

Perceived gain or loss? How digital affordances influence employee corporate entrepreneurship participation likelihood

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Abstract

Based on conservation of resources theory, this paper examines the mediating mechanisms in the relationship between digital affordances and employee corporate entrepreneurship participation likelihood. Findings from an experimental study with 207 employees show a statistically significant and positive indirect effect of digital affordances on employee corporate entrepreneurship participation likelihood through employee-perceived information technology support for innovation and a statistically significant and—contrary to our expectations—positive indirect effect through employee-perceived work overload. Results are corroborated by insights from in-depth interviews with senior managers. They provide support for digital affordances as action potentials that are associated with resource gains that in turn foster employee corporate entrepreneurship participation likelihood.

KEYWORDS

conservation of resources theory, corporate entrepreneurship, digital affordances, information technology support for innovation, invasion of privacy, work overload

INTRODUCTION

I generally believe that the ability to communicate spontaneously and without delay, to give and receive input on ideas, creates the feeling that you can personally contribute, which of course also strengthens the desire for [corporate] entrepreneurship. (Interviewee 1)

But on the other hand, if I always have to contribute, my workload becomes higher. As I am permanently able to give input, I think the perceived burden will be higher since the pressure increases for employees to do so at all times. (Interviewee 2)

These interviewee statements highlight how employees can benefit or lose from digital affordances that reflect the action potentials of digital technologies (Majchrzak & Markus, 2013). As modern business

environments become increasingly complex and turbulent (Hollen et al., 2013), organizations search for ways to foster entrepreneurial behavior among their employees, for instance, by initiating corporate entrepreneurship as a vehicle for organizational rejuvenation and success. The burgeoning literature on digital entrepreneurship has recently begun to argue that digital affordances enhance entrepreneurial activities (Autio et al., 2018; Nambisan, 2017; von Briel et al., 2018), making them a potentially powerful tool for increasing employee participation in corporate entrepreneurial projects. Building on this argument, our study aims to shed light on how and through which mediating mechanisms digital affordances influence employee corporate entrepreneurship participation likelihood.

Drawing on conservation of resources (COR) theory (Hobfoll, 1989, 2001), we posit that individuals engage in behavior that consumes additional resources when they expect a net gain of resources, that is, when they expect more resource gains than resource losses associated with this behavior. We argue that the affordances of digital technologies are organizational resources that carry the

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potential of both resource gains and losses and thus can positively or negatively influence employee corporate entrepreneurship participation likelihood.

In this vein, research on digital technologies has produced mixed findings (see, e.g., Chen et al., 2009; Diaz et al., 2012) regarding how they affect employee extra-role performance such as corporate entrepreneurial behavior. On the one hand, digital affordances may enhance employee corporate entrepreneurship participation likelihood by providing opportunities to experiment with new ideas and facilitating interactions with multiple stakeholders (Autio et al., 2018). On the other hand, they may cause increased workload or invasion of privacy (Ayyagari et al., 2011; Ragu-Nathan et al., 2008) and thus reduce the motivation to participate in demanding endeavors such as corporate entrepreneurship projects. Hence, capturing both potential resource gains and losses, COR theory provides a suitable base for more closely examining the existing tensions regarding digital technologies.

With our study, we aim to provide the following contributions. First, scholars' understanding of how the internal corporate environment affects employee corporate entrepreneurial behavior is still far from complete (Rigtering et al., 2019), which raises the need for further research about how employee corporate entrepreneurial intentions can be fostered (Kuratko et al., 2015). Our study adds to our knowledge on the drivers of employee corporate entrepreneurial activities by introducing digital affordances, a concept originally routed in entrepreneurship (Autio et al., 2018), and innovation management research (Nambisan et al., 2017), as important determinants of employee corporate entrepreneurship participation likelihood. In doing so, we also introduce an employee perspective on digital affordances.

Second, our study builds and empirically tests theory to resolve the puzzle about potentially fostering and hindering influences stemming from digital affordances with regard to employee corporate entrepreneurship participation likelihood. As the introductory statements above as well as research on COR theory indicate, digital affordances have the potential to foster beneficial but also detrimental outcomes for employees. By disentangling different (positive and negative) mechanisms emanating from digital affordances, we help to understand the reasons why digital affordances affect employee corporate entrepreneurship participation likelihood. This also allows us to contribute evidence-based insights to the digital entrepreneurship literature—a still emerging field of research that has largely focused on the effects of digitalization on entrepreneurial activities outside rather than within the organization and mainly adopted an organizational-level rather than an individual-level perspective (see Steininger, 2019; Zaheer et al., 2019).

Third, our study makes an important theoretical contribution by introducing COR theory (Hobfoll, 1989, 2001), a stress and motivation theory (Halbesleben

et al., 2014; Hobfoll, 2001; Hobfoll et al., 2018), into the realm of employee corporate entrepreneurship participation likelihood. By elaborating on the individual-level processes reflecting the resource gains and losses associated with digital affordances that potentially foster or hinder employee corporate entrepreneurship participation likelihood, we add to both the corporate entrepreneurship and the COR literature. Unlike the theories commonly used to explain individual decisions to act entrepreneurially such as the theory of planned behavior or the model of the entrepreneurial event (Krueger et al., 2000), COR theory is able to capture both potential opportunities and barriers evoked by digital affordances because it theorizes about the effects of resource gains and losses on an individual's behavioral decision making (Hobfoll, 2001; Hobfoll et al., 2018).

THEORY AND HYPOTHESES

Digital affordances

Digitalization brings along affordances such as generativity and disintermediation (Autio et al., 2018). Generativity reflects the ability of digital technologies to facilitate unprompted innovative input from large, diverse, and uncoordinated audiences. It is characterized by the ability of digital technologies to produce a disproportionately greater output compared to the input (leverage), the ease with which they can be modified to broaden the range of their functionalities (adaptability), the ease with which people adopt and use a digital technology (ease of mastery), and the ease with which they can come to use and control them (accessibility; Zittrain, 2006, 2007). Disintermediation describes the ability of digital technologies to support direct interactions between individuals so that intermediaries are redundant (Gellman, 1996). It allows to directly and seamlessly communicate and exchange information regardless of one's location (Autio et al., 2018). Prior studies suggest that digital affordances can affect entrepreneurial behaviors and that individual perceptions may play an important role in this process (e.g., Smith et al., 2017).

COR theory as theoretical framework

We draw on COR theory (Hobfoll, 1989, 2001) to explore digital affordances as potentially enabling and hindering factors regarding employee corporate entrepreneurship participation likelihood. COR theory argues that human behavior is motivated by two fundamental goals: acquiring new resources and protecting the current resource pool (Hobfoll, 1989, 2001; Ng & Feldman, 2013). These goals manifest themselves in the two basic arguments of COR theory: the resource accumulation and the resource conservation argument (Ng &

Feldman, 2013). The resource accumulation argument postulates that individuals strive to obtain new resources. Resources are “those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or energies” (Hobfoll, 1989, p. 516). They are “anything perceived by the individual to help attain his or her goals” (Halbesleben et al., 2014, p. 1338). When employees acquire new resources, they are shielded from resource loss and become capable of additional resource gains because they have more resources that can be invested to acquire further resources (Halbesleben et al., 2014; Hobfoll, 2001). According to the resource conservation argument, individuals experiencing resource loss engage less in behaviors that consume additional resources and adopt a defensive posture to conserve their remaining resources (Halbesleben et al., 2014; Hobfoll, 2001; Hobfoll et al., 2018). According to COR theory (Hobfoll, 1989, 2001), individuals are likely to engage in a certain behavior when they expect a net gain of resources, that is, when they expect that the behavior is associated with more resource gains than resource losses.

