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Research-in-Progress

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Abstract

Despite legitimate privacy concerns regarding their use, hundreds of millions of people still visit Facebook and other social network sites each day. This study proposes that the enjoyment derived from social interaction as mediated by social network sites provides incentive for individuals to ignore privacy concerns and act contrary to their best interests. This study draws from social exchange theory, which states that individuals engage in mutually beneficial social interactions. We propose that the enjoyment received from this social exchange is sufficient to override many privacy concerns. This reduction in privacy concerns decreases the likelihood of engaging in privacy protective response behavior, and may explain continued use of CMSN in the presence of legitimate user concerns over privacy.

Keywords: Social Exchange Theory, Information Privacy, IPPR, Hedonic IS

Introduction

The rise in popularity of computer-mediated social network (CMSN) sites like Facebook has led researchers to look for models to explain the reasons individuals use this technology (Hu & Kettinger 2008). These efforts have attempted to adapt theories from sociology as well as many areas of traditional IT research, with the reasoning that Facebook and other CMSN are a digital representation of an offline social network (Hu & Kettinger 2008). We acknowledge the importance of examining social motivations for use in this context. However, since Facebook and other CMSN can be classified as hedonic systems (Sledgianowski & Kulviwat 2008), where user enjoyment rather than some utility has been shown to drive usage (van der Heijden 2004), it is reasonable to assume that any model looking to account for the variation seen among the user population of a CMSN must necessarily include a means of capturing the impact of social variables on the enjoyment that one receives from the technology.

A second question of interest concerns a growing stream of research that has shown that concerns over privacy can lower a person's interest in using internet technologies (Smith et al. 1996; Son & Kim 2008). Son and Kim (2008) look at the ways in which this concern manifests itself in a number of behaviors that users employ to protect their privacy. These include behaviors such as refusing to disclose information, falsifying information, and complaining to friends and other companies about a negative experience (Son & Kim 2008). The implications of these responses, and the privacy concerns that trigger them, have been studied extensively in e-commerce environments (Alge et al. 2006; Bies 1993). We believe that CMSN are fundamentally different from an e-commerce system (Parameswaran & Whinston 2007), because of the powerful social engagement that a person receives from developing and maintaining relationships in a computer-mediated social context. For this reason, it is critical to understand the way in which the enjoyment received from these relationships impacts privacy concerns. Our study fills this gap in the existing research.

The theoretical foundations for this study rely on social exchange theory (Blau 1964; Cropanzano & Mitchell 2005; Homans 1958), which states that individuals engage in several different behaviors including altruism, competition, helping of other members in the social network, among others. People engage in these behaviors with the expectation that this social exchange process will result in the same or similar social responses in return (Emerson 1976). These transactions produce feelings of mutual fulfillment and enjoyment among the participants. We propose that the enjoyment received from this social exchange, enjoyment which has been shown to be a key driver of hedonic IS use (van der Heijden 2004), is sufficient to override the privacy concerns of individuals. This reduction in privacy concerns decreases the likelihood of engaging in privacy protective response behavior (Son & Kim 2008), and may explain use of CMSN in the presence of user concerns over privacy.

This study has implications for two competing streams of IS research. Sites like Facebook desperately need customer information in order to conduct context-based advertising, and privacy-protective responses reduce the information available for this purpose. Researchers interested in encouraging knowledge sharing in online social networks will benefit from an understanding of how privacy concerns, as obstacles to information sharing, can be overcome. At the same time, privacy-minded researchers can use the results of this study to examine ways to counteract the influence of social exchange on user privacy. Therefore, while other studies have taken a side in the social network privacy debate, we refrain from positioning this study in such a way.

