

Hello Diversity! Opportunities and Challenges of Entrepreneurial Diversity in the Digital Age

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Hello Diversity! Opportunities and Challenges of Entrepreneurial Diversity in the Digital Age

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Abstract:

In this report, we outline the key insights gained at the “Hello Diversity! Conference” held in June, 2019, at the Freie Universität Berlin (Germany). The two-day event featured 14 talks from experts in academia and practice who shared their perspectives on how entrepreneurial diversity affects efforts to explore and exploit digital innovation opportunities. Their insights highlighted the lack of holistic knowledge on the topic, especially concerning the role that digital technologies play in fostering entrepreneurial diversity. The conference culminated in a “paperthon”, which kickstarted interdisciplinary research projects that focus on better understanding entrepreneurial diversity in the digital age.

Keywords: Entrepreneurial Diversity, Digital Age, Digital Technologies, Digital Innovation.

*Leading author of this paper. The co-authors have contributed equally and appear in alphabetical order.

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1 Introduction

Diversity has become a buzzword lately among researchers and practitioners to discuss all kinds of heterogeneity in and across organizations (Harrison & Klein, 2007; Mor Barak, 2016; Roberson, Ryan, & Ragins, 2017). In particular, ongoing digitalization continues to fuel the scientific and public discourse in this regard as individuals discuss diverse mindsets, experiential backgrounds, and knowledge as driving efforts to explore and exploit digital innovation's potential (Carlo, Lyytinen, & Rose, 2012; Kohli & Melville, 2019; Welter, Gartner, & Wright, 2016). Digital technologies that decisively influence how and what type of value people create enable these processes (Boudreau & Lakhani, 2013; Iansiti & Lakhani, 2014; Nambisan, Lyytinen, Majchrzak, & Song, 2017a). WhatsApp, Slack, and Clue exemplify instances of digital innovation that have decisively transformed the way we communicate, collaborate, and even plan our reproduction. Given digital innovation's wide-ranging implications for our private and professional lives, we need to ensure that digital value offerings reflect human diversity, which includes age, gender, race, socioeconomic status, values, and beliefs (Cushman & McLean, 2008; Trauth, 2017; Urquhart & Underhill-Sem, 2009). The predominant discourse tends to highlight diversity's beneficial aspects and argue that diverse workforces can better, for example, perform complex tasks (Choi, 2002; Lechler, 2001), identify digital innovation potentials (Dai, Byun, & Ding, 2019; Tzabbar & Margolis, 2017), and achieve firm growth (Eisenhardt & Schoonhoven, 1990; Hmieleski & Ensley, 2007).

The "Hello Diversity! Conference", held at the Freie Universität Berlin in June, 2019, endorsed and developed a vision that offers new directions to scholarly and practical discourses on entrepreneurial diversity in the digital age. Indeed, current discussions often have a limited scope when it comes to conceptualizing diversity. Most importantly, many often restrict the term diversity to gender. While we need research on gender diversity given the considerable disproportion between male and female founders in leading startup ecosystems (Berger & Kuckertz, 2016) or on management boards (Hillman, Shropshire, & Cannella, 2007), it does not reflect diversity's multi-faceted nature (Ettl, Brink, Tegtmeyer, & Ram, 2019; Gardenswartz & Rowe, 1994). One can frame diversity in a more holistic way by dividing its facets into demographic, functional, and deep-level dimensions (Van Knippenberg, De Dreu, & Homan, 2004). Diversity's multi-faceted nature also accounts for the fact that diversity can be a double-edged sword with both beneficial and detrimental outcomes for (team) performance and firm growth (Harrison & Klein, 2007; Van Knippenberg, Van Ginkel, & Homan, 2013; West, 2007). In particular, practitioners often overlook these ambiguous and even contradictory implications. Consequently, the conference focused on widening perspectives on entrepreneurial diversity and considering its opportunities and challenges in order to create awareness about more holistically understanding how different dimensions of diversity affect efforts to explore and exploit digital innovation potentials. Theoretical knowledge in this regard allows one identify management practices that can support beneficial outcomes and mitigate detrimental ones that arise from heterogeneous individuals jointly performing digital innovation processes.

Although researchers have discussed diversity as a promising facilitator of innovation in the digital age, we still largely lack in-depth knowledge about the interplay between entrepreneurial diversity and digital innovation. Most importantly, researchers have previously focused on the uni-directional impact that entrepreneurial diversity has on identifying and exploiting digital innovation's potential (Beckman & Burton, 2008; Hart, 2014; Vissa & Chacar, 2009). However, we still lack comprehensive knowledge about the impact that digital tools and infrastructures have on entrepreneurial diversity and its different dimensions (Deng, Joshi, & Galliers, 2016; Dias & Doolin, 2016; Sundermeier, Wessel, & Davidson, 2018). As such, the conference also focused on exploring the bi-directional interplay between entrepreneurial diversity and digital innovation and especially how digital technologies affect the work that diverse groups of people who explore and exploit digital innovation's potential perform. We deliberately chose to encourage discussion on the bi-directional relationship between diversity and digital innovation because it corresponds to the two different perspectives on social inclusion research in the information systems (IS) literature that Trauth (2017) has identified as having considerable research potential. Additional insights in this regard would allow researchers to generate theories on how we can empower marginalized groups such as people from certain ethnic backgrounds or with visible or non-visible disabilities through technologies that exploit digital innovation opportunities (Hüsing & Selhofer, 2002; Leahy & Broin, 2009). Indeed, such insights would ensure the workforce includes diverse talent and may help researchers and practitioners identify digital products and services that represent society as a whole (Birkner, Sundermeier, & Tegtmeyer, 2019; Trauth, 2017). Nevertheless, the conference also invited critical perspectives: some scholars raised doubts about whether digital technologies actually help

diverse groups engage more in creating ventures or only perpetuate socially constructed disadvantages (for a discussion in relation to women's entrepreneurship, see Dy, Marlow, and Martin, 2017).

