

MICRO TRANSITIONS AND WORK IDENTITY: THE CASE OF ACADEMIC ENTREPRENEURS

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**MICRO TRANSITIONS AND WORK IDENTITY:
THE CASE OF ACADEMIC ENTREPRENEURS**

KEYWORDS: Academic entrepreneurship, identity work, micro-role transitions,
work practices, materiality, hybrid identities.

For Peer Review

RESEARCH SUMMARY

This paper examines how academic entrepreneurs—scientists who found research-based startups while remaining in academia—construct and sustain their professional identities amid frequent transitions between academic and entrepreneurial roles. Drawing on 27 interviews with Swedish academic entrepreneurs we show that hybrid identities are not simply the result of reconciling abstract role categories but are shaped through the material and practical organization of everyday work. We introduce the concept of professional micro-transitions as a key site of identity formation and argue that material artifacts and routines play a central role in this process. This study contributes to the literatures on identity work, role transitions, and academic entrepreneurship by offering a granular, materially grounded account of how hybrid identities are enacted and sustained in practice.

MANAGERIAL SUMMARY

This article investigates how academic entrepreneurs—university scientists who create startups to commercialize research results while remaining in academia—manage to build a hybrid professional identity when frequently switching back and forth between their jobs as academics and for-profit entrepreneurs. The findings reveal how they creatively find cross-fertilizing effects between their academic and entrepreneurial work tasks. This in turn allows them to reevaluate and extend their professional identity. For universities, incubators, and policymakers, this study suggests that supporting academic entrepreneurship is not just about funding or IP policies. It also requires recognizing the practical identity work involved and creating flexible environments that allow scientists to integrate both roles in meaningful ways.

INTRODUCTION

We study how scientists who take an operational role in research-based startups while also remaining in academia develop a coherent sense of professional identity amid frequent transitions between these roles. Academics who start private companies to commercialize their research are said to face conflicting and potentially incommensurable demands on their professional identities, since these roles entail very different norms and practices (Jain et al., 2009). As academics, expectations are of a clear dissociation between the personal and the scientific, of transparent sharing of results with a community of peers, of work undertaken in pursuit of truth rather than financial or otherwise personal gains, and of active solicitation of peer and public scrutiny (Merton 1968). While not always adhered to in practice, these ideals are nevertheless normatively significant for academia as a whole and exert a strong influence on individual academics' professional identities (Lam 2010). In contrast, entrepreneurs are expected to be passionate and often economically motivated individuals with "the dream and the will to found a private kingdom" (Schumpeter 1911/1934: 93) by means of protecting valuable insights through secrecy, patents, copyrights etc. While this account of entrepreneurship is also an oversimplification, it arguably reflects general perceptions and entrepreneurial identities in much the same way as the Mertonian norms do academic identities. It appears that individuals who combine science and entrepreneurship face a professional situation marked by conflicting ideals — ideals that, as we will see, are closely intertwined with the content, character, and materiality of the work itself, and whose reconciliation may similarly hinge on these very characteristics.

While academic entrepreneurship has been widely studied, much of this literature defines entrepreneurial activity broadly to include patenting, licensing, consulting, and other forms of technology transfer (Pattnaik et al., 2023; Muscio et al., 2014, 2016; Galán-Muros et al., 2015; Stuart and Ding, 2006; Bercovitz and Feldman, 2008). Scholars have only

