Mechanisms of Engagement With, and Disengagement From, Internet Applications: A Qualitative Study of Online Job Search

Completed Research Paper

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Abstract

In the context of increasing digitization and persistent digital inequality, scholars have sought to uncover the mechanisms that explain why people engage with, or disengage from, internet applications. We provide a new vantage to this conversation by conducting a qualitative study among 16 job-seekers in Germany who differ in how they use online job search applications. Enfolding coping and capital theory in our emerging understanding, we develop a dynamic perspective of how an individual's resources—social capital, cultural capital, and habitus—as well as further contextual factors—perceived risk and trust in social capital—determine the appraisal and the decision to use internet applications or to abandon them. Our model suggests social capital plays a more important role in engaging people with internet applications than portrayed in previous studies. Our research carries important implications for information systems scholars and for policy makers seeking to bridge digital divides.

Keywords: Online job search, digital labor market, coping theory, capital theory, digital inequality, ICT adoption, ICT use, ICT avoidance, ICT resistance

Introduction

As more and more aspects of people's lives shift online, scholars have voiced concerns that engagement in digitization is becoming a prerequisite for full participation in society (Hargittai 2003). In particular, researchers have described "digital inequality" (DiMaggio et al. 2004; Robinson et al. 2018; van Deursen et al. 2017), i.e., the phenomenon that social inequalities may be amplified, rather than mitigated, through digitization because certain individuals profit less from digital opportunities due to limited access and limited abilities to use information and communication technologies (ICT). The persistence of digital inequality is problematic because internet applications are increasingly implemented in almost all areas of social interaction and enhance or even substitute offline services (Riggins and Dewan 2005). For instance, research has shown that people who lack the motivation or the ability to engage with internet applications, such as automated price comparisons and financial information websites, often face

imminent social and economic repercussions (Buhtz et al. 2014; Hargittai and Hinnant 2008). As such, it is imperative to understand why and how individuals engage with internet applications (Hsieh et al. 2011; Kvasny and Keil 2006; Yuen et al. 2018).

In this vein, information systems (IS) scholars have developed a wide range of models to explain human behavior towards technologies (see Venkatesh et al. 2003 for an overview), many of which draw on prominent concepts from the social and behavioral sciences. In line with calls from scholars to investigate alternative theoretical perspectives on technology acceptance (Venkatesh et al. 2007) to broaden the field's understanding and account for a wider constellation of behavioral responses (Schwarz and Chin 2007), researchers have, for example, applied capital theory and coping theory.

Capital theory assumes that human behavior is explicable through people's access to, or lack of, resources such as education, knowledge, skills, social support, and economic means (Becker 1975; Coleman 1990; Portes 1998; Schultz 1961). IS scholars have successfully adopted capital theory to explain individual differences in internet use (Kvasny and Keil 2006; Yuen et al. 2018). Hsieh and colleagues (2011), for example, found that socio-economically different individuals also differ in their use of internet TV because, among other factors, they have less access to cultural capital.

Coping theory, in contrast, posits that individuals deal with arising internal and external demands through a two-step cognitive process of appraisal and coping effort (Lazarus 1966; Lazarus and Folkman 1984). Ultimately, this process determines whether they cope with a situation by engaging or disengaging. IS research has used coping theory as a lens for exploring user adaptation of new technologies in mandatory (Beaudry and Pinsonneault 2005; Bhattacherjee et al. 2018) and quasi-mandatory settings (Beaudry and Pinsonneault 2010). For example, Ortiz de Guinea and Webster (2013) find that individuals appraise expected and unexpected IT difficulties differently and cope through distinct emotional, cognitive, and behavioral reactions, some of which occur as part of an automatic and others as part of an adaptive response. Relatedly, Stein et al. (2015) find that the adaptation strategies of IT users depend on the emotions they experience in response to IT stimulus events.

While both capital theory and coping theory have yielded great insights, surprisingly few attempts have been made to synthesize the two to gain a more comprehensive understanding of user engagement with internet applications. Capital theory has proven to be particularly suitable for capturing individual dispositions and available resources that influence user engagement (Hsieh et al. 2011) but is limited in its ability to understand engagement with an internet application as a dynamic, evolving process. Coping theory takes precisely such a dynamic view, acknowledging that the "appraisal process is *constantly operative*, with evaluations being continuously performed to update the organism's information on an event or situation" (Scherer 1999, p. 648). Coping theory can meaningfully complement capital theory to capture the multi-faceted and dynamic nature of people's (dis-)engagement with internet applications. As such, we propose that only if we combine the two views will we be able to fully understand how the dynamic cognitive processes that unfold in individuals in the context of internet applications interact with the various influencing factors stemming from individuals' resources, and how and why, as a result of these interactions, individuals differ with regard to their (dis-)engagement with internet applications.

We seek to address this research gap by conducting qualitative inductive research of individuals' (dis-) engagement with internet applications in the context of online job search (Spina et al. 2017). We develop a model of the interactive effects of coping mechanisms and individual capital resources on (dis-)engagement. The model allows us to better understand how capital resources and coping mechanisms jointly determine whether or not an individual successfully engages with an internet application. Most importantly, our emerging theory suggests that social capital has a substantial impact at all stages of the appraisal process and can make the difference between engagement and disengagement.

Our study primarily contributes to the ongoing debate on a richer conceptualization of technology use (Barki and Benbasat 2007; Burton-Jones and Grange 2013). In contrast to extant research, our model explicitly incorporates the dynamic nature of use while capturing the individual and contextual factors influencing it by integrating both coping and capital theory. Further, we challenge extant notions on the importance of different capital resources by highlighting the substantial role of social capital and by introducing a more differentiated perspective on internet skills. In addition, our study contributes to digital inequality research by identifying the factors that lead to critical outcomes such as involuntary digital exclusion (Hargittai and Hinnant 2008). Finally, our research has implications for public policy.

Theoretical Background

Capital Theory and Engagement with New Technologies

Social scientists use notions of capital—i.e., the accumulated and objectively available resources held by an individual (Bourdieu 1986)—to explain human behavior within societal structures (Becker 1975; Coleman 1990). In this, scholars view capital and its distribution as the set of constraints under which society and individuals act (Bourdieu 1986). As put forth by Bourdieu (1986) and Coleman (1990), apart from economic capital, two forms of capital are particularly notable from a sociological perspective, namely cultural and social capital.