Digital affordances and employee corporate entrepreneurship participation likelihood: A resource perspective

In this study, we aim at explaining the relationships between digital affordances and employee corporate entrepreneurship likelihood. Drawing on COR theory (Hobfoll, 1989, 2001), we argue that individuals engage in corporate entrepreneurial behavior when resource gains outweigh resource losses. The problem is that for the individual employee, engagement in corporate entrepreneurial activities incorporates both potential resource gains and losses (Gawke et al., 2017, 2018). On the one hand, employee corporate entrepreneurship behaviors can instigate self-efficacy (Bandura, 1997), optimism (Carver & Scheier, 2002), and resilience (Masten, 2001) by allowing employees to experience success, achieve action goals, and master challenges (Gawke et al., 2017). Additionally, employee engagement in corporate entrepreneurial activities might result in financial resource gains (e.g., via profit sharing; Monsen et al., 2010). On the other hand, the engagement in corporate entrepreneurial activities also requires the investment of resources (Gawke et al., 2018), such as additional energy and time (Scott & Bruce, 1994) as well as personal resources (e.g., optimism, self-efficacy, and resilience; Gawke et al., 2017) to deal with risk and uncertainty (McGrath, 1999; McGrath & MacMillan, 2000). Which side prevails is a function of organizational resources and the extent to which they enhance the likelihood of a net gain rather than a net loss of resources. We argue that the affordances of digital technologies are organizational resources that carry the

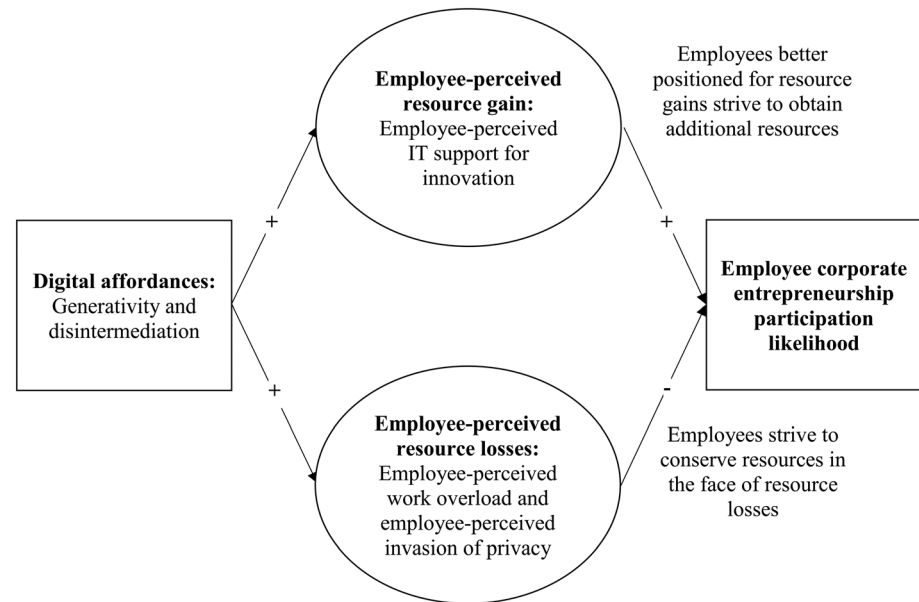
potential of both resource gains and losses and thus influence employee corporate entrepreneurship participation likelihood.

Previous research has identified various forms of resources as important to fostering employee corporate entrepreneurial activities or related behavior types such as innovative work behavior. These include support resources (e.g., Hornsby et al., 2002, 2009), energy resources (e.g., de Clercq et al., 2016; Weinberger et al., 2018; Williamson et al., 2019), autonomy resources (e.g., de Spiegelaere et al., 2014; Hornsby et al., 2002, 2009), control resources (e.g., de Clercq et al., 2016; Janssen, 2000), and fairness resources (e.g., Janssen, 2004; Moon et al., 2008). By enabling the exploration of ideas and reducing the effort of collecting and transferring information and feedback, digital affordances support innovative activities (Dodgson et al., 2002; Kankanhalli et al., 2015). Hence, employee-perceived information technology (IT) support for innovation is likely to reflect a perceived gain of support resources (see Halbesleben et al., 2014) that is associated with digital affordances and allows for resource accumulation and thus a higher likelihood of net resource gains when engaging in corporate entrepreneurial behavior. However, by increasing information inflow, digital affordances might make employees feel that their capacities are exceeded (see, e.g., Ayyagari et al., 2011; Turel et al., 2011). This perceived work overload means a perceived loss of energy resources (see Halbesleben et al., 2014) that triggers resource conservation and increases the likelihood of net resource losses when engaging in corporate entrepreneurial behavior. Moreover, by blurring the boundaries between work and home sphere, digital affordances might result in employees seeing their privacy being compromised (see, e.g., Ayyagari et al., 2011; Gao et al., 2018; Lee et al., 2016). This perceived invasion of privacy means not only a perceived loss of constructive resources such as autonomy and control (see Halbesleben et al., 2014) but also a perceived loss of the job resource procedural fairness (e.g., Boyd et al., 2011). Therefore, a perceived invasion of privacy is likely to also reflect a perceived resource loss that is induced by digital affordances and fosters resource conservation and a higher likelihood of net resource losses in cases of corporate entrepreneurial behavior. Figure 1 shows our theoretical rationale based on COR theory for the mediating mechanisms between digital affordances and employee corporate entrepreneurship participation likelihood. We explain the proposed mechanisms in detail in the following.

The mediating role of employee-perceived IT support for innovation

We posit that digital affordances may lead to perceptions of resource gains in the form of employee-perceived IT support for innovation which in turn foster employee

FIGURE 1 Theoretical rationale



corporate entrepreneurship participation likelihood. Employee-perceived IT support for innovation indicates the extent to which employees perceive digital technologies as supporting their innovative behavior by reducing effort and facilitating exploration (Kankanhalli et al., 2015). It consists of two sub-dimensions: employee-perceived ease of effort and employee-perceived exploration. Employee-perceived ease of effort reflects the extent to which a digital technology reduces the effort of innovating. Employee-perceived exploration refers to the extent to which a digital technology facilitates the development of, experimentation with, and exploration of ideas (Kankanhalli et al., 2015; Ye & Kankanhalli, 2018).

Generativity and disintermediation are likely to foster resource gains in the form of employee-perceived IT support for innovation, that is, perceived gains of support resources (see Halbesleben et al., 2014). Generative digital technologies reduce the effort employees need to invest to create innovation because anybody can contribute to an innovative project at any time and place (Autio et al., 2018). By enabling everybody to co-create content, generativity allows for the combination of any information on the network (Tilson et al., 2010), fostering innovation (Cirella, 2021). By being malleable, reprogrammable, and therefore easily adaptable (Yoo et al., 2010), generative technologies should facilitate the trial of and experimentation with new ideas. Disintermediation also reduces the effort necessary for creating innovations by allowing direct communication (Autio et al., 2018) that facilitates knowledge and information exchange (Černe et al., 2013; Kwanya et al., 2015). As it enables the direct and unfiltered receipt of feedback and advice (Autio et al., 2018), disintermediation can foster experimentation with new ideas.

According to the resource accumulation argument of conservation of resources theory (Hobfoll, 1989, 2001), employees perceiving resource gains in the form of IT support for innovation feel in a better position to invest these resources and gain additional resources by engaging in corporate entrepreneurial activities. Employee-perceived IT support for innovation lowers the psychological costs associated with corporate entrepreneurial behavior by reducing the fear of failure of a corporate entrepreneurial activity. This is because IT support for innovation allows employees to develop, explore, discuss, and experiment with ideas in exchange with others and therefore helps them identify entrepreneurial opportunities and judge which of them are worth pursuing (Kankanhalli et al., 2015). Moreover, IT support facilitates the acquisition of information, knowledge, and feedback and therefore decreases the amount of effort and time that needs to be invested in the corporate entrepreneurial activity (Ye & Kankanhalli, 2018). Accordingly, employee-perceived IT support for innovation should result in employees expecting a net gain of resources when engaging in such activities and thus foster employee corporate entrepreneurship participation likelihood.

Conceptual work in the digital entrepreneurship literature has proposed the expansion of available resources and the reduction of required resources as important mechanisms through which digital technologies enable entrepreneurial activities (von Briel et al., 2018). Thus, taking together the above discussions regarding a positive relationship of digital affordances with employee-perceived IT support for innovation and a positive relationship of employee-perceived IT support for innovation with employee corporate entrepreneurship participation likelihood, we propose the following:

Hypothesis 1a. Employee-perceived IT support for innovation positively mediates the relationship between generativity and employee corporate entrepreneurship participation likelihood.

Hypothesis 1b. Employee-perceived IT support for innovation positively mediates the relationship between disintermediation and employee corporate entrepreneurship participation likelihood.

The mediating role of employee-perceived work overload

We further propose that digital affordances can also lead to resource losses which in turn hinder employee corporate entrepreneurship participation likelihood. Based on discussions in the literature (e.g., Ayyagari et al., 2011; Turel et al., 2011), employee-perceived work overload, the extent to which employees feel that the assigned work exceeds their capacity or skill levels (Ayyagari et al., 2011; Cooper et al., 2001; Moore, 2000), is a possible perceived resource loss, namely, a perceived loss of energy resources (see Halbesleben et al., 2014), associated with digital affordances such as generativity and disintermediation.

