Caught between the users and the firm: how does identity conflict affect employees’ innovative behavior

Abstract

Absorbing external knowledge is crucial for innovation within the organization. One way of tapping external knowledge sources is to rely on employees who reach out across the firm’s boundary to external stakeholders and address knowledge sets located beyond the organizational boundary. However, such employees are likely to identify with the stakeholders they reach out to which exposes them to potentially conflicting demands – with good or bad effects for their employing organization. We investigate whether and how their dual identification with the organization and with users, and the potential identity conflicts this engenders, affects their job satisfaction and innovativeness. We study a sample of 243 employees in two industries, revealing that perceived conflict between organizational identification and user identification detracts from job satisfaction if and only if employees are strongly identified with both targets. We find also that identity conflict is indirectly and negatively related to innovative work behavior through job satisfaction. Our paper contributes to the literature on the benefits and risks of employee ties to external stakeholders. We contribute also to research on embedded users by elucidating under what conditions they are most valuable to their employing organizations.
1 Introduction

Almost 80% of European and US-based large firms practice open innovation since they require external knowledge for successful innovation (Chesbrough & Brunswicker, 2013; Chesbrough, Vanhaverbeke, & West, 2014). Incorporating external knowledge sources into the innovation process is critical for firm innovativeness (Laursen & Salter, 2006). To that end, individual employees’ interactions with external stakeholders enable innovation by accessing knowledge sets located outside the organizational boundary (Dahlander, O’Mahony, & Gann, 2016; Ebers & Maurer, 2014; Madjar & Ortiz-Walters, 2008; Tortoriello, 2014). Specifically, employees’ interactions with external knowledge sources increase employees’ innovative performance (Moran, 2005): Access to external knowledge sources augments employees’ creativity by enabling communication with these sources (Tushman, 1977), and provides opportunities for knowledge flows between otherwise disconnected areas (Burt, 1992).

Even if employees who entertain relations with external stakeholders are known to contribute positively to corporate innovation, employees spanning organizational boundaries for innovation purposes are likely to identify to some extent with the stakeholders they reach out to (Chan & Husted, 2010). In turn, such identification engenders a desire to conform to the values, norms, and goals of these external groups (Ashforth, Harrison, & Corley, 2008; Turner, 1984). Therefore, employees are exposed to potentially conflicting demands – with good or bad effects for their employing organization.
In this study we draw on social identity theory to hypothesize and test empirically how employees’ dual identification - with their organization and external stakeholders - affects their job satisfaction and in turn their innovative work behavior. Specifically, we investigate the duality of organizational identification and customer (or user)\(^1\) identification. We study 243 employees in mountain biking and online gaming firms. In these contexts, many employees are users of their employing firms’ products (i.e. they are embedded users (Schweisfurth & Herstatt, 2015)), and have social relationships with other users through joint use activities. Thus, they can be expected, at least to some degree, to perceive themselves as members of both the organization and the user community (cf. Chan & Husted, 2010).

Our paper contributes threefold to the literature. First, we add to the literature on innovative behavior in firms by introducing identity conflict as antecedent to innovative work behavior. We also show when and why identity conflict affects innovative behavior. Second, we contribute to the literature on embedded users by showing under which circumstances their innovative behavior is dampened. Third, we contribute to work which stresses the role of employees’ social relationships with external stakeholders and shows how perceived identity conflict affects their behavior in organizations.

2 Theoretical background

\(^1\) In this paper, we use “customer” and “user” interchangeably. Customers can assume several roles (e.g., buyer, co-producer, etc.) but the role of user of the purchased product is the most central (Lengnick-Hall, 1996).
Incorporating knowledge from external sources enhances firms’ innovation success (Laursen & Salter, 2006). To that end, individual employees’ interactions with external stakeholders allow access to external knowledge thereby enhancing innovation activity within the organization (Dahlander et al., 2016; Ebers & Maurer, 2014; Madjar & Ortiz-Walters, 2008; Tortoriello, 2014). At the same time, relationships with external stakeholders may trigger identification with these groups (Chan & Husted, 2010; Korschun, 2015, p.11), which might (but need not) conflict with their organizational identification and potentially harm innovative behavior at work.

2.1 Relationships with external stakeholders and innovative behavior

Innovative work behavior is “an employee’s intentional introduction or application of new ideas, products, processes, and procedures” (Yuan and Woodman, 2010, p. 324). It covers all phases of the innovation process (de Jong & den Hartog, 2010; Scott & Bruce, 1994). Individual innovative behavior is highly relevant for firms as it includes activities essential for the development of new or improved products and processes (Anderson, Potočnik, & Zhou, 2014): idea generation, idea promotion, and idea implementation. Even if the final collective output of innovation is relevant for organizations’ competitive advantage in the end, innovation is a human activity rooted in individuals’ innovative behaviors.

Prior research has investigated how innovative work behavior is shaped by different factors. For example, one stream has investigated how individual factors such as work ethics (Mussner, Strobl, Veider, & Matzler, 2017), self-efficacy (Nisula & Kianto, 2016), or motivation
(Radaelli, Lettieri, Mura, & Spiller, 2014) are related to innovative work behavior. Others have investigated how intra-organizational or contextual factors such as culture (Tsegaye, Su, & Malik, 2019), HR systems (Abstein & Spieth, 2014), job design (Dorenbosch, Engen, & Verhagen, 2005; Ramamoorthy, Flood, Slattery, & Sardessai, 2005), leadership style (Reuvers, Engen, Vinkenburg, & Wilson-Evered, 2008), or job insecurity (Hootegem, Niesen, & Witte, 2019; Spiegelaere, Gyes, Witte, Niesen, & Hootegem, 2014) affect innovative work behavior.

Prior work has also started to investigate how relationships reaching beyond the boundaries of the organization affect innovative behavior inside the organization. The literature on boundary spanners has taken a structural perspective on how individuals link an organization with its environment (Tushman & Scanlan, 1981). They contribute positively to organizational performance (Allen, Tushman, & Lee, 1979; Tushman & Katz, 1980) and innovation by processing knowledge from external information sources (Ebers & Maurer, 2014). Boundary spanners select and filter information and communicate it within the organization (Aldrich & Herker, 1977). Due to its novelty and non-redundancy to organizational knowledge, external knowledge may lead to innovation within organizations (Nootenboom, 2000). Ebers and Maurer (2014) show empirically that boundary spanners’ external embeddedness leads to innovation via their absorptive capacity for external knowledge (cf. Cohen & Levinthal, 1990). Diversity of employees’ interactions with external knowledge sources is positively related to their ideation performance (Salter, Ter Wal, Criscuolo, & Alexy, 2014), and the individual’s patent output (Dahlander et al., 2016; Tortoriello, 2014).
Research has also started to investigate how reaching out to the user domain affects innovative behavior within the organization. Employees are known to reach out to customers and to process knowledge about user needs (Abrell, Benker, & Pihlajamaa, 2018; Aldrich & Herker, 1977; Reid & de Brentani, 2004; Tushman & Scanlan, 1981). User need knowledge encompasses “needs that current or future users of an existing or potential product experience or will experience in the future” (Block, Henkel, Schweisfurth, & Stiegler, 2016, p. 245; cf. von Hippel, 1994). Such knowledge accrues with users and is typically located outside organizational boundaries (von Hippel, 1976, 1994), while being a crucial input for the innovation process (Chatterji & Fabrizio, 2012; Riggs & von Hippel, 1994). Employees who reach out to the user domain because they are users of their employing firm’s products or services (i.e. embedded users) are especially innovative inside the firm (Schweisfurth & Herstatt, 2015; Schweisfurth & Raasch, 2015; Wadell, Sandström, Björk, & Magnusson, 2013).