Bearing in mind these considerations, the "Hello Diversity! Conference" focused on addressing two central questions:

- Q1:** How do different dimensions of entrepreneurial diversity affect efforts to explore and exploit digital innovation's potential?
- Q2:** Which digital tools and infrastructures either foster or hinder entrepreneurial diversity and how?

Addressing these questions has particular relevance for scholars from various disciplines who seek to foster ongoing societal changes. To achieve the objectives that we outline above, the program committee (Janina Sundermeier, Stephanie Birkner, Kerstin Ettl, Julia Kensbock, and Silke Tegtmeier) set out to attract an interdisciplinary group of scholars from different disciplines and practitioners involved in new venture-creation processes, politics, and diversity management in and across ventures. In total, 14 experts shared their experiences and views (which we referred to as "Diversity Talks!")¹ followed by panel discussions that involved 170 conference participants on the first day of the conference. The insights and identified shortcomings that emerged from the talks in relation to the central conference questions provided a basis for the participating scholars to kick-start research projects during a "paperthon" on the second day.

The conference and this report present perspectives that showcase the variety of diversity dimensions and their implications (Gardenswartz & Rowe, 1994; Van Knippenberg et al., 2004). Although the conference could not cover all the dimensions, feedback from the conference indicated that even the discussion on diversity and its relation to digitalization provided a crucial step forward by helping researchers and practitioners broaden their perspective on entrepreneurial diversity's different dimensions in the digital age and to gain insights on digital tools that support (or hinder) efforts to promote diversity. These insights and discussions establish avenues for future research that inform efforts to promote and manage entrepreneurial diversity in the digital age and, vice versa, how digital innovation can foster such diversity.

The paper proceeds as follows: in Section 2, we describe the conference in more detail, which includes its objectives, its agenda, and participants' interdisciplinary backgrounds). In Section 3, we outline van Knippenberg et al.'s (2004) framework that, because it allows one to systematically capture entrepreneurial diversity's different dimensions, we used to structure the conference agenda. In Section 4, we summarize the key insights from the talks from the 14 experts who shared their perspectives on the conference's core questions. In Section 5, we present our conclusions and discuss directions for future research.

2 The Conference

With a grant from the Freie Universität Berlin, we organized the two-day "Hello Diversity! Conference" to facilitate discussions and kick-start interdisciplinary research projects on entrepreneurial diversity's different facets in the digital age. The first day of the conference featured expert talks, which we called "Diversity Talks!", on entrepreneurial diversity's current state and discourses in research and practice. We divided the talks into three sessions that each comprised three to four talks on diversity's demographic, functional, and deep-level dimensions. We divided the talks to highlight entrepreneurial diversity's multi-faceted nature and frame the panel discussions at the end of each session. The discussions included both experts and an interdisciplinary audience of scholars, practitioners, and students. We summarize the conference participants in Table 1.

¹ To transfer the key insights that the experts provided throughout the conference to the general public, we video-recorded all talks and made them available on Youtube (see <https://bit.ly/38hHefY>). In addition, we launched a Hello Diversity! Podcast that features scholars' and practitioners' ideas and opinions on how to foster entrepreneurial diversity in the digital age (see <https://spoti.fi/2qwDIgB>).

Table 1. Participant Overview

Target group	Background
Scholars (n = 23)	Professors, postdocs, and PhD students from diverse disciplines (such as information systems, management, and entrepreneurship) and countries (US, Netherlands, Germany, Denmark, Switzerland, UK, and Syria)
Practitioners (n = 67)	Startup founders, policymakers, diversity managers of global players, consultants with a strong focus on Berlin's startup ecosystem
Students (n = 80)	Bachelor and Master students from diverse disciplines in higher education institutions

By actively participating in the discussions, all three target groups could include their manifold perspectives and viewpoints on how researchers and practitioners currently perceive, research, and manage entrepreneurial diversity. We used the research gaps in, opportunities for, and challenges of entrepreneurial diversity in the digital age that participants identified during the first day of the conference to kick-start interdisciplinary research projects among the scholars who joined the paperthon on the second day. Inspired by similar events at the International Conference on Information Systems (ICIS), we conducted the paperthon to gather scholars from various disciplines to enable them to jointly generate meaningful theoretical and practical contributions. The day started with pitches during which all participants had the chance to present their research ideas, data sets, and special competences that could contribute to a better understanding of entrepreneurial diversity in a digital age. Four interdisciplinary teams with complementary skills and ideas came together and started to work on making their research questions, theoretical angles, and opportunities for data collection more concrete. Coaches supported the teams by providing their expertise in information systems, digital entrepreneurship, and organizational studies. Subsequently, the teams presented their projects' progress and an agreed-on plan for work to the end of 2019. As the research projects have not yet finished, we do not discuss them in this report in detail. However, we can already conclude that the conference acted as a fruitful arena for kick-starting collaborations among scholars with an interest in these topics.

3 Theoretical Foundation

Diversity represents a pertinent phenomenon across disciplines because it focuses on the heterogeneity of individuals in certain units, such as founding teams and working groups, in relation to specific characteristics (Harrison, Price, & Bell, 1998). According to Van Knippenberg et al.'s (2004) framework, we can divide these characteristics into demographic, functional, and deep-level dimensions. Demographic dimensions refer to individuals' observable and mostly unchangeable characteristics, such as age, gender, sexual orientation, physical ability, ethnicity, and race (Gardenswartz & Rowe, 1994). In terms of functional backgrounds, individuals differ regarding their work experience, educational background, seniority in a startup, management status, and so on. The third dimension, deep-level diversity, covers all aspects that one cannot directly observe, such as personality traits, values, beliefs, attitudes, and mental health states (Harrison & Klein, 2007). We use this classification to holistically capture diversity (which includes gender among other things) in digital innovation processes and outcomes. With an overall aim to broaden the scope of the discourse on diversity, we used the framework to structure the conference's "Diversity Talks!" and related panel discussions. We asked the experts to share their insights about and experiences with distinct diversity dimensions and their implications for exploring and exploiting digital innovation's potential in their own field of action.