"Cultural capital" (in its embodied state) is defined as resources that are internal to individuals in the form of skills, knowledge, and capabilities that enable human activities (Coleman 1990). While cultural capital may also take, for example, objectified forms such as machines or books, the proper use of these objects always presupposes access to embodied cultural capital, either in person or by proxy (Bourdieu, 1986). Furthermore, cultural capital may also take an institutionalized form, e.g., as academic credentials (Bourdieu, 1986). Again, this form of cultural capital rests, at least to a degree, on the presence of cultural capital in an embodied state. For the remainder of this paper, we thus focus on the embodied state of cultural capital.

"Social capital," in contrast, commonly refers to the "resources embedded in a social structure that are accessed and/or mobilized in purposive actions" (Lin 2004, p. 29). Such social structures can consist of, for instance, relatives, friends, or social institutions. Social capital, however, is not merely the presence of such people or institutions, but it is embedded in the relationships with these people and institutions. For example, social capital can take the form of norms, of obligations or expectations, or that of the information channels opened up by relationships (Coleman, 1988).

In addition to cultural and social capital, sociologists also recognize an individual's disposition—or "habitus"—as a key differentiating psychological resource for human behavior, and thus, as a type of capital (Bourdieu 1990; Henry 2004). Note that Bourdieu (1986) explains that cultural capital and habitus are intimately linked as embodied cultural capital can become an integral part of the person possessing it, and thus enter the person's habitus. In particular, habitus encompasses the dispositions inculcated in a person by family and members of its social class.

IS research has borrowed and adapted constructs from capital theory, and particularly forms of cultural and social capital, under the premise that ICT use, similar to other human behaviors, is subject to capital constraints (De Haan 2004; Rogers 2003). Specifically, scholars view an individual's general disposition or habitus towards ICT as one of the central determinants of an individual's tendency to engage with ICT (Davis 1989). For instance, Davis et al. (1992) found that perceived usefulness and enjoyment significantly determine the intention to use, and usage of, computers in the workplace. In addition, researchers have shown that the notion of cultural capital is indispensable for understanding *how* individuals use ICT. For example, Kvasny and Keil (2006) find that deficiencies in skills, knowledge, and competencies limit an individual's ability to use cultural goods like ICT in the manner demanded by labor markets, governments, corporations, and other institutions. Other ICT scholars have extended the notion of cultural capital to also include resources such as individual confidence and self-efficacy (Hsieh et al. 2011). These researchers found, for example, that such capital empowers an individual to activate available knowledge for action (Reay 2004). Furthermore, social capital and related constructs, such as subjective norms, feature prominently in research on technology use (e.g., TAM, UTAUT) (Davis 1989; Venkatesh et al. 2003; see Graf-Vlachy et al. 2018 for a review). Overall, ICT research portrays habitus, cultural capital, and social capital as influential in people's engagement with ICT (Hsieh et al. 2011; Kvasny and Keil 2006; Yuen et al. 2018). Economic capital, which for a long time has reduced many people's access to ICT (De Haan 2004), has become less of a bottleneck for ICT consumption, at least in developed countries.

Coping Theory and Engagement with New Technologies

Psychologists developed the cognitive-phenomenological theory of stress and coping (Coyne and Lazarus 1980; Lazarus 1966; Lazarus and Folkman 1984) to explain how and why individuals vary in their

adaptation efforts when responding to a given change in their environment. Lazarus and Folkman (1984, p. 141) define coping as the "cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person." Coping considers the interaction between the individual and the situation as a dynamic process, which can evolve and change as a result of developments in the individual's behavior and the situation (Carver and Scheier 1994).

Coping theory identifies two sub-processes of the coping process, namely the cognitive appraisal of a situation, and the coping itself. The cognitive appraisal process comprises a primary and a secondary appraisal. In the primary appraisal, individuals assess if a change in the environment is of personal relevance to them and how they would be affected (Lazarus 1966; Lazarus and Folkman 1984). An individual can appraise a specific event in three ways: (1) as irrelevant, if the person perceives the event as not having any implications for the own well-being; (2) as a potential threat, if the individual fears to be harmed; or (3) as an opportunity, if the individual construes the event as potentially positive. However, changes in the environment can be multi-faceted and comprise aspects of all possible primary appraisal outcomes. In the secondary appraisal, individuals assess what can be done to cope with the situation given the individual resources available. In other words, individuals evaluate their social, cognitive, psychological, physical, and financial resources and determine the level of control they feel to have in the situation. This perceived level of control influences the coping efforts exerted by the individual.

After the cognitive appraisal, individuals engage in coping efforts, i.e., they take actions to deal with the change in their environment. While a vast range of specific coping strategies have been studied by psychologists (Scherer 1999), coping efforts are often categorized as engagement and disengagement strategies (Skinner et al. 2003). Engagement strategies refer to actions taken by an individual that aim at reducing the person-environment tension by changing the situation itself. On the contrary, disengagement strategies comprise actions taken by an individual that aim at regulating emotional distress by changing one's perception of the situation without changing the situation itself (Gutiérrez et al. 2007). Depending on the cognitive appraisal of the situation, coping efforts can range from escaping the situation—e.g., through strategic ignorance (Merton 1987)—to making an effort to adjust to the situation—e.g., by seeking support in order to embrace new routines (Carver and Connor-Smith 2010).

IS research has thus far mainly employed the process-oriented approach of coping theory to better understand individual adaptation to newly introduced technologies in an organizational context (Stein et al. 2015). For example, coping theory has been used to study managers' avoidance of IT threats (Liang and Xue 2009) and the adoption of anti-malware (Lee and Larsen 2009). The dynamic perspective of coping theory makes it particularly suitable to study complex individual use patterns that span an extended period of time, such as (dis-)engagement with a new technology. Coping theory has also proven to be an insightful lens to explain individual behavior in both mandatory (Bhattacherjee et al. 2018) and quasi-mandatory settings in which individuals are not forced but expected to make use of a new technology (Beaudry and Pinsonneault 2010).

The Interplay of Coping Processes and Capital

Within both coping and capital theory, interactions play an important role. Coping theory captures the constant interaction between the internal and external demands placed on an individual, its resources, and its cognitive processes to cope with these demands. It acknowledges the dynamic and resource-dependent nature of coping by allowing for constant re-appraisals of the situation (Lazarus 1966). In capital theory, one of the most intriguing features is the notion of conversion, which posits that one type of capital can be converted into or enhance another type (Bourdieu 1986; Coleman 1990). For example, cultural capital can be enhanced through the resources accessible through an individual's social network: users who lack the skills or competence to engage meaningfully with an internet application may overcome this barrier by receiving support from someone in their social network. In other words, different forms of capital do not act in isolation but rather interact with each other.

