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In-between identity work: Transcending boundaries in university-industry collaboration

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ABSTRACT

Scholarly literature has scarcely addressed the intricacies surrounding individual work identity and its ramifications within the context of university-industry collaboration (UIC). In an endeavour to address this lacuna and enhance our comprehension, this study explicates how individuals engaging in UIC experience identity struggles and perform identity work by constructing and reconstructing their self-conception and the notion of what they can do. A single case study, of a research centre situated in Northern Europe with prolonged collaborative effort, was used as the methodological approach. The findings proffer insights into micro-foundations of UIC by outlining various ways individuals conduct identity work to navigate and bridge cognitive and behavioural boundaries. This knowledge disputes the prevailing view that UIC related identity tensions and struggles should be resolved at the organizational level. Instead, identity work is shown to be crucial in harnessing these struggles to support the knowledge exchange and creation, necessary for innovation. An emergent model of in-between identity work is generated demonstrating how individuals perform identity work at the intersection of organizational boundaries allowing them to embody both collective and individual identities, fostering belonging while preserving the cognitive and institutional variety.

1. Introduction

In the dynamic landscape of innovation, university-industry collaborations (UICs) stand as critical conduits. UICs transcend the confines of organizational competencies and identities (Santos and Eisenhardt, 2005) and navigate the divergent institutional logics inherent in universities and industries, as manifested in the norms governing knowledge production (Sauer mann and Stephan, 2013). Third-party relationships, such as those with industry (Al-Tabbaa and Ankrah, 2016), academia (Perkmann et al., 2013), and research entities (de Wit-de Vries et al., 2019), foster UICs that extend beyond mere transactional exchanges of ideas and technology. They also catalyse processes of knowledge transfer, creation, and innovation (Beck et al., 2022; Elmquist et al., 2016; Granstrand and Holgersson, 2020; Hardy et al., 2003; Hughes et al., 2016; Ollila and Yström, 2016; Powell et al., 1996; Sarpong et al., 2022; Slavova and Jong, 2021). The success of such collaboration hinges upon the capacity and ability of individual participants, representing their respective organizations, to adapt to novel working modes distinct from their institutional norms (Lin and Bozeman, 2006), and to transcend their organizational affiliations to act collectively (Lawrence et al., 2002). This dynamic differs from

individuals engaging in UIC for purposes such as academic consulting, patenting, and commercialisation (Perkmann et al., 2013). By addressing the micro-foundations of UIC collaboration and shedding light on the identity work of individuals representing their organization there, this paper augments prevailing literature on knowledge sharing and creation within UIC contexts.

Extant literature concerning the micro-foundations of UICs has focused on exposing factors that influence such collaborations, including power asymmetries and associated dynamics (Ates et al., 2024; Bruneel et al., 2010; Estrada et al., 2016; He et al., 2021; Lavie et al., 2012; Tartari et al., 2012), relational complexity (Du et al., 2014; Perkmann and Walsh, 2007), cultural disparities (Gassol, 2007; Johnson, 2008; Liyanage and Mitchell, 1994), gender differences (Tartari and Salter, 2015), the role of trust (Bäck and Kohtamäki, 2015), boundary-spanning (Abu Sa'a and Yström, 2024; Rossi et al., 2022), project management practices (Fernandes and O'sullivan, 2023), and the divergent expectations between university academics and industry management (O'Kane et al., 2015). However, scant attention has been directed towards the realm of identity. Noteworthy exceptions include works by Gertner et al. (2011), Lifshitz-Assaf (2018), and Rajalo and Vadi (2017), which highlight the impact of individual identity on boundary-crossing

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and knowledge exchange. Studies investigating the impact of identity on knowledge transfer, and collaboration also underscore how collective identity unlocks the potential for knowledge transfer and fosters a disposition towards knowledge sharing (Kane, 2010), and how accumulated experience provides individual identity reference points, facilitating connection and adaptation to collaborative consortia (Beyer and Hannah, 2002), which influence the engagement of individuals in collaborative research and innovation endeavours (O'Malley et al., 2014).

Identity has intrigued organizational scientist for a substantial amount of time, which has contributed significantly to the understanding of how identity shapes organizations and individuals within them (Brown, 2019). Early impactful research in this domain has introduced organizational identity and how it impacts various internal processes in the organization (Albert and Whetten, 1985), connected organizational identity and member identification (Dutton et al., 1994), argued that individuals categorize themselves in relation to organizational groups (Ashforth and Mael, 1989), explored how employees experience conflicting feelings and ambivalent identification with an organization (Pratt, 2000) and helped clarify the distinction between individual and organizational identity, focusing on the organizational level as an independent actor (Whetten and Mackey, 2002). Recent studies emphasize the complexity of identity work, e.g., how employees balance conflicting identities such as professional, organizational, and personal identities within the organizational boundaries (Ashforth and Pratt, 2021).

With these literatures as the backdrop the current study adopts an identity lens to examine individual identity work within UICs, elucidating the underlying factors shaping individual behaviours and the interplay among participants. The notion of individual identity addresses the fundamental questions of "Who am I?" and "How should I act?" (Cerulo, 1997) thereby illuminating the motivations behind individuals' actions, their approach to work, and their interaction with others (Ashforth et al., 2008). This exploration encompasses various dimensions of identity, including *personal* (unique individual attributes), *social* (perceptions of oneself as a group member), *organizational* (cognitions shared by members of an organization), and *collective* (shared beliefs about the central attributes of the group) (Alvesson et al., 2008; Ashforth et al., 2008; Brown, 2019; Clegg et al., 2006). The adoption of an organizational or collective identity by individuals is rooted in their individual identity as members of the organization or collective (Haslam and Ellemers, 2005), where instead of supplanting individual identity, this organizational/collective self-concept becomes a significant resource in individual identity formation (Alvesson et al., 2008). Hence, the organizational context significantly influences identity, anchoring individuals within a specific organizational framework characterised by a delimited set of cognitions, emotions, and behaviours. Within organizational configurations such as UICs, individuals confront the challenge of navigating dual organizational contexts simultaneously—their "native" organizational environment and the collaborative endeavour—resulting in a blurring of the delineation of the "given context" wherein identity is situated, thereby impacting identity formation. This dual reality engenders identity struggles, marked by destabilised identities and the imperative for ongoing identity work to construct, portray, and sustain an understanding of self and others (Sveningsson and Alvesson, 2003).

Contemporary discourse within UIC research primarily advocates organizational-level resolutions to identity struggles (Alvesson, 2010) or identity paradoxes (Ahuja et al., 2017), suggesting the establishment of a *shared identity* among participants to enhance knowledge mobility (Dhanaraj and Parkhe, 2006; Sandberg et al., 2015). This includes the proposal of an organizational identity situated within a collaborative entity to reconcile diverse institutional logics (Battilana and Dorado, 2010; Perkmann et al., 2019). Adopting a *dual identity* on the individual level provides the ability to engage in both the university as well as the industry context (Gertner et al., 2011). As suggested by some studies,

embracing identity tension may offer an alternative pathway to harnessing these challenges for positive outcomes given that this drives the alteration of behaviour in favour of knowledge flow necessitated for scientific production and technological innovation (Lifshitz-Assaf, 2018). Thus, in contrast to viewing identity struggles and paradoxes as undesirable and damaging, they can be embraced at an individual level through identity work, a less common perspective that calls for further research (Dutton et al., 2010; Lifshitz-Assaf, 2018).

Addressing that call, this paper extends the trajectory of identity exploration within the context of UICs by examining how individuals perform ongoing process of individual identity work to construct, portray, delineate, and sustain their identities (Sveningsson and Alvesson, 2003) amidst the struggles inherent in such collaborations. The research question posits identity as transient, context-sensitive, and a fluid set of constructions, challenging the notion of identity as a static and immutable essence (Alvesson et al., 2008; Ashforth, 2000). It regards identity work as an ongoing cognitive endeavour prompted by social interaction, acknowledging the processes and influences that shape individual identity formation (Sveningsson and Alvesson, 2003). It builds on the fundamental argument that both individual and collective self-constructions influence organising processes and outcomes (Alvesson et al., 2008), aspects central to UIC, indicating a pressing need for further inquiry in this domain.