Overview of Privacy in the Use of Social Networks

Westin (1967) defines privacy as "The right of individuals to determine for themselves when how and to what extent information about them is communicated to others" (Westin 1967). Numerous studies have examined the ability of social network sites to encroach upon user privacy. This privacy encroachment can take a variety of forms. First, users must worry about the way in which the organization handles their personal information. Social network sites rely on context-based advertising to generate revenue. For this reason, sites like Facebook and others are always looking for ways to collect large amounts of accurate data about users' personal lives. The very techniques of information collection and use that bring value to this form of advertising also bring with them privacy concerns, as this information may not always be used as intended. For example, Jones & Soltren (2005) identified gaps in Facebook's security infrastructure that failed to provide adequate protection from outside threats, such as the way in which a simple algorithm can be used to download all public profiles for later use in data mining (Acquisti & Gross 2006; Jones & Soltren 2005). Finally, a person's friends present a huge opportunity for misuse of personal data. Friends may serve as poor stewards for the information they are allowed to see, and pass that information on to an

unintended third-party (Chen et al. 2009; Dwyer et al. 2007). In spite of well-documented privacy concerns, the number of people using social network sites continues to grow at a phenomenal rate. Researchers have suggested that there is a disconnect between privacy attitudes and privacy behavior (Acquisti and Grossklags 2004). Debatin et al. (2009) showed that users claim to understand privacy issues, yet behave in ways that are contrary to the protection of their personal information. They propose that the gratification gained by the use of social network technology serves to mitigate the presence of privacy concerns. Although there is literature that shows and supports the notion of enjoyment causing a decrease in privacy concerns (Dwyer et al. 2007), there is none that explains the mechanism by which the enjoyment is achieved. We address this gap in literature by empirically testing a model based on the established theoretical lens of social exchange theory. We are aware of no study that provides such a comprehensive model of this phenomenon.

Theoretical Foundations

Information Privacy-Protective Responses (IPPR)

When faced with concerns over privacy, people may respond to protect their private information in a number of ways. Son and Kim (2008) referred to these behaviors as Information Privacy Protective Responses (IPPR). Additionally, IPPR represents a set of three broad types of behavioral responses including information provision, private action, and public action (Chen et al. 2009). We limit our discussion here to the information provisional and private action categories, as public action IPPR necessarily involve a third party, and are not applicable to a discussion of social exchange theory.

Information provisional IPPRs deal with disclosure of personal information. Refusal is the unwillingness to disclose personal information due to privacy concerns. Misrepresentation is the intentional falsification of personal information due to privacy concerns. In many online situations, refusal means leaving fields blank while misrepresentation involves intentionally populating those fields with incorrect information.

Private action IPPRs include removal and negative word-of-mouth. Removal concerns the deletion of personal information from a system database as a direct result of privacy concerns. Negative word-of-mouth is the intentional complaining to another person that occurs as a direct result of poor handling of an individual's personal information (Son & Kim 2008). On social network sites, the first thing new users do is to create a user profile, during which they are asked for a variety of personal information. Once the profile is created, the sheer number of people with access to this same information (i.e. friends, social network administrators) makes the scope of privacy threats difficult to judge. In such an environment, it is reasonable to expect that users would constantly be on their guard, and show a high tendency toward IPPR. We propose however, that an individual's tendency towards IPPR is mitigated by the benefits derived from using this technology in a social exchange context (Debatin et al. 2009).

Social Exchange Theory

Social exchange involves a series of interactions that generate obligations (Emerson 1976). Within Social Exchange Theory (SET), these interactions are seen as interdependent and contingent on the actions of another person (Blau 1986). These interdependent transactions are conducted according to predefined rules of exchange, which are the guidelines of exchange processes, and dictate each participant's behavior in the relationship (Cropanzano & Mitchell 2005). Meeker (1971) argues that interpersonal exchanges can be treated as individual decisions and suggests certain rules and norms of exchange. Table 1 presents the key definitions of these behavior from extant literature.

Table 1. Social Exchange Behavior		
BEHAVIOR	DEFINITION	SOURCE
Altruism	The act of helping others, regardless of any direct benefit to oneself.	Batson (1995); Cropanzano & Mitchell (2005); Meeker (1971)
Competition	The fundamental opposite of altruism, gains made that directly harm or take from another.	Cropanzano & Mitchell (2005); Meeker (1971)

Group Gain	Working towards the goal of elevating the status or performance of the group as a whole	Cropanzano & Mitchell (2005); Meeker (1971)
Reciprocity	Helping others with the express intention of receiving help in turn	Cropanzano & Mitchell (2005); Eisenberger et al. (1986, 1987); Meeker (1971); Molm (2000, 2003)
Status Consistency	Taking actions designed to increase one's social status or position within the social hierarchy.	Cropanzano & Mitchell (2005); Mauss (1967); Meeker (1971)

Although the decision to engage in a particular type of exchange behavior is an individual one, both parties acting in their prospective best interests has the potential to generate high-quality relationships (Cropanzano & Mitchell 2005). For this reason, we propose that the exchange of personal information facilitated by a social network site creates a sense of enjoyment that can serve to override existing privacy concerns that stem from social network use.