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3 recently turned their attention to the identity challenges faced by academic entrepreneurs—
4 the individuals who most directly live the tensions between science and commercialization
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6 (Giunti and Duberley, 2023; Pattnaik et al., 2023; Mäkinen et al., 2023; Hayter et al., 2021;
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8 Wang et al., 2021; Karhunen et al., 2017; Jain et al., 2009). This is a welcome development,
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10 given the potential value of knowing more about how these tensions are practically managed.
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12 However, also in these studies the term ‘academic entrepreneur’ is typically defined broadly
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14 to include academics who are only passively involved in commercialization activities. Partly
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16 as a consequence of this, the literature tends to use rather abstract role categories as opposed
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18 to focusing on concrete practices. In an influential study, Jain et al. (2009) thus found that
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20 hybrid identities are constructed through mechanisms such as delegation and buffering, which
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22 serve to protect the pure and central academic identity from corrosive commercial influence.
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24 Building on this, the literature tends to describe the identities of academic entrepreneurs in
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26 terms of either clean separation of roles, on rare occasions their unproblematic integration,
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28 but otherwise occupying a problematic liminal state in between (Karhunen et al., 2017; Giunti
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30 & Duberley, 2023). Little attention has been paid to how such identity related tensions are
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32 concretely and continuously managed in the context of day-to-day work.
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40 This reflects a broader theoretical gap in the professional identity literature. While
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42 identity work during macro-transitions—major, often sequential changes in professional
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44 roles— is well theorized, we know little about how individuals navigate identity in frequent,
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46 everyday transitions between professional roles. These micro-transitions are often assumed to
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48 be unproblematic—especially within the same organizational context—obscuring the identity
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50 challenges that arise when professionals repeatedly move between multiple work-related roles
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52 that belong to professional domains characterized by different norms and values.
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3 The purpose of this paper is therefore to explore how academic entrepreneurs—
4 defined as individuals actively engaged in both academic and entrepreneurial work—
5 construct and sustain their professional identities amid frequent transitions between these
6 roles. We do this by interviewing 27 Swedish academic entrepreneurs, focusing specifically
7 on how they practically manage and make sense of these dual and ostensibly very different
8 professional roles.
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12 To foreshadow our results, we find, *pace* Jain et al. (2009), that academic
13 entrepreneurs did not buffer their academic identities by delegating entrepreneurial work to
14 avoid commercial contamination. While more pedestrian tasks in both domains—such as
15 grading or lab work, and managing payroll or building product—were gladly handed over to
16 others, company tasks for which they were uniquely qualified—such as setting technology
17 roadmaps, doing key sales and partnerships, and securing funding—were seen as natural and
18 appropriate parts of their overall professional identities. More broadly, our findings suggest
19 that coherent professional identities emerge not from maintaining strict boundaries between
20 academia and entrepreneurship, but from the specific content, character, and materiality of
21 the work involved. This is reflected in three interrelated high-level categories in our empirical
22 results—role demarcating, role cross-fertilizing, and role normalizing. Taken together, these
23 dynamics also offer insight into the broader phenomenon of micro-transitions between
24 professional roles.
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28 The paper is organized as follows. First, we review the literature on identity work and
29 role transitions, highlighting how materiality is underexplored in ongoing shifts between
30 multiple professional roles, including in academic entrepreneurship. We then describe our
31 method, including sampling strategy and data analysis. After reporting our findings in some
32 detail, we conclude by discussing their implications for both our understanding of academic
33 entrepreneurship and of identity development for plural careerists navigating competing role
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8 THEORETICAL BACKGROUND 9

10 This section integrates three key streams of literature: identity work during macro-
11 and micro-role transitions, the role of materiality in shaping professional identity, and identity
12 work within the context of academic entrepreneurship. While existing research has primarily
13 emphasized cognitive and narrative strategies for navigating professional transitions, we draw
14 attention to the underexplored role of material artifacts, everyday work practices, and micro
15 transitions in constructing and sustaining hybrid professional identities.
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26 Identity Work and Professional Role Transitions 27

28 Identity is central to understanding how individuals view themselves, regard others,
29 interpret experiences, and make decisions. Unsurprisingly, identity work, as the ongoing
30 process through which individuals come to define who they are (Alvesson et al., 2008, Brown,
31 2015), has received a lot of attention by scholars interested in professions and careers (Caza
32 et al., 2018). While an ongoing process across all walks of life, identity work becomes
33 especially pronounced during transitions between structured settings and roles such as
34 families, community organizations, educational institutions, and, not least, professions and
35 workplaces. Such transitions are commonly classified into two broad types. Macro-transitions
36 involve individuals entering new roles (e.g., Ibarra, 1999) or facing great confusion and self-
37 doubt triggered by substantial changes to their existing role (e.g., Lifshitz-Assaf, 2018), such
38 that one identity is ultimately replaced by another. In contrast, micro-transitions refer to the
39 often less dramatic and more frequent shifts between simultaneously held roles (Ashforth et
40 al., 2000). Importantly, the way individuals experience these transitions—particularly
41 whether specific tasks feel purposeful or resonant—also shapes how identity is maintained or
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3 redefined across roles. Bailey and Madden (2016) emphasize that meaningfulness in work
4 emerges not from role titles or broad transitions alone, but from engagement in specific tasks
5 that are experienced as morally significant or emotionally engaging. This perspective adds an
6 important experiential layer to our understanding of identity work during transitions.
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12 While macro-transitions can occur between professional and non-professional roles,
13 such as when individuals retire or leave the workforce to become full-time parents (Ashforth
14 et al., 2000; Ebaugh, 1988), most scholars have studied sequential transitions between
15 different professional roles. Examples include junior consultants and investment bankers
16 transitioning from technical and managerial work to client advisory roles Ibarra (1999) or
17 wage earners becoming full time entrepreneurs (Hoang and Gimeno, 2010). Focusing on
18 radical shocks rather than formal role changes, other examples include how early-career
19 doctors revised their professional identities post-medical school when confronted by new
20 work responsibilities (Pratt, Rockmann, and Kaufmann, 2006), how librarians initially
21 resisted but eventually embraced the Internet as compatible with, and an extension of, their
22 traditional “masters of search” identities (Nelson and Irwin, 2014), and how senior scientists
23 at NASA found a way to recast themselves as facilitators and solution seekers, rather than
24 experts and problem solvers, as their organization embraced open innovation (Lifshitz-Assaf,
25 2018). Key to developing these new identities were mental reframing, the construction of
26 expanded narratives of work, and more generally the construction of mental categories.
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46 Interestingly, studies of professional micro-transitions exhibit the opposite pattern.
47 Here, the overwhelming majority of studies focus on how to handle ongoing shifts between
48 professional and non-professional identities and roles (e.g. Ramarajan and Reid, 2013;
49 Nippert-Eng, 1996; Ashforth et al., 2000; Kreiner et al. 2006, 2009; Aljabr et al., 2021;
50 Chamakiotis et al., 2023). Focusing especially on demanding or “greedy” occupations (cf.
51 Coser, 1974), this literature describes how attitudes, moods, and behaviors from the work
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3 domain often intrude or spillover into the private sphere. For priests, activists, clergy, and
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5 scientists, the job can easily consume their time, energy, and personal identity, blurring the
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7 boundaries between professional and private life in ways that are not always for the best.
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10 For instance, the role-appropriate aggressiveness that comes with police work, the
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12 obedience to authority inherent in the military, and the impulse of scientists and lawyers to
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14 engage in intellectual debate, may be triggered in non-professional settings with potentially
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16 harmful consequences (Ashforth et al., 2000; Delanoeije et al., 2019; Draga and DeCelles,
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18 2024).