Through a single case study conducted at the individual level of analysis, this research contributes both theoretically and practically. Firstly, it augments the nascent body of literature on identity within UICs by addressing the indispensable role of individual identity work in such collaborative settings. Secondly, unlike previous scholarship, it illustrates how identity struggles can be embraced by a continual process of individual identity work, which can positively impact UICs. Thirdly, it presents an emergent model of in-between identity work that underscores the pivotal role of the individual in navigating the tensions inherent in UICs and perpetuating ongoing identity work. Lastly, the research addresses the practical implications for individuals in UIC and advocates for the need of managerial support in navigating identity struggles and the fostering of collective identities through social interaction to transcend traditional knowledge boundaries, thus facilitating more integrated and cooperative UIC environments.

The paper's structure includes a theoretical foundation leading to a framework delineating identity work in UICs, which subsequently informs the emergent model of identity work. Methodologically, it offers an overview of the research design, data collection, and analysis procedures. Grounded in empirical data, the findings illuminate the intricacies of individual-level identity work, paving the way for the emergent model. The paper concludes by discussing the implications of these findings for practical applications and charting avenues for future research.

2. Theoretical framework

2.1. Micro-foundations of university-industry collaboration

UIC in the form of research partnerships is characterised by enduring interpersonal connections. These types of collaborations entail the participation of individuals and groups from academic and industrial backgrounds, jointly engaging in specific projects, and are typically guided by 'capacity-building and learning motives rather than tangible outcomes' (Perkmann and Walsh, 2007, p. 273). This form of academic involvement aims to generate innovative knowledge that mutually benefits both academic and industrial partners. Achieving this objective necessitates reciprocal knowledge sharing to identify pertinent issues, exchange and cultivate new insights, as well as transfer and implement knowledge or technology (De Wit-de Vries et al., 2019). The fundamental purpose and advantage of UIC lie in harnessing the diversity of backgrounds and specialised knowledge domains among partners (Tell et al., 2017). However, it is precisely this amalgamation of partner

diversity and the delicate nature of knowledge exchange that renders UIC challenging (Estrada et al., 2016).

A recent literature review underscores that cognitive disparities and institutional variances represent significant impediments to knowledge transfer within university-industry research partnerships, as they engender ambiguity and hinder knowledge absorption, while trust and communication can mitigate these barriers (De Wit-de Vries et al., 2019). Similarities in knowledge backgrounds foster mutual understanding and diminish ambiguity and uncertainty regarding the nature of knowledge (van Wijk et al., 2008). Although cognitive divergence does not preclude collaboration, it does limit interaction, thereby negatively impacting tacit knowledge transfer and potentially influencing other collaborative activities and the shared environment (Sandberg et al., 2015). Experience does not necessarily diminish cognitive differences (Muscio and Pozzali, 2013), but organizational routines can help alleviate epistemic disparities (Corley et al., 2006), and interactive communication through training and workshops can enhance knowledge comprehension (McCabe et al., 2023).

Cultural disparities, including divergent interpretations of shared meanings and social norms (Tsai and Ghoshal, 1998), are pertinent within the realm of UIC (Bruneel et al., 2010; Galán-Muros and Plewa, 2016). These differences in discourse and variations in norms and values pose challenges to the interpretation of behaviours and knowledge within collaborative settings. Despite acknowledging that differing logics impede efficient interaction with universities, firms recognise the benefits of collaboration, thus deeming it worthwhile (Morandi, 2013).

UIC manifests in various forms, reflecting the collaborative practices employed by academic and industrial partners in joint knowledge creation. Despite the typically higher valuation of academic knowledge and expertise over industrial knowledge, industrial partners are seldom engaged in data analysis and theory development due to time constraints and a perceived lack of grounding to partake in academic discourse (McCabe et al., 2023). Conversely, academics frequently overlook data produced by industrial partners due to perceived deficiencies in quality cues requisite for academic publication (Canhoto et al., 2016). Additionally, the incentive structures for academic researchers and industry actors diverge, with academia prioritising reputation-based systems while industry favours pragmatic, commercially oriented outcomes (Dasgupta and David, 1994; Du et al., 2014).

A substantial "cultural distance" between partners and a diversity of objectives among participants constitute elements of relational complexity within UIC (Du et al., 2014; Howells et al., 2012). Combined with differences in personal and professional backgrounds, these factors render UIC relationships notably dynamic, necessitating interactional expertise (Canhoto et al., 2016; Sandberg et al., 2015). Trust and tie strength serve as indicators of relationship quality, positively impacting knowledge transfer in UIC (Bruneel et al., 2010; Plewa et al., 2013; Santoro and Gopalakrishnan, 2001). They are associated with partners' commitment to assisting others in understanding and play a crucial role in fostering a willingness to share knowledge (Inkpen, 2000; Sherwood and Covin, 2008). Apart from the substantial cultural divide among partners concerning goals, perspectives, motives, and routines, UIC involves challenging individual level decision-making processes (Bäck and Kohtamäki, 2015) shaped by the fact that decisions are made by individuals who belong to distinct, separate organizations, and are part of collaborative activities at the individual and team levels rather than at the overall organizational level where strategic decisions are negotiated between partners (Amabile et al., 2001).

2.2. Individual identity struggles and identity work

UIC changes the dynamic and the work practices as organizational boundaries are spanned, which impacts the identities of participating individuals – as it addresses the question "Who am I?", and has consequences for the collaboration – since it addresses the question "How should I act?" (Alvesson et al., 2008; Cerulo, 1997). Individual work

identities, a subset of social identities, are shaped by e.g., their occupation, profession, organization, and work group (Ashforth et al., 2001; Dutton et al., 2010). Besides enabling individuals to understand themselves as similar or different to others (Ashforth et al., 2008), identities provide a sense of what individuals can do in the collaboration and in the organization to which he/she is accountable (Hardy et al., 2005). Identity is regarded as the binding factor that dictates whether knowledge is "sticky," impeding its flow, or "leaky," facilitating generous dissemination (Brown and Duguid, 2001). Consequently, possessing an appropriate identity to facilitate knowledge transfer and sharing within UIC is pivotal.

When individuals from university and industry units come together, they interact with new reference groups, challenging their previous work identities and potentially generating new ones that may conflict, given their grounding in distinct organizational contexts (Sveningsson and Alvesson, 2003). In organizational settings involving multiple work groups, social identity theorists posit the existence of out-groups and in-groups, with collective identities formed within the relational context, where individuals identify with a shared membership, potentially overshadowing their individuality in favour of this subordinate identity (Tajfel and Turner, 1986). Insufficient intergroup socialization may lead to in-group/out-group thinking (Rynes et al., 2001), further reinforcing these identity distinctions.

Identity tensions and struggles arising from organizational and social conditions exacerbate identity work (Snow and Anderson, 1987), which involves individuals' endeavours to shape, mend, sustain, strengthen, or revise their self-construction to maintain a sense of coherence (Sveningsson and Alvesson, 2003) and address contradictions and conflicts between their self-perception and external demands (Alvesson, 2010).

The concept of identity work depicts the negotiation of the question, "Who am I?" within social messages claiming, "This is who we are!" (Kreiner et al., 2006). Although social identity complexity and multiplicity are likely beneficial for both individuals and organizations engaged in UIC, as they offer necessary diversity, managing these identities simultaneously can be mentally taxing (Ashforth et al., 2008). Individuals are more prone to experience identity conflict if they perceive their group identity as separate rather than nested within a higher-level identity, such as organizational identity (Vora and Kostova, 2007). UIC involves a multi-organizational framework where diverse individual identities are required to realise the collaboration's potential. A collective identity is necessary to foster a sense of connection with representatives from partner organizations, and an organizational identity is needed to feel authorised to represent the home organization and share knowledge. However, organizational boundaries may become blurred, necessitating individuals to continually engage in identity work to strike a balance between distinctiveness and conformity (Brewer, 1991), in order to sustain this diversity.

2.3. Identity work in UIC

To address potential identity tensions while ensuring the necessary flow of knowledge for collaboration within UIC, several approaches have been proposed in the literature. Firstly, one approach suggests the creation of a collective level identity to navigate identity struggles. A collective identity is deemed crucial for collaborative endeavours, as it boosts motivation for participation in interactions and the willingness to share experiences (Dhanaraj and Parkhe, 2006; Hardy et al., 2005). Such a shared identity among network members serves as one of the primary mechanisms for knowledge mobility (Sandberg et al., 2015). A hybrid organizational identity, recognised as a distinct institutional type mirroring the high degree of integration between collaborating institutions, may also be established replacing respective organizational identities (Battilana and Dorado, 2010; Perkmann et al., 2019).