We can explain diversity's varying effects with van Knippenberg and Schippers' (2007) categorization-elaboration model that combines two theoretical logics. On the one hand, the social categorization logic refers to individuals' inherent tendency to assess others based on perceived similarities and differences. According to the underlying similarity attraction theory (Byrne, 1971), individuals tend to favor others with similar characteristics and approaches to perform entrepreneurial activities in relation to exploiting digital innovation's potential. Hence, this logic sees diversity as detrimental because it separates in-groups and out-groups and increases conflict between individuals who perceive themselves as dissimilar (Harrison & Klein, 2007; Kollmann, Stöckmann, & Linstaedt, 2019). On the other hand, the information/decision-making logic describes diversity's positive implications when it serves as an informational resource. To that end, researchers have found heterogeneity in terms of perspectives, knowledge, experiences, and information to have positive implications for venture-creation processes. Drawing on these theoretical perspectives, the conference encouraged open discussions that address entrepreneurial diversity's opportunities and challenges in the digital age.

4 Insights from the “Diversity Talks!”

Following van Knippenberg et al.’s (2004) framework, we divided the “Diversity Talks!” into three sessions to capture the experts’ knowledge about and experience with demographic (Section 4.1), functional (Section 4.2), and deep-level (Section 4.3) entrepreneurial diversity in the digital age. We asked all experts to share their expertise regarding the opportunities and challenges that diversity poses in digital innovation processes, which we define as using “digital technology during the process of innovating” (Nambisan, Lyytinen, & Song, 2017b, p. 223). We also asked them to share their expertise with respect to digital innovation processes’ outcomes since “digital innovation can also be used to describe, fully or partly, the outcome of innovation” (p. 223). Exploring and exploiting digital innovation’s potential is an inherent part of entrepreneurial activities (Shane & Venkataraman, 2000). Nevertheless, we intentionally did not limit insights to the startup contexts only and invited speakers who shared their experiences with digital innovation processes that established organizations and actors in them have pursued in order to foster mutual learning experiences. We summarize the opportunities and challenges that the experts highlighted in Table 2.

4.1 Demographic Entrepreneurial Diversity in the Digital Age

4.1.1 The Creative Power of Research on Women’s Entrepreneurship: Roots and Routes of a Field of Study in its Adolescence (Stephanie Birkner and Silke Tegtmeier)

In the first of the “Diversity Talks!” focused on demographic entrepreneurial diversity, Stephanie Birkner and Silke Tegtmeier highlighted the importance of women’s entrepreneurship and a gender-aware perspective in research on the opportunities and challenges associated with the ongoing digitalization in many industries. Existing research, particularly in the digital entrepreneurship discipline, includes sex as a variable but fails to acknowledge gender differences in the way that it explores and exploits innovation’s potential (Birkner et al., 2019; Trauth, 2013). This blind spot implies that research on digital innovation still lacks a holistic and gender-aware perspective that can explain how doing and undoing gender influences efforts to identify market gaps, value propositions, and innovation potentials that are worth turning into business models. Liff, Shepherd, Wajcman, Rice, and Hargittai (2008) argue that society faces an evolving digital divide that we can only address through interdisciplinary efforts. Indeed, when those who innovate lack awareness about underrepresented groups’ diverse needs, it limits rather than improves the outcomes for the individuals for whom the innovations’ value propositions originally targeted as researchers have shown for the so-called maker culture (Maric, 2018). Birkner and Tegtmeier argued that this shortcoming has emerged for two major reasons. First, people primarily still see the entrepreneurship domain and the characteristics of entrepreneurs as male, which implies that they still consider masculinity as the norm in current discourses (Ahl, 2006; Bruni, Gherardi, & Poggio, 2004; Meyer, Tegtmeier, & Pakura, 2017). Second, a young discipline, women’s entrepreneurship has reached only “the brink of adolescence” (Hughes, Jennings, Brush, Carter, & Welter, 2012, p. 429), which implies that many research questions remain unexplored (Brush, de Bruin, & Welter, 2009). Table 2 summarizes how research on women’s entrepreneurship has entered the academic discourse in the last several decades.

Although researchers have considered digital technologies to act as external enablers of venture-creation processes (von Briel, Davidsson, & Recker, 2018), women still launch fewer than 15 percent of all startups in Germany (Kollmann, Hensellek, Jung, & Kleine-Stegemann, 2018). Therefore, scholars have an interest in identifying challenges that prevent women from exploring and exploiting digital innovation’s potential. In a recent study that Tegtmeier conducted with several colleagues (Meyer et al., 2017), she found that male stereotypes about entrepreneurs continue to prevail even among younger generations. She found that images of men and entrepreneurs were highly congruent, mostly in characteristics *not* typical for men and entrepreneurs. However, images of women and entrepreneurs lacked congruency and significance, which is an alarming finding because one can see these characteristics to act as exclusion criteria for women’s entrepreneurship (Meyer et al., 2017). One may find this stereotypical thinking’s prevalence surprising given that, in a second study with colleagues (Tegtmeier, Kurczewska, & Halberstadt, 2016), Tegtmeier found that women entrepreneurs have, just like men, a balanced set of skills, industry experience, and self-efficacy concerning entrepreneurship-related tasks, although women entrepreneurs often report other motivations for starting businesses than men (Tegtmeier, Kurczewska, & Halberstadt, 2016). We require future research to determine how and which digital tools and infrastructures can support women in overcoming existing obstacles (Sundermeier et al., 2018) and to further the impact that gender has on whether someone adopts and uses them (e.g., with respect to

designing ICT, see Oudshoorn, Rommes, & Stienstra, 2004). For example, in 2019, the digital platform elpha.com launched to create a safe space for women who work in technology in Silicon Valley. It took the founders less than a year to raise \$US1.3 million of venture capital in order to create a worldwide-renowned vibrant platform that constitutes a hybrid social and professional network for women in technology who seek expert's advice, to discover resources, and to discuss digital innovation opportunities (Balasubramani, 2020).