In precisely this vein, there has been a call for more research to understand how internet users leverage and convert their existing capital resources into the forms of capital that are particularly instrumental for their engagement with internet applications (Hsieh et al. 2011). In isolation, neither capital-theory-based approaches nor coping-theory-based approaches can provide answers to questions like '*Which types of capital play a role at what stages of the engagement process*?' While capital theory acknowledges that resources may change over time, it does not explicitly capture the dynamics inherent in the way the

availability of resources guides the social-cognitive process of engagement. Within coping theory, the influence of resources on the coping process has been widely acknowledged (Lazarus and Folkman 1984). For example, within the secondary appraisal phase, an individual under stress may evaluate his or her competence, social support, and the material resources at hand to readapt to the circumstances and to reestablish an equilibrium between her-/himself and the environment (Schwarzer and Luszczynska 2012). But—in contrast to other research domains such as healthcare (e.g., Folkman 1997)—ICT research has not yet illuminated how resources and coping processes interact dynamically. This is particularly noteworthy because IS research in general, and user engagement research specifically, have previously benefited from applying the process-oriented lens of coping as a complement to prevalent theories such as technology acceptance theory (Beaudry and Pinsonneault 2005) and the study of technology use patterns (Ortiz de Guinea and Webster 2013). In summary, there is a need to search for an integrated understanding of (dis-)engagement that captures both the interaction between the dynamic cognitive processes and the various influencing factors that stem from an individual's capital resources to answer why and under which circumstances people engage with, or disengage from, internet applications.

Methodology

Given the exploratory, process-oriented character of our research question and the complex and ambiguous nature of the mechanisms leading to (dis-)engagement (Selwyn 2003), we employ a theory-informed qualitative process-focused case-research design (Langley 1999; Yin 2003). In this, we follow Conboy et al. (2012, p. 117), who emphasize the ability of qualitative research to "extract key information [...] from a highly complex, uncertain, turbulent, multi-faceted context."

Case Study Context: Job Search in the German Labor Market

To induce an integrated middle-range theory of the cognitive processes around (dis-)engagement with internet applications, we studied how job-seekers in Germany used internet applications for their job search. The context of online job search is a uniquely suited empirical setting for our study for at least four reasons. First, job search has dramatically changed over the last decade (Kuhn and Mansour 2014) and the shift online confronts individuals with the need to cope with internet applications. While around 40% of open positions in the 1000 largest German companies were advertised in print media in 2003, this number decreased to 12% in 2014 and most companies now use online channels to advertise open positions (Weitzel et al. 2015). In addition, unemployed persons who search online are re-employed about 25% faster than those who search only offline (Kuhn and Mansour 2014). Second, online job search constitutes a unique opportunity to study a critical case of people's (dis-)engagement with internet applications, since individuals are highly involved and typically suffer from stress and uncertainty given the social and economic consequences of unemployment—circumstances under which coping plays an important role. Third, the process of searching for a job search spans an extended period and as such promises to reveal intra-individual variance in cognitive appraisals and outcome-dependent re-appraisal processes. Fourth, the German Federal Employment Agency (FEA; "Bundesagentur für Arbeit") plays a central role in the job search and placement process and is in personal contact with every individual who is unemployed or is facing unemployment. This provides an excellent opportunity to study the influence of institutional social capital, i.e. social capital stemming from relationships between a focal individual and institutions, on user engagement.

There are three main types of online job search applications: (1) *Company homepages*, which job-seekers use to look for advertised open positions, to search for information about potential employers, and to directly apply for a job. (2) *Online job portals*, which job-seekers visit to search for posted job offers or to post a "want" ad themselves. Job-seekers can narrow down their search using filter mechanisms, e.g., to focus on specific professions or locations. (3) *Online social networking sites*, which job-seekers may use to search for jobs and to network with prospective employers. Most prevalent are professional social networking sites such as LinkedIn or Xing, but companies are also increasingly using social networking sites such as Facebook and Twitter to raise awareness for open positions.

While the online channel plays an increasingly important role in job search, offline channels such as print media, personal connections, and the FEA still matter. The FEA is a particularity of the German labor market. It acts as an agent between individuals seeking a job and employers seeking to fill open positions. Individuals who become or are likely to become unemployed in the near future are obliged to attend a

consultation meeting with an employment agent and fulfill certain requirements, e.g., send out a minimum number of applications per month, in order to be eligible for financial aid. Conversely, companies can inform the FEA about open positions. Beyond traditional offline services, the FEA offers a comprehensive online job portal, the possibility for job-seekers to publish a professional profile online, and a range of job-search-related information on its homepage.

Data Collection

We collected a diverse set of data–comprising interviews, experience from trying out online job search applications ourselves, on-site observations, and archival data–over a period of nine months from August 2014 to April 2015. The multiple data sources served to triangulate and improve the trustworthiness of our analyses (Miles et al. 2013; Yin 2003). First, we gathered statistics on the German online labor market and interviewed a recruiter of a large German company to gain an overview of the online job search applications used by employers. We then obtained additional information about specific applications by trying out the systems ourselves. A visit to the FEA and a face-to-face interview with one of the employment agents, which included a system demonstration, led to a good preliminary understanding of the interaction between the FEA and job-seekers as well as the kind and amount of information conveyed in a consultation meeting. We complemented this information by studying the FEA's online job portal user manuals. Trying out internet applications ourselves and personal encounters with the FEA provided us with rich information as it allowed us to immerse ourselves in the situation of searching for a job.

Second, and central to our data collection efforts, we conducted semi-structured interviews with 16 individuals who were currently or had recently been looking for a job. In line with Patton (2002), we used an interview guide approach because it ensures systematic data collection while remaining open for emergent themes. All interviews were audio-taped and lasted 45-60 minutes. The interview protocol asked the interviewees to walk us through their experience of searching for a job and we sought to minimize informant recall bias by using anchor questions (Hufnagel and Conca 1994).

A criterion-based purposeful sampling (Patton 1990) was used for this study in that we selected only participants who were currently or had recently been seeking a job to maximize information-rich cases (Patton 1990, p. 169). Following Miles et al. (2013) and Yin (2003), we tried to maximize variation by sampling participants from different educational backgrounds, age groups, genders, and urban/rural areas. For example, Josh (29) had been released after five years in prison and was in the process of seeking an apprenticeship to become an electrician in Berlin, while Lisa (59) had lost her job at the age of 57 and was struggling to find a position as an office clerk around rural Düren. We identified prospective interviewees by waiting in front of branches of the FEA and approaching individuals leaving the building. Sampling was done iteratively (Miles et al. 2013) to allow challenging any emerging patterns in the data (Strauss and Corbin 1990). Interviews were conducted and simultaneously analyzed until additional interviews only repeated already identified themes, indicating theoretical saturation (Yin 2003). All interviews were transcribed *in vivo*, yielding 182 pages of field notes.

