Sharing is Caring

A Qualitative Case Study on Knowledge Sharing in University Business Incubators

Hamza El Fakir
Ved Maddison

Bachelor Thesis
Stockholm School of Economics
2023

Abstract

Startups and entrepreneur support organisations like business incubators are contemporary fields of research. A key resource startups receive from incubators is knowledge through the process of knowledge sharing with fellow startups. The different perspectives, professional experience, and expertise i.e. cognitive diversity, present in this environment affect this process. This paper aims to explore that effect by looking at how the factors that foster knowledge sharing are affected by cognitive diversity.

Two rounds of semi-structured interviews were conducted then the analysis was conducted by looking at the impact of cognitive diversity on the different factors/factor categories affecting the effectiveness of knowledge sharing on an organisational level. The paper concludes that cognitive diversity does indeed have an impact on knowledge sharing within university business incubators. This impact spans different drivers that affect the depth and breadth of knowledge sharing. Future research should explore these two dimensions by replicating this study in different contexts or studying the same impact using a quantitative study.

Authors

Hamza El Fakir - 24958

Ved Maddison - 25190

Supervisor

Anna Söderblom, PhD, Affiliated Researcher, Department of Management and Organisation

Examiners

Laurence Romani, PhD, Professor, Department of Management and Organisation

Abiel Sebhatu, PhD, Affiliated Researcher, Department of Management and Organisation

Bachelor's Thesis

Degree Project in Management

Stockholm School of Economics

Acknowledgements

Abbreviations

Table 1: Abbreviations

UBI	University Business Incubator
SSE	Stockholm School of Economics
BL	Business Lab
U2	University 2, UBI 2's university

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Introduction

Background

Startups and entrepreneurship play a crucial role in driving economic growth and development by fostering innovation and creating jobs (Kane, 2010). Entrepreneurship has seen a meteoric rise in recent years, drawing interest from both academics and practitioners alike. With the development of innovative technologies and globalisation, new opportunities for business creation have opened up, sparking enthusiasm for startups that can provide potential economic growth and have a social impact (Mair & Martí, 2006). However, the world of startups can be daunting, and while prior experience can help, especially when the company is small and cash-strapped, it is often intangible resources like knowledge and guidance from support structures such as business incubators that make or break companies (Ye, 2018).

Over the past few decades, these support structures have become indispensable tools and resources for encouraging entrepreneurship, ventures, and innovation (Mian, Lamine, & Fayolle, 2016). Incubators are often seen as a means to promote innovation and entrepreneurship by creating an ecosystem of support that links startups with resources, networks, and mentors (Hackett & Dilts, 2004). These programmes provide early-stage startups with mentorship, networking opportunities, and—occasionally—access to funding, helping them to overcome challenges in the startup journey and scale their businesses (Rasmussen & Sørheim, 2006). Facilities like these that provide various resources to startups have become very popular and common worldwide (Bergek & Norrman, 2008).

Incubators affiliated with universities are one type of facility that has gained significant attention in recent years (D'Este, Iammarino, Savona, & von Tunzelmann, 2012). University business incubators (UBIs) are a unique instance of such incubators as their relationship with a university provides both assets and services that are complementary to the development of a startup; typically drawing upon the resources and expertise of their educational institution to offer support for startups (Lendner & Dowling, 2007). UBIs have become increasingly popular over time and many top-ranked universities have opened incubators to foster entrepreneurship and innovation (Bruton, Ahlstrom, & Li, 2010; Dohse & Walter, 2010).

University students are typically first-time entrepreneurs and have little to no experience in the world of startups and these incubators offer them an invaluable platform to cultivate their business ideas with other students, alumni, and faculty, and bring them to market (Pellegrini & Johnson-Sheehan, 2021). Since startups rely on gaining knowledge from UBIs to gain a competitive advantage, it is imperative that the knowledge transfer within the UBI is successful

(Sáenz, Aramburu, & Rivera, 2009). Startups in all forms of incubators, including UBIs, rely on several methods of knowledge transfer to gain this advantage. Knowledge sharing, a subset of knowledge transfer, involves the exchange of knowledge between parties and is one of the most important forms of support that startups receive during their time at UBIs (Tangaraja, Mohd Rasdi, Abu Samah, & Ismail, 2016). This exchange is affected by multiple factors (Razmerita, Kirchner, & Nielsen, 2016).

However, this key aspect of UBIs can often be inefficient, unsuccessful, or missing. This is due to the presence of cognitive diversity in incubator members, another field of research that has entered the contemporary arena. With the concept gaining increasing recognition in both academic and professional contexts, cognitive diversity refers to the inherent variation in how individuals think, process information, and approach problem-solving tasks. Unlike demographic diversity, which focuses on visible characteristics such as age, gender, or ethnicity, cognitive diversity delves into the rich tapestry of unique perspectives, experiences, and cognitive styles that individuals bring to a group or organisation. While this paper has presented a spread of sources that champion business incubators as an essential environment for a successful startup, studies have shown that the effects of startups being in them have a weak to nonexistent relationship on their bottom lines or growth (Lukeš, Longo, & Zouhar, 2019; Pena, 2004).

Research Gap

Research in the field of business incubators has largely focused on the effects of incubators on startups in all forms, from university to corporate, and their general business practices and organisation (Lendner & Dowling, 2007; Hackett & Dilts, 2004; Rasmussen & Sorheim, 2006). In terms of the intersection between knowledge-sharing and incubator research, Bouncken and Aslam (2019) identified knowledge-sharing processes as a phenomenon that has received little attention despite their practical importance. Lamperti et. al (2023) stated the importance of startups receiving knowledge at an early stage and identified business incubators as a promising medium for the transfer of this knowledge and pointed to the need for future research to study other business incubators in different regions with different startups to address the limitations of their study. Furthermore, Bergman and McMullen's (2022) journal article states that entrepreneurial support organisations present an incredible opportunity for advancing research on entrepreneurial support and support organising.

With the context for research established, Wang and Noe's (2010) review of knowledge sharing pointed to several research gaps in factors affecting the process. Factors that needed to be studied included context, diversity, perceptions, team development stage, and trust. Swift and Hwang (2013) explored the impact of trust on knowledge sharing in companies and Razmerita, Kirchner, and Neilsen (2016) developed a knowledge-sharing model that used trust as a sub-factor in their

analysis of knowledge sharing in organisations. The second half of Wang and Noe's paper presents future research questions and areas including examining how knowledge sharing is affected by reciprocity, networks and their strength, positive attitudes, how intentions are perceived and interpreted i.e. the environment, the organisational culture, and managerial behaviours and actions.

These suggestions for further research point to a need to explore knowledge sharing in UBIs. This research will use a case study of a leading Swedish UBI and other leading UBI executives to examine the knowledge-sharing processes there and how they are affected by cognitive diversity, providing a contextual contribution to the field of research, an expected contribution of a Bachelor's thesis.

Research Question

The primary purpose of this research is to gain insights into how cognitive diversity affects the factors that impact knowledge sharing in UBIs. Cognitive diversity's effects on knowledge sharing in UBIs from the perspective of both startup founders and UBI executives will be included in our research. We will gain a better understanding of how startups' learning in UBIs is affected by the inevitable presence of cognitive diversity. Specifically, this study seeks to answer the following research question:

How does cognitive diversity impact the factors that collectively affect knowledge sharing in UBIs?

Our selection of UBIs as our unique context to address the identified research gap was due to their commitment to developing and nurturing the next generation of business leaders and being at the forefront of economic development. First, these institutions have a storied history of providing world-class education and cutting-edge research in various fields of business, such as entrepreneurship (Lozano, Bofarull, Waddock, & Prat-i-Pubill, 2020). Second, many schools have recognised the significance of nurturing startups and have created incubators within their institutions to foster innovation and entrepreneurship (Bruton, Ahlstrom & Li, 2010; Dohse & Walter, 2010). Finally, these incubators have become integral parts of entrepreneurial ecosystems and have proven effective at aiding growth (Avtandil, Goderdzi, & Tatiana, 2020).