Table 2. Research on Women's Entrepreneurship in Academic Discourse

Year	Publication type	Reference
1976	First journal paper	Schwartz, E. B. (1976). Entrepreneurship: New female frontier. <i>Journal of Contemporary Business</i> , 5(1), 47-76.
1983	First conference presentation	Hisrich, R. D., & Brush, C. G. (1983). The woman entrepreneur: Implications of family, educational, and occupational experience. <i>Frontiers of Entrepreneurship Research</i> , 2, 255-270.
1985	First academic book	Goffee & Scase (1985). <i>Women in charge: The experiences of female entrepreneurs</i> . London, UK: George Allen and Unwin.
1998	First policy-oriented conference	Organization for Economic Cooperation and Development (OECD) Conference on Women Entrepreneurs.
2003	First academic conference on women's entrepreneurship:	Diana International Conference on Women's Entrepreneurship Research.
2006	First special issue in premier journal	de Bruin, A., Brush, C., & Welter, F. (2006). Introduction to the special issue: Towards building cumulative knowledge on women's entrepreneurship. <i>Entrepreneurship Theory and Practice</i> , 30(5), 585-593.
2009	First dedicated journal	International Journal of Gender and Entrepreneurship.

4.1.2 Beyond Gender and Race: Why the Socioeconomic Background Matters Most (Natalya Nepomnyashcha)

In contrast to the women's entrepreneurship discipline that has experienced an upswing in the scientific and public discourse over the past decade, Natalya Nepomnyashcha, founder of "Netzwerk Chancen", criticized scholars and practitioners alike for neglecting economically disadvantaged children and young people in Germany. Her network advocates equal opportunities for these groups and raises questions about how society in general and the business world in particular could justify overlooking two million children in economically disadvantaged conditions and with very limited options to receive an adequate education. These questions have particular importance given the comparably low number of IT professionals and startup founders who explore and exploit digital innovation's potential in Germany.

Nepomnyashcha's talk started with a case study on Gerhard Schroeder, the former federal chancellor of Germany, whose mother, a cleaning lady, raised him after his father died in the World War II. He always aimed to climb the social ladder but experienced prejudice because others saw his family as anti-social and poor (Schroeder, 2006). This case exemplifies the obstacles that children from parents with limited financial resources and education face. According to Nepomnyashcha, who herself comes from a similar background, only 15 percent of university graduates in Germany have parents without a secondary education qualification (A-level or equivalent) and have a higher likelihood to suffer from bad health and low self-confidence. In their study, Duguet, Leandri, L'Horty, and Petit (2010) found support her observations in that they found that young adults who grow up under economically disadvantaged circumstances have a lower likelihood to receive invites to job interviews. The scholars sent out identical CVs that differed only with regards to the applicants' address and found that applications with ZIP codes from poorer areas in Paris received significantly fewer invitations to job interviews compared to applications from more privileged areas.

Nepomnyashcha emphasized the necessity to make policy and companies aware of such biases and to enable them to establish support programs for economically disadvantaged young adults who might become future skilled employees that many industries need to remain competitive during their ongoing digitalization. These support programs can also help to foster digital innovation activities in Germany as researchers have found only 3.4 percent of all founders do *not* possess a high school diploma (Kollmann et al., 2018). Hence, certain aspects in one's socioeconomic background can act as challenges that

hinder efforts to explore and exploit digital innovation's potential. We require future research to specify the challenges encountered in this regard and to determine which measures we could implement to support young adults from economically disadvantaged backgrounds (Butler, McAvoy, & Murphy, 2008). Recent discussions highlight, for instance, that massively open online courses (MOOCs) can act as powerful digital tools that enable less privileged and disadvantaged groups in particular to acquire education that helps them develop an entrepreneurial mindset and systematically discover their untapped innovation potential (AbuJarour et al., 2019).

4.1.3 Destabilizing Instability: Success of Fragile-country Entrepreneurs (Lubna Rashid)

In the next talk, Lubna Rashid emphasized another aspect of socioeconomic background that pertains to the discourse on entrepreneurial diversity in particular. Rashid has conducted research on entrepreneurial activities in fragile countries ruled by governments that cannot or do not wish to provide civilians with basic services, such as free health and education. The OECD (2018) recently indicated that 24 percent of the world population dwells in fragile contexts and expected that number to reach 3.3 billion by 2050. The ongoing conflicts that often occur in these countries require innovative solutions to bridge fragmented transportation routes, provide construction sites with necessary resources, and establish solutions for different kinds of social problems, such as poverty and illnesses. These deficiencies drive entrepreneurial activities that focus on overcoming the issues in fragile countries that we state above. Entrepreneurial endeavors can help such countries create employment, help people overcome poverty, and help improve people's overall socioeconomic life. We can see from Ruanda that such endeavors can even support peace-building activities. In particular, the country stimulated entrepreneurship in the coffee industry after the genocide against the Tutsis, which enabled collaboration among the country's once-broken communities.