Data Analysis

Content analysis was conducted in an iterative process based on coding techniques proposed by Strauss and Corbin (1990). This approach enables the researcher to verify existing theoretical concepts and to discover newly emerging concepts at the same time (Lincoln and Denzin 2000). Coding was conducted in two steps: open coding and axial coding. First, in the open coding phase, transcripts were analyzed line by line and coded based on an *a priori* developed coding book informed by the theoretical constructs of coping and capital theory (Strauss and Corbin 1990). This was combined with a purely inductive open-ended analysis, allowing for new themes to emerge. As proposed by Miles et al. (2013), two of the researchers coded of interviews independently from each other and compared their results. On average, inter-coder reliability between the two raters was 92%. In total, 53 deviating classifications were discussed and resolved. This approach was repeated for each set of interviews throughout the complete coding process to ensure full inter-coder agreement. Second, "axial coding" was applied to disaggregate and reassemble data in order to identify and corroborate relationships between and within categories (Strauss and Corbin 1990, p. 96). To establish these relationships—e.g., context conditions and causal conditions—we grouped codes in categories around emerging relational themes and identified linkages through what Langley calls the "grounded theory strategy" of process theory (1999, p. 699). Since interviewees were

typically themselves not always acutely aware of causal relationships in their decision processes on the use of internet applications, we followed Langley's call to "make sense whatever way we can" (1999, p. 708) in establishing relationships between themes and categories. The coding assignment was continuously revised, abstracted, and consolidated in an iterative process until full inter-code agreement was achieved on all dimensions. The entire coding process generated a total of 656 coded *in vivo* quotes, 239 first-order codes, and 48 second-order codes clustered within eight overarching categories.

Results

Figure 1 visualizes our emerging theory on the effects of coping mechanisms and individual capital on (dis-)engagement with internet applications. Below, we present our model along the steps leading to engagement or disengagement. We start by illuminating an individual's appraisal of internet applications, which begins with awareness and is followed by primary and secondary appraisal. We then focus on coping, outcomes, and re-appraisal of internet applications. Furthermore, we discuss how an individual's trust in social capital moderates the influence of social capital on the appraisal of internet applications. At each stage, we illuminate the emerging relational themes between extant coping and capital theory constructs and, where applicable, present additional factors induced from the data, such as perceived risk. It should be acknowledged that, in practice, the different stages of the coping process, in particular the appraisal phase, are not always explicitly distinct but rather part of a fluid and iterative cognitive process. Furthermore, in the interest of clarity, we present the results in a relatively deductive style even though they were generated inductively (Gioia and Chittipeddi 1991).

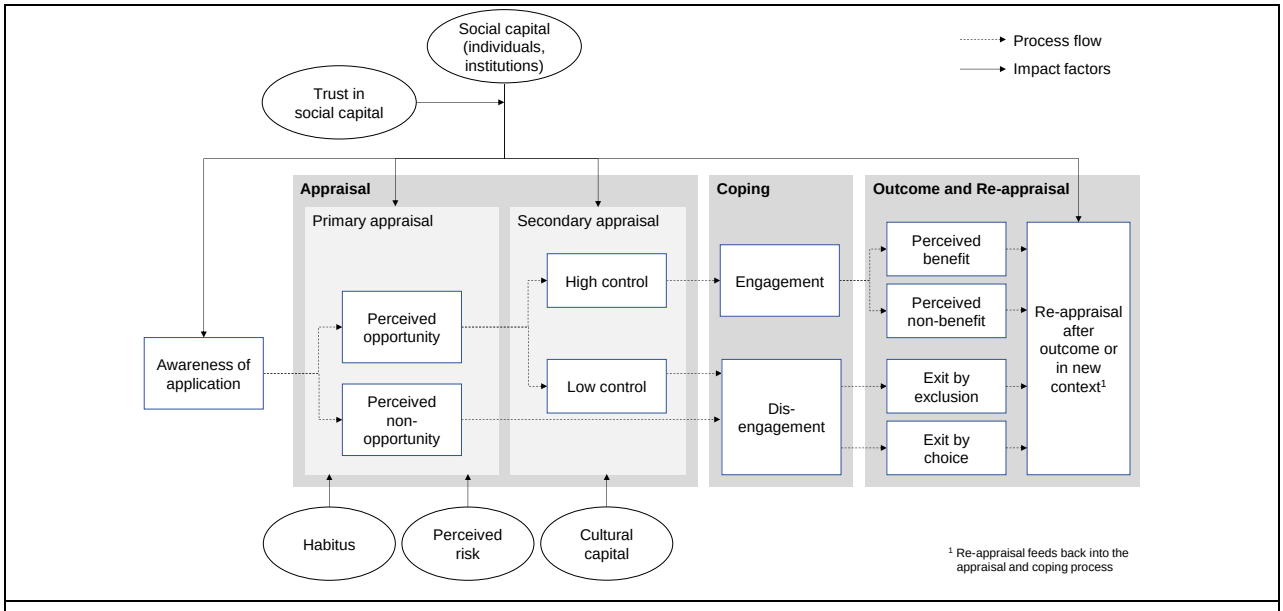

Figure 1. A Model of (Dis-)Engagement with Internet Applications

Awareness of Internet Applications

Awareness of internet applications is a prerequisite for appraising an application as an opportunity or a non-opportunity. Interestingly, we observed that the degree of awareness for online job search applications differed greatly between our interviewees. For instance, Pete, a graphics project manager, was aware of a wide range of job portals such as monster.de and professional networking sites such as Xing and was well informed about the differences between these applications. He noted, *"There are really different offers on Morgenpost.de compared to Gigajobs.de, that's why I use them both [...] and I also use the 'Eye,' a highly specialized site in the field of web design."* In contrast, Josh, who wants to become an electrician, was aware of Google but not of any specifically job-related internet applications.

Our interviews indicate that limited awareness not only constrains people's consideration set, but it may also affect their primary appraisal. In this regard, we found that some respondents, because they were

only tangentially aware of online job search applications, drew inadvertent conclusions about their usefulness. Matt, for instance, knew little about the professional networking site Xing and, based on this limited information, believed that it was not suitable for him as a "*young professional directly from college with little experience*." He did not recognize that Xing actually is a professional platform for both young and experienced professionals, misleading him to believe that it was not an opportunity for him.