The existing literature has very much focused on the nurturing effects of reaching out to external stakeholders for innovation. However, as individuals start to interact with the external world, there may also some downsides on (innovative) behavior at work: When employees identify with stakeholders such as shareholders (Hillman, Nicholson, & Shropshire, 2008), R&D partners (Husted & Michailova, 2010), members of their profession (Hekman, Bigley, Steensma, & Hereford, 2009; Hekman, Steensma, Bigley, & Hereford, 2009), open-source communities (Chan & Husted, 2010), or customers/clients (Alvesson, 2000; George & Chattopadhyay, 2005; Johnson & Ashforth, 2008), they tend to adjust their behavior to conform to the values, norms, and goals of these respective groups (Ashforth et al., 2008; Turner, 1984). This exposes boundary
spanning employees to conflicting demands (Stamper & Johlke, 2003) – to good (Dollinger, 1984; Tushman & Scanlan, 1981) or bad (Ramarajan, Bezrukova, Jehn, & Euwema, 2011) effect for their employing organization. In this paper we investigate when and how identification with external stakeholders affects employees’ innovative behavior via job satisfaction. By this we follow suggestions in prior research in Anderson et al. (2014, p. 27, p. 27) who suggest that “future studies could examine these outside-in influences regarding how and why employees engage in creativity and innovation, but we see particular promise in relation to customer-driven innovation attempts.”

2.2 Identification with the organization and with external stakeholders

Social identification describes the extent to which individuals perceive themselves as being one with a group and associated with its fate (Mael and Ashforth 1992). It is viewed as “that part of an individual’s self-concept which derives from his knowledge of his membership of a social group (or groups) together with the value and emotional significance attached to that membership” (Tajfel 1978, p. 63). Thus, identification is predicated on perceived group membership.

Social identification with a group affects how individuals think of themselves, of their place in social environments, and others in it (Ashforth and Mael 1989). For instance, they tend to perceive other members of the same group as being similar to themselves and “on their side” (Hekman et al. 2009b). They also tend to positively assess their ingroup’s norms, values and goals (Brown 2000). This tendency is due to the perception of oneness with their social group,
coupled with a desire to maintain a positive self-image. As a result, they tend towards ingroup favoritism and discriminatory assessments of outgroups (Turner et al. 1979), if the goals and values of both groups are dissimilar (Brewer 1999).

Every individual has multiple social identities, both professional and personal, which may or may not interact. There is a large literature on multiple identities, their antecedents, interactions, and consequences (e.g., Ashforth & Johnson, 2001; Burke, 2003; Ramarajan & Reid, 2013). Most of this work pertains to either multiple work-related identities within an organization (a member of a workgroup, a department, an occupation, etc., e.g. Ashforth et al., 2008, Johnson et al., 2006), or a work-related identity within the organization versus a non-work-related identity outside it, for instance about family roles, race, or gender (e.g., e.g., Ramarajan & Reid, 2013).

In this paper we build on the notion of perceived group membership and investigate how being a member of the organization and the external user community shapes employees’ behavior.

2.2.1 Organizational Identification
Organizational identification is known to be an important driver of pro-organizational attitudes (Ashforth et al., 2008; Knippenberg & Schie, 2000; Riketta, 2005). For individuals who identify strongly with their employing organization, the organization is part of their self-concept. They adopt its values, norms, and goals, and thus become more likely to act in support of the organization, to adhere to its norms, and to further its goals. Criticism of the organization will reflect negatively on their membership and undermine their self-concept. For these reasons,
strongly identified employees tend to be less critical and more forgiving of the organization (Van Dick et al., 2004), and thus more satisfied with their jobs (Knippenberg & Schie, 2000; Riketta, 2005).

2.2.2 Identification with Customers/Users

Very few studies investigate how organizational behaviors and outcomes are affected by employees identifying with external firm stakeholders such as R&D partners or customers (Chan & Husted, 2010; George & Chattopadhyay, 2005; Hekman, Bigley, et al., 2009; Hekman, Steensma, et al., 2009; Husted, Michailova, & Olander, 2013; Johnson & Ashforth, 2008). These studies are beginning to build and test theory to show that employees’ identification with external stakeholders affects work behaviors and outcomes in novel and important ways. Their findings point to a new line of inquiry into how the environment affects organizational outcomes – via employees identifying with external stakeholders.

Customers, or users, are an important external stakeholder group for firms (Lengnick-Hall, 1996). They are “the market” – and thus the source of demand and the arbiters of value (Baldwin & von Hippel, 2011). We define user identification as the extent to which individuals (in this case employees) perceive themselves as being one with users in a specific product domain (cf. Ashforth & Mael, 1989). It involves a sense of belonging to a user group (Bagozzi, Bergami, Marzocchi, & Morandin, 2012; Muniz Jr & O’Guinn, 2001; Schouten & McAlexander, 1995), i.e. the employee perceiving him or herself as a member of the user community (cf. Turner, 1984). This perception may, but need not be, based on the employee’s product use (Johnson & Ashforth, 2008). It could also derive from other pathways such as social relationships with customers.
Individuals feeling being part of the organization and being a user may perceive a conflict between the goals, expectations, values, or norms (Ashforth et al., 2008) associated with each target. In terms of goals, users and organizations are likely to value different innovation outputs. Users often focus on functionality and the degree to which products satisfy their individual needs. Organizations, by contrast, seek to develop products that satisfy the needs of the average user in a market segment that they find profitable. Users and organizations might also be misaligned in the extent to which they value the openness of a firm (Wikhamn, 2013; Zaggl, Schweisfurth, & Herstatt, 2019) – users might request to be incorporated in the innovation process but firms may pursue a closed innovation strategy. Thus strategic decisions about products, market segments, or openness may or may not be aligned with individual user needs and priorities (Fauchart & Gruber, 2011). Further, conflict may also be rooted in differences in norms and values associated with the user and organizational culture. User cultures are often characterized by implicit norms and interpersonal trust (Fauchart & von Hippel, 2008). Employees may fear to lose that trust if they are seen as defending, or participating in, firm actions that other users see as violating their interests (e.g., advocating or selling faulty products). Finally, organizations typically install rules and procedures that ensure organizational efficiency, whereas users often have needs that require breaking those rules, e.g. in service encounters (Eddleston, Kidder, & Litzky, 2002).

The few studies that have examined users or customers as the target of employee identification have mainly found positive outcomes of customer identification such as customer
orientation (Anaza & Rutherford, 2012; Johnson & Ashforth, 2008; Korschun, Bhattacharya, & Swain, 2014), work engagement (Anaza & Rutherford, 2012), and task performance (Korschun et al., 2014). One line of research has assumed that customer identification and organizational identification are positively related, modeling customer identification as an antecedent (Korschun et al., 2014) or consequence (Anaza & Rutherford, 2012) of organizational identification, or modeling the two as being interrelated (George & Chattopadhyay, 2005; Johnson & Ashforth, 2008). Another stream has assumed that organizational and customer identification can be negatively related, particularly if the values associated with both identities are not in congruence (George & Chattopadhyay, 2005). In our paper, we make no such ex-ante assumptions and model customer identification, organizational identification, and identity conflict as independent constructs, following the notion that both types of identification can be in congruence or conflict (Korschun et al., 2014).

3 Hypothesis development

In this section, we argue that there is a three-way interaction among employees’ organizational identification, user identification, and perceived identity conflict as they affect job satisfaction (very broadly defined as the extent to which people like their jobs (Spector, 1997) and consequently innovative work behavior. Following researchers who investigated conflicts experienced by boundary spanners (Korschun, 2015; Richter, West, Van Dick, & Dawson, 2006), we build our argument by drawing on social identity theory (e.g. e.g. Ashforth & Mael, 1989;
Burke, 2003; Hirsh & Kang, 2015; Mael & Ashforth, 1992; Tajfel, 1978). We hypothesize that conflict between organizational identification on the one hand and users on the other hand will affect job satisfaction only if employees identify with both targets simultaneously and to a high degree (H1). We then argue that job satisfaction is positively related to innovative work behavior. By combining these two strands (cf. Wallace, Butts, Johnson, Stevens, & Smith, 2015), we hypothesize that the afore-mentioned three-way interaction is indirectly related to innovative work behavior via job satisfaction (H2).²

3.1 Effect of conflicting internal and external identification on job satisfaction

Employees identify with many different groups simultaneously, among them external stakeholders such as users (e.g., e.g., Hillman et al., 2008; Johnson & Ashforth, 2008; Ramarajan & Reid, 2013). Multiple identifications are especially likely to occur in employees who operate at the organizational boundary and are regularly in contact with internal and external stakeholders (Korschun et al., 2014). We argue that identification with two targets (in our case the organization and users) is only problematic if employees identify strongly with these targets and the perceived conflict between the content of the respective identities is high.