Although generativity facilitates the retrieval of ideas, information, and feedback, getting unfiltered input from large, uncoordinated audiences might quickly cause information overload (Remneland-Wikhamn et al., 2011). Disintermediation allows for direct and seamless interactions with other project participants (Autio et al., 2018). Such advances in connectivity enable employees to send and receive work-related messages at any time (Barley et al., 2011). This increased information inflow could cause feelings of being inundated and forced to work faster to cope with the increased processing requirements (Ragu-Nathan et al., 2008). This results in higher time pressure at work, which has been identified as an antecedent of work overload (Ayyagari et al., 2011).

According to the resource conservation argument of COR theory (Hobfoll, 1989, 2001), employees perceiving work overload and therefore experiencing a loss of energy and time resources should be less willing to invest additional time and energy to perform potentially resource-consuming and discretionary behaviors such as corporate entrepreneurship in order to protect their remaining time and energy resources. This is in line with findings of de Clercq et al. (2016) that show a negative relationship between perceived work overload and innovative behavior. This is also consistent with the results of Ng and Feldman's (2013) meta-analysis, which found a negative relationship between employees facing job stressors such as dissatisfaction with work conditions (and thus perceiving resource loss) and the willingness of

those employees to perform extra-role behaviors. Moreover, this corresponds with work by Hornsby et al. (1993) that proposes lacking time resources as detrimental to employee willingness to engage in corporate entrepreneurial activities. Accordingly, employee-perceived work overload should result in employees expecting a net loss of resources when engaging in corporate entrepreneurial activities and therefore decrease employee corporate entrepreneurship participation likelihood.

Thus, taking together the above discussions regarding a positive relationship of digital affordances with employee-perceived work overload and a negative relationship of employee-perceived work overload with employee corporate entrepreneurship participation likelihood, we propose the following:

Hypothesis 2a. Employee-perceived work overload negatively mediates the relationship between generativity and employee corporate entrepreneurship participation likelihood.

Hypothesis 2b. Employee-perceived work overload negatively mediates the relationship between disintermediation and employee corporate entrepreneurship participation likelihood.

The mediating role of employee-perceived invasion of privacy

Based on previous studies (e.g., Ayyagari et al., 2011; Gao et al., 2018; Lee et al., 2016), we argue that employee-perceived invasion of privacy, the extent to which employees see their privacy being compromised through the use of digital technology (Ayyagari et al., 2011), reflects another form of perceived resource loss instigated by digital affordances, namely, a perceived loss of constructive resources such as autonomy and control (see Halbesleben et al., 2014) and a perceived loss of the job resource procedural fairness (e.g., Boyd et al., 2011). We propose that digital affordances foster employee-perceived invasion of privacy which in turn hinders employee corporate entrepreneurship participation likelihood.

Digital technologies characterized by high generativity and disintermediation allow employee privacy to be compromised and private life to become invaded by work-related issues. As generativity brings along the possibility to contribute to work progress anytime and from anywhere (Autio et al., 2018; Zittrain, 2007, 2008), and disintermediation enables direct communication (Autio et al., 2018), digital affordances may result in an unspoken valuing of employees using digital technologies to be constantly available (Ayyagari et al., 2011). This continuous exposure might make employees feel that they are always under supervision or on-call (Tarafdar et al., 2010) and

that their private time and space have been invaded (Ragu-Nathan et al., 2008). In addition, digital technologies characterized by high generativity and disintermediation also raise concerns regarding information privacy because they are able to monitor and track employee activities using digital technologies (Lee et al., 2016). Consequently, employees fear the disclosure and misuse of private information (Gao et al., 2018). As a result of the perceived monitoring, they feel a loss of control over the information disclosed to the organization (Fusilier & Hoyer, 1980; Lei & Ngai, 2014). Lacking control over what and to whom personal information is disclosed has been found to reduce the perception of procedural fairness and increase the perception that privacy has been invaded (Eddy et al., 1999).

According to the resource conservation argument of COR theory (Hobfoll, 1989, 2001), employees perceiving the loss of private time, control over personal information disclosure, and procedural fairness will want to conserve the resources that remain and will be reluctant to invest additional resources to engage in corporate entrepreneurship. This is underlined by previous research showing that resource losses with regard to control (Niehoff & Moorman, 1993), autonomy (Parker et al., 2006), or procedural fairness (Moorman et al., 1993) negatively affect extra-role behaviors due to decreased employee faith and trust. Thus, as corporate entrepreneurial activities require employees to invest additional time and energy resources (Scott & Bruce, 1994) but also personal resources such as

optimism, self-efficacy, and resilience (Gawke et al., 2017) to deal with risk and uncertainty (McGrath, 1999; McGrath & MacMillan, 2000), employees perceiving invasion of privacy through digital technologies characterized by high generativity and high disintermediation should expect a net loss of resources when engaging in corporate entrepreneurial activities and therefore be less likely to participate in a corporate entrepreneurship project.

Thus, taking together the above discussions regarding a positive relationship of digital affordances with employee-perceived invasion of privacy and a negative relationship of employee-perceived invasion of privacy with employee corporate entrepreneurship participation likelihood, we propose the following:

Hypothesis 3a. Employee-perceived invasion of privacy negatively mediates the relationship between generativity and employee corporate entrepreneurship participation likelihood.

Hypothesis 3b. Employee-perceived invasion of privacy negatively mediates the relationship between disintermediation and employee corporate entrepreneurship participation likelihood.

Figure 2 provides an overview of our research model depicting the core variables of our study and their proposed relationships.

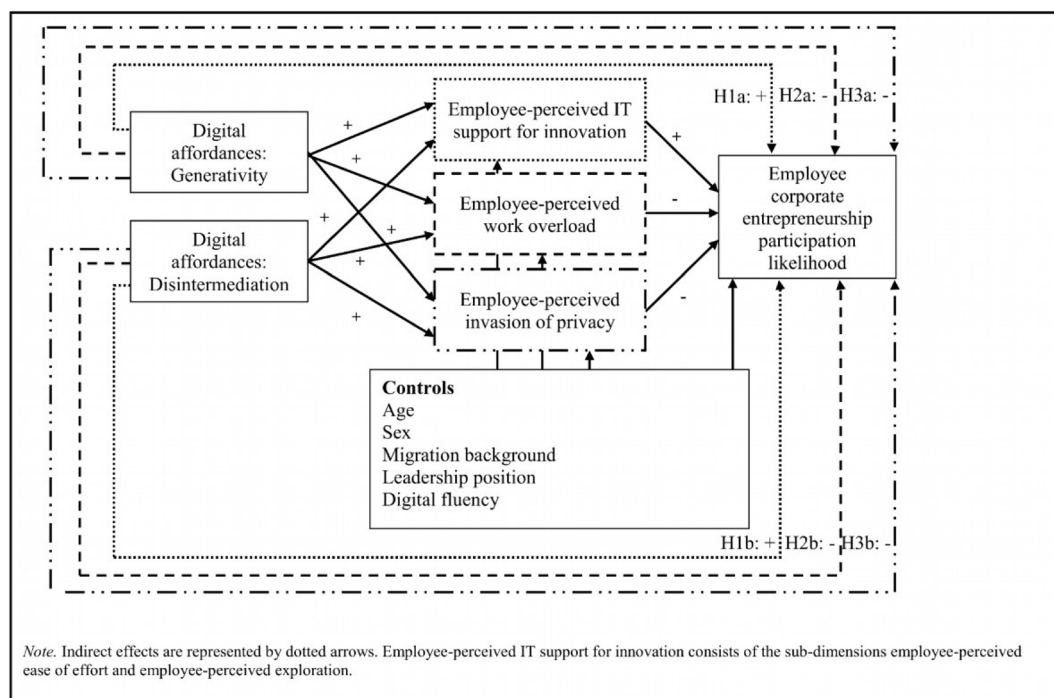


FIGURE 2 Research model

METHOD

Sample

We purposefully recruited employees from different age groups who worked fulltime in for-profit organizations in

Germany, had managerial tasks, and worked in settings and positions in which they might realistically be asked if they are willing to join a corporate entrepreneurship project. In a first step, to achieve a heterogeneous sample and increase the generalizability of our findings (Demerouti & Rispens, 2014), a student researcher team