21 Tactics for dealing with undesired tensions and spillovers during micro-transitions
22 typically center on embracing integration or seeking separation (Kreiner et al. 2006).
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24 Integration is often achieved cognitively, for example by incorporating the professional role
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26 into one's personal identity, or by framing personal values as aligned with professional
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28 commitments. It can also be facilitated materially, as digital technologies enable individuals
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30 to engage in hybrid spaces or to occupy liminal states that are neither entirely work nor
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32 entirely non-work (Chamakiotis et al., 2023). Conversely, separation is achieved by creating
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34 psychological, physical, and digital space between the two. This can include setting
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36 temporal and other limits or articulating a clear identity hierarchy where one is always
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38 prioritized over the other. Much emphasis is however placed on more concrete and tangible
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40 means of achieving separation and differentiation. This can include active rituals such as
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42 exercising before leaving work or listening to music while commuting home (Ashforth,
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44 2000), as well as the more indirect ways in which work-related uniforms, workspaces,
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46 phones, computers and other technological artifacts reinforce the sense of separation
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48 (Kreiner et al., 2009; Draga & DeCelles, 2024; Aljabr et al., 2021; Scheibe et al. 2024). This
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50 emphasis on technology and materiality is also found in the general literature on how
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52 professional identities are developed and enacted.
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Identity Work and Materiality

Across organizational studies, the sociology of professions, and ethnographic studies of work, scholars have long found materiality to be key for understanding how identities are defined, solidified, and expressed (e.g., Orr, 1996; Van Maanen & Barley, 1984; Nicolini, 2012). Specifically, material artifacts, such as technologies, tools, routines, and workspace arrangements, not only support and shape how work is carried out but also help anchor and make visible identity (Barley, 1986; Pratt and Rafaelli, 1997; Kaplan, 2011; Hatch, Schultz, and Skov, 2015). Things made often carry identity-expressive qualities and can serve as symbolic extensions of authentic professional values (Watkiss and Glynn, 2016). Toy car designers thus expressed themselves and their creative independence through highly personal signature styles (Elsbach, 2009), while craftsmen used meticulously crafted prototypes to distinguish their work from mass production, thereby reinforcing their sense of authenticity and professional pride (Anteby, 2008). Similarly, librarians were found to curate collections, showcase books marked “good reads” etc. (Boudreau et al., 2014).

While earlier studies have shown how physical artifacts can serve as expressive anchors of professional identity, more recent research has drawn attention to how digital technologies—understood as a form of material artifact—reshape traditional boundaries at work. In academic contexts, Aljabr et al. (2021) show that such technologies can function as boundary objects, helping professionals manage after-hours connectivity and maintain separation between work and non-work domains. In contrast, Chamakiotis et al. (2023) show how digital technologies facilitate hybridity and liminality by enabling individuals to fluidly inhabit the in-between space of work and non-work domains. Focusing solely on the professional realm, Waizenegger et al. (2023) show how individuals use digitally mediated communication tactics—such as response delays, softened language, and selective availability disclosures—to shape how they are perceived across roles and to manage their