There were two main sources of awareness for the interviewees, namely the interviewees themselves and their social capital. Some interviewees became aware of internet applications out of a combination of their own active search efforts and serendipity. Dave, for example, became aware of a specialized job portal for front-end developers by *"stumbling on some blog posts which mentioned that people tweet jobs […] Then, I looked on Twitter for jobs and found this job portal."* In contrast, others—the majority in fact—highlighted the crucial role of social capital—their family, friends, and peers, as well as educational and employment institutions—for making them aware of online job search applications. This was particularly the case for interviewees who lacked the motivation or ability to search for new applications by themselves. For example, Judy was unemployed for the first time and only knew a few online job search applications. Consequently, she relied heavily on support from friends, which is how she became aware of eBay Classifieds as a search tool: *"I didn't know about it beforehand. I heard about it from a friend, who said: Why don't you look on eBay Classifieds? I would never have thought of it myself, to be honest."*

Intriguingly, our findings also indicate that social capital is not exclusively beneficial but in fact a double-edged sword. Some interviewees noted that the people in their social network could not help them in using online job search applications. Henry, for example, talked with colleagues about his difficulties in finding a job as a car salesman but explained that they *"only had the same ideas"* as himself. Since Henry's social capital resembled "bonding capital," stemming from relationships only within a closely-knit community, rather than "bridging capital," originating in relationships beyond one's immediate community, it might have helped him to "get by" but was not particularly helpful to "get ahead" and find a new job (Gittell and Vidal 1998; Woolcock and Narayan 2000). In other words, our findings suggest that the more the awareness structure in someone's social capital resembles his or her own, the less likely it is that the individual will receive new stimuli as a result of social capital (McPherson et al. 2001). Additionally, institutional social capital, which could be expected to act as bridging capital and counter this effect, often further limited opportunity considerations. John, for example, voiced his disappointment that the FEA *"only recommends its proprietary job portal"* and failed to inform about the breadth of online job search options available. We found that this tendency had a particularly strong impact on individuals who relied heavily on the advice from institutions like the FEA and whose awareness and subsequent engagement was almost exclusively determined by, and limited to, the impulses they received.

In summary, awareness of internet applications not only varies among individuals but also impacts the primary appraisal, particularly by limiting the consideration set. Moreover, it is not just the individual itself but, more importantly, social capital that can determine awareness of online applications. The role of institutional social capital is especially critical as individuals with homogeneous social capital networks can only get new impulses from social capital outside of their network (McPherson et al. 2001). Because institutional social capital has a formal role and individuals perceive it as highly legitimate to follow advice coming from it, institutional social capital can become dysfunctional if it creates awareness only for a small set of applications.

Primary Appraisal of Internet Applications

Two main categories of primary appraisal emerged from our interviews: *perceived opportunity* and *perceived non-opportunity*. Individuals who perceived an online job search application as appropriate, interesting, or useful considered it as an opportunity, which means that their engagement depended on their subsequent secondary appraisal. Conversely, individuals who did not perceive an application to be relevant appraised it as a non-opportunity and disengaged. Our interviewees mentioned three factors that particularly influenced their primary appraisal as a perceived opportunity or non-opportunity: habitus, perceived risk, and social capital.

Individual habitus comprises the perceived usefulness of an internet application and the anticipated degree to which individuals enjoy using an internet application, i.e., their hedonic evaluation. Habitus influenced the primary appraisal of job search applications, first, in that all respondents appraised an application based on how useful they thought it would be for their job search. Second, some respondents

also considered hedonic aspects in their appraisal. Pete, for example, was willing to pay extra for a premium account on a professional networking site because he perceived the additional information he could access and the messaging service as enjoyable. Referring to the job portal Stepstone, he noted, "*I like the forwarding option [...] and what was cool was that when you click on a job, you are shown other, similar positions.*" In their appraisal, active respondents like Pete often compared different applications to determine which they found more useful or enjoyable. This implies that the set of applications that a job-seeker is aware of determines the frame of reference within which he or she appraise applications as opportunity or non-opportunity.

Perceived risk emerged as a second factor for primary appraisal. Matt, for instance, recounted how he searched for a job on several job portals that seemed promising but required a free registration to access the job postings. He decided not to pursue them further because "*I was bothered by the personal data that I had to provide at the start [and because] I didn't want to disclose all my personal information*." Our observations indicate that all but two respondents were concerned about data security issues. Individuals who generally disliked sharing personal data online were particularly sensitive to this aspect and more likely to appraise an application as a non-opportunity if it required them to provide data. Another factor that respondents were concerned about was the reliability of online job ads. In particular, some respondents had bad experiences with ads that were not up-to-date and, in turn, they gravitated towards viewing job portals as a non-opportunity for they provided imprecise or incomplete information.

More strongly even than habitus and perceived risk, the primary appraisal of online job search applications was impacted by social capital. In fact, most respondents relied on input from their social network, particularly when appraising a new application for the first time. Our data indicates that the more proximate and tangible an individual's social resources, the stronger their influence on the primary appraisal. Mike, for example, decided to try out the FEA job portal because *"it's what everyone knows, [...] it's what everyone uses,"* thereby following subjective norms of his social environment. Beyond this, many interviewees indicated that actual positive experiences with the application by relatives and friends had an even greater effect. Lisa, for instance, decided to try out a professional networking site after she *"heard from a friend who tried it and found a job through it."* Similarly, Matt explained that he had "*some friends [who] use Xing, and one friend even received a top job offer through it,"* which led him to appraise it as an opportunity, and Kevin followed the suggestions of a friend who "*explained the whole [online job search] system to me and told me: You can look here and then try this [portal]."*

As with awareness, the influence of social capital seemed to be not uniformly positive. In this context, Pete acknowledged that *"most of [his] friends and acquaintances use the same [online job search] strategies as [him],"* which is why he did not rely on them for new impulses but rather tried to find his own way. Respondents who relied strongly on the advice they received from others ran the risk of being limited by that advice. Judy, for instance, considered only those three applications as opportunities that were explicitly recommended to her by the FEA and a friend, thereby limiting her consideration set: *"I really just used the three platforms I mentioned: Google, the FEA portal, and eBay Classifieds.*"

In summary, our findings indicate that the primary appraisal of an internet application is determined not just by habitus but also by perceived risk and social capital. Perceived risk may overcompensate for positive aspects like perceived usefulness and enjoyment and lead an individual to appraise an application as a non-opportunity. More interestingly, social capital seems to play a pivotal role in determining which applications potential users perceive as an opportunity, even beyond what can be explained by subjective norm. It may, however, not only extend but also limit the set of applications that is appraised positively.