TABLE 1 Sample characteristics

Sociodemographic characteristics		<i>n</i>	%	
Age	≤34 years	112	54.11	
	35–49 years	52	25.12	
	≥50 years	43	20.77	
Work experience	≤9 years	97	46.86	
	10–19 years	45	21.74	
	20–29 years	35	16.91	
	30–39 years	25	12.08	
Sex	≥40 years	5	2.42	
	Male	165	79.71	
Migration background	Female	42	20.29	
	No	192	92.75	
Industry	Yes	15	7.25	
	Construction	13	6.28	
	Electricity, gas, steam, and air conditioning supply	7	3.38	
	Financial and insurance activities	14	6.76	
	Accommodation and food service activities	1	0.48	
	Human health and social work activities	7	3.38	
	Real estate activities	2	0.97	
	Wholesale and retail trade	7	3.38	
	Information and communication	17	8.21	
	Agriculture, forestry, and fishing	2	0.97	
	Public administration and defense	3	1.45	
	Manufacturing	107	51.69	
	Transportation and storage	3	1.45	
	Professional, scientific, and technical activities	24	11.59	
	Organizational size	≤9 employees	5	2.42
		10–49 employees	25	12.08
50–249 employees		24	11.59	
≥250 employees		153	73.91	
Education	Basic general education school leaving certificate	4	1.93	
	General education school leaving certificate	24	11.59	
	Higher education entrance qualification	37	17.87	
	University degree	135	65.22	
	PhD	7	3.38	
Leadership function	No	107	51.69	
	Yes	100	48.31	
Hierarchy level	Operational level	69	33.33	
	Lower management	88	42.51	
	Middle management	38	18.36	
	Upper management	10	4.83	
	Top management	2	0.97	

Note: *N* = 207. If the sum of the percentages does not add up to exactly 100.00%, this is due to the rounding of the individual percentages.

assisted in compiling a list of 722 potentially suitable study participants from their professional and social networks (for a similar approach, see, e.g., Diebig et al., 2016; Petrou & Bakker, 2016). To ensure the quality of our data, the student researchers were instructed on experiments, sampling techniques, and biases (see Demerouti & Rispens, 2014). In a second step, we invited a random subset of 80% of that pool (i.e., 577 employees) to participate in our study with an e-mail including the link to the study questionnaire. Participants were randomly assigned to the different experimental conditions resulting in an approximately equal distribution across them. In total, 231 participants provided complete answers and passed the check for inclusion criteria, which reflects a response rate of 40.03%. However, we had to exclude 24 participants who did not consider the scenario to be realistic, which results in a final sample of 207 participants.

Sample characteristics are shown in Table 1. On average, the respondents were 36.91 years old and had 14.03 years of work experience. They were predominantly male, without migration background,¹ and highly educated. They were employed in various industries and organizations of different sizes. While just under half of the participants had a leadership function, the large majority held management positions.² According to Hornsby et al. (2009), actors at different hierarchical levels—ranging from operational level employees to top managers—are involved in corporate entrepreneurship activities. Thus, our sample includes realistic targets for corporate entrepreneurial engagement (see Baum & Rabl, 2019; Monsen et al., 2010).

Study design and procedures

We conducted an experimental study that used a two-by-two (2 × 2) between-participant design and manipulated two factors: generativity (high vs. low) and disintermediation (strong vs. weak). Our scenario-based experimental design ensures high internal validity and delivers results that well reflect real-world decision-making behavior of individuals (Aguinis & Bradley, 2014).

The project described in our scenarios reflected the innovative, proactive, and risky characteristics of a new corporate venture (Miller, 1983; see Monsen et al., 2010). Thus, scenarios requested respondents to imagine they are asked by their respective organizations if they want to participate in a new, innovative project that requires their particular expertise and ability and is conducted in collaboration with external partners. They stated that respondents need to react quickly and sign a new working contract to be able to participate in the project. They emphasized that a project failure could have negative consequences for the employee's career. They also

highlighted that if being successful, the project might result in a new strategic business unit or an independent spin-off. To facilitate immersion and thus to further improve the external validity of our scenarios (Aguinis & Bradley, 2014), participants were asked to assume that, except for the cloud-based software solution described in the scenario, the type and scope of the hypothetical project would be comparable to current or previous projects in their organization.

Following the scenario introduction, each participant was confronted with one of the four experimental conditions being presented as one of four different descriptions of the cloud-based software used to support the hypothetical project. Based on the presented scenario, participants had to respond to our measures of the mediator and dependent variables. In the survey, they also provided information on socio-demographics and on control variables.

The generativity manipulation was based on the conceptualization by Zittrain (2006, 2007). In the high generativity condition, the cloud-based software used in the project was activated for all project participants enabling them to spontaneously contribute to the project's progress regardless of their current location (high accessibility). The software could be easily adapted and reprogrammed (high adaptability) and used without a long period of training (high ease of mastery). It allowed the combination with all other common programs and an integration with the software used by departments and partners currently not involved in the project (high leverage). In the low-generativity condition, the cloud-based software used in the project was activated only for a limited number of project participants enabling only a small number of people to spontaneously contribute to the project's progress regardless of their current location. The access was limited to the stationary computer in the respondent's office (low accessibility). An adaption and reprogramming would be greatly time-consuming (low adaptability), and the software could only be used after a long phase of intensive training (low ease of mastery). Additionally, the combination with other common programs or an integration with the software used by departments and partners currently not involved in the project would be difficult (low leverage).

The manipulation of disintermediation was created based on the description in Autio et al. (2018). In the strong disintermediation condition, the cloud-based software enabled the direct interaction of all project participants so that an immediate communication was possible for them. It allowed the access to the databases of all departments and partners involved in the project so that the required information could be directly retrieved. Moreover, a feedback tool included in the software enabled a direct feedback to the proposals and drafts of other project participants. In the weak disintermediation condition, the cloud-based software did not allow the direct interaction between the participants so that the

¹Migration background was defined according to the definition of the German Federal Statistical Office in force at the time of the study.

²Holding a management position does not necessarily correspond with having a leadership function (Yukl, 2013).

whole communication had to be gathered and transferred by the project coordinator. It was also necessary to contact the project coordinator to receive the information needed from departments and partners involved in the project. In addition, the software had only a poor feedback tool included requiring it to address feedback to the project coordinator. Appendices A and B provide a full overview on the experimental scenarios and manipulations.

As suggested by Hsu et al. (2017), in order to increase external validity, ensure content validity, and check our manipulations, we conducted a pretest with 47 employees fulfilling our inclusion criteria using online questionnaires following a between-participant design and interviews directly after survey completion. Besides slight adjustments to our scenarios and manipulation check items to increase understandability, we kept the design for our main study.

To check our manipulations in our main study, respondents were asked to judge the perceived generativity and disintermediation of the presented cloud-based software solution on a five-point Likert-type scale ranging from 1, *does not apply at all*, to 5, *fully applies*. *T*-tests on the manipulation check measures showed a statistically significant difference ($t = -6.94$, $p < .01$) between the low ($M = 2.81$, $SD = 1.12$) and the high generativity condition ($M = 3.77$, $SD = 0.84$) and a statistically significant difference ($t = -11.85$, $p < .01$) between the weak ($M = 2.02$, $SD = 1.18$) and the strong disintermediation condition ($M = 3.70$, $SD = 0.78$). Appendix C provides the items used for the manipulation check.

Measures

We selected suitable and reliable scales from previously validated instruments. As suggested by Brislin (1970) and Douglas and Craig (2007), we used a bilingual committee approach in combination with pretest procedures to translate those scales into German.

The dependent variable, *employee corporate entrepreneurship participation likelihood*, was measured by using the instrument developed by Monsen et al. (2010). Participants were asked to evaluate their likelihood to participate in a new corporate venture team against the background of the scenario on a five-point Likert-type scale ranging from 1, *No, I would definitely not participate*, to 5, *Yes, I would definitely participate*.