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3 accessibility and professional image.
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8 Clearly, materiality is relevant if one wishes to understand the formation of
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10 professional identities. However, when materiality is related to professional role transitions,
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12 we again notice an interesting pattern. Studies of transitions between professional and private
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14 roles focus almost exclusively on ongoing micro-transitions. And while cognitive
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16 sensemaking strategies are discussed, much greater emphasis is placed on how material
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18 artifacts are used to manage boundaries by either reinforcing separation or enabling
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20 integration across roles (Kreiner et al., 2009; Ashforth et al., 2000). In contrast, studies of
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22 transitions between two professional roles largely focus on sequential macro-transitions,
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24 which are made explained primarily through narratives, storytelling, symbolic markers and
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26 other intangible terms, with comparatively little attention paid to things concrete and material
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28 (e.g., Ibarra and Barbulescu, 2010; Hennekam, S. 2017; Fenters et al., 2024).
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33 Despite its growing relevance, the role of material artifacts in micro-transitions
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35 between professional roles remains underexplored. As modern work environments grow more
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37 complex, professionals are frequently required to navigate fluid shifts between tasks, roles,
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39 and responsibilities. This is especially salient for plural careerists (Campion et al., 2020) and
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41 multiple job holders (Caza et al., 2017), whose sense of professional normality (Van Maanen,
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43 2010) is frequently interrupted as they transition between distinct practice domains — each
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45 often involving unique material artifacts, routines, and norms. Still, professional micro-
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47 transitions are often assumed to be relatively unproblematic — especially when they occur
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49 within the same larger organizational context, such as shifting between managerial and
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51 subordinate roles or moving between departments (Ashforth et al., 2000).
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56 However, this assumption overlooks the challenges that arise when professional roles span
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58 quite radically different organizational contexts, each involving distinct actors with divergent
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3 — and potentially conflicting — goals. In such cases, micro-transitions may require
4 individuals to navigate competing expectations, manage fragmented routines, and reconcile
5 differing professional norms. In such contexts, complementing the focus on cognitive
6 sensemaking and reframing with attention to materiality and practice may help us better
7 understand how people manage the often fragmented and dynamic nature of contemporary
8 work. These issues come into sharp focus in the context of academic entrepreneurship.
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18 **Identity work and Academic Entrepreneurship**

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20 The academic entrepreneurship literature generally highlights the complementarities
21 and tensions that exist between the identities of researcher and entrepreneur (Jain et al., 2009,
22 Karhunen et al., 2017; Giunti and Duberley, 2023). These tensions are rooted in the
23 contrasting ideals said to characterize academic and entrepreneurial work—science being
24 associated with the disinterested and transparent pursuit of public good (Merton, 1968), and
25 entrepreneurship with the passionate, often secretive, pursuit of private gain (Schumpeter,
26 1934).
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36 Given the perceived differences between academic and entrepreneurial work, it is
37 commonly assumed that the “cherished, more stable, and dramatically different” (Jain et al.
38 2009: 924) academic identity is threatened by the alien practices, values, and norms associated
39 with entrepreneurship. To cope, individuals often develop a hybrid identity in which the
40 academic role remains primary but is expanded to accommodate entrepreneurial engagement.
41 In an influential study, Jain et al. (2009) identified two key coping mechanisms: *delegation*,
42 which is externally oriented and involves reconfiguring relationships and practices so that
43 commercialization activities are handled by external actors such as technology transfer
44 offices; and *buffering*, which is internally focused and involves mentally reframing and
45 practically reorganizing entrepreneurial work “in a manner that retain[s] the essence of their
46 academic role identity” (Jain et al., 2009: 930). Others find variations between countries.
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3 Karhunen et al. (2017), for instance, found that Russia academic entrepreneurs saw the two
4 identities as essentially in tension, whereas their Finnish counterparts had no problems
5 reconciling the two. Giunti & Duberley (2023) also studied academic entrepreneurs across
6 countries. While finding differences in degree between Australia, Italy and the UK, they also
7 identify three categories that apply across the board: *disciplinary loyalists*, who only
8 reluctantly engage in entrepreneurship and seek to protect their academic core;
9 *entrepreneurial embracers*, who engage enthusiastically but maintain a clear hierarchy with
10 the academic identity on top; and *liminal bridgers*, who sustain a more fragile and emotionally
11 taxing middle ground marked by ambiguity and uncertainty. Hayter et al. (2022) also speak
12 of liminality, but more from a processual and temporal perspective. They describe academics
13 as having to navigate a liminal phase where they play and experiment with the new
14 entrepreneurial identity, something that, given the differences between the two, can be quite
15 emotional and challenging. However, with time and sufficient social and institutional support,
16 individuals can emerge from this phase having achieved identity reincorporation—an “end-
17 state that provides a coherent sense of self that influences work performance positively”
18 (Hayter et a. 2022: 1473). Echoing Jain et al. (2009), this end-state is characterized by
19 individuals who “reconcile their scientific and commercial identities through hybridization,
20 though they maintain the scientific as central through a process of delegating and buffering”
21 (1479). Some also exit the process and retreat to their academic identities without having
22 achieved this goal. Finally, for those who remain suspended between the two, “liminality may
23 endure maladaptively with significant personal costs” (1474).