² The existence of a three-way interaction precludes interpretation of lower-level effects, both theoretically (Ashforth et al., 2008; Burke, 2003) and statistically (Aiken, West, & Reno, 1991). For this reason, it is common not to develop hypotheses for direct effects and two-way interactions (cf. Baer, Dirks, & Nickerson, 2013; Hekman, Steensma, et al., 2009; Perry, Lorinkova, Hunter, Hubbard, & McMahon, 2013).
Simultaneous identification, that is perceived membership with, multiple groups is not a problem, per se, because the values, goals and norms associated with each group need not conflict (Ashforth et al., 2008; Hirsh & Kang, 2015). Identification with multiple groups will cause stress only if the values, goals, or norms associated with the respective identities conflict (Ashforth et al., 2008; Burke, 2003; Hirsh & Kang, 2015). Conflict, in turn, is known to be negatively related to job attitudes (cf., cf., Ashforth et al., 2008; Horton, Bayerl, & Jacobs, 2014; Kemery, Bedeian, Mossholder, & Touliatos, 1985). Building on these conceptual insights, we argue that perceived conflict between user identification and organizational identification leads to stress and lower job satisfaction among employees (Hirsh & Kang, 2015).

A perception of conflict between user identification and organizational identification (or, more specifically, between the norms and expectations associated with each) will be problematic only if employees identify strongly with users. Individuals who identify with a user community feel that they “share the users’ fate” (Mael & Ashforth, 1992), and therefore are more likely to empathize, to understand the needs and problems of users, and to make the users’ concerns their own. For such employees, a perception of conflict between their user identification and their identification with their employing company will engender stress. Individuals who do not strongly identify with users may realize that a conflict exists, but do not identify sufficiently with users to care. Thus, their attitude towards their job will remain largely unaffected.

Similarly, a perception of conflict between user identification and organizational identification will be problematic only if employees identify strongly with the organization. Employees with weak organizational identification will not be less satisfied at work even if they
feel that the demands of the organization and those of the user community are at odds. They may realize that the norms, goals, and values related to organizational membership clash with those associated with being part of the user community, but they do not internalize this conflict, as they do not feel part of the organization. Thus, a conflict between user and organizational identification will not be problematic for individuals with low organizational identification either.

Pulling these threads together, we expect perceived identity conflict to decrease employees’ satisfaction at work if and as they identify strongly with both targets simultaneously. Hirsh and Kang (2015) explain the mechanisms for this interaction as follows: If an individual’s identification with a target is high and activated, he or she will try to respond in accordance to the norms associated with this identity. If individuals, at any given time, identify with just one target, either the organization or the user community, they will interpret their situation per this one identification only. Thus, even if they perceive a conflict between this identity and a second one that they are not highly identified with, they will not view this conflict as problematic (Ashforth et al., 2008). They will only be guided by the norms of either their user or their organizational identity; thus potential conflict between norms will be immaterial and will not affect their job attitude (cf. Foreman & Whetten, 2002). If individuals identify strongly with two targets at the same time, they will interpret their situation and try to act according to the expectancies and values associated with both identities. Only if both identities are strong and in conflict, will simultaneous identification be problematic (Burke, 2003). In this case, the norms and expectations associated with the two identities provide conflictive cues to interpreting the situation, which causes distress (Hirsh & Kang, 2015). Thus, we expect that perceived conflict
between user identification and organizational identification among employees that identify strongly with both targets will increase stress and hence decrease job satisfaction (Parasuraman & Alutto, 1984).

We formalize our argument in the following three-way interaction hypothesis.

\[ H_1: \text{Employees’ identity conflict is negatively related to their job satisfaction if organizational identification and user identification are both high.} \]

3.2 Indirect effect on innovative work behavior

In this section, we argue that the perception of identity conflict negatively affects employees’ innovative work behavior through job satisfaction, provided that they are strongly identified with both targets. As argued in the previous section, we expect a negative relationship between identity conflict and job satisfaction for high organizational and high user identifications. Next, we will argue that job satisfaction is positively related to innovative work behavior. As a final step, we will propose that identity conflict affects innovative work behavior indirectly via job satisfaction.

Innovative work behavior is likely to positively associated with job satisfaction. People who are satisfied and happy in their jobs are cognitively more open and flexible which is needed for creative behaviors (Amabile, Barsade, Mueller, & Staw, 2005; Binnewies & Wörnlein, 2011). Also, employees who are satisfied at work feel that the organization is providing them a valuable work environment and want to help to maintain, sustain and improve the organization by
engaging in creative behaviors to bring in new ideas (Blau, 1964). Employees who feel their work environment that emphasizes positive experiences such as job satisfaction are more likely to experiment, to be creative and innovative because they know that failure will be tolerated (Kark & Carmeli, 2009).

Finally, we argue that identity conflict negatively affects innovative work behavior via job satisfaction. This is in line with prior studies that have shown that identity conflict impacts behavior indirectly via attitudes (Tompson & Werner, 1997; Van Dick et al., 2004). As explained above, identity conflict can be expected to be negatively associated with job attitudes, specifically stress and lower job satisfaction. Identity conflict, once perceived, will result in dissatisfaction and then permeate the work experience. In turn, innovative behavior, like behavior in general, is a discretionary outcome of work attitudes such as job satisfaction (Anderson et al., 2014). It will thus be indirectly affected by perceived conflict through job satisfaction. Following our argumentation developed in Hypothesis 1, the indirect effect of conflict on innovative work behavior will only be relevant if and as both user and organizational identification are high.

Formalizing the foregoing argumentation chain we hypothesize:

\[ H2: \text{Employees' identity conflict is indirectly negatively related to innovative work behavior via job satisfaction if organizational identification and user identification are both high.} \]

4 Methodology
4.1 Research context

Our empirical investigation investigates domains in which employees have relationships with external users, at least to some degree. We employ two criteria to identify these industries: First, we choose industries known to employ many embedded users, i.e., employees who are users of their employing firm’s products (Harrison & Corley, 2011; Schweisfurth & Raasch, 2015). Embedded users are especially likely to establish relationships with users outside the organization, to act as external boundary spanners (Schweisfurth & Herstatt, 2015; Schweisfurth & Raasch, 2015; Wadell et al., 2013), and to perceive themselves as part of the group of product users outside the firm (the user community) and feel allegiance to them (Harrison & Corley, 2011; Schweisfurth & Raasch, 2015). Second, we try to address domains in which products often are used jointly with other users since we expect embedded users to build stronger relations with other external users than in industries in which products are used alone.

We gathered our data from the mountain-biking and online gaming industries. Both industries satisfy our core selection criteria. First, prior research suggests that many employees in these industries are embedded users (Lüthje, Herstatt, & von Hippel, 2005; Schweisfurth & Herstatt, 2016). Second, both industries offer products that are often used jointly with other users. In the field of mountain biking, riders organize in communities (Lüthje et al., 2005). They ride trails together which allows them to help each other and enjoy a common extreme sport lifestyle. In the field of online gaming, users interact heavily online and offline (Trepte, Reinecke, & Juechems, 2012). Engaging in online games includes playing against other players and
organizing in clans or alliances. Our choice of these industries ensures that respondents enter into relationships with external users. To support this contention empirically we use data from a subset (n=163) where we measured the extent to which employees entertain social ties with external users (I know many other mountain bikers/gamers on a personal level; I maintain close social relationships with many other mountain bikers/gamers (Chiu, Hsu, & Wang, 2006)). In this subset, respondents had intense relationships with external users (mean=4.86 on a scale from 1-7, SD=1.79).

The firms we study all engage in new product development and design. In the bike industry, firms are conducting R&D by designing new bikes or configuration of new bikes. Much of the innovation is rooted in hardware development, where firms come up with new geometries of frames or combine modules in new ways for new bicycle setups. In the online gaming industry, firms are conducting R&D by developing new games or adding features to existing games. Much of the R&D is in software development.