Secondly, another approach focuses on individual-level identity work to mitigate identity struggles. Individuals can adopt a dual

organizational identification, aligning with two organizational entities to facilitate collaborative research and radical innovation (O'Malley et al., 2014). Cultivating two distinct identities—one aligned with the company and the other with the university—allows individuals to seamlessly switch between contexts, enabling the transfer and translation of knowledge, especially tacit knowledge (Gertner et al., 2011). However, developing a dual identity entails risk, as failure could limit successful knowledge transfer.

Thirdly, an alternative approach advocates embracing tension as a means of managing identity struggles. Professional identity work in collaborative innovation has been shown to embrace tensions and facilitate necessary changes related to knowledge flows, leading to outcomes that surpass expectations in scientific and technological innovation (Lifshitz-Assaf, 2018; Wrzesniewski and Dutton, 2001). Instead of viewing identity struggles and paradoxes as detrimental, embracing them at the individual level through identity work can have a positive impact on collaboration (Dutton et al., 2010; Lifshitz-Assaf, 2018). UIC challenges professionals' identities, necessitating identity work—including discarding or adopting new methods and practices—that is critical for knowledge creation and innovation within the collaboration (Lifshitz-Assaf, 2018). Without constructing suitable identities through identity work, real changes in the R&D process and related knowledge flows may be hindered, putting the entire UIC at risk (Lifshitz-Assaf, 2018).

2.4. In-between identities

UIC inherently embed multiple, inconsistent identity types (Albert and Whetten, 1985). Hence, individuals concurrently engage with conflicting identities (Fiol et al., 2009; Pratt and Foreman, 2000), demonstrating the ability to define themselves in multiple ways simultaneously. They strive for both consistency and distinctiveness, seeking optimal distinctiveness (Brewer, 1991; Kreiner et al., 2006), as they navigate between their employer's organizational identity and the collective identity of the UIC. This entails engaging in identity work, which involves both outward efforts to assert or confirm a desired identity and reactive responses to external influences (Beech, 2011). During identity work, individuals continually construct and reconstruct their sense of "who I am" within a state of in-between identities, existing neither fully within one category nor another, and these identity constructions may be partial or incomplete (Beech, 2011).

Individuals working in "in-between" organizational arrangements do not define themselves through clear and unambiguous boundaries between 'us' and 'them' but instead mitigate the uncertainties of their in-between position by constantly shifting between different boundary repertoires (Ellis and Ybema, 2010). Consequently, in-between identities encompass elements of both individual and collective identities, lacking distinct boundaries delineating each identity. It is best understood as a continuum ranging from identity to non-identity through near-identity (Recasens et al., 2011), assuming a temporary and context-dependent form based on the specifics of the situation and constituted out of the process of interaction (Weick, 1995). In-between identities share the contingency and dynamic features of hybrid organizational identity (Battilana and Dorado, 2010; Perkmann et al., 2019) and dual organizational identification (Gertner et al., 2011; O'Malley et al., 2014) in the sense that identities are and need to be different in various organizational contexts. There are also differences such as the distinct delineating boundaries that both organizational identity and dual organizational identification has, in contrast to the fluid nature of in-between identities emphasising temporality and situatedness.

2.5. Integrating the literatures

In summary, the aforementioned literature suggests the following points (see Fig. 1): (1 & 2) University-Industry Collaboration (UIC) incorporates multiple organizational contexts and identities, each depicting *who we are and what we can do*, thus influencing the individual identities of participants. Cultivating a collective identity in addition to the organizational identity (company or university) can alleviate tensions and conflicts, but it can also (3) give rise to identity struggles including tension and conflicts among different and sometimes conflicting identities, (4 & 5) leading individuals - prompted both by internal factors and external influences from the social work environment - to undertake identity work to construct and reconstruct their individual identity. (6) During identity work, individuals exist in a state of in-betweenness. Given limited extant literature, there is a need for a deeper understanding of identity struggles and individual identity work within the context of UIC and these theoretical underpinnings can support further exploration. In line with the inductive approach employed in this paper, the theoretical framework will be used in theorizing the findings in the later stage of the analysis.

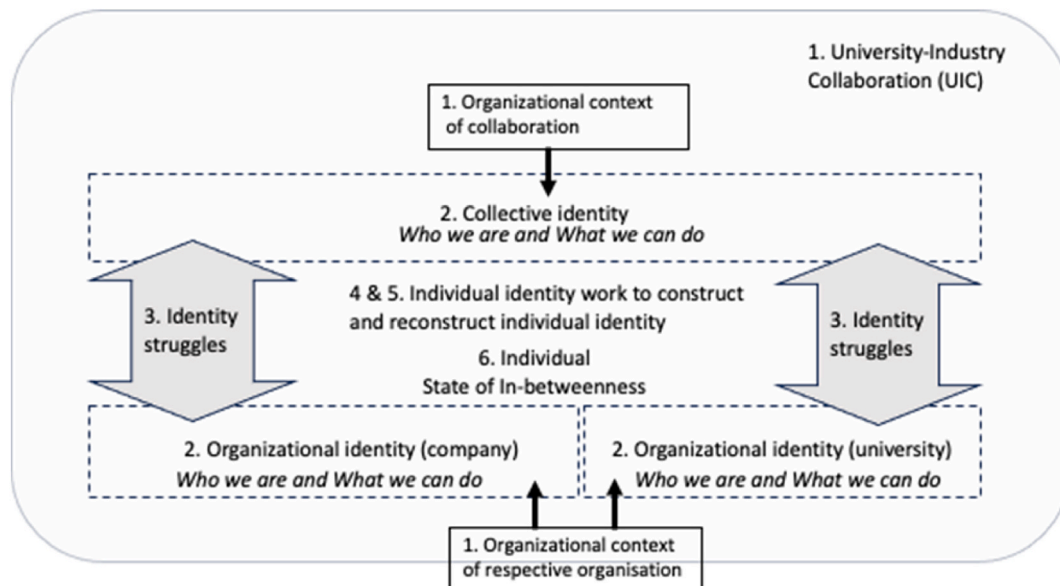


Fig. 1. Theoretical framework for conceptualising identity work in UIC.

3. Research design

Aligned with its exploratory objective and recognising the intricate and fluid nature of identity work in UIC, this research adopted a qualitative approach through a real-time, in-depth case study of MobUIC, a UIC initiative in Northern Europe. Case studies are well-suited for generating rich, detailed insights in the early stages of theory development around identity work in UIC (Eisenhardt, 1989; Siggelkow, 2007). An in-depth case study offers the opportunity to explore identity struggles and identity work from various perspectives, yielding comprehensive data (Sveningsson and Alvesson, 2003).

The analytical focus of the study centres on the identity struggles between the organizational (company or university) identity of the partner organizations and the collective UIC identity, as well as the identity work prompted by these struggles. The case selection employed a combination of convenience and theoretical sampling strategies (Eisenhardt and Graebner, 2007). The author of this paper had an established relationship with the manager of MobUIC from a prior research collaboration, facilitating the access to the research site. MobUIC, a research partnership, presents theoretical relevance for studying identity struggles and identity work in UIC due to its complexity with 30 partners, representing industry and universities, its physical co-location space encouraging interaction and exposure to individuals from other organizations, and its maturity of 3 years at the onset of data collection, offering insights into identity struggles and identity work in a well-established UIC. Following the logic of theoretical sampling (Eisenhardt and Graebner, 2007) is common in inductive approaches as it supports theory generation from data (Charmaz, 2014).

Several boundary conditions apply to the selected case: it involves multiple stakeholders, is situated in Northern Europe, is well established, is funded by a mix of private and public sources, equipped with physical office space, and focused on organising collective activities to drive collaborative innovation for industrial and regional development. Outlining these boundary conditions offer clarity regarding the type of UIC investigated for identity work, however, in line with isomorphic learning (Buchanan and Denyer, 2013) it should be acknowledged that insights gleaned from the case may transcend these boundaries, depending on the reader's interpretations and ability to see similarities in other settings.

3.1. The case of MobUIC

MobUIC, an anonymised research centre established in 2006, focuses on the future of mobility safety systems. Hosted by a university, it boasts approximately 30 partners from academia and industry, ranging from large mobility corporations to small engineering firms. Situated in a vibrant urban area in Northern Europe, MobUIC's office coexists with research and development departments of major manufacturing companies, small startups, universities, schools, theatres, restaurants, and residential buildings.