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Much of the academic entrepreneurship literature has focused on how individuals reflexive reconcile what are viewed as fundamentally different identities through discursive sensemaking strategies. Methodologically, this often involves attending to how individuals draw on prevailing institutional logics, social support, role models, and success narratives to

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3 construct a coherent account of how their two roles cohere. Giunti and Duberley (2023) thus
4 find that many academics navigate this space by “re-framing academic entrepreneurship
5 through the lens of social entrepreneurship” (547), thereby bridging social and commercial
6 logics and aligning entrepreneurial activity with values more familiar to the academic domain.
7
8 Karhunen et al. (2017) explicitly focuses on the role of autobiographical narratives, while also
9 acknowledging that such reflexive stories “are not a record of what actually happened, but
10 should be regarded as a continuing interpretation and reinterpretation of our experience” (7).
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These approaches yield valuable insights into the cognitive and narrative processes that underpin identity work. While not explicitly using the terminology of macro-transitions, these studies tend to frame identity development as a macro-transition of sorts, culminating in a stable, hybrid identity. By emphasizing abstract role categories and sense-making narratives, they also largely overlook the concrete material practices through which academics navigate, relate, and reconcile their dual roles. Even in studies that explicitly focus on process and temporality, such as Hayter et al. (2022), the aim is a stable identity reincorporation with “ongoing liminality” described as maladaptive and problematic. Yet analyzing such states through the lens of ongoing micro-transitions—with greater attention to the content and character of work, as well as the material circumstances within which these dual roles are managed and related—may reveal alternative, more neutral understandings of how academic and entrepreneurial identities can be held in productive tension over time, as well as forms of meaningful reincorporation that go beyond the dominant, separation-oriented models of reincorporation “exemplified in the literature by Jain and colleagues” (Hayter et al., 2022: 1473).

RESEARCH APPROACH

To explore how academic entrepreneurs construct and sustain their professional identities amid frequent transitions between academic and entrepreneurial roles, we adopted an inductive and interpretive approach inspired by grounded theory (Glaser & Strauss, 1967). Focusing primarily on concrete practices, we examine how individuals made sense of and practically managed work across academic and entrepreneurial contexts. Our analysis draws on two complementary forms of data: (1) semi-structured interviews with academic entrepreneurs, and (2) secondary materials that provided contextual depth and informed our interview preparation. In the sections that follow, we detail the study setting, sampling logic, data collection procedures, and analytic strategy.

Study Setting

The study was conducted at a large Swedish technical university with an explicit institutional commitment to supporting research utilization. The university maintains a technology transfer office, several incubators, a venture creation-based entrepreneurship education, and is situated within a national context where the academic researchers retain full ownership of intellectual property generated in their academic roles (cf. Goldfarb and Henrekson, 2003). These features made it more likely that we would encounter academics actively involved in venture creation. However, our analytical focus was not on the institutional context as such, but on identity work among academic entrepreneurs.

Sampling and Data Collection

We adopted a purposive sampling strategy to identify academic entrepreneurs for whom identity work was likely to be most salient. Specifically, we focused on individuals who were operationally engaged in venture creation while remaining in academia and

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3 maintaining their other academic duties. We define academic entrepreneurs as individuals
4 who have founded or co-founded a research-based venture—that is, a company built to
5 commercialize knowledge, technologies, or methods developed through academic research.
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7 To qualify as research-based, ventures needed to be based on university-generated outputs,
8 such as patented inventions, applied technologies, or scholarly methods with commercial
9 potential. These ventures varied in maturity and structure, from university spinouts to
10 independently launched startups. Our focus was on academics with direct, hands-on
11 involvement in venture development, rather than those who only contributed intellectual
12 property.
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24 Academic entrepreneurship, as defined in this article, is a particularly relevant
25 empirical context for exploring micro-transitions and identity work more generally. It
26 involves recurrent shifts between two distinct professional spheres—academia and
27 commercial enterprise—that differ in values, practices, and expectations. Unlike macro
28 transitions, where one identity is over time replaced, our respondents are forced to manage
29 ongoing micro-transitions between roles. Because academic and entrepreneurial activities
30 frequently coexist rather than occur sequentially, individuals are required to continually move
31 between activities such as writing grant proposals, mentoring students, meeting with
32 investors, or managing IP. Such shifts demand situated forms of identity work that are
33 embedded in the flow of everyday tasks and practices, making academic entrepreneurship an
34 ideal context to examine the concrete realities of professional identity work.
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49 To capture both individual experiences and contextual detail, we collected two types
50 of data: (1) semi-structured interviews with academic entrepreneurs, and (2) secondary data
51 from publicly available sources, including university press releases, company websites, media
52 articles, and institutional bios. These secondary materials helped us verify entrepreneurial
53 involvement, prepare tailored interview questions, and enrich our understanding of the
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3 organizational and professional context in which each participant operated. Table 1 provides
4 an overview of the datasets used in the study, including secondary materials, pilot interviews,
5 and the primary interviews.
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14 INSET TABLE 1
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21 We conducted interviews with 27 academic entrepreneurs across several STEM
22 fields, including biotechnology, computer science, mechanical engineering, and materials
23 science (see Table 2 for participant details). The sample was composed of 26 men and one
24 woman, which while very skewed is not entirely surprising given the gender distribution in
25 STEM research as well as STEM entrepreneurship. This imbalance was not a design choice
26 but an empirical reality that warrants further exploration in future research. We included
27 participants ranging from postdoctoral researchers to full professors. This allowed us to
28 explore a diversity of career stages and academic responsibilities without assuming
29 predefined differences in identity dynamics. We also included both first-time founders and
30 academics who had started multiple ventures. Interviews lasted between 40 and 90 minutes,
31 were audio-recorded with consent, and transcribed for analysis. The interview guide (see
32 appendix 1) covered participants' experiences with venture creation, role transitions, and
33 perceptions of peer and institutional reactions.
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53 INSET TABLE 2
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3 Notably, early in the data collection process, whenever asked about their professional
4 identities, our respondents tended to focus heavily on what they do—their concrete work
5 practices and use of material artifacts when shifting between academic and entrepreneurial
6 work. They were keen on comparing and reflecting on work practices from both domains
7 and how they related to each other. As these themes emerged inductively, we decided to
8 direct our investigation more explicitly toward understanding the role these practices and
9 artifacts played during micro-transitions between roles, and how they shape identity work
10 more broadly. This shift allowed us to explore how professional identities were actively
11 constructed through materially grounded and situated forms of engagement.
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26 **Data Coding and Analysis**