4.2 Data collection

We adopted a strategy successfully employed in socio-psychological studies (e.g., e.g., Silberzahn & Uhlmann, 2013) and collected data via a professional network. This network, Xing, provided access to our respondents but was not itself a focus of our investigation. Xing is a social network similar to LinkedIn, that connects professionals across industries. It has around 14 million members worldwide, slightly less than half of them in German-speaking countries (XING, 2013). Participants sign up and enter their unique profiles, including CV, firm affiliation,
education, and skills. Research has confirmed that Xing members present themselves authentically on Xing (Sievers, Wodzicki, Aberle, Keckeisen, & Cress, 2015).

We first compiled a list of all firms with more than 20 employees in the mountain-biking and online gaming industries headquartered in Germany, Austria, or Switzerland. We then searched on Xing for all persons affiliated with these firms; this constituted our initial sample. We sent each of them a private message with a link to our online questionnaire. Except for firm names, respondents received identical questionnaires. Data collection took place in 2013 and 2014. We contacted 1,962 persons from 13 firms and received 243 usable responses. From 8 additional firms we received two or fewer responses each and therefore excluded them from our analysis. If we take the number of contacted persons as the baseline, our average response rate per firm is 15%.

Table 1 summarizes the composition of our sample.

- Enter Table 1 here -

4.3 Measurement of variables

All measures are based on established scales although some have been adapted slightly to our context. The questionnaire was drafted in English, translated to German by one author, and translated back to English by the other author. After inconsistencies had been eliminated, the questionnaire was made available to respondents in both languages, without any systematic differences between responses across languages. Unless otherwise indicated, they are assessed on 7-point Likert scales. To evaluate the reliability and validity of the multi-item scales, we calculate
Cronbach’s alpha. However, it has been argued that other measures may be superior to alpha as reliability measures (Cho & Kim, 2014). We thus follow the suggestion to rely on CFA to assess the average variance extracted (AVE) and composite reliability as reliability indicators (Shevlin, Miles, Davies, & Walker, 2000). We also checked whether our proposed factor structure fits our data better than alternative models. Comparing our structure with a one-factor solution and a four-factors solution in which related theoretical constructs (organizational identification, job satisfaction, and person-organization fit) load on one joint factor, we find that our proposed solution is the only fit solution (RMSEA=0.07, SRMR=0.06). Table 2 shows the constructs and measure reliabilities.

- Enter Table 2 here -

We use Richter et al.’s (2006) measure to assess user identification and identification with the firm. This measure is particularly appropriate since it can be adapted to identification with groups and with organizations. Cronbach’s alpha is .94 for firm identification and .95 for user identification. The CFA results also indicate high reliability for both organizational identification (AVE .86, composite reliability .96) and user identification (AVE .85, composite reliability .96).

Identity conflict is generally conceived as not being between the identities as such, but between the “demands inherent in the identities” (Ashforth & Mael, 1989: 29: 29). Therefore, identity conflict is best measured by focusing on the potential conflict between the behaviors and expectations associated with each identity. We adapted Brook et al.’s (2008) scale which uses three items to measure identity harmony on a scale from -3 to 3. To measure identity conflict, we inverted the scale and scaled it to range from 1 to 7. Measuring identity conflict and harmony as
opposite ends of a single continuum is common in research (Brook et al., 2008; Settles, 2004; Van Sell, Brief, & Schuler, 1981). Cronbach’s alpha is .58, which is acceptable given the small number of items (cf. Peterson, 1994). From the CFA (Cho & Kim, 2014; Shevlin et al., 2000), we find AVE to be .55 and composite reliability to be .79, both of which are above the respective threshold values of .50 and .60 that indicate good fit (Bagozzi & Yi, 1988). Therefore, we retain all the items in our construct.

We measure job satisfaction on the scale proposed by Rothbard et al. (2005). Cronbach’s alpha for job satisfaction is .95. CFA shows high levels of AVE (.91) and composite reliability (.97).

We measure innovative work behavior using a construct with six items (Scott & Bruce, 1994) that has been widely used in research (Yuan & Woodman, 2010). The construct had good reliability (α=.86, AVE=.58, CR=.89). It measures not only ideas related to product development but innovation-related behaviors from all employees within the firm that might be relevant for the organization. Thus, the measure incorporates a broad set of behaviors related to innovation within the firm such as idea generation, idea championing, and idea implementation. This is in line with the theoretical content of innovative work behavior (de Jong & den Hartog, 2010; Kanter, 1988). Our measure includes items for all these three dimensions: idea generation is measured with two items (“At work, I search out new product ideas.” and “At work, I generate creative ideas”), idea championing with one item (“At work, I promote and champion ideas to others.”), and idea implementation with two items (“At work, I investigate and secure funds needed to implement new ideas.” and “At work, I develop adequate plans and schedule for the implementation of new
ideas.”). The last item is an overall factor for innovative work behavior (“At work, I am innovative.”).

We include several variables to control for other individual-level factors that are known to affect a person’s organizational identification, job satisfaction, or innovative behavior, such as person-organization fit (PO fit), hierarchy, demographic variables, specifically sex, age (in years), and educational attainment (“less than high school”, “high school graduate or equivalent”, “technical or vocational school”, “college degree”, “university degree”).

4.4 Bias treatment

We checked our data for non-response bias, using the procedure suggested by Armstrong and Overton (1977) whereby the response behavior of non-respondents is closer to the response of later rather than earlier respondents. Therefore, we divided our sample and checked for significant differences in the main variables and the continuous control variables (hierarchy, age, tenure, education, PO fit). At the 5% level of significance, we found no significant differences, and thus no indication of non-response bias.

We also considered the possibility of sampling bias. There might be systematic differences between a firm’s employees participating in professional online platforms and other
employees, which could detract from the validity of our findings.\(^3\) To check this, we used data on one firm that disseminated our survey via internal email to all employees following our data collection via the online platform. For this firm, we used t-tests to investigate for differences in the means (1) between the responses obtained via email and the responses obtained via the platform, and (2) between all the responses obtained from this firm and those from other firms in the sample. We did not find any differences in the main variables at the 5% level of significance. Therefore, we conclude that there is no bias due to self-selection of employees into the online platform.

Finally, we explored the possibility of common method bias (CMB) caused by self-reporting. While self-reports are the most common form of data collection in social research (Malhotra, Kim, & Patil, 2006), self-ratings may produce inflated relationships, but this is found to be more the exception than the rule (Crampton & Wagner, 1994). In any case, CMB would not produce a spurious three-way interaction effect. Interactions are harder to detect in the presence of CMB (Siemsen, Roth, & Oliveira, 2010).

Still, we took both procedural and statistical measures to deal with the threat of CMB:

Concerning the former, we designed our questionnaire to minimize that risk, following the guidelines by Podsakoff et al. (2003). Specifically, we pre-checked our questionnaire with individuals in the field to ensure that our questions were unequivocal. Anonymity was guaranteed.

\(^3\) We investigated what share of these firms’ employees were members of the Xing platform, and thus reachable by our study. The share (focusing on the German branches of each firm) was quite high, averaging 55%. 
to all participants. Questions relating to predictor and criterion variables were intermingled rather than sequential, and used different types of scales (7-point Likert scales and semantic differentials). No reverse-coded items were used as they favor CMB (DiStefano & Motl, 2006).