Hedonic IS

Past IS research has been predominately devoted to looking at the usefulness of IS in a utilitarian setting. With the advent of an increasing number of social media technologies, including social-networks for casual use, the emphasis has shifted towards finding alternate explanations of usage in this new context. Van der Heijden (2004) showed empirically that for hedonic information systems, systems in which the primarily goal is not utility but personal enjoyment, that a measure of perceived enjoyment was a stronger predictor of intention to use than any other measure of usefulness. Rosen and Sherman (2006) later applied the definition of hedonic IS to social network technologies, stating that the value of a social network site is the fun experienced by the user, and therefore any model attempting to explain the use of these systems should necessarily include a measure of a person's perceived enjoyment. Additionally, the authors argue that the social component present in many forms of hedonic IS further increases the enjoyment derived from use of the technology (Rosen and Sherman 2006). We propose that social network sites designed for personal pleasure (i.e. MySpace, Facebook), certainly fit the definition of a hedonic IS. As such, the perceived enjoyment provided by the site's mediation of various forms of social exchange should serve as a direct antecedent to a person's intention to use the site, even in the presence of privacy concerns.

Research Model and Hypotheses

This study focuses on the information privacy-protective response behavior in hedonic computer-mediated social networks. By drawing upon social exchange theory and information privacy-protective response behavior, we propose the following research model presented in Figure 1. Because this is a research-in-progress, we have chosen to limit the bulk of our discussion to the section identified by the dotted line in our model in Figure 1. Future research will explore the connection between this research model and the behavioral intention to use construct.

Hedonic-based Social Exchange Behavior and Hedonic Benefits of Computer-Mediated Social Exchange

Social networks for personal use are Hedonic Information Systems (Sledgianowski & Kulviwat 2008). The enjoyment and pleasure one gets from Hedonic IS have been shown to be a powerful driver of usage. Past research has shown that social exchange leads to feelings of pleasure and enjoyment for the participant. High levels of participation in social exchange behavior will be indicative of a large perceived hedonic benefit of computer-mediated social exchange.

Altruism is intrinsic enjoyment that comes from helping others (Krebs 1975; Smith 1981; Ba et al. 2001; Constant et al. 1994; Constant et al. 1996). People enjoy helping others even if they don't expect anything in return (Baumeister 1982; Kankanhalli et al. 2005). Wasko & Faraj (2005) showed that people gain enjoyment though altruistic behavior in an online social environment. Social network sites allow for altruism in a number of ways. For example, Facebook allows users to send virtual gifts and items on a friend's birthday, or a Facebook user may take the time to post a well-intentioned message on a friend's page for others to see. We therefore propose the following hypothesis.

H1a: The ability to engage in altruistic behavior is positively related to perceptions of Hedonic Benefits of Computer-Mediated Social Exchange.

Competition in the traditional sense can be defined as the desire to win in interpersonal situations (Helmreich & Spence 1978; Jenkins et al. 1979), and this act of winning in a group setting makes competition pleasurable (Smither & Houston 1992). Many CMSN users actually compete with one another to acquire as many friends as possible. In a well-known public example, Ashton Kutcher beat out CNN to become the first Twitter user to reach one million followers (UNRIC 2009). Additionally, many Facebook games and applications have a social component that aids competition. High scores are often displayed to a person's entire network, and the site will actively encourage other users to try and beat them. This leads to our following hypothesis.

H1b: The ability to engage in competitive behavior is positively related to perceptions of Hedonic Benefits of Computer-Mediated Social Exchange.