MobUIC's office space accommodates about 270 individuals who consider it their permanent workplace, engaging in multidisciplinary research areas such as vehicle dynamics, communication technologies, biomechanics, and human behaviour, while remaining employed by their respective organizations. Daily interactions, facilitated by formal meetings and seminars as well as informal conversations during coffee breaks and lunches, are expected to build relationships to foster knowledge sharing between individuals from the partner organizations.

Individuals representing MobUIC partners are expected to attend to their organization's need while participating in projects and knowledge-sharing activities, even if they spend minimal time at their respective organizations. This organizational identification serves as the basis for their representation, granting them the authority to speak and act on behalf of their organization. They are reminded of their organizational belongingness through their daily work with organization-specific data and systems accessible only to employees.

MobUIC's project portfolio comprises approximately 170 projects, ranging from minor pre-studies to large-scale testing initiatives and database creation. While all MobUIC partners can propose project ideas, the initiating partners may influence the composition of project teams. Additionally, non-MobUIC partners may be involved in certain projects. MobUIC enables knowledge sharing and collaboration beyond project work through activities such as bi-weekly lunch seminars and one-day workshops on MobUIC-related topics.

The director of MobUIC, also serving as the operating manager, along with three administrative staff, are employed by the host university to exclusively work with MobUIC's operations. By organising workshops and social events aimed at strengthening social bonds and supporting an open work environment, the director endeavours to cultivate a MobUIC culture and establish a strong brand needed to attract external funding and new partners.

3.2. Data collection and analysis

This paper draws upon data derived from two distinct interview studies involving different sets of participants. The initial study took place in 2009 and targeted individual contributors from partner firms engaged in projects at MobUIC, while the subsequent study was conducted in 2011, focusing on designated official contact persons representing each partner organization. The main criterion for selecting respondents to both interview studies was to have a balance of individuals from the university partners as well as the industry partners. Another criterion, used in the first study, was the time individuals had been working at MobUIC to get a mix of newcomers and more experienced individuals. This criterion was not applicable to the second study since it targeted individuals holding the formal role of contact person representing each partner organizations and most of them turned out to be rather experienced. Both studies adhered to semi-structured interview protocols, allowing flexibility for participants to articulate their experiences of identity struggles and engagement in identity work using their own language and perspectives.

In total, 40 interviews were carried out, comprising 24 interviews in the first study (involving 9 participants from academia and 15 from industry and research institutes) and 16 interviews in the second study (with 6 participants from academia and 10 from industry and research institutes). All interviews were done face-to-face, most of them at MobUIC by either the author or members of the author's research team, including 2 senior researchers and a PhD student. All senior researchers involved have extensive experience in conducting qualitative research including interviewing.

Each interview session spanned between 60 and 90 min, with all sessions audio recorded and subsequently transcribed, resulting in approximately 500 pages of transcription. Reflective notes were taken throughout the interview process. In addition to the interviews, the research team spent considerable time at MobUIC, actively participating in seminars, reference group meetings, and workshops to gain a deeper understanding of the work context and practices at MobUIC.

To align with the research design, the data analysis adhered to the methodology outlined by Gioia et al. (2013), which employs a systematic inductive approach to theory development. This methodological approach was chosen for its capacity to leverage the rich insights provided by respondents, facilitate theory building and support a comprehensive understanding of dynamics concerning identity struggles and identity work. Processes and influencers of identity work as described by Sveningsson and Alvesson (2003) guided the initial analysis which started with capturing diverse accounts of identity struggles and identity work present in the data, a process of open coding similar to that prescribed by Strauss and Corbin (2008). Subsequently, a process akin to axial coding, as described by Strauss and Corbin (2008), was employed to organise, and categorize the identified concepts, thereby reducing the multitude of accounts to a manageable set of key concepts. These two steps were part of a 1st order analysis and resulted in concepts labelled

with terms and language reflective of the respondents' interpretations and meanings. Notably, while this analysis illuminated the key concepts present in the respondents' narratives, it did not reveal deeper patterns or relationships within the data.

The subsequent phase, termed as the 2nd order analysis, involved a process of categorising the identified concepts into broader categories, enabling a higher level of theoretical abstraction. This entailed examining the data to discern whether the emerging themes could offer insights into understanding and describing the identity struggles and identity work unfolding within MobUIC. Throughout this process, careful consideration was given to formulating labels for the seven generated 2nd order themes. Particular emphasis was placed on identifying novel constructs that lacked adequate representation in existing literature or drawing parallels with relevant constructs from other domains. Following this, the third step of the analysis entailed further theorizing the emergent 2nd order themes by exploring the relationships between them and iterating with theory. This iterative process led to the generation of three overarching dimensions that encapsulated the essence of the identified themes in theoretical terms.

The final step involved a process of further theoretical elaboration, wherein the data structure was scrutinised and iterated in relation to the theoretical framework (see Fig. 1). The 2nd order themes, reflecting respondents' experiences of identity work, along with the overarching dimensions providing theoretical insights, formed the foundational elements of the emergent model of in-between identity work (see Fig. 3). By recognising the dynamic interplay among the empirical themes, their connection to the overarching theoretical dimensions, and utilizing the deeper contextual understanding gained through the study, the conceptual model of in-between identity work was developed. The model offers theoretical insights that extend beyond the static data structure, although, as with other interpretative studies, there remains potential for conceptual leaps in this process (Gioia et al., 2013).

By incorporating the systematic steps encouraging transparency prescribed by the Gioia Methodology, common biases in qualitative research could be mitigated, thus meeting Lincoln and Guba's (1985) criteria for trustworthiness in data collection, coding, and in the emergent conceptual model. Researcher bias and confirmation bias was

handled by the fact that the researcher in the 1st order analysis stayed close to the respondents' language and generated concepts mirroring respondents' views without over-relying on the researcher's own pre-conceptions (Gioia et al., 2013). The traceability of interpretations in each step minimizes the overgeneralization bias (Gehman et al., 2013), as it allows readers to verify the conclusions made. Moreover, since data was collected from multiple respondents with diverse viewpoints the selection bias was reduced by ensuring that a broad range of perspectives were considered and that findings are not overly reliant on the voice of a few (Nag et al., 2007).

4. Findings

Fig. 2 depicts the structure and analysis of the data, with the included arrows serving not as causal links but as indicators of the subsequent level of essence in the findings. The data structure serves as a representation of 1st order concepts (positioned to the left in Fig. 2), the 2nd order themes (found in middle of Fig. 2), culminating in the identification of four main overarching theoretical dimensions (located to the right in Fig. 2). Exemplified by the preceding 2nd order themes, these dimensions depict the individual identity work that was conducted in relation to identity boundaries. The themes were identified from the 1st order concepts originating from the interviews with the respondents, who described their experiences of identity struggles, and the identity work they were undertaking. Identity struggles and identity work elucidated through these analyses are explicated and outlined below. An emergent model of in-between identity work in UIC (see Fig. 3) is introduced in the latter part of this section.

Table 1 presents representative verbatim quotes substantiating the identified 1st order concepts. The findings reveal that individuals in UIC struggled with the questions "Who am I?" and "How should I act?", and they conducted various types of identity work to create and recreate their perception of self to know how to go on.