As such, encouraging entrepreneurship in these contexts has considerable importance, but Rashid highlighted that existing initiatives have neglected involving entrepreneurs that already operate in disadvantaged areas in the world in building such support programs. In particular, they have neglected the external business conditions that can most crucially foster entrepreneurial activities in fragile countries. To prove her argument, she presented three studies that she had recently conducted in Syria, in Sub-Saharan Africa, and Pakistan (currently under review). In all three studies, she found that missing ambition did not hold entrepreneurs operating in these fragile contexts back but that intrinsic motivations drove them. A comparison between German and Pakistani entrepreneurs even showed no significant differences in the entrepreneurs' innovativeness, proactivity, and internationalization behaviors. Interestingly, Pakistani entrepreneurs had even higher internationalization activities compared to their German counterparts even though they possessed less knowledge and skills relevant to pursuing internationalization activities.

These studies show that entrepreneurs in fragile contexts already possess the personality traits, motivations, orientations, and mindsets that positively relate to entrepreneurial success but nevertheless fail more often to explore and exploit digital innovation's potential because the economic systems they operate in do not allow them to thrive. Policy and science still lack answers to questions on how to establish startup ecosystems that sustainably improve extrinsic conditions to support founders' intrinsic entrepreneurial tendencies in fragile contexts.

4.2 Functional Entrepreneurial Diversity in the Digital Age

4.2.1 Diversity in the Context of New Work (Lea Böhm)

In the first talk on functional entrepreneurial diversity, Lea Böhm, founder of "AllesRoger", focused on the concept of new work and its implications for diversity in the digital age. The philosopher Frithjof Bergmann (1977) coined the idea in discussing new approaches to flexible and self-determined working. In particular, the ongoing globalization and digitalization that we see today allow and require work to become more flexible in terms of time, place, and overall organization.

Böhm stated that such flexible working environments require entrepreneurial leaders to possess a balanced set of hard and soft skills in order to successfully guide their teams through exploring and exploiting digital innovation opportunities. From her experience, she found that many have perceived soft skills as having low value but that diverse skill sets continue to grow in importance, especially given the increasing autonomy and required self-organization in work teams. Nevertheless, IT environments still tend to separate hard and soft skills among their leaders. Böhm's observations indicate that organizations

often divide teams that exploit digital innovation opportunities into hard-skilled developers who conduct software engineering and agile coaches who manage self-organized teamwork and resolve conflict among team members. Research still lacks insights on whether and to what extent separating hard and soft skills has implications for efforts to explore and exploit digital innovation's potential. To foster diverse skills in these environments, it would be interesting to find out which measures allow organizations to address existing prejudices against certain skill sets that might hamper team performance. We also need to reduce such prejudices given companies' responsibility to develop inclusive products and services in addition to teams who embrace different skills, backgrounds, and perspectives since they can avoid unintentional prejudices and ethical pitfalls (Trauth, 2017).

4.2.2 Want to Foster Gender Equality at Your Company? Allow Remote Working! (Silja Conradi)

The flexibility of new work approaches also facilitates remote working and remote collaboration among team members who work from geographically distant locations. Silja Conradi, the second speaker on functional entrepreneurial diversity, argued that remote working, supported by digital technologies, can significantly facilitate gender equality in the workplace. She illustrated her argument through a story from her own life. After becoming responsible for raising three children on her own for half of the week while working 200km from home, she had to make crucial sacrifices due to her struggle to balance work and family life. She did not want to quit her job, but the founders of the startup she worked for initially expressed doubts about whether she would be able to fulfill her leadership role while working from home. The founders eventually decided to give it a try, which turned out to be a great success. Conradi's story is not unique given that women represent 88 percent of all single parents with underage children (Statista, 2018). Thus., they carry a considerably larger share of caring responsibilities and, hence, the burden of having to balance family and work.

Conradi shared her experiences of working remotely as a leader and emphasized the importance of digital technologies in this regard. She noted that efficient collaboration among team members requires a common team spirit through fixed meeting structures and daily communication through Skype, Slack, and other instant-messaging providers. Conradi found video communication for meetings especially valuable because seeing others fosters a sense of belonging. She also used video communication channels for daily meetings in the morning during which all members shared their tasks for the day. However, even though digital technologies can foster efficient communication, Conradi recommended establishing regular off-site meetings during which the whole team works and spends leisure time together. Indeed, she thought that one should not perceive digital technologies only as relevant for essential work-related communication but also for small talk among colleagues that would normally happen at the coffee machine or other places in the office.

In sum, she highlighted the contributions that digital communication technologies, such as Skype, Slack, and other video-call and messaging providers, can make to fostering gender equality in work settings. At the end of her talk, she asked the audience and especially the researchers to explore how other diversity aspects could benefit from remote working in order to make it more popular among decision makers in startups and other work environments.

4.2.3 The Five Elements of Success to #harmonAIze Humans and Machines (Nancy Nemes)

Nancy Nemes also has also had a goal to achieve gender equality. In particular, she launched the network "Ms.AI" in order to empower more women to understand and exploit artificial intelligence (AI). Beyond her ambition to promote gender equality in AI-fostered innovation opportunities, she also emphasized the need to include individuals from diverse backgrounds and with diverse mindsets, value, social statuses, amongst others, into these processes. Only such inclusivity can ensure that we use AI to create digital products that reflect society as a whole and not only minor parts of it. An upcoming special issue of *Management Information Systems Quarterly (MISQ)* addresses similar questions in relation to how AI-fostered innovation impacts value-creation processes (Berente, Gu, Recker, & Santhanam, 2019).