Figure 1. Research Model
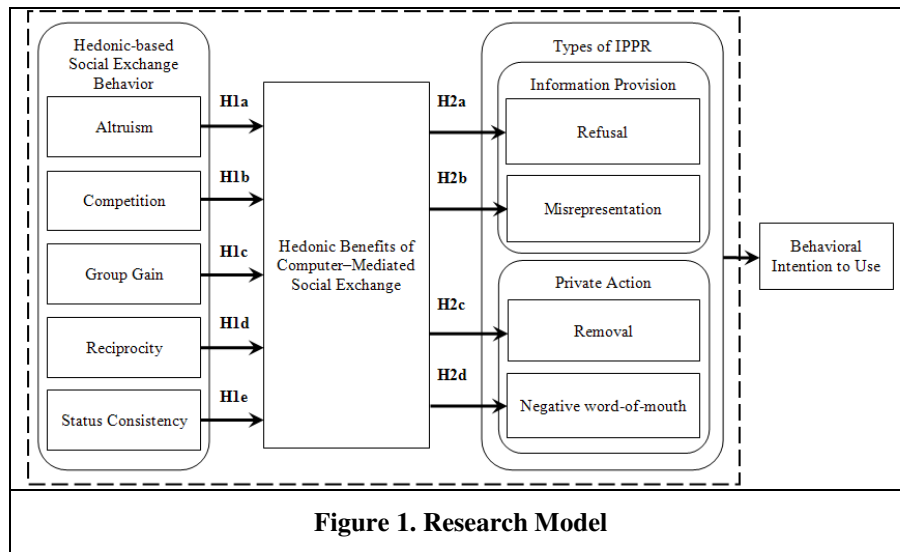
Group gain refers to a person's tendency to put themselves second to the greater good (Coleman 1990). Group gain is relational capital (Nahapiet & Ghoshal 1998) which is created when members have a strong identification with the collective (Lewicki & Bunker 1996), trust others within the collective (Putnam, "Tuning in, tuning out," 1995), perceive an obligation to participate in the collective (Coleman 1990), and recognize and abide by its cooperative norms (Putnam, "Bowling alone," 1995). Leana & Van Buren (1999) add that members are willing to help other members, even strangers, simply because everyone is part of the collective and all have a collective goal orientation. Individuals who engage in group gain behavior will often sacrifice personal resources in order to achieve success or advancement for the group as a whole. We see this on Facebook where users can "become a fan" of any number of things, and advertise on behalf of the group in order to increase the group's notoriety. We therefore propose the following hypothesis.

H1c: The ability to engage in behavior that leads to group gain is positively related to perceptions of Hedonic Benefits of Computer-Mediated Social Exchange.

Reciprocity is the belief that help given will lead to future help in return (Davenport & Prusak 1998). Blau (1964) highlights reciprocity as a benefit that individuals can derive from social exchange. Reciprocity is an extrinsic benefit (Connolly & Thorn 1990; Kollock 1999) that is pleasurable (Kankanhalli et al. 2005). Rheingold (2000) observed that people who regularly helped others in virtual communities seemed to receive help more quickly when they asked for it. Social network sites encourage reciprocal behavior in a number of ways. The friend request transaction is an example of reciprocal social exchange behavior. One individual extends an offer of friendship, which is essentially a request to trade personal information, with the expectation that their offer will be accepted. Since this is a core functionality of nearly every CMSN, we propose the following hypothesis.

H1d: The ability to engage in behavior designed to elicit reciprocity is positively related to perceptions of Hedonic Benefits of Computer-Mediated Social Exchange.

Status consistency refers to actions taken by individuals to increase or maintain their position within the social hierarchy (Wasko & Faraj 2005). Blau (1964) found that social interaction is based on an expectation of approval, status, and respect. Individuals can leverage status consistency to achieve and maintain a position of influence within a collective (Jones et al. 1997). Results from prior research on electronic networks of practice, organizational electronic networks, and extra-organizational electronic networks provide evidence that building reputation is a strong motivator for active participation (Donath 1999), for offering useful advice to others (Constant et al. 1996), and for contributing frequently and intelligently (Lakhani & von Hippel 2003). In a CMSN, individuals maintain their status through active participation. They promote their own interests often through status updates and these actions attempt to elicit attention from others. Based on the above arguments, we hypothesize the following:

> *H1e: The ability to engage in status consistent behavior is positively related to perceptions of Hedonic Benefits of Computer-Mediated Social Exchange.*

Hedonic Benefits of Computer-Mediated Social Exchange and IPPR

Refusal refers to a person's unwillingness to disclose information over concerns that the information is too personal (Son & Kim 2008). Refusal can negatively impact the hedonic benefits of social network use in a number of ways. For this reason, CMSN users rarely refuse to provide personal information (Debatin et al. 2009). For example, on many social-network sites, match-making algorithms cannot provide reliable automated friend recommendations without accurate information (Utz 2010). Other users also make use of information on a person's profile to determine with whom to interact. For this reason, users often disclose personal information related to their sense of self (Acquisti & Gross 2006). Acquisti & Gross (2006) found that nearly 59% of surveyed Facebook users would disclose their sexual orientation, while only 10% of them would provide an accurate home phone number.