4.1. Individual identity work at MobUIC

While operating within MobUIC, individuals navigated between at

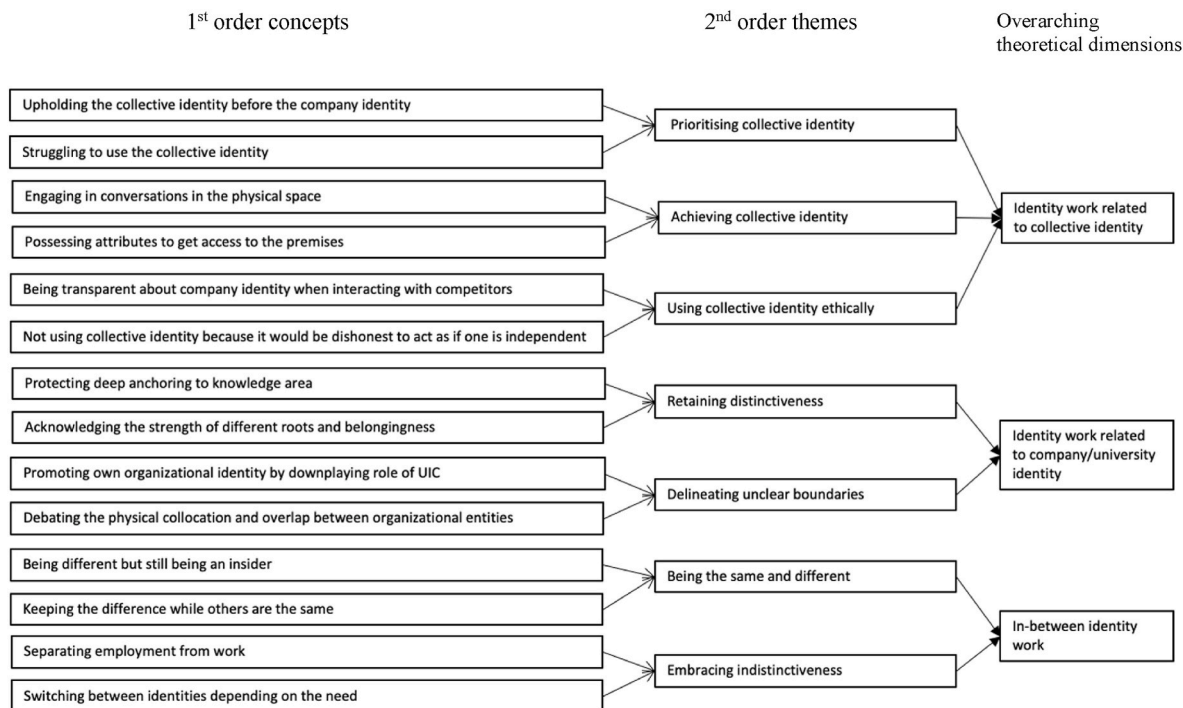


Fig. 2. Data structure of identity work in UIC.

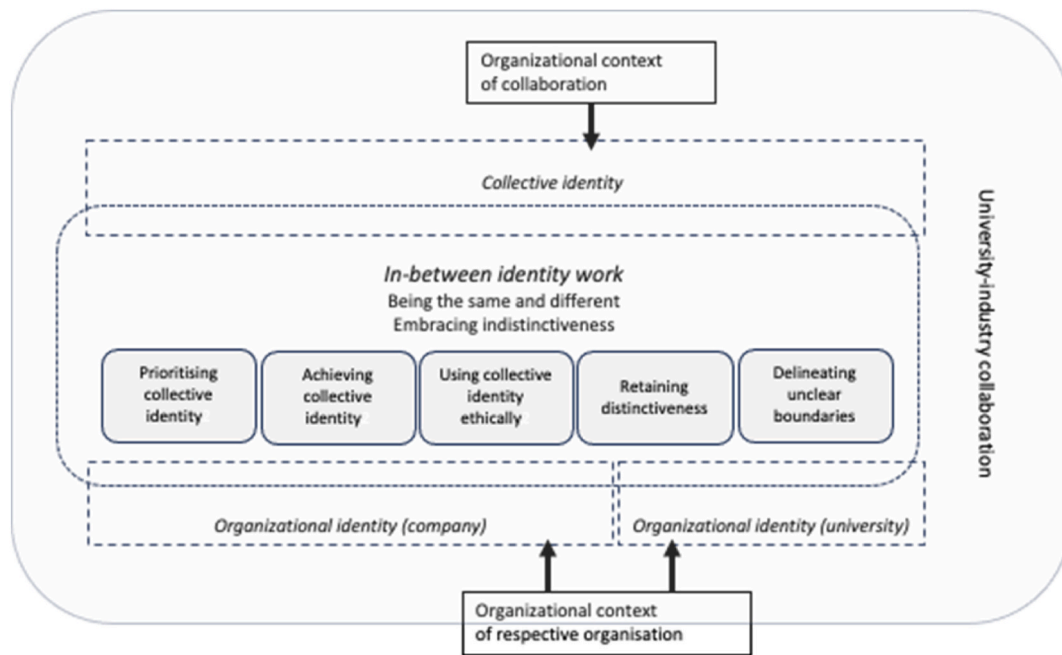


Fig. 3. An emergent model of in-between identity work in UIC.

least two distinct individual identities: one associated with their employing organization (whether a company or university) and another tied to MobUIC itself (a collective identity). The analysis suggests that these dual organizational contexts gave rise to tensions and identity struggles, which in turn impacted the individual identity work required to establish a self-concept that aligned with personal values and beliefs while also facilitated the necessary actions.

Identity work was conducted in three different boundary settings: “Identity work related to collective identity” including *prioritising collective identity*, *achieving collective identity*, and *using collective identity ethically*, “Identity work related to company/university identity” including *retaining distinctiveness*, and *delineating unclear boundaries*, and “In-between identity work” including *being the same and different*, and *embracing indistinctiveness*. Following is an explication of identity work conducted by individuals to mitigate identity struggles in MobUIC.

4.1.1. Identity work related to collective identity

The identity work “Prioritising collective identity” is exemplified by *upholding the collective identity before the company identity* and the *struggling to use the collective identity*. The steering committee of MobUIC emphasised the importance of loyalty and commitment to the collaborative endeavour during communications about the work being done within MobUIC. They conveyed the message that such dedication is crucial not only for raising awareness about MobUIC on a national and international scale, but also for preventing any potential exploitation of MobUIC for “private good” instead of “common good”. One individual from an industry partner said: “we have been very clear towards our project members, whom have been interviewed [in media], that they should talk as if they are MobUIC members primarily and MobComp2 secondarily. In such situations it is very important for us to emphasize, that we do not promote the firm.”. Despite the expectation that individuals would identify and behave as members of MobUIC, some found it challenging to fully embrace the collective identity. As one respondent said when expressing this identity struggle: “We are working in a project, and we have discussed that we should present ourselves as coming from MobUIC but that does not feel right for me.” Regulating identity creation by imposing the collective identity as priority seemed to be problematic as some individuals could not make sense of themselves as representing MobUIC. This generated identity struggles, which

lead to identity work related to the collective identity.

The identity work “Achieving collective identity” is exemplified by *engaging in conversations in the physical space* and *possessing attributes to get access to the premises*. Everyone participating in MobUIC was supposed to hold a collective identity, however the identity work needed to achieve it differed. One individual from an industry partner reported that he/she attained a collective identity merely by being present in the premises and talking about MobUIC related issues: “I think it is enough that people happen to be present in the premises ... I will refer to you as MobUIC [referring to the interviewer] even if you might not work with it at all ... It is not the premises in itself but the reason why I am here talking to you”. Simply stepping into the physical space of MobUIC, coupled with the prevailing discourse, appeared to confer MobUIC identity onto individuals effortlessly, without encountering significant identity struggles. However, a respondent from an industry partner held a divergent perspective indicating perceived identity struggles: “I feel a bit outside when I come here, because I do not have a key or a telephone number.” From this standpoint, attaining the collective identity appeared challenging due to its association with physical attributes granting access to the premises, which were not generally available to all participants.

The identity work “Using collective identity ethically” is exemplified by *being transparent about company identity when interacting with competitors* and *not using collective identity because it would be dishonest to act as if one is independent*. The collective MobUIC identity afforded individuals’ certain privileges and constraints not available to them when representing their respective organizations. Each identity inflicted limitations on what individuals could think and do, which occasionally led to identity struggles. Individuals experienced identity struggles when they interacted with organizations that were considered competitors from the perspective of most of their colleagues at their company, but were close collaborating partners in MobUIC. Respondents expressed discomfort when navigating the use of the collective identity, as it urged them to make “ethical considerations”. On one hand, they employed the collective identity when collaborating with competitors in MobUIC projects. On the other hand, they felt unease assuming the MobUIC identity when interacting with individuals who might be unaware of the fact that their employers are partners in MobUIC. One individual from an industry partner described the identity struggle and the identity work

Table 1
Representative verbatim quotes.