4.2.4 Employee Lifecycle: How to Attract, Retain, and Develop Diverse Talent (Uta Menges)

One can foster diversity in workforces only through talent-acquisition processes that involve educated human resource managers who recognize the opportunities and challenges to attract, retain, and develop diversity in ventures. Uta Menges, diversity and inclusion manager at IBM, exemplified these processes with IBM and linked her insights to new venture-creation processes. To attract diverse talent, a company needs to make explicit its commitment to diversity in its external communication, such as by targeting women for leading positions and through inclusion strategies. A firm's core diversity values need to be transparent, and companies that care for establishing a diverse workforce should be present at career fairs that address certain target groups, such as the lesbian, gay, bisexual, transgender, and queer (LGBTQ) community. Digital communication channels, social media platforms, and websites that present the diversity and inclusion strategy constitute crucial technologies that support companies in this regard (Jayne & Dipboye, 2004; Rosenzweig, 1998).

Once a company has attracted diverse talent, it needs to pursue an equal-opportunity hiring process in which it should avoid unconscious biases, such as prejudices and stereotypical thinking. Avoiding such biases poses a considerable challenge since they have a persistent nature and individuals mostly express them via their preferences towards people similar to themselves (Byrne, 1971). Thus, when selecting talent, organizations should include various people that can objectively assess candidates' skills and experiences. Previous research shows that these measures are only efficient when the hiring committee members perceive diversity not just as an option but as a responsibility for the company (Kalev, Dobbin, & Kelly, 2006).

A company's attitude towards diversity should remain visible throughout its onboarding and retaining processes. Nevertheless, researchers have found diversity training and evaluations to be inefficient if leaders in the company do not perceive diversity as their responsibility (Kalev et al., 2006). Menges has found that digital platforms, such as enterprise social networks or comparable Web 2.0 applications, that enable employees to raise their voices are efficient tools. In particular, she has observed that, after introducing such a platform, employees felt encouraged to highlight and discuss diversity issues and contribute with their own ideas to overcoming these issues. Scholars have started to examine the role of enterprise social networks as an inclusive communication tool (Riemer, Stieglitz, & Meske, 2015), but we still lack comprehensive insights on such digital platforms' opportunities and challenges in this respect. Relevant research questions could include examining configurations that such platforms require in order to encourage exchanges between users and organizations that aim to implement suggestions raised in relation to certain concerns. Findings in this regard would also pertain to remote working teams that have only limited options to discuss diversity issues on a face-to-face basis. Which kinds of communication platforms do individuals perceive as trustworthy for raising diversity concerns and discussing potential solutions? Further research on such questions could contribute to theory development regarding how suitably different digital tools, infrastructures, and platforms can foster diversity in remote working teams (cf. 4.2.2).

4.3 Deep-level Entrepreneurial Diversity in the Digital Age

4.3.1 Underneath the Surface: When Members of Entrepreneurial Teams Differ in Personality, Values, and Attitudes (Julia Kensbock)

Julia Kensbock, who emphasized the importance of considering diversity in entrepreneurial teams, conducted the first talk in the deep-level diversity session. In contrast to the popular image of the entrepreneur as a "lone wolf", at least two individuals who jointly pursue venture-creation activities start 85 percent of all ventures (Lazar et al., 2019; Wassermann, 2012). Generally, starting a new business in a team (rather than alone) can have great advantages. Among others, teams benefit from a broader range of qualifications, mutual support in difficult situations, and higher efficiency due to simultaneous task processing (Choi, 2002; Lechler, 2001; Roure & Maidique, 1986).

In her talk, Kensbock summarized recent research on the effect that team diversity has on team performance. Adding to this research, Kensbock and her colleagues examined the performance of entrepreneurial teams whose members differed with regard to deep-level diversity dimensions (Kollmann, Stöckmann, Meves, & Kensbock, 2017). In particular, they focused on differences in team members' individual-level entrepreneurial orientation, which they defined as "a tendency to respond to situations, or

classes of situations in an entrepreneurial manner” (p. 845). Their study shows that understanding the performance effects of team diversity requires a close look at different diversity dimensions. Their findings indicate that team diversity can have both positive and negative effects on team performance depending on the subdimensions of individual-level entrepreneurial orientation diversity (i.e., proactiveness, innovativeness, or risk-taking diversity) under consideration. Specifically, different levels of proactiveness in teams can have negative implications for team performance, whereas diversity in terms of innovativeness fosters the performance among team members. Risk-taking diversity increases opportunities for conflict among founding team members, which, again, negatively impacts team performance.

In her talk, Kensbock emphasized the need to consider “diversity in diversity”. Notwithstanding the importance of observable (“surface-level”) diversity characteristics such as gender or age, scholars and practitioners should also pay attention to deep-level diversity in teams, such as the extent to which team members have diverse ideas about the new venture’s goals and the strategies by which they can achieve them. Considering deep-level diversity in the digital age also implies new challenges and research gaps in the future. In particular, individuals (including entrepreneurs) might not only differ in their digital skills or literacy (OECD, 2016) but also in their attitudes and beliefs about digital technologies and innovations (e.g., being open versus anxious about digitalization).

4.3.2 Neurodiversity: A New Hope (Timo Lorenz)

Neurodiversity, a rather novel approach that adopts a social impairment model that involves conditions such as autism, ADHD, and dyslexia, represents another (often neglected and misunderstood) perspective on diversity. Timo Lorenz emphasized that people on the spectrum are not pathologically disabled but *get* disabled by society that sets standards regarding expected behaviors and particularly workplace environments created for neurotypical persons. Individuals on the spectrum have, however, a different perspective on the world and tend to communicate in an atypical manner. A neurodiverse standpoint criticizes labeling people on the spectrum as “atypical” and instead attempts to understand their standpoint through listening to their needs and wants.

