authors found that customer co-creation of service recovery positively impacts customer satisfaction with the recovery process and repurchase intentions.

In extending this stream of research we propose that it is necessary to differentiate between customer participation and customer co-creation in recovery. As co-creation in recovery includes an added value component, e.g., personalization of the recovery outcome, customers in these situations compare a personalized (co-created) outcome to a non-personalized (non co-created) outcome in assessing their satisfaction with the recovery process. In our research we focus on customer participation while holding the outcome of the recovery constant. In technologies based service contexts (e.g., Internet and cable TV service, cell phone service), the recovery process may consist of different options including customer participation or non-participation, whereas the recovery outcome remains the same. The recovery then may not lead to customized recovery outcomes. Even so, customer participation in the recovery process may be a viable option for the company and the customer. Take the example of Fiona, a smart phone customer, who has a problem with her smart phone after downloading an operating system update. To solve the problem, she calls customer service and is guided through several steps to fix the problem including multiple tasks to identify and diagnose the problem. Thus, she spends a significant amount of time and effort in participating in the recovery process. The alternative for Fiona would have been to go a retail outlet of the smart phone provider and get it fixed by the provider. Such instances of customer participation in recovery processes are increasingly common. We believe that it is crucial to examine customer participation in recovery when the recovery outcome is the same regardless of customer participation. For, in such instances of customer participation in recovery, customers evaluate their participation in the recovery process and their satisfaction differently than has been found in prior research (e.g., Dong et al. 2008, Roggeveen et al. 2012) examining situations in which the

recovery outcome shifts due to a customer's increased participation in the recovery process.

In a first study, we explore the prevalence of customer participation in the service recovery process. To understand if, when, and where such customer participation in recovery processes commonly occurs, we asked a representative sample of 300 adult U.S. consumers recruited by a professional market research firm using a consumer panel about their experiences with participation in recovery processes. We found that an impressive 76 % of consumers surveyed reported having participated in a recovery situation at least once. Consumers reported having experienced it most in telecommunications including mobile phones, cable TV and Internet service (38.7 %), computer hardware and software (32 %), restaurants (26 %), travel and hospitality including hotels and airlines (23.7%), and retail (23%). We then used the critical incident research method and asked respondents to recall an instance when they participated in a recovery process after a product or service failure and to describe the situation and what they did in that situation. 206 participants (68.67% of the total number of study respondents) elaborated on a recovery incident in which they participated. The content from these consumer elaborations inspired the construction of our experimental scenarios in the following studies. Our first study showed that customer participation in recovery processes is widespread and a correlation post-hoc analysis unveils that the extent of customer participation in recovery is negatively correlated with satisfaction after recovery.

Based on the additional experimental studies we advance the knowledge on customer participation in recovery in multiple ways. First, we develop and test theory on the negative relationship between customer participation in recovery and satisfaction after recovery (Studies 2 and 3). Second, we identify and test the role of customers' domain-specific expertise as moderator. We find that customers with high domain-specific expertise are more (less) satisfied with low (high) levels of customer participation in recovery, whereas no such difference exists for customers with low domain specific expertise (Study 2). Moreover, we are able to explain the underlying cognitive process by showing that the interaction effect of customer participation and customers' domain-specific expertise on satisfaction after recovery is fully mediated by customers' perceived procedural justice. Study 3 identifies main effects for customer participation and compensation on satisfaction after recovery while their interaction is not significant. This result again indicates lower levels of satisfaction in case of higher customer participation. In Study 4, we vary the framing of the acknowledgement of the customer participation by the provider (i.e., inconvenience, apology, gratitude). In doing so, we introduce the construct of gratitude, first studied in marketing by Palmatier et al. (2009), into the service recovery literature. Specifically, we posit that gratitude expressed by a service firm works better in restoring satisfaction after recovery involving customer participation compared to an apology, and test it empirically (Study 4).

Our studies included a wide range of respondents (N = 860) recruited from consumer panels. Thus, we provide new, meaningful insights on the consequences of customer participation in recovery for a wide range of services, especially for services with a technology component. Finally, our research advances practice by providing guidelines to service firms on how to effectively manage customer participation in the recovery process.

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