Representative verbatim quotes underlying 1st order concepts and 2nd order themes	
<p>Theme 1: Prioritising collective identity Upholding the collective identity before the company identity Struggling to use the collective identity</p>	<p>“When we have been interviewed by media, we have been very clear towards our project members, whom have been interviewed, that they should talk as if they are MobUIC members primarily and MobComp2 secondarily. In such situations it is very important for us to emphasize, that we do not promote the firm, but rather MobUIC and the firm secondarily. I think that is very, very important.” (Employed by mobility company)</p> <p>“We are working in a project, and we have discussed that we should present ourselves as coming from MobUIC but that does not feel right for me. I would feel the same if I, at a scene of an accident, would talk to a truck driver driving a MobComp3 truck and tell her/him that I am from MobUIC. That does not feel right. It is not to be honest. I want to say that I am from MobComp3 because that is what I have in my backbone and then I don’t mind us collaborating.” (Employed by mobility company)</p>
<p>Theme 2: Achieving collective identity Engaging in conversations in the physical space Possessing attributes to get access to the premises</p>	<p>“I think it is enough that people happen to be present in the premises. I will refer to you as MobUIC even if you might not work with it at all. It is not the office space in itself, but the reason why I am here talking to you.” (Employed by engineering company)</p> <p>“I am here [referring to the MobUIC premises] so seldom. The ones who are here are clear representatives of MobUIC ... The director of course, but also the group leaders and the ones sitting here, who has a key here. I feel a bit outside when I come here, because I do not have a key or a telephone number. It would be nice to have a code to get in here.” (Employed by engineering company)</p>
<p>Theme 3: Using collective identity ethically Being transparent about company identity when interacting with competitors Not using collective identity because it would be dishonest to act as if one is independent</p>	<p>“When we go to the scene of the accident or when we are part of an inquiry into the accident. I don’t think that my project colleagues from MobComp4 have any problems with us going and investigating a MobComp4 truck that has been in a collision. But I would feel like going under false flag if I would go to a MobComp4 garage and say: “Hi I am from MobUIC!”, because I come from a competing firm and I would like to be honest and say that I am from MobComp3.” (Employed by mobility company)</p> <p>“I can’t talk about the whole project, but personally I have hard time claiming I am from MobUIC, because I feel I am from MobComp3 and I feel it can be dishonest to claim that you are from an independent part, which Uni, somehow is considered to be more than MobComp3. We have had some discussions about this, so I do not feel like a representative for MobUIC, rather I feel involved in MobUIC, but I represent MobComp3 in almost every situation. That is how I feel but as I said there have been quite some discussions.” (Employed by mobility company)</p>

Table 1 (continued)

Representative verbatim quotes underlying 1st order concepts and 2nd order themes	
<p>Theme 4: Retaining distinctiveness Protecting deep anchoring to knowledge area Acknowledging the strength of different roots and belongingness</p>	<p>“We have discussed, with some colleagues at Uni, that we are afraid of losing the anchoring to our knowledge area and that we do not develop our competence [working at MobUIC]. We do not go deeper and deeper, rather we are afraid of getting lost.” (Employed by University)</p> <p>“I think it is better that we are a network of different organizations, but that does not mean that those organizations disappear in the network. That is not how I see it. We should not aim to be a fuzzy MobUIC group without a background, because we all have our roots and belong to different parts and that should be our strength.” (Employed by mobility company)</p>
<p>Theme 5: Delineating unclear boundaries Promoting own organizational identity by downplaying role of UIC Debating the physical collocation and overlap between organizational entities</p>	<p>“For me as a researcher, I can give you an example that tells a lot. When I employ new doctoral students, they write MobUIC on all their slides after having worked here for a while. That gives me the hiccups, since I am, as a researcher, supposed to get funding for their research and therefore it is important that we [the research team] are exposed not MobUIC. MobUIC is a financier, which you can write with the smallest font very far below on the paper. The ones employed after MobUIC was launched, they have seen this environment, got attracted by MobUIC, while the ones employed before MobUIC have been attracted by Uni. They see Uni as the place they were drawn to. The ones employed now are drawn to MobUIC, this melting pot ...” (Employed by University)</p> <p>“What I am trying to do now is to push back the boarders and make sure that the network dimension is a network dimension. I can give you an example. It is for the moment unclear what is the line organization, i.e., the formal organization at the department [at Uni] and what is MobUIC. There is a fuzziness that is vague. There is also a problem, I think, due to the fact that we are a collocated competence centre ... it is very important that this network dimension is voluntary so you, when you work in a knowledge field, can choose to network when it is appropriate, but when you need to work with your own stuff you should be able to move in and out of this space voluntary. Since we are sitting here this voluntary thing does not really work ... So what I sense is that the overlap creates a lot of problems and indistinctiveness, identity struggles and a lot of strange things.” (Employed by University)</p>
<p>Theme 6: Being the same and different Being different but still being an insider Keeping the difference while others are the same</p>	<p>“I am involved in MobUIC, that is why we are sitting here talking right now. But I do not represent any project and I am not a reference group leader. That MobUIC hat I do not have, but I have another MobUIC hat and that is as ReInst representative at MobUIC.” (Employed by Research Institute)</p> <p>“For us Uni is almost the same as MobUIC. That is how I feel. They are the</p>

(continued on next page)

Table 1 (continued)

Representative verbatim quotes underlying 1st order concepts and 2nd order themes	
	<p>ones that I connect to MobUIC, while the ones from MobComp1, that are part of the project, I do not connect to MobUIC. And I do not know if that is worth aiming for either.” (Employed by mobility company)</p> <p>“I think that the ones from Uni are representing MobUIC. They seem to be “more” MobUIC than the ones from MobComp3 or MobComp2, who seem to be more MobComp3 and MobComp2 than MobUIC. Uni people feels more like MobUIC.” (Employed by engineering company)</p>
Theme 7: Embracing indistinctiveness	
Separating employment from work	<p>“One belongs to his organization but is working at a centre. When is one a MobComp3 person and when is one a MobUIC person?” (Employed by MobUIC)</p>
Switching between identities depending on the need	<p>“We had a meeting about standardization and sat around a table and had discussions both from a national and international viewpoint. Apollo is taking part in this meeting and sometimes she has a MobUIC hat on, sometimes a MobComp1 hat and sometimes an Uni hat and she is changing hats during the meeting. She has these three hats, and she has an employment at Uni, and she has an undertaking at MobUIC and is MobComp1 employed. Of course, she expresses herself differently depending on which hat she is wearing and that varies during the meeting. I cannot say that she is MobUIC. Sometimes she is wearing a MobUIC hat and at other times another hat ... It is Apollo from MobUIC, Uni and MobComp1. It depends.” (Employed by Research Institute)</p>

conducted to use collective identity ethically: “I don’t think that my project colleagues from MobComp4 have any problems with us going and investigating a MobComp4 truck that has been in a collision. But I would feel like going under false flag if I would go to a MobComp4 workshop and say: “Hi I am from MobUIC!”, because I come from a competing firm and I would like to be honest and say that I am from MobComp3.” Another individual noted: “... personally, I have hard time claiming I am from MobUIC, because I feel I am from MobComp3 and I feel it can be dishonest to claim that you are from an independent part, which MobUIC somehow is considered to be more than MobComp3.” These accounts exemplify that the collective identity, on some occasions, created identity struggles and the subsequent identity work became a question of choosing who to be and how to act, to feel honourable without misusing the collective identity.

4.1.2. Identity work related to company/university identity

The identity work “Retaining distinctiveness” is exemplified by *protecting deep anchoring to knowledge area* and *acknowledging the strength of different roots and belongingness*. Accessing multiple identities was acknowledged as advantageous, yet the collective identity was also perceived almost as a menace, sparking identity struggles. In several interviews, the predominant presence of the collective MobUIC identity was cited as “overpowering”. This generated identity struggles and individuals tried retaining distinctiveness between their company or university identity and the collective identity. The prevalence of the collective identity was underscored as precarious, and individuals affiliated with the university expressed concerns about losing their foothold in their respective knowledge domains. A dominating

collective identity could potentially diminish the depth of their expertise and knowledge, as articulated by a respondent from a university partner: “we are afraid of losing the anchoring to our knowledge area and that we do not develop our competence [working at MobUIC]. We do not go deeper and deeper, rather we are afraid of getting lost.” Individuals employed by an industry partner also highlighted the identity struggles posed by the dominance of the collective identity and the necessity of identity work to retain distinctiveness: “Recognising the significance of diverse origins and affiliations is crucial to prevent the erosion of identity and deterring that organizations disappear in the network ... We should not aim to be a fuzzy MobUIC group without a background, because we all have our roots and belong to different parts and that should be our strength.”

The identity work “Delineating unclear boundaries” is exemplified by *promoting own organizational identity by downplaying the role of MobUIC* and *debating the physical collocation and overlap between organizational entities*. The blurriness of both the organizational boundary and the identity boundary between the university and MobUIC created identity struggles that necessitated identity work. Diminishing the collective identity to reinforce the university identity was deemed crucial by respondents, as acting in alignment with the university identity was considered essential for the advancement of the knowledge domain and the positioning of the research group within that sphere. The tendency for (younger) individuals to gravitate towards the collective identity posed a problem, as expressed by this individual from a university partner: “When I employ new doctoral students, they write MobUIC on all their slides after having worked here for a while. That gives me the hiccups, since I am, as a researcher, supposed to get funding for their research and therefore it is important that we [the research team] are exposed not MobUIC. MobUIC is a financier, which you can write with the smallest font very far below on the paper.” The organizational setup of integrating all research groups from a university department into MobUIC and amalgamating these with research groups at MobUIC was viewed as blurring boundaries and causing identity struggles. Debating the physical co-location and overlap between two distinct organizational entities was a component of individuals’ identity work to discern when to be and act in the interests of the university and MobUIC, respectively. As summarised by an individual from a university partner: “So what I sense is that the overlap creates a lot of problems and indistinctiveness, identity struggles and a lot of strange things.”