We also employed four statistical strategies to detect CMB in our central latent constructs (organizational and user identification, identity conflict, job satisfaction, PO fit, IWB). Based on all these tests, we conclude that CMB is not a concern in our study. First, an examination of the correlation matrix showed all correlations to be well below 0.9, the threshold typically taken to indicate CMB (cf. Pavlou, Liang, & Xue, 2007). Second, we conducted a factor analysis using Harman’s one-factor test procedure, to check whether one principal factor emerged for all items (Podsakoff et al., 2003). This was not the case; a one-factor solution explained less than 40% of the variance. Third, we applied Lindell and Whitney’s (2001) marker variable method. As this variable was only available for a subsample of the data, we excluded gaming firms 7, 8, and 9 from this analysis, resulting in n=159 cases. From the potential marker variables in our questionnaire, we selected the one with the second smallest positive correlation to our latent variables (cf. Malhotra et al., 2006). This was an item from the organizational commitment scale, which we did not analyze in this study (cf. Allen & Meyer, 1990). We then adjusted the correlation matrix partialling out the correlation of the marker variable. The corrected correlation matrix confirms that all previously significant correlations remain significant, which would not be the case in the presence of CMB. Finally, we used an unobserved latent common methods factor on which all reflective items load (Liang, Saraf, Hu, & Xue, 2007; Podsakoff et al., 2003) which explains all variance attributed to common method bias. We employed partial least squares
structural modeling techniques (Chin & Newsted, 1999; Hair, Sarstedt, Ringle, & Mena, 2011) using Smart PLS (Ringle, Wende, & Will, 2005) and rebuilt our model (without interactions) following the procedures suggested in the literature (cf. Liang et al., 2007; Podsakoff et al., 2003). We found that the variance caused by the original constructs was 69 times as large as the variance attributed to the common method factor. On average, all of our items were significantly related to their original constructs (p<0.001, using bootstrapping), while the relationships between the items and the common methods factor had an average p-value of 0.36.

4.5 Data and Estimation

Table 3 summarizes the means, standard deviations, and correlations of our variables.

To test our hypotheses, we used multiple ordinary least squares (OLS) regression and conditional process analysis (using the PROCESS SPSS plugin (Hayes, 2008; Preacher, Rucker, & Hayes, 2007)). To deal with the three-way interaction effect, we follow the procedures suggested in the literature (Aiken et al., 1991; Dawson, 2014; Dawson & Richter, 2006): Independent variables are standardized before calculating the regressions. We sequentially introduce the control variables (firm, tenure, age, gender, education, hierarchy, and PO fit), main effects, two-way interactions, and the three-way interaction effects of our focal predictors (organizational identification, user identification, and identity conflict).

- Enter Table 3 here –
5 Findings

5.1 Three-way interaction effect on job satisfaction

Table 4 summarizes the regression results. F-tests indicate that the model fit is high (p<0.001 for all models). Step 1 includes only the control variables. After adding our main effects in step 2, the fit of the model increases significantly (ΔR²=.111; p=.000). As expected, we find a significant positive effect of organizational identification (β=.499, p=.000). Adding the two-way interaction terms in step 3 does not significantly increase the model fit (ΔR²=.002; p=.831).

In the final model, step 4, we add the three-way interaction between user identification, organizational identification, and identity conflict, which again significantly improves the model (ΔR²=.010; p=.024). We find a negative and significant three-way interaction (β=-.135, p<.01, adjusted R²=0.556). In line with H1, the negative effect of identity conflict on job satisfaction is reinforced if organizational identification and user identification are both high. As already mentioned, lower-level effects cannot be interpreted in the presence of a three-way interaction effect. Inspecting the effect sizes in the last column of Table 4 we find that the overall effect of the interplay between identity conflict, organizational identification, and user identification, adds up to 0.23. The effect of the three-way interaction is lower (η²=0.02) because part of the effect explained by the interaction is already inherent in the main effect (Vancouver & Carlson, 2015).

To put this in perspective, our effect size found in the interaction is many times higher than effect sizes commonly found in organizational psychology (median=0.002, mean=0.009) (Aguinis, Beaty, Boik, & Pierce, 2005).
We conduct simple slope analyses (Aiken et al., 1991; Dawson, 2014; Dawson & Richter, 2006) to test our theoretic argument that three-way interaction plays out only if both types of identification are strong. Table 5 displays the results for low (1 standard deviation below the mean) and high (1 standard deviation above the mean) levels of user identification, and with the firm, respectively; Figure 1 depicts the slopes for the same specifications. In line with our theoretic reasoning, we find that the effect of identity conflict on job satisfaction is significant if both organizational identification and user identification are high (β=-.299, p<.05). It is insignificant for the other three configurations (p>.05).

5.2 Indirect three-way interaction effect on innovative work behavior

In H2 we proposed that the three-way interaction among organizational identification, user identification and perceived identity conflict affects employees’ pro-organizational behavior, specifically their innovative work behavior, via job satisfaction. Thus, we need to test whether employees who identify simultaneously with users and the organization and perceive a conflict between these identities are less satisfied with their jobs and consequently less innovative at work.

To do so we model an indirect effect of identity conflict on innovative work behavior via job satisfaction. The indirect effect of identity conflict is conditional on the values of user
identification and identification with the firm. From our theoretical considerations we would expect this effect to be significant if and only if identification with both targets is high. We use conditional process analysis with bootstrapping to test our model (Hayes, 2008; Preacher et al., 2007). This procedure “provides the most powerful and reasonable method of obtaining confidence limits for specific indirect effects” (Preacher & Hayes, 2008, p. 886, p. 886) and also enables the quantification of the indirect effect (Hayes, 2008) as well as simultaneous testing of the entire model (Green, Tonidandel, & Cortina, 2016).

The results are displayed in Table 6. The first section shows the antecedents of job satisfaction, replicating our previous regression analysis using bootstrapping to estimate standard errors and yielding materially the same results. The middle section reports the antecedents of innovative work behavior and the last section supplies the analysis of the condition indirect effect needed to test H2. The model has a good fit ($R^2=.246$, $p=.000$) and confirms job satisfaction to be a significant predictor of innovative work behavior ($b=.307; p=.000$). In the last section of Table 6, we see that the indirect effect of identity conflict on innovative work behavior via job satisfaction is significant if and only if identification with both targets is high. This is indicated by the fact that zero is not included in the 95% confidence interval ($b=-.085$; significant for 95%-confidence interval $[-.189, -.002]$) reported in the first line. For all other cases, zero is included in the confidence intervals, indicating that the indirect negative effect of identity conflict is not significant if identification with one or both targets is low. These findings fully support H2. Figure 2 summarizes the results from these analyses.
6 Discussion

6.1 Contribution

Our findings contribute mainly to three literature strands:

First, we contribute to the literature on innovative behavior in organizations (Abstein & Spieth, 2014; Dorenbosch et al., 2005; Hootegem et al., 2019; Mussner et al., 2017; Nisula & Kianto, 2016; Radaelli et al., 2014; Ramamoorthy et al., 2005; Reuvers et al., 2008; Spiegelaere et al., 2014; Tsegaye et al., 2019). Prior research has pointed out that, “little attention has been paid to how actors outside of the organization – customers, clients, professional bodies, cross-boundary networks, and so forth – influence employee creativity and innovation” (Anderson et al. (2014, p. 26, p. 26), cf. Operti and Carnabuci (2014)). We add to this under-researched question by investigating the effect of identification with external stakeholders on innovative work behavior. Also, we contribute by introducing boundary conditions under which perceived conflict between the identification with external stakeholders and the organization results in lower innovative behavior. We also contribute by showing how this happens: Specifically, we introduce job satisfaction as mediator and precursor to innovative work behavior, an antecedent that has not been established so far.

Second, our results contribute to the emerging literature on embedded users (Schweisfurth & Herstatt, 2015) by bounding their efficacy as boundary spanners. Embedded users absorb
innovation-related need knowledge and represent valuable resources for innovation (Abrell et al., 2018; Harrison & Corley, 2011). At the same time, prior studies warn that concurrent allegiance to users and the firm could engender conflict (Schweisfurth & Raasch, 2015). We empirically investigate this issue and refine the concept of embedded users by showing under which conditions identifying with users within the firm has negative effects for the organization: A strongly identified user-employee may not deliver the anticipated innovative behavior if his or her work involves severe identity conflict. However, if both identifications are strong and congruent, employees will be more innovative. Our findings offer empirical support for the statement that: “[t]he holy grail of increasing creative performance […] entails leveraging employees’ existing and broad repertoires of outsider identities beyond those associated with the organization” (Sanchez-Burks, Karlesky, & Lee, 2015, p. 101). Having embedded users or other employees who identify with users within the organization will be of more value to the organization which can ensure that embedded users’ dual identities are well aligned. This will most likely apply to those firms with a communitarian organizational identity, i.e. firms founded by user entrepreneurs who continue to support the user community (Fauchart & Gruber, 2011).