Secondary Appraisal of Internet Applications

Besides appraising whether they considered an internet application an opportunity for their job search, our interviewees also assessed the degree to which they perceived they could exert control over the application. Henry, for example, felt confident about compiling documents and sending out online applications and noted *"that is easy for me,"* but he struggled to navigate multiple job portals and to *"find fitting job postings in this excess supply."* The interviews revealed that the interviewees primarily referred to two forms of capital when assessing their degree of control over an application: first, cultural capital comprising medium-related skills, content-related skills and self-efficacy; and second, social capital.

Secondary Appraisal and Cultural Capital

Medium-related skills encompass basic operational skills, such as operating a browser or search engine, as well as formal skills, such as the ability to navigate within and between websites by using hyperlinks and menus (van Deursen and van Dijk 2011). Interestingly, it emerged from the interviews that only very few participants did not dispose of the required medium-related skills to formally operate various online job search applications. In other words, medium-related skills did not seem to be an inhibiting factor, but they allowed most interviewees to gain a certain feeling of control over simple applications and tasks.

In contrast, when it came to not just formally operating, but effectively *using* online job search applications in a goal-oriented manner, content-related skills emerged as a crucial factor in determining how much control the interviewees perceived. Content-related skills comprise information skills, such as defining meaningful search queries and evaluating information, as well as strategic skills, that is, the ability to efficiently and effectively take advantage of internet applications to reach a particular goal, such as finding job (van Deursen and van Dijk 2011). The interviews highlighted the critical role of these content-related skills for being able to navigate the multiple opportunities of online job search. Many respondents reported that they valued the increased range of options provided by online job search applications, but they also felt that this had made the job search increasingly complex. Pete, for instance, struggled with the multitude of job ads available on the job portal Stepstone: *"I find myself sitting in front of Stepstone for over an hour and I feel like it's not getting better. I feel like it's getting more and more complex.*" Similarly, Paul, a social worker, noted that he found it "*very difficult to filter out the really fitting job postings*" amongst the wealth of postings his search queries returned. The interviews highlighted that the sheer amount of information available online requires an ability to keep an overview and to intelligently select and assess the options at hand.

Our observations indicated that particularly interviewees with limited content-related skills easily felt confused and overloaded in their online job search, which led to frustration and ultimately disengagement. Those who lacked the ability to actively steer their online job search process tended to get lost in the sea of information and options and spend a lot of time drifting aimlessly without getting to any results. Cait, for example, reflected that even though she perceived online job postings as an opportunity, she was unable to effectively make use of them: *"I am interested to see what's on offer online, so I start looking, and I look a lot. I think it's good that it exists, but I have trouble disciplining myself. I can completely lose myself."* Because she was unable to gain control of the situation she eventually disengaged and retreated to using only those few applications she felt comfortable with.

Finally, our interviews showed that self-efficacy can act as a differentiating factor and compensate for, or enhance, the impact of skills. In our coding, we use the term "self-efficacy" (Bandura and Locke 2003) to denote an individual's belief in his or her ability to use an internet application. We observed that respondents who lacked the medium- or content-related skills to leverage an application were able to overcome this limitation if they had high self-efficacy. Conversely, respondents with low self-efficacy felt inhibited to try an application despite potentially having the skills to do so. For instance, Anna exhibited rather limited skills, but this did not stop her from exploring new applications: *"I am still trying to figure out what I can use. From time to time I just go to the FEA site and look for occupational re-trainings or even just educational offers like an English course*."

Secondary Appraisal and Social Capital

Importantly, our findings suggest that social capital can also have a critical impact on secondary appraisal, particularly by changing a feeling of low control to one of high control. Tom, for instance, struggled with the online application process for a position but did not disengage because he had friends to support him: *"I found it too complicated, I couldn't get to grips with it myself, so I mostly did it together with friends.*" Apparently, in cases like Tom's, social capital compensates for an individual's low cultural capital by providing an external source of knowledge and support. Interestingly, we observed that in some cases *theoretical* access to social capital sufficed to secure engagement. For example, when asked to reflect on whether he would be able to send out an online application, Mike did not immediately reject the idea—despite not knowing how to go about it—because he knew whom to ask for help: *"I think I would ask my dad. I think he would be able to help me because he uses computers a lot at his work*."

Our observations indicate that institutional social capital takes on a particularly important role where personal social capital, such as family and friends, is limited. Respondents with high control of their online job search or personal networks that offered help did not need and typically did not seek institutional support. In contrast, many respondents with low control and personal networks that could not offer much help wished for stronger institutional advice in terms of which job portals to search on or how to create a professional profile. Lisa, for instance, had hoped to receive more guidance from her employment agent: *"When [the FEA agent] tells you 'Here is a list, you need to send out 20 applications, five a week, just look them up and give them a call,' I find that too little help. That's not enough."*

As is the case for primary appraisal, social capital can have not just functional but also dysfunctional effects in secondary appraisal. By facilitating the online job search process through taking over tasks rather than supporting capability building, institutional social capital can promote dependency. Many respondents indicated that they would have preferred to get enabled and *"leave the institution with the feeling that you can go home, sit down, and know where to look and what to do"* (Lisa) rather than have institutions take over the tasks for them. In some cases, the expectation of help from and reliance on institutions was so strong that individuals became very passive in their own (online) job search, as was the case for Judy: *"Maybe I should have done something completely different, […] but the employment agent didn't mention anything. So I thought: Ok, it's probably not possible. […] It was a bit naive."*

In summary, individuals' perception of control emerging from the secondary appraisal is largely determined by content-related skills and self-efficacy, whereas medium-related skills matter but are widely prevalent to a sufficient degree among interviewees. Interestingly, social capital can compensate for an individual's limited skills or self-efficacy by giving advice, teaching, and constituting a (theoretical) fallback option for support, thereby frequently translating a feeling of low control into one of high control. In the case of institutional social capital, however, there seems to be a fine line between facilitating online job search and promoting dependency by taking over tasks for the individual.