The mediators *employee-perceived IT support for innovation*, *employee-perceived work overload*, and *employee-perceived invasion of privacy* were specified as latent variables and assessed on a five-point Likert-type scale ranging from 1, *does not apply at all*, to 5, *fully applies*. Again, participants had to give their evaluations against the background of the scenario presented to them. Thus, the scales used to measure the mediator variables were slightly adapted compared to the original versions in that

it was spoken of the software solution used in the hypothetical project instead of development tools (in the case of the measure for employee-perceived IT support for innovation) and information and communication technologies (in the case of the measures for employee-perceived work overload and employee-perceived invasion of privacy). Employee-perceived IT support for innovation was modeled as a reflective second-order construct being composed of the two first-order reflective constructs employee-perceived ease of effort and employee-perceived exploration. To measure employee-perceived ease of effort, we used the three-item scale ($\alpha = 0.90$) developed by Kankanhalli et al. (2015) which we modified in order to refer to the collection of information and feedback. A sample item is “This software would help me save a lot of effort for collecting information and feedback.” We assessed employee-perceived exploration with a scale of three items ($\alpha = 0.83$) also taken from Kankanhalli et al. (2015). It was adapted to the exploration of ideas. A sample item is “This software would enable me to extensively explore new knowledge and ideas.” We used Ayyagari et al.’s (2011) three-item scale ($\alpha = 0.73$) to assess employee-perceived work overload. A sample item is “I would feel busy or rushed due to using this software.” Finally, to measure employee-perceived invasion of privacy, we adapted a scale of four items ($\alpha = 0.90$) from Ayyagari et al. (2011). A sample item is “I would feel uncomfortable that my use of this software could be easily monitored.”

We controlled for *employee digital fluency* because individuals with high digital fluency tend to view digital technologies as an opportunity (Briggs & Makice, 2012), which might influence the perception of resource gains and losses associated with digital affordances as well as employee corporate entrepreneurship participation likelihood. It was assessed with a four-item scale ($\alpha = 0.83$) based on Briggs & Makice (2012). The items were rated on a five-point Likert-type scale ranging from 1, *does not apply at all*, to 5, *fully applies*. A sample item is “I am able to achieve requested results through using digital technologies.” Appendix D provides a list of all scales used in this study as well as their items and respective factor loadings.

Additionally, we controlled for *sex* (coded 0 = *men*; 1 = *women*) because men and women were found to differ in their rate of entrepreneurial entry (Autio et al., 2013). As younger individuals tend to be more adventurous and therefore may have a greater willingness to participate in a new venture team (Lee & Wong, 2004), we also controlled for *age* (continuous variable). Moreover, we assessed if participants had a *leadership position* in their current organization. Research has shown that having a leadership position is positively related to engagement in innovative behaviors (Binnewies et al., 2007). Finally, we controlled for having a *migration background* (each coded 0 = *no*; 1 = *yes*) because it was found to significantly influence entrepreneurial intentions (Volery et al., 2013).

TABLE 2 Descriptive statistics and correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
Control													
1. Age	36.91	11.06											
2. Sex	0.20	0.40	-0.10										
3. Migration background	0.07	0.26	-0.10	0.09									
4. Leadership position	0.48	0.50	0.32**	-0.22**	-0.05								
5. Digital fluency	4.05	0.62	-0.14	-0.24**	0.04	0.03							
Independent													
6. Generativity	0.02	0.50	0.00	0.03	0.08	0.04	0.02						
7. Disintermediation	0.05	0.50	-0.03	0.19**	0.18**	-0.01	-0.20**	0.02					
Mediator													
8. Employee-perceived ease of effort	3.33	1.14	-0.07	0.18**	0.14*	0.04	-0.10	0.25**	0.61**				
9. Employee-perceived exploration	3.33	0.92	0.00	0.07	0.13	0.10	-0.06	0.34**	0.47**	0.75**			
10. Employee-perceived work overload	2.70	0.80	0.08	0.01	-0.04	-0.06	-0.09	-0.35**	-0.28**	-0.34**	-0.31**		
11. Employee-perceived invasion of privacy	2.52	0.96	0.03	-0.01	0.03	0.04	-0.23**	0.14*	-0.03	0.07	0.08	0.23**	
Dependent													
12. Employee corporate entrepreneurship participation likelihood	3.15	1.09	-0.11	0.06	0.08	0.08	0.08	0.30**	0.34**	0.52**	0.48**	-0.44**	-0.11

Note: N = 207. Employee-perceived ease of effort and employee-perceived exploration are sub-dimensions of employee-perceived IT support for innovation. Sex is coded 0 = men and 1 = women. Leadership position is coded 0 = no and 1 = yes. Migration background is coded 0 = no and 1 = yes.

*p < 0.05. **p < 0.01.

Data analyses

We tested all hypotheses using structural equation modeling techniques with MPlus (Version 8.4). Following Preacher and Hayes (2008), we performed bootstrapping analyses to test our mediation hypotheses and indirect effects with a bootstrapping sample of 5,000. As recommended by Cohen et al. (2003) for 2×2 experimental designs, we contrast-coded the dichotomous predictor variables generativity and disintermediation. Following common practice, significance decisions for the direct effects were made based on p -values (Montoya & Hayes, 2017). Significance decisions concerning the mediation hypotheses were made based on bootstrap confidence intervals to account for the often asymmetric sampling distribution of the indirect effects (Preacher & Hayes, 2008).

RESULTS

Table 2 provides descriptive statistics and correlations for all variables.

Employee-perceived IT support for innovation was modeled as a second-order construct, and all items were loaded on their respective constructs. All factor loadings exceeded the minimum threshold of 0.40 proposed by Bagozzi and Baumgartner (1994). To validate our measurement model, we evaluated convergent validity examining the composite reliability, Cronbach's alpha, and average variance extracted of all latent constructs on the one hand and discriminant validity on the other hand. Employee-perceived work overload had the lowest Cronbach's alpha score (0.73) among the tested constructs. The average variance extracted exceeded 0.50, satisfying the threshold suggested by Fornell and Larcker (1981). Finally, composite reliabilities were greater than 0.75, indicating good reliability (Bagozzi & Yi, 1988). According to Fornell and Larcker (1981), discriminant validity is demonstrated when the square root of the average variance extracted of each factor is greater than the inter-correlations between the constructs.

As Table 3 shows, all conditions are met, demonstrating convergent and discriminant validity.

Confirmatory factor analysis results showed that our measurement model fitted the data well ($\chi^2 = 183.18$, $df = 111$, $p < 0.01$, CFI = 0.96, TLI = 0.96, RMSEA = 0.06, SRMR = 0.08; Hu & Bentler, 1999). In addition, we compared our measurement model to alternative model solutions. First, we tested Alternative Model 1, which included only the first-order factors employee-perceived ease of effort and employee-perceived exploration. Since the fit of Alternative Model 1 was not statistically significantly better ($\chi^2 = 182.94$, $df = 109$, $p < 0.01$, CFI = 0.96, TLI = 0.95, RMSEA = 0.06, SRMR = 0.08; $\Delta \chi^2 = 0.24$, $\Delta df = 2$, $p = 0.89$), we decided to keep the operationalization of employee-perceived IT support for innovation as a second-order construct. We then tested Alternative Model 2 with all measures evaluated based on the scenario loading onto one factor, which had a statistically significantly worse fit ($\chi^2 = 931.10$, $df = 118$, $p < 0.01$, CFI = 0.59, TLI = 0.53, RMSEA = 0.18, SRMR = 0.17; $\Delta \chi^2 = 747.92$, $\Delta df = 7$, $p < 0.01$).

Table 4 and Figure 3 show our structural model results. The mediation model (assuming full mediation) showed an acceptable model fit ($\chi^2 = 348.14$, $df = 210$, $p < 0.01$, CFI = 0.94, TLI = 0.92, RMSEA = 0.06, SRMR = 0.08). There was no statistically significant relationship between the control variables age, sex, leadership position, and migration background and the mediating and dependent variables. However, we found statistically significant and negative relationships between employee digital fluency and employee-perceived work overload ($\beta = -0.23$, $p = 0.01$) as well as employee-perceived invasion of privacy ($\beta = -0.30$, $p < 0.01$).

As expected, both the direct effects of generativity ($\beta = 0.29$, $p < 0.01$) and disintermediation ($\beta = 0.64$, $p < 0.01$) on employee-perceived IT support for innovation and the direct effect of employee-perceived IT support for innovation on employee corporate entrepreneurship participation likelihood ($\beta = 0.52$, $p < 0.01$) were statistically significant and positive.