This study seeks to investigate this further with a case study of the SSE Business Lab, the UBI of the Stockholm School of Economics, complemented by executives from other leading UBIs. Through qualitative analysis of semi-structured interviews with member entrepreneurs of the Business Lab and UBI executives, we hope to gain insights into the knowledge shared in UBIs to give startups a competitive advantage. Ultimately, our analysis can contribute to understanding how the present cognitive diversity in Swedish UBIs affects knowledge sharing, providing a new context that hasn't been studied before.

The Case: SSE Business Lab

The Stockholm School of Economics (SSE) is a world-renowned, top-ranked business school that ranked 20th out of 95 European business schools in 2022 (2022). The SSE Business Lab (BL) is the school's business incubator and was founded in 2001. They describe themselves as "an integrated part of the school" working "to encourage entrepreneurship and help startups accelerate their growth." They have supported over 250 companies since their inception and offer support at any stage of a business idea to any entrepreneurs or startups with a connection to the school (2022).

They conduct three programmes for startups, namely Ideate, Activate, and Incubate. The first programme is open to students at SSE and Kungliga Tekniska Högskolan (KTH)—the Royal Institute of Technology, also located in Stockholm—and focuses on forming a team of students and a business idea. The Activate programme is "open to startup teams where at least one member has an association with SSE" and focuses on testing the business idea and validating a team's business hypothesis. Finally, Incubate is an "advanced programme for startups with a scalable idea, initial traction, and a diverse team" where startups will "receive six-18 months of access to resources and support to scale up [their] business idea" and is only "open to startups where at least one founder has an association with SSE" (ibid.).

All startups interviewed for this study were members of the Business Lab's Activate or Incubate programmes.

Primary Focus and Delimitations

This study examines the SSE Business Lab incubator and how cognitive diversity affects knowledge sharing in Swedish UBIs. While other business incubators affiliated with universities exist, this research specifically examines the SSE BL due to its esteemed reputation as a top-ranked business school that has a proven track record of success. Furthermore, this study only considers startups that have completed the Ideate, Activate, or Incubate programmes offered by the SSE BL. This is because these programmes are tailored for different stages in business development so those that have completed them likely received different types of support and resources during different stages of development. Two interviews with executives in two other Swedish UBIs are used to enrich and validate our findings.

With these delimitations in mind, our study seeks to provide a valuable contribution to the understanding of how cognitive diversity in Swedish UBIs affects knowledge sharing.

Literature Review

This literature review seeks to review existing literature related to the field of study in this paper. Beginning with an overview of UBIs, the focus moves on to their support systems and knowledge transfer. Then the subset of knowledge sharing is identified before discussing the impact of cognitive diversity on it.

University Business Incubators (UBIs)

To overcome these obstacles, business incubators—first established in 1959—offer startups resources, mentoring and networking opportunities (Hackett & Dilts, 2004). Smilor and Gill (1986) define a business incubator as "an apparatus for the maintenance of controlled conditions for cultivation" where they have the "ability or desire to maintain some kind of prescribed and controlled conditions favourable to the development of new firms." They claim that business incubators "seek to give form and substance—that is, structure and credibility—to startup or emerging ventures." Hu and Mathews (2008) noted that startups taking part in UBIs tend to have higher survival rates than those without.

The main way UBIs support member startups is by equipping them with knowledge, being both an established generator and transferer in the entrepreneurial community (Hassan, 2020). Hassan writes that universities should encourage students to become startup founders and that the relationship of university research outcomes being linked with both the startup's industry and development will be beneficial for all UBI stakeholders (ibid.). Knowledge-based technology transfer is used by all business incubators to drive change (Russell & Still, 1999) and Cantu (2017) found that the growth of a startup can be improved by the transfer of knowledge from an incubator.

Knowledge Sharing

Knowledge-sharing research focuses on organisational context, interpersonal and team characteristics, cultural characteristics, individual characteristics, and motivational factors, with implications for knowledge management initiatives (Wang & Noe, 2010). The knowledge-based view of the firm is a business strategy theory part of the discourse on resources and capabilities and an extension of the resource-based view that views knowledge as a valuable, rare, and essential resource of a firm, such as a startup (Grant, 1996).

Research has shown that providing opportunities for UBI members to engage in peer learning—or the transfer of knowledge between startups—can significantly impact organisational knowledge sharing and enhance performance (Yang, 2008). This results in UBIs having programmes that

encourage startups to share and learn from one another in the form of coworking spaces, workshops, peer feedback sessions, and more. This focus on equipping startups with knowledge and the creation of a culture conducive to sharing it benefits both the UBI executives, allowing them to design a better support programme, and the startups, equipping them with a knowledge-based competitive advantage. The symbiotic relationship between the knowledge-providing UBI and the knowledge-receiving startup is the ideal state for the organisation, as stated by Ouakouak et al. (2021).

However, the knowledge receiver also shares some responsibility in the knowledge-sharing process, not only by improving it by creating awareness of its benefits—as studied by Ouakouak et al.—but also by ensuring their willingness to receive information is high. Evidence suggests that a startup's absorptive capacity for knowledge is an important factor when transforming knowledge from UBIs into a competitive advantage (Rothaermel & Thursby, 2005).

High-tech UBIs provide rich-networked environments for knowledge acquisition (Warren, Patton, & Bream, 2009) and peer learning is essential for a successful time as part of a UBI support programme (El-Awad, Gabrielsson, & Politis, 2017). Gabrielsson et al. (2019) state that the potential for incubators to be effective learning environments depends on the presence of three catalysts: affective motivation, constructive feedback, and peer atmosphere. These three catalysts also have two contingencies that affect startups' knowledge receiving: prior entrepreneurial exposure and programme-venture fit. Finally, UBI knowledge transfer methods, such as teachers' pedagogies, have improved in the past decade into what Gabrielsson et al. (2020) call a "coherent research theme," further benefiting UBI stakeholders.

Cognitive Diversity

Some research has shown that teams and organisations with a wide range of cognitive perspectives are better equipped to tackle intricate challenges, generate creative solutions, and make more informed decisions with cognitive diversity fostering an environment where individuals with varied backgrounds and cognitive profiles can collaborate effectively, enhancing overall group performance and reducing bias (Liao & Long, 2016; Mitchell, Nicholas, & Boyle, 2009). Other research presents caveats like it being beneficial for objective functioning but detrimental to team satisfaction, affect, and members' impressions of their creative performance (Kurtzberg, 2005) or that it may produce epistemic benefits only when the epistemic community is faced with problems of sufficient difficulty (Poyhonen, 2017).

Developing an effective UBI support programme that conducts a successful knowledge transfer is affected by the presence of cognitive diversity, or the variety of thought patterns, ideas, problem-solving methods and mental perspectives present in people (Hundrev, 2021). Despite the

term being coined in 1998, the factors that fall under the umbrella term and broader diversity management have been studied since the 1980s (Yadav & Lenka, 2020). The effects of diversity in founder experience and expertise within founding teams on business innovation have attracted a lot of interest. For instance, Corrocher and Lenzi (2022) argue that founders with a variety of diverse knowledge backgrounds can have a favourable impact on creativity within organisations. This information is especially important for UBIs since they frequently provide an environment that is knowledge-rich for entrepreneurs. The diversity of founders' knowledge backgrounds among these incubators' startups has the potential to increase their capacity for innovation while encouraging a dynamic transfer of knowledge.