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28 We employed a grounded theory approach (Glaser & Strauss, 1967), which guided
29 our inductive analysis of how academic entrepreneurs practically engage in identity work. A
30 grounded theory approach was particularly well-suited to our research aims, which centered
31 on inductively exploring the situated, practice-based, and materially mediated nature of
32 micro-transitions. It allowed us to iteratively move between data and concept, surface
33 meaning-making processes from the participants' own perspectives, and build theoretical
34 insights grounded in empirical practice. Our results were then organized and presented using
35 a Gioia-style data structure (Gioia et al., 2013).
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47 Data analysis began with open, line-by-line coding of interview transcripts to identify
48 meaning units—discrete segments of text that captured a particular idea or experience. These
49 units were assigned first-order codes using the participants' own language whenever possible
50 to preserve the integrity of their perspectives.
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57 For example, one participant described how the startup generated data that later
58 “became a paper,” which was coded as *data from startup as input for future research*. Another
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60

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3 explained, “*Publishing scientific results is a good way to communicate information regarding*
4 *the system. It is appreciated by potential customers. It has actually strengthened our business*”
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6
7 which we coded as *scientific publications as communication tool*. As we moved through
8
9
10 iterative rounds of comparison and clustering, these codes were synthesized under the second-
11
12 order concept “**Artifacts facilitating role accumulation**” This concept captures how
13
14 academic entrepreneurs used tangible outputs—such as prototypes, publications, and user
15
16 data—both to advance academic agendas and to legitimize or strengthen their entrepreneurial
17
18 work.
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23 Throughout the process, we wrote analytic memos to explore the implications of
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25 emerging patterns and revised our interview guide to probe new insights as they surfaced.
26
27 This iterative, theory-building approach allowed us to move from granular practices to
28
29 broader theoretical categories, culminating in the data structure (see Figure 1) that illustrates
30
31 the link between first-order codes, second-order concepts, and our theoretical categories
32
33 (Gioia et al., 2013). We frequently returned to the audio recordings to recover nuances in tone,
34
35 emphasis, and emotional content that might not be fully captured in the transcript. This helped
36
37 preserve the interview atmosphere and enhanced the accuracy of our interpretations. Informal
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39 team debriefings after early interviews also served to surface emergent ideas, refine the focus
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41 of subsequent interviews, and maintain consistency in analytic orientation.
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NAVIGATING MICRO TRANSITIONS BETWEEN ACADEMIA AND ENTREPRENEURSHIP

When discussing their practical experiences as academic entrepreneurs, our informants consistently told us that the frequent transitions between academia and entrepreneurship generated a certain measure of tension and sometimes led to feelings of moral and ethical ambivalence. Interestingly, these frequent transitions also prompted and provided a concrete basis for sensemaking processes whereby practices, artifacts, and identities co-evolved and took on new meanings. In addition to role tensions, our findings thus highlight three broad themes—under the rubrics of role demarcating, role cross-fertilizing, and role normalizing—that capture how academic entrepreneurs concretely navigated and related their dual roles.

INSERT FIGURE 1

Role Tensions

As expected, our respondents pointed to the many ways in which academic and startup life differ. They also spoke of the more or less practical problems they experienced when seeking to live up to expectations in both domains. Pointing to the intimate relation between work and identity, they also described themselves in ways that set them apart from ‘typical entrepreneurs’ as well as ‘traditional academics’.