4.1.3. In-between identity work

The identity work “Being the same and different” is exemplified by *being different but still being an insider* and *keeping the difference while others are the same*. In the course of the interviews, individuals explicated how working at MobUIC made them feel both similar to others working there and yet different. They addressed this identity struggle by identity work focused on embracing opposing needs, associated with these two positions, to find temporary “optimal distinctiveness”. One individual from a research institute partner explained how there are distinct types of collective MobUIC identities, differentiated by whether you hold a formal role within the organizational structure of MobUIC or not: “... I have another MobUIC hat and that is ReInst’s representative at MobUIC.” These types of collective identities provided some sameness to act as an insider, but also draw a line to distinguish the difference. Expressing oneself as distinct while perceiving others as alike or even identical was another recurring identity work described during the interviews. Individuals from universities were claimed to be akin to those within MobUIC, as articulated by a respondent from an industry partner: “For us Uni is almost the same as MobUIC. That is how I feel. They are the ones that I connect to MobUIC, while the ones from MobComp1, that are part of the project, I do not connect them to MobUIC ... “. Another individual from an industry partner stated: “I think that the ones from Uni are the only ones representing MobUIC ...”.

The identity work “Embracing indistinctiveness” is exemplified by *separating employment from work* and *switching between identities*

depending on the need. Some individuals refrained from confining themselves to an identity solely tied to either their university, company, or MobUIC and instead embraced the blending of identities. They separated their daily practices and the work environment at MobUIC from their employment at a company or university. This way they found the freedom to select which identity to adopt and when. Embracing blended identities also signified a sense of legitimacy in sharing knowledge derived from various contexts and perspectives, enabling individuals to switch between identities based on necessity, as illustrated by a respondent from a research institute partner: “she expresses herself differently depending on which hat she is wearing and that varies during the meeting. I cannot say that she is MobUIC. Sometimes she is wearing a MobUIC hat and at other times another hat ... It is Apollo from MobUIC, Uni and MobComp1. It depends.”

4.2. An emergent model of identity work in UIC

Building on the data structure and the theoretical framework, an emergent model of identity work in UIC was generated (see Fig. 3). This model depicts how multiple organizational contexts in UIC compose a complex identity conundrum, where multiple identities are created and re-created (Alvesson et al., 2008). It illustrates how the organizational context of the UIC, including joint projects and other activities implying social interaction between university and industry participants, is one given context where individuals’ collective identity is situated (Hardy et al., 2005; Perkmann et al., 2019). The model also shows how, the organizational context of the partner organization (company or university), with its particular culture and institutional logic, simultaneously constitutes another given context where the individuals’ organizational identity is situated (Ashforth et al., 2008). These multiple indications (or even directives) of “who the individual is” and “what the individual can do” give rise to individual identity work (Sveningsson and Alvesson, 2003) being carried out by UIC participants.

The model presents individual identity work conducted at the boundary between the company’s organizational identity and the collective identity in the three first circles from the left. *Prioritising collective identity* is to attribute value to the collective effort and signals its importance for the company, which lowers the barriers to working with university partners (Bruneel et al., 2010). *Achieving collective identity* is to consider oneself as a member of the UIC, which bridges cultural differences (Du et al., 2014), decreases the demand for interactional expertise (Canhoto et al., 2016; Sandberg et al., 2015), and impacts the willingness to share knowledge (Sherwood and Covin, 2008). *Using collective identity ethically* is about not using the UIC name to get benefits and showing respect to the collective, which influences the relationship and builds trust (Plewa et al., 2013).

The model also illustrates the individual identity work conducted on the boundary between the university’s organizational identity and the collective identity in the two last circles from the left. *Retaining distinctiveness* involves safeguarding the uniqueness of the university’s organizational identity including its specific values (Canhoto et al., 2016; Du et al., 2014), and preventing it from integrating with the collective identity, which would jeopardize the maintaining of diverse perspectives and varied domain-specific knowledge (Tell et al., 2017) crucial for UIC. *Delineating unclear boundaries* is closely associated with retaining distinctiveness, but the purpose of this identity work is to maintain a clear separation of organizational structures and routines to delineate the boundaries of competence and identity between the different organizations (Santos and Eisenhardt, 2005), even if it comes at the expense of sustained cognitive and cultural differences (van Wijk et al., 2008).

The concept of in-between identity work, as theorized in the model, situates identity work in the space between, partially overlapping with, the collective identity and the organizational identities since it draws from them. This particular form of identity work including *being the same and different* and *embracing indistinctiveness*, serves as a foundation for conducting “directed” identity work to create a sense of self in relation to

others that supports the notion of what the individual can do. An individual can e.g., prioritize the collective identity to be “same” as others – to be an in-group member, and in another situation prioritize the collective identity to be different – to be an out-group member, in the pursuit to transcend organizational affiliations to act collectively (Lawrence et al., 2002). Creating and re-creating a self may imply disregarding the available identities or attending to multiple competing identities simultaneously (Fiol et al., 2009) to achieving reciprocal knowledge sharing (De Wit-de Vries et al., 2019) and protect the delicate nature of knowledge exchange that makes UIC challenging (Estrada et al., 2016). The concept of in-between identity work enfolds identity struggles, and in doing so nurtures diversity conducive to knowledge flows (Lifshitz-Assaf, 2018). It allows individuals to be “both and” as well as “neither nor” in their pursuit of optimal distinctiveness (Brewer, 1991). This type of identity work can be a temporary or enduring state of reconstructing the self between identities (Beech, 2011).

5. Discussion

5.1. Theoretical contribution

The findings of this study suggests that individuals representing organizations in UIC, participating in collaborative knowledge sharing and creation activities continuously conduct identity work as they are struggling with their sense of self - who they are, who they can be, and what they can do in relation to others. These identity struggles arise internally when individuals’ desired self-image is not aligned with the opportunities available to them, or externally, when other UIC members expect them to conform to a role they do not identify with or feel capable of assuming (Sveningsson and Alvesson, 2003). Findings show how individuals are conducting identity work to navigate these struggles in the conundrum of preferred, suggested, and demanded identities, thus contributes rich and deep insights into identity related dynamics within UIC (Gertner et al., 2011; Lifshitz-Assaf, 2018; Rajalo and Vadi, 2017). One theoretical implication for the literature on UIC, which has not adequately portrayed the potency of identity in UIC, is the centrality of individual identity work and its consequence for knowledge creation and sharing. Given the highly relational nature of UIC (Du et al., 2014; Perkmann and Walsch, 2007), this study emphasizes the importance to consider identity work. Identity work provides new nuances to understanding inherent power dynamics of UIC (Bruneel et al., 2010), highlights one strong barrier to the pivotal bidirectional knowledge exchange (Al-Tabbaa and Ankras, 2016), complements our knowledge on trust in UIC (Bäck and Kohtamäki, 2015) and encompasses potential to bridge cultural and cognitive gaps (Johnson, 2008; Sandberg et al., 2015).

As the 1st and 2nd order findings demonstrate, achieving a collective UIC identity often requires significant identity work. For some participants the collective identity is not even accessible. This insight is crucial, considering prior research suggesting that a shared identity (Sandberg et al., 2015) or a hybrid collective organizational identity (Battilana and Dorado, 2010; Perkmann et al., 2019) among UIC members is the primary mechanism for knowledge mobility. Moreover, of particular interest, and in contrast to existing literature suggesting that power imbalances and associated dynamics prevail in UIC (Bruneel et al., 2010; He et al., 2021), the findings show that the collective identity was perceived as indicating neutrality and independence, which should not be exploited for own benefits. Using a collective identity calls for ethical consideration, which implies an awareness of the harm exploitative use of it can cause for trust and knowledge sharing. Findings show that some participants from industry only use the collective identity in interactions with individuals familiar with the particular UIC. The collective identity seems to be “ethically laden” demanding responsible use. The UIC in this study is a well-established research partnership (Perkmann and Walsh, 2007), situated in a shared physical space that facilitates extensive social interaction. This environment may account for the strength of ties and

trust (Plewa et al., 2013), influencing the cautious use of the collective identity to mitigate potential powerplay between participants (Ollila and Yström, 2024).