In line with Hypotheses 1a and 1b, we also found a statistically significant and positive indirect effect of

TABLE 3 Convergent and discriminant validity

Construct	α	Composite reliability	Average variance extracted	Employee-perceived IT support for innovation	Employee-perceived work overload	Employee-perceived invasion of privacy	Employee digital fluency
Employee-perceived IT support for innovation	0.91	0.92	0.85	0.92			
Employee-perceived work overload	0.73	0.77	0.56	-0.25	0.75		
Employee-perceived invasion of privacy	0.90	0.90	0.70	0.07	0.35	0.84	
Employee digital fluency	0.83	0.84	0.56	-0.14	-0.20	-0.26	0.75

Note: Diagonal elements in the last four columns (bold print) are the square root of the average variance extracted. Non-diagonal elements in the last four columns are the latent variable correlations reported in the confirmatory factor analysis.

TABLE 4 Structural model results

Path	β	SE	p/CI
Second-order estimated paths			
Employee-perceived IT support for innovation → Employee-perceived ease of effort	0.96	0.04	<0.01
Employee-perceived IT support for innovation → Employee-perceived exploration	0.89	0.05	<0.01
Direct effects			
Generativity → Employee-perceived IT support for innovation	0.29	0.06	<0.01
Disintermediation → Employee-perceived IT support for innovation	0.64	0.05	<0.01
Generativity → Employee-perceived work overload	-0.31	0.07	<0.01
Disintermediation → Employee-perceived work overload	-0.26	0.07	<0.01
Generativity → Employee-perceived invasion of privacy	0.14	0.07	0.05
Disintermediation → Employee-perceived invasion of privacy	-0.10	0.07	0.17
Employee-perceived IT support for innovation → Employee corporate entrepreneurship participation likelihood	0.52	0.07	<0.01
Employee-perceived work overload → Employee corporate entrepreneurship participation likelihood	-0.20	0.08	0.01
Employee-perceived invasion of privacy → Employee corporate entrepreneurship participation likelihood	-0.07	0.07	0.30
Indirect effects			
Hypothesis 1a: Generativity → Employee-perceived IT support for innovation → Employee corporate entrepreneurship participation likelihood	0.15	0.04	[0.07, 0.24]
Hypothesis 1b: Disintermediation → Employee-perceived IT support for innovation → Employee corporate entrepreneurship participation likelihood	0.33	0.05	[0.23, 0.43]
Hypothesis 2a: Generativity → Employee-perceived work overload → Employee corporate entrepreneurship participation likelihood	0.06	0.03	[0.01, 0.13]
Hypothesis 2b: Disintermediation → Employee-perceived work overload → Employee corporate entrepreneurship participation likelihood	0.05	0.03	[0.01, 0.11]
Hypothesis 3a: Generativity → Employee-perceived invasion of privacy → Employee corporate entrepreneurship participation likelihood	-0.01	0.01	[-0.03, 0.01]
Hypothesis 3b: Disintermediation → Employee-perceived invasion of privacy → Employee corporate entrepreneurship participation likelihood	0.01	0.01	[-0.01, 0.03]

Note: $N = 207$. Employee-perceived ease of effort and employee-perceived exploration are sub-dimensions of employee-perceived IT support for innovation. The p -values of indirect effects are not reported because significance decisions are made based on confidence intervals (Preacher & Hayes, 2008).

generativity ($\beta = 0.15$, $SE = 0.04$, 95% bootstrap confidence interval of the indirect effect (CI) = [0.07, 0.24]) and disintermediation ($\beta = 0.33$, $SE = 0.05$, $CI = [0.23, 0.43]$) on employee corporate entrepreneurship

participation likelihood through employee-perceived IT support for innovation. Thus, the higher the generative and disintermediatory character of digital technologies employees are provided with is, the more they feel

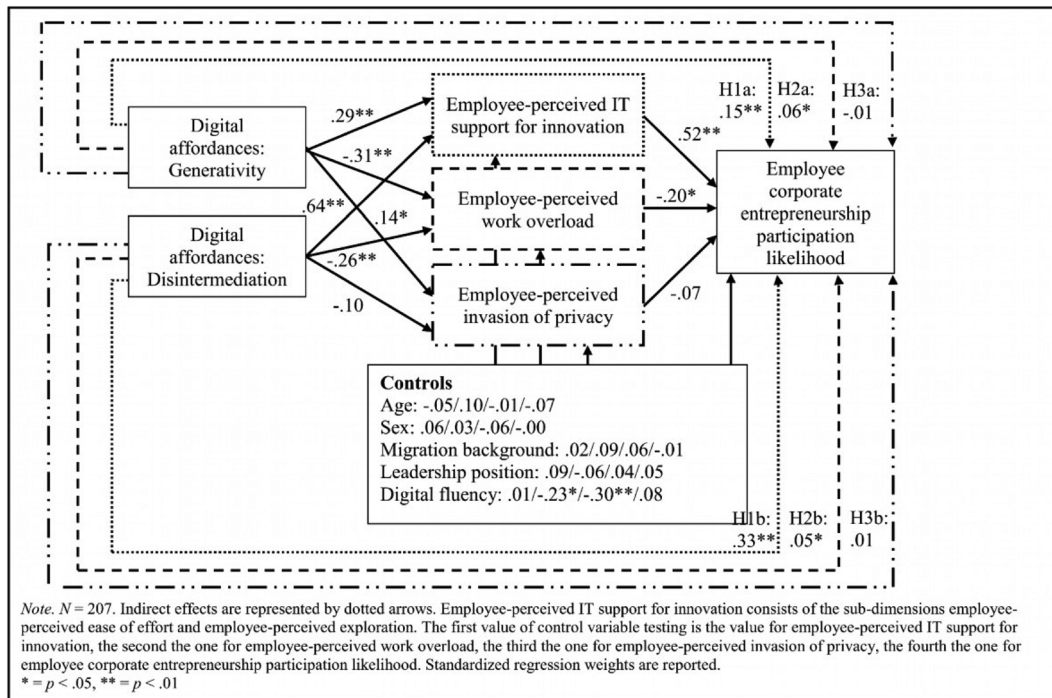


FIGURE 3 Results overview

support for innovation through these digital technologies, and the more they are likely to participate in a corporate entrepreneurship project in turn.

Furthermore, in contrast to what we expected, both the relationships of generativity ($\beta = -0.31$, $p < 0.01$) and disintermediation ($\beta = -0.26$, $p < 0.01$) with employee-perceived work overload were statistically significant and negative rather than positive. However, in line with our expectations, the relationship between employee-perceived work overload and employee corporate entrepreneurship participation likelihood ($\beta = -0.20$, $p = 0.01$) was statistically significant and negative. Contrary to our Hypotheses 2a and 2b, the indirect effects of generativity ($\beta = 0.06$, $SE = 0.03$, $CI = [0.01, 0.13]$) and disintermediation ($\beta = 0.05$, $SE = 0.03$, $CI = [0.01, 0.11]$) on employee corporate entrepreneurship participation likelihood through employee-perceived work overload were statistically significant and positive rather than negative. Thus, the higher the generative and disintermediary character of digital technologies employees are provided with is, the lower is the work overload they perceive, and the more they are likely to participate in a corporate entrepreneurship project in turn.

Moreover, as expected, generativity had a statistically significant and positive relationship with employee-perceived invasion of privacy ($\beta = 0.14$, $p = 0.05$), while contrary to our expectations, there was no statistically significant relationship between disintermediation and employee-perceived invasion of privacy ($\beta = -0.10$, $p = 0.17$). In addition, employee-perceived invasion of privacy was not significantly related to employee corporate

entrepreneurship. In contrast to what we proposed, the indirect effects of generativity ($\beta = -0.01$, $SE = 0.01$, $CI = [-0.03, 0.01]$) and disintermediation ($\beta = 0.01$, $SE = 0.01$, $CI = [-0.01, 0.03]$) on employee corporate entrepreneurship participation likelihood through employee-perceived invasion of privacy were not statistically significant either. Thus, Hypotheses 3a and 3b did not receive support. Therefore, while higher generativity of digital technologies increases employee perceptions of invasion of privacy, these in turn have no impact on their likelihood to participate in a corporate entrepreneurship project. Higher disintermediation of digital technologies does neither impact employee perceptions of invasion of privacy nor through these perceptions employee corporate entrepreneurship participation likelihood.