Coping, Outcomes, and Re-Appraisal of Internet Applications

Based on their appraisal of an application, our respondents engaged with or disengaged from it. We observed two possible consequences of engagement: perceived benefit and perceived non-benefit. Our findings suggest that respondents evaluated their engagement with internet applications based on their satisfaction with the content—e.g., whether the job postings matched their expectations—and the interface of the application—e.g., whether it facilitated the job search. For instance, Mike said that he *"searched on meinestadt.de, but I did not find anything. Therefore, I did not continue to search there."* Similarly, Dave evaluated the outcome of using a job portal as follows: *"You find a lot of information on this site but […] the page interface is structured in such a way that I would not use it to search for jobs again."*

But not all interviewees coped by engaging. Some respondents disengaged as a result of a deliberate withdrawal—in other words, an exit by choice. We observed that some individuals subjectively perceived an online job search application to be a non-opportunity in the primary appraisal phase—even though they might potentially have benefited from using the application—and chose to disengage. Others objectively would not have benefited from the application, like Carl, who works in construction where personal connections are more important than the internet for finding work: *"I always found a job. Always through connections, compatriots: You know somebody, and he knows you. Never the internet."*

More importantly, however, we observed that some respondents appraised an application as an opportunity but lacked the resources to gain sufficient control of it and disengaged as a result—in other words an inadvertent withdrawal, an exit by exclusion. Cait, for example, felt that certain applications could help her in her job search, but she was so overwhelmed by these applications that she could not continue engaging with them: *"The internet certainly helps to find [prospective employers]. […] But I really do not like it, I really feel that I am not good at it, I get cold feet, my head starts spinning, and often I spend a lot of time online, but I do not find anything truly relevant for me."*

These findings suggest that the nature of the outcome influences the re-appraisal of the application and, consequently, future use by reinforcing engagement in case of beneficial outcomes and disengagement in case of non-beneficial outcomes. In many cases the first experience with an application was decisive for future use. John, for example, stated: *"I hardly used Google because I already knew meinestadt.de from six years ago. So far it has worked well for me."* However, we further observed that, independent of the

perceived outcome, external impulses could play a key role in triggering the re-appraisal of an application—particularly those originating from respondents' social capital. Paul, for instance, initially disengaged from creating online profiles on professional networking sites but re-appraised such applications positively following an impulse from a friend: *"A friend just purchased a premium Xing account and directly received several requests. So, when I search again, I might just try it as well."*

The Moderating Effect of Trust

Our findings suggest that social capital can have both a limiting and enhancing effect on an individual's awareness and appraisal of internet applications. The directional impact of social capital, however, appears to be moderated by an individual's trust in it. We observed that many respondents implicitly or explicitly evaluated whether they considered their social capital to be trustworthy. This evaluation, in turn, influenced to which degree these respondents were receptive to impulses from these sources. We will focus on institutional social capital since the topic of trust appeared to be more relevant with regard to institutions rather than family and friends. We observed that respondents primarily considered three factors when evaluating the trustworthiness of institutional social capital: perceived competence, perceived authenticity, and perceived pressure. While most respondents reported negative experiences, it is important to note that these three factors can also have a positive impact on trust.

Several interviewees perceived employment agency institutions to lack the competencies that they considered to be important in supporting their job search, such as knowledge about different professions and online job search applications. Even though they mostly drew their impressions from one or two personal encounters with employment agents or even just hearsay, they tended to transfer their impressions onto the whole institution, including its online offerings and its advice. For example, Mike recounted an initial consultation meeting at the FEA in which "*the job agent had no idea of occupational titles and I had to explain everything*." He found that "*quite dubious"* and, convinced that the job agent was incompetent, was very skeptical of the suggestions he received.

Furthermore, we observed that several respondents were concerned that the employment agents were not sincere in their efforts to help them find a job. Kevin, for instance, felt that the employment agents did *"just sit there and really do not care,"* while Tom had the impression that *"those professional trainings they offer […] are just means of deferral"* to keep him out of the unemployment statistics. Moreover, John expressed doubts regarding the agency's willingness to truly help him with his job search because he felt that the agents were incentivized to only recommend their proprietary online job portal: *"They just say 'search the web,' 'use our job portal;" they do not say 'search on this or this specific website' […] I do not know how it actually works, if they still get their rewards from the state when they place somebody through an internet portal other than their own…of course they only recommend their own job portal."* All these doubts about the employment agency's authenticity made the affected respondents less receptive to impulses coming from that source.

Lastly, we observed that a few interviewees expressed that they felt pressured by the employment agency. Lisa and her husband, for example, struggled to meet the application targets set by their job agent because it took them a long time to get acquainted with online job search, given that they are in their late 50s and were doing this for the first time. Instead of receiving support, they were reprimanded, which left them even more insecure and eventually made them retreat to using only newspapers for their job search. As Lisa puts it: *"There are many people who get rebuked for not having done anything, but in fact, most of them do not even know what to do or where to search for jobs and how it actually works."* This suggests that particularly for individuals with low perceived control, lack of support and pressure by an employment agent can exacerbate this feeling rather than help overcome it.

While our evidence consists dominantly of negative experiences, it is important to note that this is not surprising given the burdensome context of unemployment and a consequent natural tendency of most people to voice concerns. Nevertheless, some interviewees also shared positive experiences. Matt, for example, valued the objectivity and sincerity of employment agents who told him *"clearly and objectively"* to consider a professional reorientation and Henry perceived the FEA and their online offerings to be a great help in his job search: *"The job agent could not have received me more friendly or kindly, she was really helpful."* Respondents with positive experiences, like Matt and Henry, showed a greater level of trust in institutional social capital and were more receptive to impulses coming from that source.

Discussion

In this study, by combining all our insights, we developed an integrated model of the interactive effects of coping mechanisms and individuals' capital on (dis-)engagement with internet applications. Most importantly, our findings show that the ways in which individuals appraise such applications are significantly influenced by the capital resources available to them. In particular, our model reveals that social capital is effective at every step of the cognitive appraisal process, while habitus, perceived risk and cultural capital only impact a single stage. In fact, social capital can trigger awareness, change individual dispositions, and be converted into cultural capital. As such, it plays a substantial role in determining individual engagement or disengagement. Moreover, we find that the power of social capital to foster engagement is a function of the trust that the individual has in his or her social capital.

Our findings on why, and through which mechanisms, individuals engage with, or disengage from, internet applications particularly contribute to research on ICT use. Responding to calls for richer conceptualizations of use (Barki and Benbasat 2007; Burton-Jones and Grange 2013) and for a greater dialogue between streams of related research (Yu 2011), we develop an innovative perspective on technology use and non-use by integrating coping and capital theory and enrich the resulting model with emerging concepts—awareness and perceived risk of internet applications, trust in social capital, as well as a differentiated perspective on skills—from our qualitative case study. In contrast to most extant research on technology acceptance (e.g., TAM, UTAUT), this study explicitly incorporates the dynamic nature of user (dis-)engagement, yielding a more multi-faceted understanding of technology use. In particular, our model uncovers how different forms of capital can enhance and substitute each other at *every* step of the cognitive appraisal process. This constitutes an extension to coping theory, which considers capital resources to be most relevant for secondary appraisal, as well as to capital theory, which in isolation does not explicitly address the dynamic effects of changing capital resources on (dis-)engagement. Grounding (dis-)engagement with internet applications within a cognitive appraisal process and incorporating the impact of distinct types of capital helps to better understand and predict individual user behavior and to develop ways to influence it.