In addition, Shepherd, Breugst, and Patzelt (2023) explore the cognitive diversity of founding teams and how it affects how a company develops its culture. In the context of UBIs, where a culture of innovation and knowledge exchange is desired, understanding the impact of cognitive diversity on culture creation is essential.

The concept of cognitive variety in social networks is also introduced by Ng (2004), along with its potential advantages in establishing balanced networks that maximise the advantages of both diverse and closed relationships. This idea emphasises the value of achieving a balance between diversity and coherence in a UBI context, where networking and collaboration are crucial. Such a well-rounded strategy for network development may be crucial for promoting efficient knowledge transfer dynamics between founders with various levels of experience.

Theoretical Framework

Knowledge-sharing theory is grounded in the belief that effective knowledge exchange is fundamental for innovation, learning, and organisational success and highlights the importance of capturing, organising, and transferring both explicit and tacit knowledge within an organisational context (Shamsie & Mannor, 2013). It posits that fostering a culture where individuals willingly share their insights and experiences enhances problem-solving, decision-making, and adaptability (Nonaka & von Krogh, 2009). The theory recognizes key enablers and barriers—such as motivation, communication skills, organisational support, and technological factors—that influence the dynamics of knowledge transfer (Cabrera & Cabrera, 2002; Jeon, Kim, & Koh, 2011; Newell, Robertson, Scarbrough, & Swan, 2009).

Theory Usage

The chosen model is inspired by Razmerita, Kirchner, and Nielsen, where these categories have been identified, through a hybrid (quantitative and qualitative) study to encompass the most significant factors affecting knowledge sharing within organisations (2016). We also believe that in

the context of a UBI, the key elements of most interactions are the incubator itself—through its organisational structure, employees, environment, programmes, and infrastructure—and the startups—through the founders—within it. For that reason, we do believe that by covering organisational (UBI) and individual factors (startups), this model would be relevant to our study. Given the rising importance of digital channels in the context of communication within organisations, we believe that technological factors are also relevant for the analysis. Although this factor could be included within organisational factors, we believe that it's important enough to be looked at as a separate category. Demographic factors in this model will be used as a proxy for cognitive diversity (Milliken & Martins, 1996). By understanding the interaction between these different factors, we aim to get a deeper understanding of the environment and mechanisms affecting knowledge sharing and how cognitive diversity affects them.

Individual Factors

The key individual factors affecting knowledge sharing could be categorised into enablers and barriers. One key enabler is motivation which Deci and Ryan (2000) say could be intrinsic or extrinsic. Intrinsic motivation is driven by genuine interest and enjoyment of the performed activity while extrinsic motivation is dictated by monetary rewards and reciprocal benefits (Jeon, Kim, & Koh, 2011). Trust emerges as both an enabler and a barrier while time constraints and fear are considered to be barriers in our case (Hsu, Ju, Yen, & Chang, 2007; Matschke, Moskaliuk, Bokhorst, Schümmer, & Cress, 2014).

Organisational Factors

Organisational factors wield significant influence over knowledge-sharing dynamics. Values, beliefs, and systems embedded in organisational culture, as explored by Newell et al. (2009) and Alavi and Leidner (2001), shape an environment where knowledge exchange is valued. Organisational support—encompassing training, guidelines, and a conducive work environment—enables the creation of a knowledge-sharing-friendly environment (Holsapple & Joshi, 2000; Roda, Angehrn, Nabeth, & Razmerita, 2003). Group dynamics and collaboration within organisations are also important for the creation of an environment that fosters discussion and knowledge sharing.

Technological Factors

Technology serves as a powerful enabler for knowledge sharing, particularly through social media platforms (Kirchner, Razmerita, & Sudzina, 2008; Razmerita, Kirchner, & Nielsen, 2016). Social media provides real-time communication, collaboration, and information sharing, facilitating new ways of working. According to Cabrera and Cabrera (2002), perceived technology benefits play a crucial role in employees' understanding and acceptance of technology for knowledge sharing. Aligning technology with user needs and effectively communicating its benefits contribute to its role as a potent enabler in knowledge-sharing initiatives.

Demographic factors

Demographic factors play a significant role in influencing knowledge-sharing dynamics within organisational settings. Gender, as explored by Riege (2007) and Michailova and Minbaeva (2012), introduces a dimension of diversity that can impact communication styles and information-sharing patterns. Years of working experience, also contribute to individual expertise and may shape one's approach to knowledge sharing based on accumulated professional knowledge over time (ibid.).
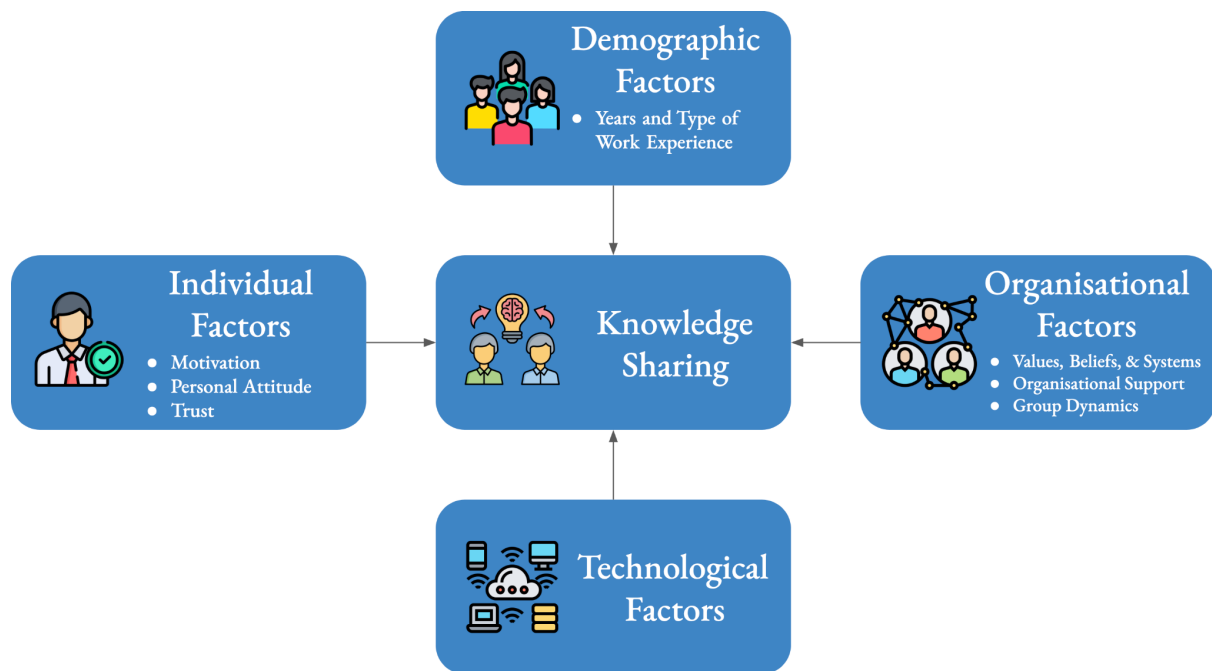
Figure 1. Our theoretical framework shows the factors that affect knowledge sharing based on Razmerita, Kirchner, and Nielsen's 2016 model. The factors present in each factor group emerged as we analysed our data.

Theory Discussion

Theory Critique

The model's reliance on demographic factors as a proxy for cognitive diversity might oversimplify the complex nature of cognitive diversity itself. Additionally, the model's applicability within UBIs, rather than the traditional type of organisations, may require contextual adjustments, considering potential differences in structures, environments, and the nature of the organisation and interactions between individuals.

Furthermore, while the model covers a wide spectrum of factors impacting knowledge sharing, it lacks a deeper exploration of the interrelationships and potential conflicts between these factors. A

more nuanced examination of how these elements interact and potentially contradict each other could offer a richer understanding of knowledge-sharing processes.