To check for the robustness of our findings, we ran a series of alternative model tests. First, we tested a model that included direct paths from generativity and disintermediation on employee corporate entrepreneurship participation likelihood. This model did not show a statistically significantly better fit ($\chi^2 = 344.82$, $df = 208$, $p < 0.01$, $CFI = 0.94$, $TLI = 0.92$, $RMSEA = 0.06$, $SRMR = 0.08$; $\Delta \chi^2 = 3.32$, $\Delta df = 2$, $p = 0.19$). This result strengthened our confidence in the hypothesized full-mediation model because we did not find a significant direct effect of either generativity ($\beta = 0.11$, $p = 0.13$) or disintermediation ($\beta = -0.02$, $p = 0.82$) on the dependent variable. Second, to accommodate alternative explanations for our findings, we controlled for the effect of perceived realism of the scenario presented. The results of our hypothesis testing did not change. We also controlled for

firm-level variables computing a model that included organizational age, organizational size, and industry. Results for our hypotheses remained stable. Third, we checked whether our results remained the same when excluding the item with the low factor loading of 0.41 from the employee-perceived work overload scale. As this was the case, we kept the three-item scale in accordance with the original scale by Ayyagari et al. (2011) for our main analyses for reasons of content validity.

DISCUSSION

Theoretical implications

Our study aimed to resolve the question of how and why digital affordances relate to employee corporate entrepreneurship participation likelihood. Our results show that generativity and disintermediation trigger such tendencies through increased employee-perceived IT support for innovation and reduced employee-perceived work overload. Drawing on COR theory (Hobfoll, 1989, 2001), we thus advance corporate entrepreneurship research by identifying these resource gains as predictors of employee corporate entrepreneurship participation likelihood. In contrast to our expectations, our results do not hint at digital affordances as a potential hindrance for employee corporate entrepreneurship participation likelihood. Rather, they seem to be in line with the positive view on digital affordances currently dominating the entrepreneurship literature (see Autio et al., 2018; Nambisan, 2017). We thus build on and extend recent studies considering COR theory to examine the implications of resource gains and losses for motivational outcomes (Hobfoll et al., 2018). Furthermore, we transfer the digital affordances concept into the realm of corporate entrepreneurship, answering calls for empirically examining affordances (Majchrzak & Markus, 2013) and to closer examine the role of digital affordances in entrepreneurial processes (Autio et al., 2018).

We could further substantiate our findings and disentangle the specific mechanisms through which digital affordances influence employee corporate entrepreneurship participation likelihood by additional qualitative interviews with seven senior managers working in new business development and digital transformation.³ The experts perceived digital affordances as “essential for working in innovative and creative environments” (Interviewee 1). They underlined that digital affordances brought about efficiency and velocity in the organizations’ working style and interaction. Generativity and disintermediation were seen as “helping employees do their work, making them more efficient” (Interviewee 3). While the interviewees discussed that digital affordances can increase perceived burden through invoking the

feeling that one has to contribute to projects even outside of working hours, the positive view of reduced barriers that facilitate working and thus decrease work overload prevailed. In the following, we discuss our main findings in more detail and enrich these by drawing from our additional qualitative analysis.

First, the significant positive indirect effects indicate that digital affordances might foster rather than reduce employee corporate entrepreneurship participation likelihood through employee-perceived work overload. This implies that employees perceive digital affordances as positive because they reduce their work overload, creating room and freeing resources for participation in corporate entrepreneurial projects. Employees seem to perceive the characteristics of generativity as decreasing work overload, which supports arguments that generative digital technologies reduce work effort (Zittrain, 2006). In addition, they seem to perceive the ability to directly and seamlessly communicate offered by digital technologies characterized by high disintermediation as helpful for dealing with work-related tasks. Disintermediation facilitates cooperation (Autio et al., 2018) and finding help in case of problems or questions, which should reduce employee-perceived work overload (Tarafdard et al., 2015). The experts interviewed within our supplemental qualitative study supported this reasoning, stating that the ability to cooperate without barriers and retrieve information with reduced effort was predominantly positive. Thus, reducing work overload, digital affordances seem to be associated with perceptions of gaining resources such as time and support rather than losing resources. As indicated by the negative relationship between employee-perceived work overload and employee corporate entrepreneurship participation likelihood, employees seem to be willing to invest the saved resources resulting from reduced work overload (e.g., energy and support resources) to perform corporate entrepreneurial behavior. Experts interviewed emphasized that employees become more motivated to innovate because barriers to cooperation and participation are reduced and less work is required. This supports the resource accumulation argument of COR theory (Hobfoll, 1989, 2001).

Second, our results did not show employee-perceived invasion of privacy to mediate the relationship between digital affordances and employee corporate entrepreneurship participation likelihood. We only found that high generativity fosters invasion of privacy perceptions. Contrary to our expectations, disintermediation was not found to be significantly related to employee-perceived invasion of privacy. According to Ayyagari et al. (2011), invasion of privacy perceptions are primarily caused by those digital technologies that make employees accessible to others and therefore constantly reachable. Our additional interviews revealed that disintermediation, while increasing communication inflow, does not necessarily contain the pressure to contribute and interact at any time and from any place. Thus, disintermediation alone does not infuse a sense of privacy intrusion in employees.

³Details on sampling, sample characteristics, and analyses are available from the authors upon request.

Consequently, the feeling of an invasion of privacy might not arise. Thus, while generativity seems to be associated with resource loss in the form of losses of autonomy and control (see Halbesleben et al., 2014), disintermediation does not. Furthermore, we did not find the relationship of employee-perceived invasion of privacy and employee corporate entrepreneurship participation likelihood to be statistically significant. An explanation for this could be that employees accept and maybe even expect invasion of privacy as a side effect of advances in digital technologies (Ayyagari et al., 2011). Moreover, Allen et al. (2007) found that employees deem electronic surveillance at the workplace necessary and even beneficial because it protects organizations from employee dishonesty and increases employee security and productivity by promoting efficiency. Furthermore, experts interviewed did not perceive the aspect of invasion of privacy to be relevant when deciding to participate in corporate entrepreneurship, deeming perceived IT support, a participative organizational culture, and personal motivation for change as more important.

Accordingly, while in general the positive notion of digital affordances seems to dominate, our results provide some support that this does not come without cost. While generativity fosters employee-perceived IT support for innovation that enhances employee corporate entrepreneurship participation likelihood, employees still seem to feel an invasion of privacy, which might cause other negative consequences than we focused upon in our study. A future investigation of these potentially countervailing processes (resource gains versus resource losses) stemming from generativity seems warranted.

Managerial implications

Our findings may help managers and consultants to better understand the mediating mechanisms in the relationship between digital affordances and employee corporate entrepreneurship participation likelihood. Perceiving that innovative activities are supported and work overload can be reduced by the organization's digital technologies might be relevant mechanisms for fostering employee corporate entrepreneurship participation likelihood. Experts interviewed underlined this by emphasizing the importance of reducing barriers for communication and participation and providing a supportive environment for enhancing employee corporate entrepreneurship participation. This could be achieved by providing a digital infrastructure that is characterized by high generativity and disintermediation. To attain high generativity (Zittrain, 2006, 2007), organizations might install digital technologies that are cloud-based and could be accessed from a multitude of devices. Additionally, those digital technologies should be easily extensible in order to be easily integrated with other digital technologies and modifiable in order to add more functions without large effort. Moreover, they should be

intuitively usable to secure a high ease of mastery. To ensure high disintermediation, digital technologies should enable the direct and seamless exchange among employees (Autio et al., 2018) to support innovative behaviors by facilitating the collection of information and feedback and by helping them to explore and experiment with new ideas. Experts interviewed emphasized the usefulness of online knowledge repositories that can be accessed and extended by all employees, therefore encouraging knowledge sharing. Furthermore, organizations might install internal social networks or provide chat programs and feedback tools (Chow & Ng, 2016; Fieseler & Fleck, 2013).

However, we found that generative digital technology might lead to an increased concern that employee privacy could be invaded by those technologies. Therefore, we recommend organizations to create transparency about which data will be tracked or not and what happens with the tracked data. Moreover, it should be made clear that the organization has no intention to get access to employee private data and that only data that are relevant for assessing employee job performance will be saved (Alge, 2001).

Limitations and future research

Our study constitutes a first step to understand how and why digital affordances influence employee corporate entrepreneurship participation likelihood. Nevertheless, it has some limitations that offer a rich ground for future research. First, on average, our respondents were highly digital fluent. Digital fluency allows employees to choose and use digital technologies according to their goals and to understand their importance (Briggs & Makice, 2012). Consequently, digital fluent employees are better able to recognize the support and the opportunities provided by digital affordances and should be less vulnerable to their negative consequences (Chen et al., 2009). Thus, future research should validate our findings with respondents covering broader ranges of digital fluency.