Third, our findings contribute to the line of work which stresses the beneficial role of employees’ social relationships with external stakeholders but also highlights their risks (Alexy, Henkel, & Wallin, 2013; Chan & Husted, 2010; Henkel, 2009; Ramarajan et al., 2011). We have shown the conditions under which employees’ dual identification with their organization and its external stakeholders affects their job attitude and innovative behavior either positively or negatively. Thus, our study responds to calls for more research on potentially conflicting
organizational and external identities, and their implications for innovativeness (Alexy et al., 2013; Henkel, 2009).

6.2 Limitations and suggestions for future research

There are several limitations to this study:

First and foremost, its cross-sectional design does not, per se, allow us to make inferences about causal relationships between constructs. However, extant theory favors the direction of causality presented in our model (Ashforth et al., 2008; Van Dick et al., 2004).

Second, to measure our constructs we rely on self-ratings, which can lead to common method bias and overstating of respondents’ capabilities. However, we do not expect common method bias to be a concern since we took both statistical and design precautions and model higher-order interactions which are deflated rather than inflated in the presence of common method bias (Siemsen et al., 2010). Concerning the possible overstating of respondents' capabilities, innovative and creative behaviors are often measured using self-assessments (e.g. Janssen, 2000; Shalley, Gilson, & Blum, 2009), which have been shown to correlate with objective ratings (Ng & Feldman, 2012). Nevertheless, our measurement of self-perceived innovative behavior rather than objective individual innovativeness calls for caution in interpretation and calls for follow-on research.

A third limitation is that our findings rely on data from two business-to-consumer industries, and consider only one external target of identification, i.e., users. In the industries we studied users can become the target for employees' identification because many employees are
embedded users and interact strongly with customers. In contexts where employees themselves cannot use their firms' products, identification with customers can occur only via channels other than own use. It would be useful to compare and contrast the results for different contexts, including business-to-business markets (cf. George & Chattopadhyay, 2005; Johnson & Ashforth, 2008). If our results prove robust, this can materially strengthen their integrative role for future research.

Fourth, we only investigate job satisfaction as a pathway from identity conflict to innovative work behavior. In this case, we find a significant indirect effect of innovative work behavior via job satisfaction if and only if both organizational and user identification are high. We also find a direct negative effect of conflict on innovative work behavior (which borders significance: p=0.05). That means that there could also be other potential mechanisms linking identity conflict and innovative behavior. For example, dual allegiance (Chan & Husted, 2010), role ambiguity (Round & Styhre, 2017), or work-life conflict (Abstein & Spieth, 2014) could be candidates for alternative paths. Future research might investigate such other paths.

6.3 Managerial implications

Boundary spanners are required to bridge the boundary with external sources and absorb external knowledge required for successful innovation. At the same time, they are vulnerable to conflicting demands and expectations based on their identification with their employing organization on the one hand, and with external stakeholders on the other. Such identity conflicts can affect employees’ job satisfaction and innovative behavior at work.
We show that employees’ identification with external stakeholders is beneficial for organizations where the norms and goals of the organization and its customers are well aligned. Employees who identify strongly with external users can be expected to be more committed to their employing firms if they see them delivering high-quality, state-of-the-art products that meet users’ needs. Such employees, in turn, are also more likely to engage in innovative behavior. Our findings show also that perceived conflict between the demands of the job and the norms and values of external users, reduces job satisfaction, and in turn, reduces the innovativeness of those employees who identify strongly with both the organization and its users.

Managers should find ways of tapping into employees’ potential without increasing identity conflict and job stress. This requires them to be aware of employees’ external identifications and the strength of them, and to understand the behavioral norms and expectations they impose. Managers should design jobs that are aligned with these external norms. Job aspects that involve identity misalignment should be left to other staff. Finally, managers could help employees mitigate identity conflicts by supporting identity reinterpretation (Horton et al., 2014) and convergence processes (Ashforth et al., 2008). For example, employees who identify strongly with the firm’s users are likely to thrive when offered opportunities that link their two identities (Pratt & Foreman, 2000) such as participation in field trips or product testing.

To conclude, this paper contributes to our understanding of the conditions under which boundary spanners’ identification with external stakeholders is associated with innovation in firms. We have argued that this is theoretically interesting and managerially relevant and hope to encourage future work in this emerging research field.
7 References


professional employees’ adoption of new work behavior. *Journal of Applied Psychology, 94*(5), 1325.


This article is protected by copyright. All rights reserved.


8 Figures and tables

![Figure 1: Three-way interaction effect of organizational identification, user identification and identity conflict on job satisfaction](image)

This article is protected by copyright. All rights reserved.
Figure 2: Summary of findings from conditional process analysis

- **H1:** Direct effect of identity conflict on job satisfaction
  \[ b = -0.045; p < 0.05^{\dagger} \]

- **H2:** Indirect effect of identity conflict via job satisfaction
  \[ b = -0.085; p < 0.05^{\dagger} \]

\[ b = -0.136; p = 0.05 \]

\(^{\dagger}\text{Only significant if both identification with organization and identification with users are high, n.s. otherwise}\]