Overall, while the model offers a comprehensive view of knowledge-sharing dynamics, it could benefit from refining its approach to cognitive diversity, contextualising its application, and exploring the interplay between different factors to enhance its depth and applicability in understanding knowledge sharing within specific incubator contexts.

Methodology

Research Philosophy

The research paradigms that we chose to conduct our qualitative research in were a pragmatic ontology and positivist-interpretivist epistemology. Our study has elements of positivism as we started from previous factual knowledge and aimed to establish a reality based on our interviewees' descriptions. However, this is a deductive process and we were in line with Saunders et al. (2019) and their conclusion that qualitative research in the interpretivist paradigm is inductive and starts from subjects and their thoughts and actions. This led to our conclusion that our abductive study had a pragmatic mix on both axes of ontology and epistemology. Our ontology leans more toward subjectivism than objectivism as the interactions between our interviewees and the knowledge sharing taking place in UBIs is a shared reality created by the community. Our epistemology affirms that interviewees' perspectives and experiences that they share with us will be affected by their cognitive and demographic factors i.e. the presence of cognitive diversity. We will understand the interpretations of knowledge sharing in UBIs by interviewing a variety of founders and executives for their interpretations of said reality.

Research Design

We decided on interviews that were qualitative and semi-structured to collect our data, enabling us to ask follow-up questions for deeper and better answers (Saunders, Lewis, & Thornhill, 2019). To have a comprehensive grasp of our phenomenon, we decided to undertake a case study of a top UBI. We complemented this case study with data from other UBIs to strengthen our findings. Our original study concerned the resource-based view and after conducting the first round of interviews, we concluded that knowledge is a key form of support provided by the incubator and that cognitive diversity had a key impact on knowledge sharing. We therefore decided to gain a deeper understanding of this impact thus prompting a second round to collect more data.

Research Approach

We decided to take an abductive approach for our case study, alternating between using theory and empirics (Bell, Bryman, & Harley, 2022). We collected data to observe interviewees' experiences in UBIs and themes and trends emerged which had an impact on the theory's perspective. This had an impact on the ongoing data gathering, leading to interview questions being adapted as we gained knowledge through data collection—the abductive method.

Data Collection

Interview Sample

We conducted two rounds of interviews. For the first round, eleven interviews with startup founders and UBI executives served as the basis for this research. Participants were selected using a purposive sampling strategy (Saunders, Lewis, & Thornhill, 2019). The interview sample consisted of people who worked at UBIs or at startups that were currently in or had recently passed through one of the incubator's programmes. We made an effort to select participants from a variety of startups and backgrounds to create a heterogeneous sample. For the second round, theory-driven questions were asked about cognitive diversity to both old and new interviewees.

Interview Design

The first round of interviews, which lasted approximately 28 minutes each, was conducted utilising a template of questions for the various discussion sections in Appendix 3 and 4. The second round, lasting 26 minutes, was conducted using theory-driven questions in Appendix 6. To elicit interesting responses, probing questions were posed throughout the interviews. The interview design has then evolved to accommodate the abductive nature of our study.

Interview Setting

In the first round, six interviews were conducted on Microsoft Teams and five were conducted in person, and for the second, all interviews were conducted online as we worked on the paper from different continents. We were lucky to be writing our thesis in the time of AI innovation and used Otter.ai, a GDPR-compliant, to automatically transcribe our audio recordings—after asking the interviewees for consent.

Additionally, all interviews, online or in person, were logged on Microsoft Teams. Inviting interviewees to a meeting made scheduling simple as the event was connected to the interviewee's calendar and would notify them before the interview so they wouldn't forget. Both of us attended all the interviews, Hamza asked most of the questions, and Ved took notes to save time for when we analysed them.

Data Analysis

Physical interviews were recorded using an iPhone and digital interviews were recorded using both an iPhone and Microsoft Teams' in-built recording features. Transcripts were generated using Otter and data was coded on PDFs of the transcripts. The coded quotes were then extracted, sorted, and labelled in a spreadsheet.

The theoretical framework provided the first (factor groups) and second (factors) order themes to code our data with. Third-order themes were created as themes emerged while going through the empirics. These themes were placed in the relevant factor groups and factors. Each factor's influence and effects on knowledge sharing and its impact constituted the first level of basic data analysis. The analysis of the interplay of these factors within factor groups constituted the second level of data analysis. Finally, cross-factor group analysis was conducted, specifically between demographic factors and the other three factor groups, showing the impact of cognitive diversity on knowledge sharing.

Ethics

After first meeting interviewees, we explained our study before asking for consent to record them. Once consent was obtained, the audio recording—for physical interviews—and audio recording, live transcription, and video recording—for digital interviews—began.

All sensitive information has been removed in compliance with GDPR, and the audio files were erased right away after the thesis was finished. Neutrality and professionalism have also been crucial, to the best of our abilities, to avoid influencing the participants' responses.

Method Criticism

As an interpretivist case study in a specific context focusing on individuals' perspectives, the transferability of our research is quite limited. Semi-structured interviews also have the drawback of potentially making it harder to compare interview respondents (Bell, Bryman, & Harley, 2022). The sample size of 16 interviews with 12 interviewees was enough for us to observe saturation in responses, but may still be too few for this study. Many interviewees also spoke English as a second language and might have not been able to express themselves as truly as they could in their native language. Finally, despite data collection being anonymous, the UBI communities were small and interviewees might have been reluctant to share information that could be interpreted as theirs.

Empirical Findings

After conducting the initial round of interviews, codes and subcodes were developed for the previous research question. After developing the current research question and conducting the second round of interviews, new codes and subcodes were generated that could be applied to both rounds of interviews' relevant, overlapping themes.

Individual Factors

Motivation and Rewards

Some founders expressed an **intrinsic motivation** to participate in knowledge sharing. Founder 4 said that *"other people can learn from you[r teaching] [...] which I quite enjoy."* Founder 9 shared that *"the lessons that I've learned from other founders as well, that may be a bit further along [than the] new Activate companies [have been useful] and we're a buddy company to a company that just came in, you can kind of help them avoid the same mistakes that you make [...] the sooner you make them or the sooner you learn about them, the better you can prioritise your time. Yeah, so I think prioritising is what I learned most."* UBI 3 concluded that *"everyone likes to be there for the knowledge [gained from the incubator programme], but also for the peer-to-peer level."*

At times cognitive diversity had **demotivating effects.** Founder 1 recounted that a member of their startup *"who's been with the tier one consultancies, McKinsey, and also has the Goldman Sachs experience and all of that [...] felt more as if she was helping them out"* and Founder 4 stated that discussions were *"also a bit limiting, for example, with the technical aspects. Because they don't know as much about this, I can't really talk much with them about it or get feedback on it, because they just don't really know how to do it. So it's a good place where you have gaps, but in places where you only know a lot, it's difficult to stay away from the others."*

Being in the **same stage of growth** as other startups also had its benefits. Founder 9 told us that *"because we're at the same stage, [we were] playing around a bit with our strategies and [could] just be open with [Founder 5]"* and how they liked that there were a *"bunch of other startups that you can just grab a coffee with, or if you have a couple that are kind of in the same stage, you sometimes share some issues with."* Founder 2 echoed this by saying they *"got those examples and reference points around us where the businesses were at a similar stage."*

Founders 5 and 9 spoke about the benefits of **multiple perspectives,** that *"it's added more perspectives for me to consider when taking my decisions. So in that sense, it's hard to sort of put that value into numbers"* and that *"it's quite nice to sometimes open up and be with someone that does something completely different than you and looks at your issues with a different lens."* The variety of

expertise was *"something that can help quite well. Because, of course, they know the things that I don't know a lot about. So it kind of fills the expertise and the gaps,"* said Founder 4.