Second, the specific nature of our sample might have influenced our results. On the one hand, our respondents were employees in Germany. Employee protection, work-time regulations, and attitudes toward overtime differ between countries (Wharton & Blair-Loy, 2002). As consequently the relationships between digital affordances and employee perceptions regarding work overload and invasion of privacy may differ, future studies may aim at comparing different country samples. On the other hand, although previous research (e.g., Hornsby et al., 2009; Monsen et al., 2010) provides support for the suitability of our sample and we eliminated respondents who judged our scenario to be unrealistic for them, it might be possible that some lower level employees (even though having managerial tasks) may not have full freedom to decide on whether to join corporate entrepreneurial projects. However, they might be able to perform entrepreneurial

behaviors within projects to which they are assigned (Baum & Rabl, 2019). Thus, future studies might examine the role of digital affordances regarding entrepreneurial behavior of employees within already assigned projects.

Third, as digital affordances refer to action potentials that digital technologies represent for users with certain characteristics and purposes, it is important to consider the interactions between individuals and organizations and the digital technologies they use (Majchrzak & Markus, 2013). Besides delving more deeply into the role of specific digital technologies such as, for example, narrow and general artificial intelligence (Giacomoni, 2022), future research could examine which personality traits and organizational characteristics influence the perception of digital affordances of various digital technologies and how the mediating mechanisms theorized in this study are affected by them. In this context, future research might investigate the conditions under which the different mechanisms that we identified become relevant. Insider action research (Nzembayie & Buckley, 2020) may be a promising methodological approach complementing experimental research in this area.

Finally, we used multiple theoretically derived features of generativity and disintermediation to specify the manipulations of our independent variables. Future research might delve more deeply into the facets of the manipulated digital affordances and test their respective effect (or interactions among them) in greater detail to further contribute to our understanding on digital affordances in the corporate entrepreneurship context.

CONCLUSION

Our study constitutes an initial step to enhance our understanding of the processes that emanate from digital affordances helping us to resolve the question on how and why digital affordances influence employee corporate entrepreneurship participation likelihood. Building and empirically testing a model based on COR theory that considers both enabling and hindering effects of digital affordances, we showed that digital affordances predominantly foster rather than impede employee corporate entrepreneurial activities. Generativity and disintermediation have a positive indirect effect on employee corporate entrepreneurship participation likelihood through enhanced employee-perceived IT support for innovation and reduced employee-perceived work overload. This suggests that organizations can foster employee corporate entrepreneurship participation likelihood by providing digital technologies with high generativity and disintermediation, which lead to resource gains in the form of support (e.g., IT support for innovation) and energy resources (e.g., time). These can be invested to gain additional resources by engaging in corporate entrepreneurial activities and reduce the investments required to perform such activities. Thus, the “light side”

of digital affordances seems to preponderate with regard to corporate entrepreneurial behavior, which is further supported by expert interviews emphasizing the potential of digital affordances.

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APPENDIX A: SCENARIO AND MANIPULATIONS

Please put yourself in the following situation:

The company where you work has asked you and other selected employees if you would like to participate in a new, innovative project that requires your abilities and expertise and will be conducted in collaboration with external partners. Assume that the hypothetical project is comparable in type and scope to projects your company is currently undertaking or has undertaken in the past (except for the software solution described below).

The situation requires that you act quickly and sign a new working contract if you want to participate in the project. If being successful, the project might result in a new strategic business unit or an independent spin-off of which you would then be a part. However, a project failure could possibly have a negative impact on your future career. It is intended that the project team members will remain in their respective offices.

The following cloud-based software solution is available to support the project:

Affordance/level	High/strong	Low/weak
Generativity	<ul style="list-style-type: none"> On the one hand, it is activated for all project participants and enables them to spontaneously contribute to the projects progress from everywhere (e.g., from the stationary computer, PC, smartphone). If required, it can be easily adapted and reprogrammed by the project participants. Its use is easy and possible without a long period of training. It can be combined with other programs commonly used in everyday work. It can also be extended at a later date and activated for departments and partners currently not involved in the project. 	<ul style="list-style-type: none"> On the one hand, it can only be activated for a limited number of project participants and enables only a small number of people to spontaneously contribute to the projects progress and then also exclusively via the stationary computer in your office. If required, it can only be adapted and reprogrammed by the project participants with great effort. Its use requires an intensive and long period of training. It is difficult to combine it with other programs commonly used in everyday work. It is also difficult to extend it at a later date and activate it for departments and partners currently not involved in the project.
Disintermediation	<ul style="list-style-type: none"> On the other hand, however, the software solution allows the direct interaction of all project participants so that they can immediately communicate with each other. It enables access to the databases of all departments and partners involved in the project so that required information can be retrieved directly. In addition, the software has a feedback tool that can be used to provide direct feedback on the proposals and drafts of other project participants. 	<ul style="list-style-type: none"> On the other hand, however, the software solution does not allow the direct interaction of all project participants so that all communication has to take place via the project coordinator and is then forwarded by him/her. To retrieve required information from departments and partners involved in the project, the responsible project coordinator must also be contacted first. The software only has a very poor feedback tool, so that feedback on the proposals and drafts of other project participants must also be addressed to the project coordinator.

APPENDIX B: SAMPLE EXPERIMENTAL CONDITION (HIGH GENERATIVITY, WEAK DISINTERMEDIATION)

Please put yourself in the following situation:

The company where you work has asked you and other selected employees if you would like to participate in a new, innovative project that requires your abilities and expertise and will be conducted in collaboration with external partners. Assume that the hypothetical project is comparable in type and scope to projects your company is currently undertaking or has undertaken in the past (except for the software solution described below).

The situation requires that you act quickly and sign a new working contract if you want to participate in the project. If being successful, the project might result in a new strategic business unit or an independent spin-off of which you would then be a part. However, a project failure could possibly have a negative impact on your future career. It is intended that the project team members will remain in their respective offices.

The following cloud-based software solution is available to support the project:

- On the one hand, it is activated for all project participants and enables them to spontaneously contribute to the projects progress from everywhere (e.g., from the stationary computer, PC, smartphone).
- If required, it can be easily adapted and reprogrammed by the project participants. Its use is easy and possible without a long period of training.
- It can be combined with other programs commonly used in everyday work. It can also be extended at a later date and activated for departments and partners currently not involved in the project.
- On the other hand, however, the software solution does not allow the direct interaction of all project participants so that all communication has to take place via the project coordinator and is then forwarded by him/her.
- To retrieve required information from departments and partners involved in the project, the responsible project coordinator must also be contacted first.
- The software only has a very poor feedback tool so that feedback on the proposals and drafts of other project participants must also be addressed to the project coordinator.

APPENDIX C: ITEMS USED FOR THE MANIPULATION CHECK

Construct	Items
Generativity	This software allows unprompted innovative input from all project participants. This software enables all project participants to spontaneously and innovatively contribute to the project.
Disintermediation	The software allows to directly and seamlessly communicate with other project participants without being dependent on project coordinators. The software supports direct interactions between all project participants without having to fall back on project coordinators.

Note: A five-point Likert-type scale ranging from 1, *does not apply at all*, to 5, *fully applies*, was used for both constructs.

APPENDIX D: ITEMS AND FACTOR LOADINGS

Construct	Items	Factor loadings
Employee-perceived ease of effort	This software would help me save a lot of effort for collecting information and feedback.	0.80
	With the help of this software, it would be easy to collect information and feedback.	0.89
	With the help of this software, it would be easy to exchange information and feedback.	0.93
Employee-perceived exploration	This software would enable me to extensively explore new knowledge and ideas.	0.82
	This software would help me explore other project participants latest ideas.	0.82
	With the help of this software, I could experiment with new ideas.	0.73
Employee-perceived work overload	Using this software would create many more requests, problems, or complaints in my job than I would otherwise experience.	0.41
	I would feel busy or rushed due to using this software.	0.88
	I would feel pressured due to using this software.	0.85
Employee-perceived invasion of privacy	I would feel uncomfortable that my use of this software could be easily monitored.	0.78
	I would feel my privacy could be compromised because my activities using this software could be traced.	0.87
	I would feel my employer could violate my privacy by tracking my activities using this software.	0.88
	I would feel that my use of this software would make it easier to invade my privacy.	0.82

(Continues)

Construct	Items	Factor loadings
Employee digital fluency	I am able to achieve requested results through using digital technologies.	0.81
	I know potential application possibilities of digital technologies.	0.80
	I see digital technologies as a chance.	0.65
	I am confident in using digital technologies.	0.75