Lorenz and his colleagues conducted a study in which they found that people on the spectrum, particularly those on the autistic spectrum, have great strengths, such as attention to detail, auditory skills, focus, logical reasoning, repetitive tasks, and systemizing (Lorenz, Frischling, Cuadros, & Heinitz, 2016). These capabilities have particular use in coding software and other digital artifacts. Lorenz, however, warned against generalizing all people on the spectrum, such as assuming they are automatically computer experts, because, as he argued in his talk, “if you know one autistic person, you know one autistic person. They are as heterogenous as any other group”. Such misperceptions primarily arise because people gain their knowledge about cognitive conditions from popular culture, such as the television show *The Big Bang Theory*. The image of autism in popular culture does not represent all autism but helps people recognize the fact that people on the spectrum do have special requirements in relation to their working environment. For instance, many struggle with their environment due to a heightened sensitivity to noise and light. Regarding communication, people on the spectrum often face difficulties in understanding non-verbal communication. While one can generally express these circumstances without too much difficulty, many still face discrimination and bullying at workplaces that do or will not meet their specific requirements.

We need to address these shortcomings to integrate people on the spectrum into the workforce and benefit from their skills in exploiting digital innovation potentials. Lorenz argued that we need to help others recognize and view the condition realistically via listening to individuals without prejudice and generalization. Only such an approach can help to shift the discourse from diagnosing people on the spectrum as disabled towards talking about their strengths and interests. In particular, founders need to reflect on how they can create a working environment that offers a win-win situation for both parties.

4.3.3 Building a Career with and Despite Non-visible Disabilities (Hannah Dahl)

Hannah Dahl, co-founder of “CoWomen”, corroborated the outcomes that Lorenz found in his research projects with her own experiences because she has to deal with a non-visible disability that affects her digestion and requires her to visit doctors on a regular basis. During her time at the university and in her first jobs, she realized that the organizational structures could not address her needs. For instance, she often had insufficient time for written examinations because they did not consider multiple visits to the

bathroom and regular eating. In her job as a software consultant, she faced difficulties when she asked for a day off on a regular basis in order to visit her doctors.

Lorenz decided not to remain silent but to raise her voice instead on her own behalf. It appeared that many of her fellow students and co-workers faced similar problems but were too shy to communicate their needs. These insights prompted her to set up different initiatives that raise awareness. Individuals can raise awareness more easily nowadays as they can spread information via digital communication channels, especially social media. Fostering a diverse workforce requires enabling people to speak up for their needs and wants. Digital technologies help people create platforms on which people with visible and non-visible disabilities can exchange information and experiences on how to raise their voices regardless of their location. One obvious research opportunity in this regard could involve examining the potential role that digital communication platforms and social media networks play in empowering and encouraging individuals with specific needs to make their voices heard and to allow them to formulate guidelines for inclusive workspaces (see also Section 4.2.4).

4.3.4 Networks in the Backstage of Businesses: The Case of Migrant Entrepreneurs in Amsterdam (JuanFra Alvarado Valenzuela)

JuanFra Alvarado Valenzuela, who has conducted research into migrants' entrepreneurship in Amsterdam, conducted the final talk on deep-level entrepreneurial diversity in the digital age. He has focused on individuals who have left their home countries to exploit digital innovation potentials in industries such as communication, education, and mental health. Having left their home countries implies that migrants also left their established business networks behind and must contend with how to build a reliable network that supports them to create thriving ventures (Alvarado, 2018).

The migrants Valenzuela interviewed had on average 10 strong business supporters in their network that grew through diverse circumstances. Most contacts in these networks were former co-workers from previous employments in Amsterdam. In addition, the communities that the migrants formed in offline locations, such as co-working spaces for startup founders, helped them expand their business networks in a foreign county. These results indicate that remote working might facilitate diverse and inclusive workforces (see Section 4.2.2) but that founders from foreign backgrounds also benefit from contacting people in geographic proximity to themselves. Digital platforms, such as Meetup.com, can help people find these contacts.

Table 3. Summary of Viewpoints

Summary	<ul style="list-style-type: none"> • We need to holistically conceptualize diversity covering all its demographic, functional, and deep-level dimensions to comprehensively assess the relationship between diversity and digital innovation • The relationship between diversity and digital innovation is bi-directional and ambivalent • Disregarding diversity in all its dimensions limits digital value offerings' inclusiveness and fosters the digital divide 	
	Opportunities*	Challenges*
Demographic diversity and digital innovation	Digital technologies allow one to adapt digital value offerings' design and usability to tailor products and services for distinct demographic target groups.	Digital innovation processes are biased and inconclusive, especially with regard to gender and socio-economic diversity. Researchers have considered gender as the main diversity focus in digital innovation processes with limited awareness that doing and undoing gender has a decisive influence on efforts to identify digital innovation's potential and the results from respective processes.
	Digital technologies lower innovation barriers to some extent and enable more demographic groups to participate in exploring and exploiting digital innovation's potential.	Gender stereotypes continue to be reproduced in digital environments. People from economically disadvantaged backgrounds still face discrimination and are left behind rather than using their potential to fill the shortage of IT professionals.