Personal Attitude

Most founders had a **positive attitude** towards the knowledge sharing present in the UBI. Founder 2 said the BL was *"being around the right types of people to get the right ideas in your head about what kind of approach to have in business."* Founder 1 liked the *"meeting once every week [...] which I think is very nice and very important. I've been part of one of those. And it's very high and low what people ask about, [what] they're talking about, but I actually think it was super nice."* Founder 4 *"would stay on [to] work together at the office for a few days a week. And then we just ask people, if we're working on something and could use feedback when doing this new pitch."* Founder 9 had been in all three BL programmes and compared two, saying that *"every week [in the Activate programme], we have a bunch of workshops that you kind of have to attend [and there's] a lot of pressure on you to attend all this, [but in the Incubate programme] now the incubator is very hands off."* Founder 3 *"was able to get some really good advice from someone working with Web3 and crypto[currency], which is so far from our insurance products, [...] so it's stuff like that can be super helpful."*

Founder 8 also had a **negative attitude,** stating that there was *"also a hard line, because sometimes it feels like it's a bit forced [...] that we should learn from each other"* and that *"yeah, we're probably giving a little bit more [knowledge] than we're receiving, if you want to, box it in, in a very transactional endeavour."*

Trust

Trust is essential for meaningful knowledge sharing, and it was an **enabler** for Founder 2, with them getting *"to see other startups that were on a similar journey and [have] gotten [a] more close relationship with more similar types of startups than we knew before."* Founder 9 had *"a couple of people that are kind of my go-to if I have a specific question about a certain thing [...] you kind of know, the expertise of some people. [...] I'm talking to a guy that has worked for decades in media [and it] is super helpful."* Founder 8 also said that *"a lot of people have been in consulting; for instance, if you were to have a consultancy background and like marketing or whatever, then I know for sure that we have a lot to learn from you."*

But trust could also be a **barrier** when startups are direct competitors. Founder 9 said that *"because [they and another startup are] not competitors, [...] I sometimes have a few people that I just share knowledge with or chat with."* Founder 4 had a similar situation where *"[another startup is] also doing a quite similar thing to us, and they have already [been here] for a year longer. So we went down [to them] a bit more often. But that was more for the specific questions."* Founder 6's

professional experience also made them *"think the expectations were fairly low, actually. Because we worked so many years, both of us. And we always thought we could sort out most of the stuff ourselves."*

Organisational Factors

Values, Beliefs, and Systems

The **importance of an open environment and community** was mentioned by UBI 2, saying startups *"are allowed to talk very freely [and] we try to create a very open environment where everyone can say what they feel is important [and] to bring all the perspectives to the table"* while UBI 3 concluded that *"knowledge and network are the key things [that we provide startups with]."*

UBI 2 and 3 also stressed the **importance of selecting the right participants** and how *"it depends on having a good mix of people with the right mindset. Because if you get people into their pre-incubator that are not willing to share the experience, that don't turn up at the weekly meetings, that are not open, [...] that might be something that we talk with them [about]"* and that *"this programme is for those people that are also willing to share and to build on each other's ideas, and so on."* UBI 3 added that they *"think [cognitive diversity] is not a problem. But I think we could perform potentially even better if we were more diverse in certain aspects."*

Finally, the **importance of knowledge** was echoed by UBI 1 saying that *"those types of informal knowledge-sharing opportunities are very important. And I mean that's for all topics"* and UBI 3 stating that *"knowledge transfer is extremely important. I would say it's probably one of the key reasons why you're in the incubator environment."*

Organisational Support

Community engagement and inclusion were key for knowledge sharing, with UBI 2 stressing the programme is *"their businesses during a full year [and] it's quite a lot of meetings, [...] around 30 meetings or so over the year or more"* and that *"it's a lot of peer-to-peer learning. And we kind of tried to encourage that they should work with each other and support each other."* They said in discussions they *"try to keep it open and have a [...] short introduction to the topic [before they] involve those that are more experienced a little bit more in teaching activities so they can share their experience with the others."* Founder 9 spoke of the *"mandatory Wednesday weekly meeting with all the CEOs of all the startups, where you also give updates or help each other out"* and that they were a *"structured approach to if you have something to ask, or if you need something, or if you want to help other people. You can. That's the place to do it."* UBI 3 stated startups *"work together in teams, having sort of workshops and lectures and things together"* and Founder 7 was pleased with *"one good change that the Business Lab*

has actually made is that they have a weekly community meeting here. And they pivot that to let one company demo some product and get feedback from all the other companies."

Furthermore, UBI leadership practised **idea management** to foster knowledge sharing. UBI 2 explained they *"try not to have competing ideas in the same batch [by asking startups to] wait for the next batch or sometimes we try to merge them"* and that *"everyone that enters into the programme, they signed a non-disclosure agreement. And that's mutual for all the teams in the incubator. So we use this Chatham's rule."*

Finally, the **environment** provided at the UBI was a form of organisational support that was frequently mentioned. Founder 4 said it was *"not just getting a place to stay, [but] having other people around you working on several things to [know what to] look out for which might be missing"* and Founder 8 said that *"since we're in this space, and everyone can relate to [common startup problems], I think that's also a natural part of interacting with other members of the startup incubator."* Founder 9 explained that *"there's like a bunch of flex desks. So a lot of startups are like working out in the open, [...] normally, you would just go there [...] so it's very flexible. And typically during lunch, you interact with other startups."* UBI 3 said that *"when you're in the lab doing stuff commercially, you're more or less on your own, [...] but here you're in an environment where you can actually meet with peers that have the same challenges, same wish, same goal and so on."* UBI 2's incubator had *"40 companies and since some of them have more than four and five people in the team, quite a lot of people actually sit together, so it becomes kind of a small community."*

Group Dynamics and Collaboration

Informal collaboration was brought up in the interviews. Founder 8 said that *"it's always other companies in the incubator, which we talked to, and have lunch and coffee and stuff like that"* and that *"the Business Lab is an open office, [...] [where you] sit wherever you like, [...] typically just chat with the companies that are currently sitting there, [...] [and go to the] same coaching sessions; [...] obviously, have a lot to speak to each other because we listen to each other's coaching sessions as well [and] know exactly where they're at, [and they're] clear where we're at and what critical questions we're now battling."* UBI 2 explained *"a lot of the founders say that [...] if they want to talk to someone, they tend to come to that person, this person that they were in the same batch with and bounce ideas and so on. And a lot of them also run [office] space together."*

Formal collaboration provided by UBIs was also mentioned, beginning with the workshops conducted there. Founder 6 talked about *"a sales workshop: how to think about structuring your sales process. So we met with some of the other startups and shared expectations, that was great."* Founder 4 added that *"outside of the workshops. I think [how much the startups interact] varies per company."* The second was the meeting, with Founder 8 saying on *"Wednesday [...] all the companies give just*

a brief update of where we're at, [...] a format where you can ask the community and everybody has to at least have one person present" and Founder 1 calling it an *"open setting where people can chip in and provide suggestions for how to solve stuff."*

Expertise-based collaboration was also common for sharing knowledge between peers. Founder 9 knew *"this one guy, he has worked for like 10 years in media. So if I have a marketing thing [I go to him;] after a while, you get to know there's like this persona"* and Founder 8 said that *"you can also ask about stuff, [...] CRM systems and stuff like that, [...] questions that maybe a lot of people are battling, able to ask for that."* From the incubator, UBI 3 said that *"the feeling I get is that people are very sort of willing to share their experiences and try to help people who're also less skilled in certain things. So it's a very sort of inclusive environment."*

Technological Factors

The **BL Slack channel** was a platform brought up by several founders. Founder 9 said that on the platform there is *"a summary of that weekly meeting every week, [...] a very detailed summary that actually makes you, even if you didn't attend, you really know what's happening, [...] everybody's mentioned and everything; [...] there's a lot about like resources, [...] almost every day, there's a couple posts on different channels, [...] it's kind of a passive flow of information. And so you can take certain useful stuff for yourself"* and Founder 8 told us the *"Slack channel is used for both partnerships, events, and like general topics of the Business Lab, [and] we also use it to communicate with the other members and employees of the Business Lab."* Founder 1 also said they *"have this Slack channel where you can write stuff. And basically just posting the question there."* Founder 9 also mentioned that *"they do have this kind of platform where you can see all the faces and you had to introduce yourself, [...] that's more [of a] digital platform, I don't think it'd be as worthwhile, [because] it's just more through the in-person interaction that you find out what people are good at."*

Demographic Factors

When discussing demographic factors, responses often included a relation to individual or organisational factors.