> *H2a: Hedonic benefit of computer-mediated social exchange will be negatively correlated with an individual's likelihood to refuse to disclose personal information.*

Misrepresenting information on a social network site carries all the same negative effects of refusal to disclose. Misrepresentation of interests and social groups may in fact have the added negative consequence of attracting attention from other people with which the user may have little in common and might wish to avoid. This may be the reason that past studies of social network sites have found a low occurrence of misrepresentation (Acquisti & Gross 2006). For the above reasons, we provide the following information provisional hypothesis regarding misrepresentation.

> *H2b: A high level of perceived hedonic benefit of computer-mediated social exchange will result in a reduced likelihood to misrepresent personal information due to privacy concerns.*

On a social network site, when a user *removes* their information, they subject themselves to the same penalties to hedonic social exchange that come from refusal to provide that information in the first place. In extreme cases, a user may even delete their profile entirely, at which point they are no longer a patron of the social network. Full removal of all information on social network sites seems to be rare. (Debatin et al. 2009) found that people tend to return to social network sites, even after experiencing multiple large-scale privacy violations. This suggests that users may return on the basis that gratification gained through using a social network site can, over time, lessen the effect of bad experiences (Debatin et al. 2009).

> *H2c: A high level of perceived hedonic benefit of computer-mediated social exchange will result in a reduced likelihood to remove personal information.*

Negative word-of-mouth refers to one user's complaining to another about a bad past experience related to privacy (Son & Kim 2008). Negative word-of-mouth impacts hedonic benefits from IS in two ways. First, as users complain to one another, it can impact their opinion of the social network community as a whole, and make them less likely to actively participate in social exchange. Second, as the collective opinion of the social network degrades, it can result in users leaving the site, reducing the hedonic benefits available for those left behind (Rosen and Sherman 2006).

> *H2d: A high level of perceived hedonic benefit of computer-mediated social exchange will result in a reduced likelihood to contribute to negative word-of-mouth.*

Methodology

We pilot tested our model with data from 68 social network users. Prior studies on social networks (Debatin et al. 2009; Gross and Acquisti 2005; Lampe et al. 2006) have used students as subjects. Hence, we used students as our subjects. The survey instrument was developed with items adapted from information systems, psychology, and sociology literature. We adapted items for "hedonic social exchange behavior" from Kankanhalli et al. (2005), Smither and Houston (1992), and Wasko and Faraj (2005). Items for "hedonic benefits of computer-mediated social exchange" were adapted from Sledgianowski and Kulviwat (2009). "IPPR" items were adapted from Malhotra et al. (2004), Smith et al. (1996), and Singh (1988). Our "intention to use" items were adapted from Liu et al. (2005). All items (except the demographics) used a 7-point Likert scale. We developed the survey using PHP Easy Survey Package (ESP) and hosted the survey at our local University web server. We used a covariance-based Structural Equation Modeling (SEM) tool, SmartPLS 2.0, for data analysis and model confirmation.

Preliminary Results

A total of 68 social network users completed the survey. 66% of them were male and 34% female. 87% of survey respondents were Facebook users. 88% of respondents indicated that they primarily used social networks to stay in touch with friends. Based on our preliminary data analysis, we found support for hypotheses: H1a, H1c, H1d, H1e, H2c, and H2d. Hypotheses H1b, H2a, and H2c were not supported. Research results are presented in Figure 2.