**Table 1: Sample and response rate**

<table>
<thead>
<tr>
<th>Firm</th>
<th>Employees contacted</th>
<th>Survey visits</th>
<th>Full responses</th>
<th>Response rate 1</th>
<th>Response rate 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bike1</td>
<td>25</td>
<td>10</td>
<td>5</td>
<td>20%</td>
<td>50%</td>
</tr>
<tr>
<td>Bike2</td>
<td>28</td>
<td>11</td>
<td>4</td>
<td>14%</td>
<td>36%</td>
</tr>
<tr>
<td>Bike3</td>
<td>50</td>
<td>27</td>
<td>5</td>
<td>10%</td>
<td>39%</td>
</tr>
<tr>
<td>Bike4</td>
<td>44</td>
<td>17</td>
<td>10</td>
<td>23%</td>
<td>59%</td>
</tr>
<tr>
<td>Game1</td>
<td>173</td>
<td>50</td>
<td>25</td>
<td>14%</td>
<td>50%</td>
</tr>
<tr>
<td>Game2</td>
<td>392</td>
<td>163</td>
<td>61</td>
<td>16%</td>
<td>37%</td>
</tr>
<tr>
<td>Game3</td>
<td>266</td>
<td>101</td>
<td>21</td>
<td>8%</td>
<td>21%</td>
</tr>
<tr>
<td>Game4</td>
<td>42</td>
<td>19</td>
<td>5</td>
<td>12%</td>
<td>26%</td>
</tr>
<tr>
<td>Game5</td>
<td>150</td>
<td>44</td>
<td>21</td>
<td>14%</td>
<td>48%</td>
</tr>
<tr>
<td>Game6</td>
<td>92</td>
<td>24</td>
<td>6</td>
<td>7%</td>
<td>25%</td>
</tr>
<tr>
<td>Game7</td>
<td>77</td>
<td>57</td>
<td>26</td>
<td>34%</td>
<td>46%</td>
</tr>
<tr>
<td>Game8</td>
<td>503</td>
<td>84</td>
<td>36</td>
<td>7%</td>
<td>43%</td>
</tr>
<tr>
<td>Game9</td>
<td>120</td>
<td>34</td>
<td>18</td>
<td>15%</td>
<td>53%</td>
</tr>
<tr>
<td>Total</td>
<td>1962</td>
<td>641</td>
<td>243</td>
<td>15%</td>
<td>39%</td>
</tr>
<tr>
<td>Construct</td>
<td>min</td>
<td>max</td>
<td>mean</td>
<td>SD</td>
<td>Cronbach's α</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>Identification with users</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify with other users.</td>
<td>1.00</td>
<td>7.00</td>
<td>4.65</td>
<td>1.82</td>
<td>0.95</td>
</tr>
<tr>
<td>I see myself as a user.</td>
<td>1.00</td>
<td>7.00</td>
<td>4.96</td>
<td>1.93</td>
<td>0.95</td>
</tr>
<tr>
<td>I am glad to be a member of the group of users.</td>
<td>1.00</td>
<td>7.00</td>
<td>4.59</td>
<td>1.94</td>
<td>0.95</td>
</tr>
<tr>
<td>I feel strong ties with other users.</td>
<td>1.00</td>
<td>7.00</td>
<td>4.44</td>
<td>1.85</td>
<td>0.95</td>
</tr>
<tr>
<td><strong>Identification with organization</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify with ORGANIZATION.</td>
<td>1.00</td>
<td>7.00</td>
<td>4.73</td>
<td>1.83</td>
<td>0.94</td>
</tr>
<tr>
<td>I see myself as a member of ORGANIZATION.</td>
<td>1.00</td>
<td>7.00</td>
<td>5.35</td>
<td>1.66</td>
<td>0.96</td>
</tr>
<tr>
<td>I am glad to be a member of ORGANIZATION.</td>
<td>1.00</td>
<td>7.00</td>
<td>5.06</td>
<td>1.74</td>
<td>0.96</td>
</tr>
<tr>
<td>I feel strong ties with ORGANIZATION.</td>
<td>1.00</td>
<td>7.00</td>
<td>4.45</td>
<td>1.89</td>
<td>0.96</td>
</tr>
<tr>
<td><strong>Identity conflict</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being a user has a very facilitative or helpful effect on being an employee of ORGANIZATION.</td>
<td>1.00</td>
<td>7.00</td>
<td>2.52</td>
<td>1.47</td>
<td>0.58</td>
</tr>
<tr>
<td>Being a user always frees up so much time and energy for me to fulfill the expectations of being an employee of ORGANIZATION.</td>
<td>1.00</td>
<td>7.00</td>
<td>3.54</td>
<td>1.59</td>
<td>0.58</td>
</tr>
<tr>
<td>Other users and ORGANIZATION always expect the same behaviors from me.</td>
<td>1.00</td>
<td>7.00</td>
<td>3.87</td>
<td>1.43</td>
<td>0.58</td>
</tr>
<tr>
<td><strong>Job satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In general, I am satisfied with my job.</td>
<td>1.00</td>
<td>7.00</td>
<td>5.20</td>
<td>1.65</td>
<td>0.95</td>
</tr>
<tr>
<td>Overall, the job I have is great.</td>
<td>1.00</td>
<td>7.00</td>
<td>4.84</td>
<td>1.68</td>
<td>0.95</td>
</tr>
<tr>
<td>My job is very enjoyable.</td>
<td>1.00</td>
<td>7.00</td>
<td>5.08</td>
<td>1.53</td>
<td>0.95</td>
</tr>
<tr>
<td><strong>Innovative work behavior</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At work, I search out new product ideas.</td>
<td>1.00</td>
<td>7.00</td>
<td>5.19</td>
<td>1.81</td>
<td>0.86</td>
</tr>
<tr>
<td>At work, I generate creative ideas.</td>
<td>1.00</td>
<td>7.00</td>
<td>5.56</td>
<td>1.34</td>
<td>0.86</td>
</tr>
<tr>
<td>At work, I promote and champion ideas to others.</td>
<td>1.00</td>
<td>7.00</td>
<td>5.58</td>
<td>1.29</td>
<td>0.86</td>
</tr>
<tr>
<td>At work, I investigate and secure funds needed to implement new ideas.</td>
<td>1.00</td>
<td>7.00</td>
<td>4.58</td>
<td>1.76</td>
<td>0.86</td>
</tr>
<tr>
<td>At work, I develop adequate plans and schedule for the implementation of new ideas.</td>
<td>1.00</td>
<td>7.00</td>
<td>4.81</td>
<td>1.74</td>
<td>0.86</td>
</tr>
<tr>
<td>At work, I am innovative.</td>
<td>1.00</td>
<td>7.00</td>
<td>5.21</td>
<td>1.32</td>
<td>0.86</td>
</tr>
<tr>
<td><strong>PO-Fit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I fit in well with other people who work for ORGANIZATION.</td>
<td>1.00</td>
<td>7.00</td>
<td>5.14</td>
<td>1.48</td>
<td>0.82</td>
</tr>
<tr>
<td>ORGANIZATION is a good fit for me in terms of what I look for in an employer.</td>
<td>1.00</td>
<td>7.00</td>
<td>4.43</td>
<td>1.85</td>
<td>0.82</td>
</tr>
<tr>
<td>I think other people would say that I fit into ORGANIZATION.</td>
<td>1.00</td>
<td>7.00</td>
<td>4.91</td>
<td>1.61</td>
<td>0.82</td>
</tr>
<tr>
<td>I would probably not fit in better at another organization than the one I currently work for.</td>
<td>1.00</td>
<td>7.00</td>
<td>3.41</td>
<td>1.74</td>
<td>0.82</td>
</tr>
</tbody>
</table>

Table 2: Construct and measure reliabilities
Table 3: Descriptive statistics and correlations between variables

<table>
<thead>
<tr>
<th></th>
<th>min</th>
<th>max</th>
<th>Mean</th>
<th>s.d.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Organizational tenure</td>
<td>0.00</td>
<td>15.00</td>
<td>2.42</td>
<td>2.15</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Hierarchy</td>
<td>0.00</td>
<td>4.00</td>
<td>1.62</td>
<td>0.90</td>
<td>0.22**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Education</td>
<td>0.00</td>
<td>5.00</td>
<td>4.39</td>
<td>0.97</td>
<td>0.02</td>
<td>0.17**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Age</td>
<td>18.00</td>
<td>53.00</td>
<td>31.67</td>
<td>5.96</td>
<td>0.32***</td>
<td>0.34***</td>
<td>0.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Person-Organization Fit</td>
<td>1.00</td>
<td>7.00</td>
<td>4.47</td>
<td>1.35</td>
<td>0.01</td>
<td>0.09</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Identification with organization</td>
<td>1.00</td>
<td>7.00</td>
<td>4.90</td>
<td>1.65</td>
<td>0.10</td>
<td>0.18**</td>
<td>0.06</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td>0.74***</td>
<td></td>
</tr>
<tr>
<td>7 Identification with users</td>
<td>1.00</td>
<td>7.00</td>
<td>4.66</td>
<td>1.74</td>
<td>-0.02</td>
<td>-0.03</td>
<td>-0.14*</td>
<td>-0.09</td>
<td>0.22**</td>
<td>0.17*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Identity conflict</td>
<td>1.00</td>
<td>7.00</td>
<td>3.31</td>
<td>1.11</td>
<td>-0.14*</td>
<td>-0.16**</td>
<td>-0.04</td>
<td>-0.05</td>
<td>-0.32***</td>
<td>-0.36***</td>
<td>-0.20**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Job satisfaction</td>
<td>1.00</td>
<td>7.00</td>
<td>5.04</td>
<td>1.54</td>
<td>0.08</td>
<td>0.09</td>
<td>0.10</td>
<td>0.00</td>
<td>0.66***</td>
<td>0.70***</td>
<td>0.09</td>
<td>-0.32***</td>
<td></td>
</tr>
<tr>
<td>10 Innovative work Behavior</td>
<td>1.00</td>
<td>7.00</td>
<td>5.16</td>
<td>1.17</td>
<td>0.14*</td>
<td>0.24***</td>
<td>0.06</td>
<td>0.14*</td>
<td>0.23***</td>
<td>0.01</td>
<td>-0.25***</td>
<td>0.33***</td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05
** p < 0.01
*** p < 0.001
Table 4: Regression results for job satisfaction