In the intersection between **individual and demographic** factors, Founder 1 recognised the value in cognitive diversity, stating that *"the value comes from just the diversity of the group, right? Because you get perspectives that you otherwise wouldn't have"* and UBI 3 acknowledged the lack of background diversity as a challenge, conceding that *"one challenge for us is that many of the teams are not as diverse as maybe one should wish."*

When looking at **organisational and demographic** factors, UBI 2 brought up participant selection criteria, saying that they *"have criteria that we look at. But it's always also [about] getting a good mix of people in the programme as well"* and that *"30% of the ownership needs to lie with a [U2]-affiliated person, but a lot of the teams have members from other universities or even people that have been running companies before."* UBI 3 talked about utilising student skills, saying that one *"was paid to sort of help the company to set up an investor pitch deck; [...] there are students [...] that have the skills that the researchers usually lacked."* Founder 7 acknowledged that *"one thing I would say the Business Lab has gotten significantly better [at] since we joined is that they are really trying to connect more to SSE and also to [U2]"* and Founder 9 mentioned group dynamics and demographics, saying that they *"think the differences in competence and the difference also in personalities that we have here is super helpful."*

Analysis

Individual Factors

Motivation

Our empirics confirm that both intrinsic and extrinsic motivation are key enablers of knowledge sharing. In some cases, founders were willing to share knowledge since this was an activity they enjoyed doing. However, extrinsic sharing of knowledge was more prevalent and involved expectations of benefits and reciprocity. Most startups deal with comparable issues, thus exchanging expertise would guarantee some degree of reciprocal learning. The benefits of engaging in knowledge sharing include gaining different perspectives from businesses operating within different industries and direct knowledge from businesses in a similar stage of growth. Additionally, businesses would gain from interacting with founders with different backgrounds or a higher level of expertise. However, a founder is less motivated to engage in knowledge sharing with founders with a lower level of experience as they don't see any benefit in such an exchange.

Personal Attitude

The founders' attitudes towards knowledge sharing were mostly positive. Many show that they are receptive to new knowledge and express an openness to learning, valuing networking and proactive engagement with peers for diverse perspectives and experiences. Positive attitudes are often associated with practical benefits such as gaining valuable advice, feedback, and insights, that can help the startup survive and grow, emphasising the importance of collaboration. However, there were occasional reservations. Challenges such as the feeling of forced learning within the UBI conveyed a negative attitude. Additionally, there's a perception of knowledge sharing being

somewhat transactional when involving more experienced founders, with the notion that more knowledge is given than received.

Trust

A crucial component of effective and successful knowledge sharing is trust, usually determined by the relationships between different founders, their level of expertise, or proven credibility. Founders are more likely to trust others with whom they have closer relationships, built through shared experiences and frequent interactions. This trust stems from the idea that experienced or trusted founders would typically be more aware of the goals and advancements of the knowledge-seeker startup and would have a greater grasp of the challenges they face. The expertise is usually based on the other founders' level and type of experience. The level of experience would dictate their perceived credibility while the type of experience would determine the seekers' desired areas of knowledge acquisition.

However, trust can also be a barrier when the founders' startups have similar ideas or simply when they do not have enough experience, usually creating the perception that such founders do not have enough experience to provide adequate feedback or share relevant knowledge.

Interplay Between Individual Factors

The factors of motivation, personal attitude, and trust in knowledge sharing among founders are intricately related to each other. Motivation serves as a driving force, influencing the willingness of founders to share knowledge, while founders' personal attitude acts as a mediator between motivation and knowledge-sharing behaviours. Trust plays a pivotal role in moderating the impact of personal attitude on knowledge sharing and acts as both an enabler and a potential barrier, depending on the depth of relationships and shared experiences among entrepreneurs.

These factors are dynamically interconnected with motivation shaping the willingness to share knowledge, personal attitude moderating the manifestation of motivation, and trust influencing the depth and effectiveness of knowledge-sharing interactions. Gaining an understanding of these connections can help us better understand the intricate dynamics that influence knowledge sharing in UBIs.

Organisational Factors

Value, Beliefs, and Systems

The interplay of an open environment and community, careful participant selection, and a strong emphasis on the importance of knowledge within the incubator fosters a conducive ecosystem for

knowledge sharing among startups. The commitment to openness and community in the UBI creates a culture where founders feel free to express ideas, share experiences, and engage in open discussions, laying the foundation for a rich knowledge exchange. The focus on networking and community building builds on this foundation and promotes peer-to-peer learning and collaborative problem-solving. This community is also filtered through participant selection conducted by UBI executives. Selecting founders based on cognitive diversity and a mindset conducive to successful knowledge sharing ensures that the incubator is composed of individuals eager to share and learn, enhancing the overall quality of the process. The recognition of the importance of knowledge and startups recognising it as a key resource motivates deliberate efforts to share knowledge through diverse channels.

Consequently, startups benefit from the community's collective wisdom, knowledge, and formalised learning structures. This fosters a dynamic environment where knowledge sharing is an inherent and integral component of the UBI experience. Overall, these factors synergise to cultivate a culture where knowledge sharing is not only encouraged but deeply ingrained in the incubator's values, beliefs, and systems.

Organisational Support

As an entrepreneurial support organisation, the impact of the UBIs' organisational support on knowledge sharing is a pivotal piece of the puzzle. The aforementioned values, beliefs, and systems of the UBIs drive the organisational support they are evident across community engagement, idea management, and the environment. In terms of community engagement and inclusion, a robust system of regular meetings, lectures, and workshops is employed, creating a structured platform for startups to share updates, seek help, and engage in peer-to-peer learning. Open discussions and involvement of experienced individuals in teaching activities promote the sharing of knowledge.

When it comes to idea management, avoiding competing ideas within the same batch is a strategic move. The utilisation of non-disclosure agreements and the Chatham House rule before knowledge sharing even begins makes founders more comfortable sharing knowledge and safeguards the confidentiality of ideas, fostering an environment of trust and openness among startups.

The environment encompasses the physical space of the UBI and the people, both playing a pivotal role in knowledge sharing. The availability of shared workspaces and flexible workstations encourages a sense of community among startups by allowing them to collaborate closely and work in close proximity with one another, fostering a little community and environment conducive to knowledge sharing. The frequency and ease of interactions, over lunches or across desks, encourage spontaneous knowledge exchanges among startups.

Group Dynamics and Community

After the UBIs create an environment for knowledge sharing and pick the startups that will inhabit it, informal collaboration thrives through peer relationships fostered in shared office spaces, lunches, and coffee discussions, creating a sense of community and open communication. Formal collaboration gives startups a forum to share expectations, feedback, and advice with each other. It includes organised events like workshops and regular meetings where startups can seek knowledge. Expertise-based collaboration takes place as founders leverage diverse skills within the community, seeking advice from peers with specific knowledge in areas like marketing and management. A culture of reciprocal knowledge exchange is highlighted by this inclusive environment, which is characterised by a willingness to share knowledge and support peers with varying skill levels. Overall, UBI programmes' designs, which promote both informal and formal interactions and collaboration, create a supportive group dynamic and community that helps startups grow and develop through shared knowledge and collaborative efforts.