It is also noteworthy that individuals from the university partner conduct identity work to differentiate between the collective identity and the university identity. Existing literature argues that collective identity can bridge identity distance (Battilana and Dorado, 2010; Dhanaraj and Parkhe, 2006; Perkmann et al., 2019). This study highlights the challenge when the collective (UIC) identity is perceived similar to that of one of the partners, which suggests that current knowledge on collective identities needs to consider proximity of identities as a crucial factor. Individuals engage in identity work to achieve optimal distinctiveness (Brewer, 1991; Kreiner et al., 2006) between their individual identity (linked to employment) and the collective identity. To do this they preserve or even expand the knowledge network they draw from, thus benefiting to the desirable variance upon which knowledge creation and innovation is dependent (Beck et al., 2022; Elmquist et al., 2016; Granstrand and Holgersson, 2020; Hughes et al., 2016; Ollila and Yström, 2016; Sarpong et al., 2022; Slavova and Jong, 2021). This research serves to note that collective identity has implications for UIC, and it even indicates that there is a “dark side” of collective identity that calls for further investigation.

The concept of in-between identity work depicted in the emergent model represents the primary theoretical contribution of this study, as it expands the literature on the micro-foundations of UIC and particularly identity-related issues in UIC (Gertner et al., 2011; Lifshitz-Assaf, 2018; Rajalo and Vadi, 2017). By conceptualising how continual identity work can address inevitable identity struggles in UIC, the model contributes knowledge on the fluidness of individual identity, nuancing the notion of dual organizational identification (Gertner et al., 2011; O'Malley et al., 2014). The concept of in-between identity work suggests an enduring state between identities that incorporates identity struggles and brings identity dynamics in collaborative settings to the foreground. It enhances our understanding of the creation and adaptation of individual identity in relation to others, and how this influences collaborative behaviour, thereby complementing our comprehension of cultural and cognitive differences in UIC (Johnson, 2008; Sandberg et al., 2015). In-between identity work has the potential to bridge cultural differences, enabling individuals to establish a sense of belonging to both an in-group and an out-group (Tajfel and Turner, 1986) in the same space and time. It can either amplify or diminish cognitive differences, since identity work is performed to fulfil individual as well as collective needs.

The proposed concept underscores the pivotal role of identity work in facilitating improved knowledge flows. It highlights how individuals can, through the creation and re-creation of their identities, transform “sticky” knowledge into “leaky” knowledge (Brown and Duguid, 2001) by interacting with others as in-group as well as out-group members. In doing so, it emphasizes the centrality of identity work in bridging the competence and identity boundaries of organizations (Santos and Eisenhardt, 2005). The in-between identity work model is intriguing as it illustrates how identity work operates at the intersections of organizational boundaries, revealing that identity struggles occur within diverse inter-organizational relationships, and a variety of identity work practices are employed to navigate these complexities, ensuring knowledge sharing, creation, and innovation.

In-between identity work accentuates the importance of a conceptual framework aligned with UIC principles, acknowledging that individuals from distinct organizations with differing incentive structures can embody both “both and” as well as “same and different” aspects simultaneously (Du et al., 2014; Howells et al., 2012). By depicting individuals experiencing a sense of belonging despite significant institutional distance and diverse objectives (Du et al., 2014; Howells et al., 2012), the concept complements earlier theories suggesting that two distinct organizational identifications (Gertner et al., 2011; O'Malley et al., 2014) or one clearly hybrid organization identity (Battilana and Dorado, 2010; Perkmann et al., 2019) is needed to

enhance knowledge mobility in UIC. This study establishes an open-ended notion of self in a prolonged state of in-betweenness, elucidating ongoing identity dynamics most likely extant in different UIC arrangements transcending the confines of organizational competence and identity (Santos and Eisenhardt, 2005).

5.2. Practical implications

This study illuminates the role of identity work in allowing individuals engaged in University-Industry Collaborations (UIC) to act on behalf of the collective as well as the employer. This balance promotes a sense of belonging and preserves the cognitive diversity and institutional variety that is known to enhance knowledge sharing and creation. Individual identity work is crucial for transcending the inherent boundaries and tensions in UIC, and there is more scope for managers of UIC, partner organizations (both companies and universities), and the representatives of these organizations to facilitate such identity work.

First, organizations involved in UIC must recognise and understand the identity struggles that come with such partnerships and support the identity work that arises. Individuals representing an organization should receive guidance from their employers about the identities they should develop and maintain, easing their navigation through the dilemmas of who to be and what to do. This guidance might involve clarifying the value expected from their participation and the knowledge they should contribute to the collaboration. Often, strategies that are clear at the top management level, where collaboration agreements are negotiated, are not communicated to those engaging in the actual work in the UIC. Supporting certain identities does not mean imposing a strict identity framework on individuals; rather, it means providing direction for the goals of UIC involvement and allowing space for individuals to form a self-concept that enables them to meet these goals.

Second, it is vital to recognise that social interaction fosters identity formation. This means that individuals who take part in UIC activities are more likely to develop a collective identity, which in turn facilitates the crossing of knowledge boundaries by making knowledge less ‘sticky’. It is, therefore, advisable for individuals to prioritize attendance at seminars and workshops that fall outside their specific knowledge domain or project focus. Individuals should explore different provisional identities as suggested by Ibarra (1999) and contemplate which identity best aligns with the varied and contextual needs of their organization and the collaboration. Additionally, they should consider and discuss with fellow participants the implications of adopting such identities. Formal discussions around identity can be facilitated by the UIC manager or leader.

Third, managers and leaders within UIC environments should acknowledge the potential downsides of a dominant collective identity and strive to bridge the organizational structures of the UIC to balance the distinct identities of companies, universities, and the UIC itself. Initiating activities that stimulate curiosity, and learning can nurture a collective identity that is inherently open. It is also important to consider which identity, collective or organizational, is necessary for individuals to feel included in knowledge-sharing activities and to assist individuals in creating the ‘missing’ identity through both formal and informal engagement. Managers play a crucial role in supporting individual identity work, fostering a constructive dynamic among various identities. The concept of in-between identity work can aid managers in understanding the types of identity work undertaken by UIC participants and how this work helps to ease the tension between competence and identity boundaries. It also demonstrates that endorsing in-between identity work, where individuals are permitted to identify with both the collective and the organization, facilitates inter-group socialization and mitigates the creation of insider-outsider divisions.

6. Conclusions and future research

As a consequence of the micro-foundational perspective on

individual identity work in UIC adopted in this paper, a different view of what impacts processes pivotal for knowledge transfer, creation, and innovation emerges. Individuals engaging in UIC experience identity struggles and conduct identity work to create a temporary and situated self-concept in line with their own preferences and the demand to transcend their organizational affiliations to act collectively in favour of knowledge leakiness. A collective UIC identity (e.g., hybrid organizational identity) supports knowledge flow, but requires careful use, to avoid unethical exploitation and accentuated identity work because of proximity to organizational identities of UIC partners. The concept of in-between identity work demonstrates how individuals perform identity work at the intersection of organizational boundaries, allowing them to embody both collective and individual identities, which foster belonging while preserving the cognitive and institutional variety, needed for knowledge transfer, creation and innovation.

The study's limitations pave the way for future research endeavours. A primary constraint stems from its research design, which involved qualitatively exploring a single UIC initiative. This singular case study inherently restricts the extent to which findings can be generalised. Expounding upon the scope of research to a comparative case study approach could illuminate variations in identity work across different types of UIC, including those in various developmental stages, operating in different industries, and with altered number of partner organizations. This would not only further the knowledge of identity dynamics in UIC, but also point to how in-between identity work is impacted by UIC characteristics, which would enhance the concept of in-between identity work. Additionally, the impact of collective identity on UIC performance and progress including the potential dark side of collective identity, briefly referred to in this study, need to be further explored. Moreover, while the use of interview data offers valuable insights, it has its limitations, particularly in capturing the nuances of in-situ identity work. Future studies could consider adopting an ethnographic approach, facilitating a process-oriented examination of identity work within UIC. This approach would afford researchers the opportunity to gain deeper insights into the unfolding dynamics of identity within UIC contexts.

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Data availability

The authors do not have permission to share data.

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