Table 3. Summary of Viewpoints

		Support programs designed to enable entrepreneurs from fragile countries to pursue digital innovation processes often do not reflect these contexts' conditions.
Functional diversity and digital innovation	Exploiting digital innovation's potential requires diverse soft and hard skills.	Prejudices and unconscious biases against certain skillset hamper IT teams' performance.
	Digital communication platforms support employees who are committed to and speak up about diversity issues and propose solutions.	Unconscious biases and a lack of perspectives from people with diverse backgrounds in workforces limit digital value offerings' representativeness.
	Digital communication technologies facilitate remote working, which makes it easier to reconcile parenthood and work and to acquire talent with complementary skills across national and international borders.	Organizations do not yet broadly accept IT-enabled remote working.
	Digital platforms allow companies to promote their diversity and integration strategies, which have become a decisive asset in their fight over attracting talent.	
Deep-level diversity and digital innovation	Diverse levels of innovativeness among team members have favorable effects on team performance when exploiting digital innovation's potential.	The rather invisible but presumably diverse attitudes and beliefs about digital technologies and innovations that team members hold decisively influences their efforts to exploit digital innovation's potential.
	Creating an inclusive workforce, which includes people with different cognitive conditions, will likely have a positive impact on digital innovation processes and outcomes.	Organizations often lack the preparation to create a working environment for their technical teams that reflects the needs of people with different cognitive conditions.
	Digital communication channels can create safe spaces for employees with visible and invisible disabilities where they can (collectively) speak up to highlight shortcomings in their integration.	
	Professional online networks enable migrants to establish a professional network of relevant contacts that can support their entrepreneurial activities.	
* We limit the opportunities and challenges that we present in this table to the aspects discussed throughout the conference.		

5 Conclusions and Call for Future Research

Digital innovation processes and their outcomes have wide-ranging implications for our private and professional lives as they decisively influence how and what type of value offerings we create (Boudreau & Lakhani, 2013; Iansiti & Lakhani, 2014; Nambisan et al., 2017a). Nevertheless, numerous case studies have indicated that digital value offerings and the processes to create them often remain biased and inconclusive (Cain & Trauth, 2013; Trauth, 2017; Urquhart & Underhill-Sem, 2009). For example, the AI-enabled recruitment algorithm that a leading e-commerce platform used to automatically pre-process candidate profiles for software development jobs has proven to discriminate against women as the algorithm relied on biased data that reflected male dominance in technology-related professions. Similarly, facial recognition, which mobile phone applications widely use, continues to struggle to identify people of color, which excludes them from using certain services. These examples highlight the importance of addressing the manifold facets of human diversity in digital innovation, which encompasses both processes and outcomes, in order to ensure that digital products and services truly represent the needs and wants of all sections of society rather than only a few exclusive groups (Trauth, 2017).

This conference report presents researchers' and practitioners' insights into and experiences with fostering and managing entrepreneurial diversity to explore and exploit digital innovation's potential and opens up manifold avenues for meaningful research projects. To that end, it seems necessary to broaden

existing discourses in order to cover diversity's different and distinct dimensions, which includes gender, and to facilitate discussion on the opportunities and challenges in the bi-directional relationship between entrepreneurial diversity and digital innovation. To achieve these objectives, the "Hello Diversity! Conference" highlighted the importance of bringing together scholars and practitioners from various disciplines and enabled them to holistically examine the implications of diversity for digital innovation processes and outcomes. In addition, the "Diversity Talks!" highlighted the crucial role that technologies play in empowering diverse groups to engage in digital innovation, but research has only recently started to examine the extent to which we have realized these opportunities and the challenges that diversity raises (Majchrzak, Lynne Markus, & Wareham, 2016; Sundermeier et al., 2018; Welter, Baker, Audretsch, & Gartner, 2017). In Section 5.1, we present questions for future research projects that individuals raised during the conference.

5.1 Demographic Entrepreneurial Diversity

- Do digital technologies perpetuate or challenge stereotypes, especially with regard to the capabilities of women who pursue digital-innovation processes?
- Which digital tools and infrastructures can support women in overcoming existing challenges related to exploring and exploiting digital innovation's potential?
- How does young adults' socioeconomic background affect their entrepreneurial orientation? What measures can effectively support young adults from economically disadvantaged backgrounds to engage in digital innovation?
- How does one need to design innovation ecosystems to support entrepreneurs in tackling external conditions in fragile country contexts and exploring and exploiting digital innovation's potential?

5.2 Functional Entrepreneurial Diversity

- What implications arise when separating hard and soft skills in IT teams for exploring and exploiting digital innovation's potential?
- Which diversity dimensions can particularly benefit from IT-enabled remote working?
- What design processes for AI-enabled products and services ensure one creates inclusive products and services?
- Which digital communication platforms do people perceive as trustworthy for raising diversity concerns and discussing possible solutions in professional work environments?

5.3 Deep-level Entrepreneurial Diversity

- How does diversity in entrepreneurs' attitudes and beliefs toward digital technologies affect team outcomes in the digital age?
- How can entrepreneurs and managers efficiently collaborate with neurodiverse people to exploit digital innovation's potential?
- How and which digital communication platforms can empower and encourage employees with support needs to meet their specific requirements in the workplace?

In the conference report, we show how researchers and practitioners have found different approaches to foster and encourage entrepreneurial diversity in the digital age and how digital innovation processes and outcomes have a long way to go before they become inclusive (AbuJarour et al., 2019; Berger & Kuckertz, 2016; Kollmann et al., 2018; Olbrich, Trauth, Niederman, & Gregor, 2015). We need to recognize and address these existing shortcomings to ensure digital innovation's inclusiveness (Trauth, 2017). The IS literature has started to look into the inclusive design processes that digital value offerings require (Olbrich et al., 2015), such as ICT-enabled refugee integration (AbuJarour et al., 2019) and accessible social networking websites (Leahy & Broin, 2009; Riemer et al., 2015), but the conference discussions indicate that we have only just started to generate comprehensive knowledge and awareness on the bi-directional relationship between diversity and digital innovation. While we recognize that the conference insights that we present in this report cover only some diversity dimensions, we hope that these insights encourage researchers to conduct their own projects on entrepreneurial diversity in digital

innovation. Indeed, research has a vital contribution to make to foster diversity in the digital age, especially at a time when old threats have emerged again and new ones continue to.

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