Interplay Between Organisational Factors

A complex web of systems, beliefs, organisational support, and community dynamics affects knowledge sharing. By establishing an organisational cultural foundation based on openness and diversity, the founders are able to freely exchange ideas and experiences. This cultural ethos is reinforced by community-building initiatives, networking, and careful participant selection based on mindset and cognitive diversity. Organisational support translates these values into tangible strategies, seen in the physical environment, structured platforms for community, regular meetings, and coaching, supporting collaborative learning.

Idea management practices and an open physical layout further demonstrate UBI's commitment to its value and belief in fostering a culture of knowledge sharing. A culture of reciprocal knowledge exchange is reinforced by expertise-based interactions in both informal and formal collaborations, providing access to valuable knowledge. As a result, startups thrive in a dynamic and encouraging environment where knowledge sharing is not only welcomed but also deeply ingrained in UBIs' values, systems, and community dynamics.

Technological Factors

Technology, particularly the utilisation of platforms like Slack, is a major influence on the dynamics of knowledge sharing in UBIs, becoming a hub for information exchange. The passive flow of information on Slack is highlighted, allowing valuable insights and resources to be consistently shared and founders can use knowledge they deem necessary at their convenience and discretion. The efficiency of this digital platform is further emphasised by the ease of posting questions for quick and accessible communication. Slack is a perfect platform for a UBI because of its versatility,

which includes acting as a venue for partnerships, events, and general discussions in addition to being a communication tool. It even includes a detailed summary of weekly meetings that makes accessing knowledge easier. Overall, the platform enhances the accessibility, efficiency, and breadth of knowledge sharing, creating a digital ecosystem where knowledge moves freely, fostering collaboration and learning among incubator members.

Interplay Between Individual, Organisational, Technological, and Demographic factors

Knowledge-sharing dynamics within UBIs are significantly shaped by the intricate relationship between cognitive diversity and its effects on individual, organisational, and technological factors. The mix of startups with different backgrounds, varying levels of experience, and business strategies illustrate the concrete effects of cognitive diversity on the startup cohort of UBIs. However, such diversity can be a double-edged sword, with different levels of experience having an impact on trust and motivation in our study. Knowledge-seekers were more motivated to engage in knowledge-sharing relationships with founders who had more experience in fields that were helpful to them, with this behaviour also stemming from the level of trust these founders have in more experienced ones. This is also a risk factor for knowledge sharing within UBIs as a whole, given that such behaviour would create a certain level of discrepancy when it comes to knowledge-sharing dynamics. UBIs recognising cognitive diversity as an institutional value and belief has impacted the selection processes, the working environment, and the way UBI programmes are structured to enable inclusion and open discussion among founders.

Discussion

Answering the Research Question

We have looked at the impact of cognitive diversity on the different factors that affect knowledge sharing within UBIs by conducting a case study with the purpose of answering the question:

How does cognitive diversity impact the factors that collectively affect knowledge sharing in UBIs?

Through our study, we have concluded that cognitive diversity does indeed impact knowledge sharing on multiple levels. On an individual level, cognitive diversity could be both a motivator that enables knowledge sharing, or a barrier that prevents it. This manifests through a lack of trust or pursuit of value-adding knowledge from founders with diverse perspectives among others. This in turn impacts the organisational level as the incubators become more likely to seek diverse cohorts of founders, while also creating an environment and a structure that fosters knowledge sharing among

them. The technological factors are a representation of such commitment as they are a community-building and knowledge-sharing platform for the founders.

The following table clarifies our findings in regard to this question:

Individual level	Organisational level
Intrinsic Motivation: Cognitive diversity broadens perspectives, making knowledge sharing more enjoyable and voluntary. **Extrinsic Motivation:** Reciprocity and mutual learning are heightened due to diverse perspectives within the startup community. **Positive Attitude:** Cognitive diversity amplifies positive attitudes, valuing diverse experiences and fostering collaboration. **Neutral Attitude:** Acknowledgment of cognitive diversity influences moderate engagement and a recognition of diverse interactions. **Negative Attitude:** Cognitive diversity in the form of work experience could also be a barrier to knowledge sharing based on the founder's attitude towards it. **Trust-Building:** Shared experiences and diverse backgrounds contribute to trust-building, creating a conducive environment for transparent knowledge exchange. **Trust as a Barrier**: Similar business ideas or lack of experience in fellow founders may create trust barriers.	**Open Environment:** Cognitive diversity aligns with the commitment to diverse perspectives, enabled by a culture of open idea expression and knowledge sharing. **Community Building:** Commitment to diversity ensures a rich knowledge exchange within the community. **Community Engagement**: The diverse mindset within the incubator is supported by regular meetings, workshops, and community gatherings. **Environment**: Physical spaces and flexible interactions encourage spontaneous knowledge exchange among founders with diverse backgrounds. **Technological tools**: Act as enablers for communication and collaboration, particularly beneficial in a cognitively diverse environment.

Contribution and Implications

In our literature review, the academic literature concerning knowledge sharing and cognitive diversity focused on UBIs being a promising place for sharing to take place, with participants' willingness and other factors affecting the process. Razmerita, Kirchner, and Neilsen's (2016) model that we adapted had been used in the context of knowledge sharing in enterprise social media, identifying the drivers and barriers of knowledge sharing in that context. The potential for interesting research in the field of UBIs presented by researchers quoted in this paper's research gap and the absence of a study of cognitive diversity's impact on knowledge sharing in this context led us to conduct this study. Consequently, this study complements previous research by studying knowledge sharing from a founder-executive perspective using the aforementioned model. By understanding cognitive diversity's effects on the sub-factors, factors, and factor groups presented in the empirics, and in turn their effects on knowledge sharing in the UBI, a new context in contemporary research is created. Our results are in line with Mitchell, Nicholas, and Boyle (2009; 2011) and Rahmi and Indarti (2019). All three studies point to cognitive diversity having a positive impact on knowledge sharing and the majority of founders' and executives' statements from our study agree with this. We also added to Ouakouak et al. (2021) by confirming the responsibility of the knowledge receiver and the importance of the atmosphere or ideal state of the organisation for knowledge sharing. Gabrielsson et al.'s (2019) three catalysts of affective motivation, constructive feedback, and peer atmosphere and two contingencies were touched upon in our analysis as well, with prior entrepreneurial exposure being cognitive diversity for us and programme-venture fit being the selection criteria mentioned by UBI executives. Finally, we added to Shepherd, Breugst, and Patzelt's (2023) paper by discussing the influence of cognitive diversity on knowledge sharing in a UBI culture context.

Limitations and Future Research

The study aimed to provide an understanding of how cognitive diversity affects knowledge sharing in UBIs. However, this study has several limitations. First, the study was limited to the perspectives of founders of startups in the SSE BL and may not necessarily be generalisable to other UBIs despite including the perspectives of other UBI executives. Additionally, the results of this study are within the context of a business school-affiliated incubator in Sweden, which could differ from incubators in other geographies and ones with different affiliations. Second, the study is limited to qualitative research and does not include a quantitative analysis of the data. Additionally, the theoretical framework used for the analysis created some complexity due to its abstraction. The data could be classified into multiple categories within the framework and the choice of which category fits best was subjective. The chosen categories could also be seen as a limitation and so could the use of demographic factors as a proxy for cognitive diversity.