Figure 2. Research Model Results
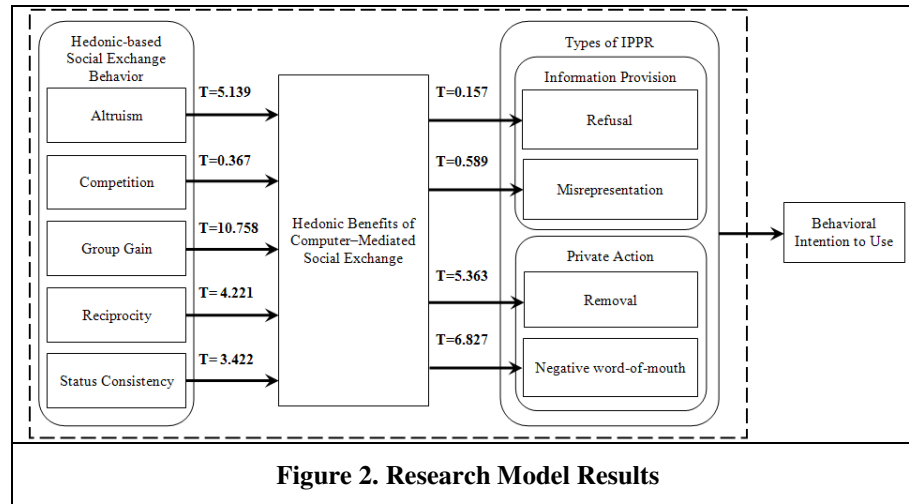
Average Variance extracted (AVE) and Cronbach's alpha for the constructs is shown in Table 2 below.

Table 2. Average Variance Extracted and Cronbach's Alpha		
	AVE	Cronbach's Alpha
Altruism	0.8572	0.9444
Competition	0.3585	0.6875
Group Gain	0.6729	0.8196
Reciprocity	0.7822	0.9064
Status Consistency	0.8857	0.9356
Hedonic Benefits	0.6993	0.9136
Refusal	0.4275	0.5301
Misrepresentation	0.6697	0.8154
Removal	0.6616	0.7519
Negative Word-of-Mouth	0.6780	0.7711

Intention to Use	0.8070	0.9206

The latent variable correlations from SmartPLS 2.0 are shown in Table 3.

Table 3. Latent Variable Correlations										
	Alt	Neg	Comp	Enjoy	Group	Intent	Misrep	Recip	Refus	Remov	Status
Alt	0.9259										
Neg	0.0240	0.8234									
Comp	0.5169	-0.0821	0.5987								
Enjoy	0.6276	0.2502	0.4569	0.8362							
Group	0.5536	0.1963	0.5128	0.7617	0.8203						
Intent	0.4090	0.3505	0.0950	0.6932	0.5486	0.8983					
Misrep	-0.0145	0.0201	0.3058	-0.0445	0.0291	-0.2178	0.8184				
Recip	0.5727	0.1068	0.4271	0.6410	0.6797	0.4780	0.1420	0.8844			
Refus	0.0533	0.2836	-0.0616	-0.0100	-0.1110	0.2682	-0.1367	-0.1169	0.6538		
Remov	0.1500	0.5508	-0.2656	0.2513	0.1200	0.5135	-0.1979	0.0403	0.4644	0.8134	
Status	0.4799	0.2312	0.4905	0.5729	0.7308	0.3385	0.2073	0.7363	-0.1767	-0.0059	0.9411

Additional analyses are forthcoming.

Research Next Steps and Conclusion

Lack of statistical support for hypotheses H1b, H2a, and H2c may be due to the relatively small sample size used in this research-in-progress. The statistical conclusion reached for each hypothesis uses a t-score statistic derived from a bootstrapping method used in SmartPLS. Bootstrapping provides t-values for both the structural path coefficients and measurement model item loadings. This method, which uses a sampling with replacement from the original data set, is sensitive to small sample size. Therefore, although the preliminary results support the overall assertion of the acceptability of the model but further data collection is needed. As this is a research in progress, we plan to continue collecting additional data and to refine the measures and methods used in this study to capture the best possible explanation of the way in which pleasurable social exchange motivates individuals to ignore privacy concerns in computer-mediated social networks. We intend to expand our target audience to include a demographically broader cross section of social network users. The results of this study will have implications for both practitioners and academics who aim to 1) increase the effectiveness of data collection practices through a deeper understanding of the motivations that encourage disclosure of personal data and 2) develop informal and technical controls designed to protect privacy in the type of situations discussed in this paper. Next steps include a more in-depth statistical analysis on a much larger sample size to validate the interesting initial results.

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