<table>
<thead>
<tr>
<th></th>
<th>Step 1</th>
<th></th>
<th>Step 2</th>
<th></th>
<th>Step 3</th>
<th></th>
<th>Step 4</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>SE</td>
<td>β</td>
<td>p</td>
<td>b</td>
<td>SE</td>
<td>β</td>
<td>p</td>
</tr>
<tr>
<td>Constant</td>
<td>5.234</td>
<td>.276</td>
<td>.000</td>
<td></td>
<td>5.185</td>
<td>.247</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm controls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Person-organization fit</td>
<td>1.054</td>
<td>.088</td>
<td>.674</td>
<td>.000</td>
<td>.479</td>
<td>.086</td>
<td>.306</td>
<td>.000</td>
</tr>
<tr>
<td>Organizational tenure</td>
<td>.108</td>
<td>.100</td>
<td>.060</td>
<td>.285</td>
<td>.112</td>
<td>.090</td>
<td>.063</td>
<td>.216</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>.022</td>
<td>.087</td>
<td>.014</td>
<td>.002</td>
<td>-.052</td>
<td>.078</td>
<td>-.033</td>
<td>.055</td>
</tr>
<tr>
<td>Education</td>
<td>.076</td>
<td>.080</td>
<td>.050</td>
<td>.345</td>
<td>.107</td>
<td>.072</td>
<td>.071</td>
<td>.140</td>
</tr>
<tr>
<td>Age</td>
<td>.050</td>
<td>.082</td>
<td>.033</td>
<td>.539</td>
<td>.202</td>
<td>.073</td>
<td>.014</td>
<td>.780</td>
</tr>
<tr>
<td>Sex</td>
<td>.095</td>
<td>.079</td>
<td>.062</td>
<td>.229</td>
<td>.023</td>
<td>.072</td>
<td>.015</td>
<td>.752</td>
</tr>
<tr>
<td>Main effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identification with org</td>
<td>.783</td>
<td>.111</td>
<td>.499</td>
<td>.000</td>
<td>.777</td>
<td>.114</td>
<td>.495</td>
<td>.000</td>
</tr>
<tr>
<td>Identification with users</td>
<td>-.118</td>
<td>.074</td>
<td>-.076</td>
<td>.112</td>
<td>-.127</td>
<td>.075</td>
<td>-.081</td>
<td>.094</td>
</tr>
<tr>
<td>Identity conflict</td>
<td>-.131</td>
<td>.074</td>
<td>-.087</td>
<td>.077</td>
<td>-.132</td>
<td>.074</td>
<td>-.088</td>
<td>.077</td>
</tr>
<tr>
<td>Two-way interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identification with org x</td>
<td>-.037</td>
<td>.069</td>
<td>-.027</td>
<td>.596</td>
<td>.007</td>
<td>.071</td>
<td>.005</td>
<td>.922</td>
</tr>
<tr>
<td>Identification with users x</td>
<td>-.017</td>
<td>.075</td>
<td>-.012</td>
<td>.816</td>
<td>.043</td>
<td>.075</td>
<td>.029</td>
<td>.564</td>
</tr>
<tr>
<td>Identification with org x</td>
<td>.040</td>
<td>.078</td>
<td>.026</td>
<td>.611</td>
<td>.011</td>
<td>.080</td>
<td>.007</td>
<td>.895</td>
</tr>
<tr>
<td>Three-way interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identification with org x</td>
<td>.475</td>
<td>.111</td>
<td>.002</td>
<td></td>
<td>.0064</td>
<td>.135</td>
<td>.024</td>
<td>.020</td>
</tr>
<tr>
<td>p-value R² change</td>
<td>.000</td>
<td>.000</td>
<td>.031</td>
<td></td>
<td>.048</td>
<td>.024</td>
<td>.598</td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>.475</td>
<td>.587</td>
<td>.588</td>
<td></td>
<td>.598</td>
<td></td>
<td>.598</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.433</td>
<td>.547</td>
<td>.543</td>
<td></td>
<td>.552</td>
<td></td>
<td>.552</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Regression results for job satisfaction
Table 5: Results of simple slope analysis

<table>
<thead>
<tr>
<th>Values for independent variables</th>
<th>β</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>identification with organization high/identification with users high</td>
<td>-0.299</td>
<td>-2.071</td>
<td>0.039</td>
</tr>
<tr>
<td>identification with organization high/identification with users low</td>
<td>0.012</td>
<td>0.071</td>
<td>0.943</td>
</tr>
<tr>
<td>identification with organization low/identification with users high</td>
<td>0.078</td>
<td>0.510</td>
<td>0.611</td>
</tr>
<tr>
<td>identification with organization low/identification with users low</td>
<td>-0.191</td>
<td>-1.625</td>
<td>0.106</td>
</tr>
</tbody>
</table>
### Direct effects on job satisfaction

<table>
<thead>
<tr>
<th></th>
<th>b</th>
<th>SE</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>5.179</td>
<td>.249</td>
<td>.000</td>
</tr>
<tr>
<td>Firm controls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Person-organization fit</td>
<td>.436</td>
<td>.116</td>
<td>.000</td>
</tr>
<tr>
<td>Organizational tenure</td>
<td>.103</td>
<td>.090</td>
<td>.256</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>-.069</td>
<td>.079</td>
<td>.382</td>
</tr>
<tr>
<td>Education</td>
<td>.127</td>
<td>.073</td>
<td>.085</td>
</tr>
<tr>
<td>Age</td>
<td>.025</td>
<td>.074</td>
<td>.737</td>
</tr>
<tr>
<td>Sex</td>
<td>.018</td>
<td>.072</td>
<td>.800</td>
</tr>
<tr>
<td>Identification with organization</td>
<td>.472</td>
<td>.068</td>
<td>.000</td>
</tr>
<tr>
<td>Identification with users</td>
<td>-.098</td>
<td>.044</td>
<td>.027</td>
</tr>
<tr>
<td>Identity conflict</td>
<td>-.093</td>
<td>.069</td>
<td>.179</td>
</tr>
<tr>
<td>Identification with organization x identification with users</td>
<td>.003</td>
<td>.024</td>
<td>.902</td>
</tr>
<tr>
<td>Identification with organization x identity conflict</td>
<td>-.025</td>
<td>.041</td>
<td>.550</td>
</tr>
<tr>
<td>Identification with users x identity conflict</td>
<td>-.006</td>
<td>.042</td>
<td>.879</td>
</tr>
<tr>
<td>Identification with organization x identification with users x identity</td>
<td>-.045</td>
<td>.020</td>
<td>.024</td>
</tr>
</tbody>
</table>

R²: .598
F-test: 12.904
p-value: .000

### Direct effect on innovative work behavior

<table>
<thead>
<tr>
<th></th>
<th>b</th>
<th>SE</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.477</td>
<td>.409</td>
<td>.000</td>
</tr>
<tr>
<td>Firm controls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>.307</td>
<td>.062</td>
<td>.000</td>
</tr>
<tr>
<td>Identity Conflict</td>
<td>-.136</td>
<td>.069</td>
<td>.050</td>
</tr>
<tr>
<td>Person-organization fit</td>
<td>-.228</td>
<td>.104</td>
<td>.029</td>
</tr>
<tr>
<td>Organizational tenure</td>
<td>.009</td>
<td>.092</td>
<td>.918</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>.185</td>
<td>.080</td>
<td>.021</td>
</tr>
<tr>
<td>Education</td>
<td>.000</td>
<td>.074</td>
<td>.998</td>
</tr>
<tr>
<td>Age</td>
<td>.082</td>
<td>.075</td>
<td>.273</td>
</tr>
<tr>
<td>Sex</td>
<td>-.129</td>
<td>.073</td>
<td>.077</td>
</tr>
</tbody>
</table>

R²: .246
F-test: 3.621
p-value: .000

### Conditional indirect effect of identity conflict on innovative work behavior at values of the moderators via job satisfaction

<table>
<thead>
<tr>
<th>Values for moderators</th>
<th>b</th>
<th>SE</th>
<th>LLCI 95%</th>
<th>ULCI 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>identification with organization high/identification with users high</td>
<td>-.085</td>
<td>.049</td>
<td>-.189</td>
<td>-.002</td>
</tr>
<tr>
<td>identification with organization high/identification with users low</td>
<td>.002</td>
<td>.045</td>
<td>-.078</td>
<td>.096</td>
</tr>
<tr>
<td>identification with organization low/identification with users high</td>
<td>.021</td>
<td>.063</td>
<td>-.110</td>
<td>.148</td>
</tr>
<tr>
<td>identification with organization low/identification with users low</td>
<td>-.053</td>
<td>.045</td>
<td>-.173</td>
<td>.008</td>
</tr>
</tbody>
</table>

Values for moderators are the mean and plus/minus one SD from mean

This article is protected by copyright. All rights reserved.
Table 6: Conditional indirect effect analysis with bootstrapping