Finally, with the Ideate and Activate programmes being set up in 2019 and 2021, respectively, and SSE Ventures in 2022, the new structure of the SSE Business Lab simply hasn't had enough time to impact the markets with well-established, mature startups that have received their new, contemporary support and resources. Future studies could revisit this setting or another to test the validity of our conclusions. Quantitative research within a similar context could shed a better light on the extent to which cognitive diversity affects knowledge sharing by looking at the same factors used in this paper. Performing a similar analysis within incubators with different affiliations or geographies could also broaden the scope and applicability of our results.

Appendix

1. First-Round Interviewees

Alias	Role	Company	Duration
UBI 1	CEO	UBI 1	34:16
Founder 1	CEO Office	Startup 1	23:33
Founder 2	Co-Founder and CEO	Startup 2	21:28
Founder 3	Co-Founder	Startup 3	33:24
Founder 4	Founder	Startup 4	24:27
Founder 5	Co-Founder and CEO	Startup 5	21:30
Founder 6	Founder	Startup 6	28:03
Founder 7	Co-Founder	Startup 7	21:13
Founder 8	Founder	Startup 8	29:59
UBI 2	CEO	UBI 2	40:50
UBI 3	Innovation Manager	UBI 3	29:08

2. Second-Round Interviewees

Alias	Role	Company	Duration
UBI 3	Innovation Manager	UBI 3	21:32
Founder 4	Founder	Startup 4	18:32
Founder 8	Founder	Startup 8	39:00
UBI 2	CEO	UBI 2	29:07
Founder 9	Co-Founder and CEO	Startup 9	21:37

3. First-Round Interview Guide for Startup Founders

Background
- Tell us more about your company and why you decided to join the SSE Business Lab.

Support Systems
- What kind of support has the Business Lab provided you with and how has it helped?
- How did the Business Lab support you with your idea, sustainable business models, finding a team, and navigating and researching the market?
- How do you benefit from the other companies in the business lab despite being in different industries?
- Different people take different things from the Business Lab as they have different levels of experience and knowledge with startups. How useful would you say the knowledge you were given was and how did it affect your experience and how you learned?
- How did coaching help you develop the different areas of your business?
- What do you think are the pros and cons of coaches being external and not in-house?

Resources and Capabilities
- Are there any concrete examples of the value provided to you by the Business Lab throughout your journey with them?
- Could you give an example of a capability that you have developed thanks to the Business Lab's help?
- Do you feel like you have a dependency on the Business Lab or that you'd be able to function well on your own after?
- Would any of your capabilities be missing without the Business Lab?
- Apart from the brand, do you see any other benefits the Business Lab has by being connected to a top-ranked research institution like SSE?

Conclusion
- How did the Business Lab enable you to develop capabilities and provide you with resources to be more competitive in the market?

4. First-Round Interview Guide for UBI Executives

Background
- Tell us about your incubator and who it is intended for.
- When did your incubator initially start and for what purpose?
- How do you think your incubator is different from other incubators?
- What areas of focus do you have?

- How do you work with sustainability?
- When were the current programmes and organisational structure of the incubator introduced?

Support Systems
- What does your support system look like?
- How do you support startups with their idea, sustainable business model, finding a team, and navigating and researching the market?
- Who are the coaches or experts you bring in?
- How do coaches and your processes fit into the support system offered by the incubator?
- How do you enable entrepreneurs to acquire the business knowledge you need?
- Do startups working in the same space serve as an unofficial support system that adds any value to the companies in general or in terms of sustainability?

University
- Describe the relationship your incubator has with the university.
- How involved are the researchers or professors from the university?
- What resources like labs or research from the university do these startups have access to?

Conclusion
- What resources and capabilities does your incubator provide startups with to enable them to be more competitive in the market?

5. LinkedIn InMail to Prospective Interviewees

SSE Thesis Interview

Hi X,

I am currently writing my thesis in management for my final year of my Bachelor's degree at the Stockholm School of Economics with my friend Hamza. Our research question is "How do the resources and capabilities provided by university business incubators benefit the growth and success of sustainable startups?" and we would love to interview you as your company is part of the SSE Business Lab. Would you be interested in participating in our project?

Best regards,
Hamza and Ved

6. Second-Round Interview Guide for Startup Founders

Background
- Can you briefly describe the core concept and vision of your startup?
- How long have you been part of this incubator?
- What support have you received from the incubator?

Informal learning
- Can you describe the coworking space at the incubator for us?
- What does a day among the startups look like?
- Can you describe the conversations you have with other people outside of organised business lab events?
- How do you think these interactions benefit you as a company? as opposed to if you weren't working in a co-working space

Formal learning
- Now can you describe the organised events, set the scene for us
- Can you tell us about the interactions that happen within these events?
- Can you tell us more about the BL Slack channel and what it is for?
- How active is it and what is shared within it?

Tying it together
- How do you feel you benefit from both this informal and formal learning and how do you use this knowledge to develop your startup?
- How would you describe the backgrounds or expertise across different startup founders/members within the incubator?
- How does this affect the informal and formal dynamics we have discussed earlier?
- How does this affect the informal and formal learning we have discussed earlier?
- What other benefits do you think having a group of people with varying levels of experience and backgrounds has for both your startup and the incubator? How does it impact creativity?
- How have the relationships and networks you've built within the incubator benefitted your startup?
- How do you nurture and expand your startup's network within and outside the incubator?
- How do differences in terms of experience and knowledge affect the knowledge-sharing process?

Conclusion

- Reflecting on your time in the incubator, what would you identify as the most valuable lesson or insight gained?
- Is there anything else you'd like to share or believe is pertinent to our discussion today?

7. Second-Round Interview Guide for UBI Executives

Background
- Can you briefly describe what your incubator offers to startups?
- How do startups usually get a spot in your incubator?

Cognitive diversity
- How do you ensure that the startups in your incubator come from diverse backgrounds or sectors?
- Can you give an example of a workshop or activity you've hosted that encourages diverse thinking?
- How do you help startups deal with disagreements or differences in opinions within their teams?

Knowledge transfer and support
- What resources or tools do you provide startups to help them share and gain new knowledge?
- Do you organise regular training sessions or workshops?
- If yes, what are the most recent topics covered?
- Tell me about your mentorship programme. How do startups get paired with mentors?
- How often do you organise networking events for your startups?
- Do you help startups collaborate with each other?
- Can you share an instance where such a collaboration was particularly successful?
- Are there opportunities for startups in your incubator to meet with potential investors or partners?

Adapting and conclusion
- How do you collect feedback from the startups about their experience with the incubator?
- Have you made any recent changes to the incubator's programmes or offerings based on startup feedback?
- Are there new facilities or resources you're planning to add to the incubator in the upcoming months?
- Which startup from your incubator are you particularly proud of, and why?
- How do you handle startups that might not be performing well or facing challenges?
- Any advice you regularly give to startups when they first join the incubator?

8. Second-Round LinkedIn InMail to Prospective Interviewees

Hi X,

Hope you're well. Hamza and I are continuing work on our SSE thesis this fall and would like to have a follow-up interview with you. We have shifted our focus to writing about diversity management in university business incubators and would like to expand on the insights you provided us with in the spring. When are you available for a digital interview in Week 40-41?

Best,
Ved Maddison

9. First- and Second-Order Themes

First-order themes	Second-order themes
Individual factors	Enablers: motivation, communication skills, personal attitude Barriers: fear (FEA), time (TIM), trust (TRU), leadership influence (LEA)
Organisational factors	Enablers: values, beliefs, and systems (VBS); organisational support (ORS), group dynamics and collaboration (GDC) Barriers: organisational culture (ORC), lack of strategy and clear objectives (LAC), status inequality (STI)
Technological factors	
Demographic factors	

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