Furthermore, our research reveals the substantial role that social capital—in particular institutional social capital—can play for individual engagement with internet applications. So far, little research has been dedicated to understanding how and under which circumstances social capital can be converted into other forms of capital conducive to technology acceptance (Hsieh et al. 2011). This study sheds light on how social capital can compensate for factors that favor disengagement, such as limited awareness and perceptions of low control, as well as on the necessary preconditions in terms of trust. In contrast to most technology use research that acknowledges trust as a key factor but examines it regarding the focal technology (e.g., Gefen et al. 2008), our findings suggest that trust also plays an important moderating role concerning the effectiveness of social capital. Furthermore, our results show that social capital does not necessarily only foster engagement but can indeed also impede engagement, for instance by limiting the consideration set of options to be appraised. IS researchers should carefully consider this potentially detrimental impact of social capital on engagement rather than portraying social capital as uniformly positive. In particular, leveraging the concepts of "bonding capital" and "bridging capital" may be fruitful here (Gittell and Vidal 1998; Woolcock and Narayan 2000). In this regard, our findings are reminiscent of prior literature in the field of innovation diffusion, which argues that "weak ties" between individuals help innovation spread across larger distances, whereas "strong ties" (e.g., more trusted ones) are the ones ultimately driving adoption (Granovetter, 1973; 1983; Onnela et al. 2007; Zhao et al. 2001; see Muller and Peres 2018 for an overview). Moreover, our research provides new and contrarian insights into the role that institutional social capital can play in technology acceptance. Social capital relating to friends, family, and peers is a well-known factor in traditional technology acceptance models, however, institutional social capital has often not been explicitly considered (e.g., Venkatesh et al. 2012) or has been found to play a minor or insignificant role for technology use (e.g., Hsieh et al. 2008). Our model shows that institutional social capital can indeed impact technology use provided that users have sufficient trust in it.

In addition, by drawing on sociology and communication research we introduce a new and more nuanced perspective on internet skills—comprising medium- and content-related skills (van Deursen and van Dijk 2011)—into the technology use discussion. Skills have been acknowledged as a crucial factor for technology use and have mostly been conceptualized as part of constructs such as perceived ease of use (Venkatesh et al. 2003). A more differentiated view on skills is necessary to understand how exactly they

promote or impede technology use. This notion is especially important given that both the skill levels in the population and the skill requirements for effective internet use are constantly evolving. Our findings show that medium-related skills are in fact widely present but that content-related skills are required to effectively navigate and evaluate the manifold online options available to accomplish a certain task.

Finally, this study also contributes to research on digital inequality and to the debate on how digital gaps can be bridged (Buhtz et al. 2014; Hargittai and Hinnant 2008; Kvasny and Keil 2006; Yuen et al. 2018). Our research highlights the factors that lead to undesirable outcomes such as inadvertent digital exclusion and helps explain why digital inequality still is a prevalent issue even in developed countries with widespread internet access. Further, our study shows that institutional social capital plays a particularly vital role for the digitally disadvantaged since these individuals rely strongly on support from family and friends (Hsieh et al. 2011), yet typically have fairly homogeneous personal social networks (Granovetter 1973; McPherson et al. 2001; Yu 2011). This limits the potential value add they can draw from their personal social capital and highlights the importance of governmental institutions in helping individuals to overcome barriers. Particularly the insights on how institutional social capital may be able to influence the cognitive appraisal of internet applications—e.g., by raising awareness and supporting capability building—represent an important contribution to the stream of research focusing on how digital gaps may be bridged through governmental interventions.

Our study also has important implications for public policy. With ongoing digitization, it becomes imperative for governments to ensure digital inclusion both as a social mandate and—against the backdrop an increasing rollout of e-government services to economize on costs—in their own interest. In particular, this study can help policy makers better understand why people take or do not take part in the ongoing digitization and most importantly, define targeted policy interventions aimed at fostering digital inclusion. Policy makers can leverage the pivotal role of institutional social capital in their intervention planning, e.g., by further integrating digital education into curricula and by identifying governmental institutions that are best suited to provide targeted support to individuals. Additionally, our research shows that trainings should ideally be targeted at raising awareness (Altmann et al., 2018) and teach not just medium-related skills but, more importantly, content-related skills. In addition, it may be worthwhile to teach individuals ways in which they can develop skills themselves. We also believe that our findings are relevant for an entire array of internet-based applications besides job search, and even beyond e-government.

Limitations and Future Research

Our study also has several limitations. First, the case study approach may have led to some context-specific findings. The extent of the involvement and influence of institutional social capital on the job search process is likely to be particularly strong in a welfare state like Germany. Moreover, even though we thoroughly tried to rule out alternative explanations in the interviews, some behavioral observations may be attributable to unobserved factors, such as the interviewee's general emotional dispositions. Second, while the overall theoretical model is not limited to online job search applications in Germany, but it should be applicable to technologically and geographically different settings, more research is needed to validate the generalizability of our model, ideally through large-scale investigations. Third, we largely abstracted from the characteristics of the individual internet applications. However, the same individual may, for instance, very well require different amounts of social capital to reach the same secondary appraisal outcome of control for different internet applications, which can differ, for example, in how complex they are to use. Similarly, we do not take into account individuals' personality differences, which may play important roles in the use of internet technologies (e.g., Graf-Vlachy et al. 2017).

At least three additional avenues for future research emerge from this study. First, the impact of social capital—particularly institutional social capital—on individual engagement warrants further study. Our findings indicate that institutional social capital can play a significant role at all stages of the appraisal process yet does not have a uniformly positive influence. Scholars and policy makers stand to profit from further research on how to improve the effectiveness and acceptance of institutional measures promoting online technology use in general and e-government applications in particular. Second, this study focuses on the appraisal phase of the coping process and only differentiates between two coping strategies, namely engagement and disengagement. Extant coping research in the field of psychology offers a broader range of more specific adaptation strategies. Some of these strategies have been investigated in the IS

field, albeit mostly in organizational settings. The majority of consumer technology use, however, takes place in voluntary, non-organizational settings. For IS scholars interested in strengthening the interdisciplinary foundation of the field, developing a more fine-grained distinction of coping strategies in non-organizational settings could thus be a promising research avenue. Finally, the field of IS is likely to benefit from further research on technology skills. Extant research has catalogued and clustered types of internet-related skills (van Deursen and van Dijk 2011), but little is known how they translate into specific use outcomes. In particular, content-related skills warrant further study, given their significance for influencing perceived control within an increasingly complex online environment. A more comprehensive understanding is needed of how content-related skills are acquired and how they can be taught to help individuals overcome skill deficits.

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