Experienced strain

When reflecting on their experiences, almost all informants spoke of competing and sometimes incompatible pressures. Many described how the **inflexible nature of academic tasks**, such as research, teaching, and administrative duties caused problems since they could not be easily delegated, postponed or disengaged from. Stepping down from teaching a course

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3 or from chairing a committee could for instance take more than a year. Teaching was
4 especially mentioned in this regard since the immovability of lectures and labs limited their
5 flexibility as founders to act quickly on unexpected opportunities. Citing these constraints,
6 many reported feeling stressed as they tried their best to honor their many responsibilities as
7 founders and academics. Said one respondent:
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15 *“The problem that you have as professor is that you have very stringent*
16 *things that you cannot move. When I have teaching, I cannot tell the*
17 *students; sorry I have a meeting with a CTO go way. I need to be there for*
18 *the teaching. I cannot say I am not going to conferences anymore. There*
19 *are a lot of these hard constraints and I think if you are trying to build a*
20 *startup you cannot have them.” (Informant 19)*
21
22

23
24 Some respondents also reflected that the addition of urgent entrepreneurial tasks to the
25 existing academic workload often came at the expense of their private life:
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28
29 *“Everything takes time, I have a family with small kids and when*
30 *you go home sometimes you have not closed all issues at work. You may*
31 *open the computer after dinner to finish up things and nowadays I have to*
32 *deal with the company as well. It’s a conflict. I have to prioritize. I have to*
33 *ask myself what’s in it for me and why am I doing it.” (Informant 21)*
34
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36
37 Others noted that the **general character and approach to work** differ in the two
38 settings. Academic research in particular was associated with work on interesting problems
39 in depth for an extended period of time. Doing a certain amount of explorative and curiosity
40 driven work was deemed appropriate even if it might not lead to new discoveries. In contrast,
41 work in the startup was conducted under more immediate pressure to deliver working
42 solutions.
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51 *“In research, you are more explorative, you think about why*
52 *something is happening the way it is. You want to find out the idea behind*
53 *it. In an entrepreneurial environment, you are just happy that you found a*
54 *strain (of yeast), and then you move on to produce your product”*
55 *(Informant 6)*
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57

58 Intimately related to this, several interviewees saw the need to interact with outsiders
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3 as a major difference. While academic life contains seminars, conferences and the like, most
4
5 of the actual work to develop a new technology takes place during relatively long and isolated
6
7 periods inside the university lab. In comparison, the pragmatic and customer-oriented nature
8
9 of startup work relies on frequent inputs from outside stakeholders to make viable progress.
10
11

12
13 *“In research, you are still in your bubble. You make assumptions*
14 *about the problem, you read previous research to see what the state of the*
15 *art is and what are the basic problems etc. But in the industry [when you*
16 *commercialize], you have a lot of talks with real customers and there you*
17 *get in touch with real problems” (Informant 5)*
18
19

20
21 Such interactions would sometimes lead to a lot of discomfort. Nowhere was this more
22
23 clear than in some interviewees’ description of their discomfort with selling products and
24
25 negotiating with customers. In the words of one first time entrepreneur:
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27

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29 *“One thing that I thought I could do but really can’t is selling... I*
30 *am getting more and more aware of it, and that is painful. I must say, I feel*
31 *a bit frustrated when I go somewhere and talk to people for two hours and*
32 *they are very kind and everything, but nothing happens afterwards. I hear*
33 *that you need to be very patient in order to eventually catch a fish. But I*
34 *just don’t have the guts for it. Maybe not the skills either.” (Informant 2)*
35
36

37
38 Closely related to the above, our respondents emphasized that they typically work with
39
40 very **different kinds of artifacts in startups and academia**. In academia, technologies are
41
42 developed to fulfill standards required for publication, whereas in the startup it should
43
44 ultimately satisfy customers. An academic publication can thus be based on a rough prototype
45
46 or a proof of concept as long as results are valid. In contrast, customers seek an error-free and
47
48 polished product that solves a particular problem. Research results that are publication-ready
49
50 therefore require significant development work that is scientifically derivative and application-
51
52 focused:
53
54

55
56 *“In research, if you know how to do a thing to a certain level that*
57 *proves that everything is working, then that’s it. You don’t need to make*
58 *sure that the setup is waterproof or that it will work for ever. However, in*
59 *the startup, you actually spend much more time on refining it. In research,*
60 *when I know that something works, I publish. Refining what I published is*

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3 *company work.” (Informant 4)*
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7 Or even more succinctly stated:

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9 *“A research prototype software is useable only by the person who*
10 *wrote it. You make it work well enough to get the results that you need for*
11 *publication, but if you are going to put something in the hands of customers*
12 *it needs to work much better than that.” (Informant 1)*
13
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15
16 Switching between, on the one hand, academic work that uses ad hoc technologies in a
17 careful manner to achieve the scientific rigor needed for publication and, on the other, quickly
18 and iteratively developing a product—knowing full well that the initial releases are
19 incomplete and have limited functionality—sometimes led to tension. Specifically, several
20 respondents described how their scientific attitudes interfered with the entrepreneurial need
21 for speed and agility:
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29
30 *“For an entrepreneur, once an idea has been tested, it should be*
31 *quickly released and then one can learn what works and what does not. I,*
32 *however, come from the background that for something to be released it*
33 *needs to be very good. When an article is ready, it should not contain a*
34 *single error if it were to be published. This is clearly a problem, at least*
35 *for me... It’s extremely difficult to liberate oneself from it.” (Informant 8)*
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39 The approach toward work and the different artifacts employed in the two settings, also
40 produced ambivalent feelings about **the meaning of failure and embarrassment**. One
41 respondent described it thus:
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46 *“Publishing something and being wrong is the worst thing*
47 *that could happen to you. In the start-up world, it’s the other way*
48 *around. Failing five times is a badge of honour. Trying several times*
49 *tells people that you have experience and that you are willing to take*
50 *risk.” (Informant 19)*
51

52 While acknowledging this difference in principle, the same respondent then explained
53 the deep sense of embarrassment he felt when he had to demonstrate an incomplete prototype
54 with a customer:
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59 *“I think there was always a deep, maybe unfounded fear of going*
60 *to the CTO of a company that you know and talking about something that*

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3 *you yourself consider to be sketchy and incomplete. There was this deep*
4 *fear that you cannot have only 10% of the product and go to a CTO, you*
5 *needed to have 95% of the product.” (Informant 19)*
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9 This broad sentiment was echoed by a junior faculty who did not hesitate to promote
10 his own expertise, but grudgingly acknowledged that he often ended up selling his product
11 short:
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16 *“I feel that I am not overselling at all, I am underselling, yeah...*
17 *we’ve done... it works... and it’s fairly cool but I am not pushing. I am like*
18 *toning it down. I feel that it is a quite common researcher take. I am not*
19 *selling the product that I have developed, I am selling myself as an*
20 *authority in this area. I can sell myself but not the stuff that I am trying to*
21 *sell.” (Informant 8)*
22

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24
25 For many respondents, such feelings and attitudes also produced a sense of **moral and**
26 **ethical ambivalence**. Going beyond the form and content of work, such ambivalence was
27 sometimes experienced in relation to the very fact that one is starting a company while
28 employed by the university. One associate professor described feelings of doubt, despite the
29 very vocal encouragements both from his professor and the head of department:
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37 *“That’s the thing that makes it so challenging, it’s not that black and*
38 *white, which makes it really difficult. But then I talk to my professor and*
39 *he says that this is really good, it’s good for us, do it! Yet, I still feel that it*
40 *is primarily for myself, it is for my company. So I ask myself is this right?*
41 *Is it wrong? ... The funny thing is that my boss is one of my greatest*
42 *supporters but I still feel: Is this right? Is this wrong?” (Informant 10)*
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46 A full professor heading a group of PhD students and junior faculty described similar
47 concerns but from the opposite perspective of maintaining the integrity of the university and
48 protecting the scientific careers of untenured individuals.
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53 *“I constantly hold back. Now when we try to commercialize*
54 *something, the main thing I think about is protecting my PhD students, to*
55 *make sure that they finish their studies, and that commercialization does*
56 *not interfere with research too much. We are in the process of possibly*
57 *starting a company and a lot of people want to give us money. I constantly*
58 *have to say no, not yet, not yet. There is this big company that wants to*
59 *give us money and start a company just like that (waves hand). But I said*
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3 *no, I have to wait for the right moment. It would be so easy to take this*
4 *whole research group and start a company and but then this whole*
5 *research area will be gone.” (respondent 18)*
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9 While all respondents experienced tensions when combining academic and
10 entrepreneurial work, they also managed this tension, often in surprisingly constructive ways,
11 by means of three gradually more broad mechanisms that gradually moved from managing
12 necessary separation, leveraging synergies, and finding common ground.
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20 *Disidentification with conventional roles*

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22 Our respondents often distanced themselves from what they considered to be typical
23 entrepreneurs or academics. In doing so they avoided association with qualities and
24 expectations tied to these roles. One researcher thus explained that he was very **different**
25 **from typical entrepreneurs** who would make bold claims about technologies and products
26 without the scientific knowledge necessary to back it up:
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34 *“[When] I hear other companies pitch, sometimes it's laughable.*
35 *Because from a science point of view, they have nothing. The difference*
36 *with us is that we can go in the world market and hold our ground, whereas*
37 *these other companies can't. We have proof. I go to international meetings*
38 *and say 'This is what we do', there is not one single person that can say*
39 *'no you can't', because I've proven it...It makes you much more powerful*
40 *to have the science background. It's a huge force.” (Informant 26)*
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45 This sentiment was echoed by another respondent who referred to his product's origin
46 in solid research as separating him from entrepreneurs in general.
47
48

49 *“I don't see myself as the standard meaning of an entrepreneur.*
50 *Let's say that my goal within the company is to make things work,*
51 *basically. To have a research product, which is usually not suitable for*
52 *commercialization yet, and to figure out what's needed to make it usable*
53 *for a particular kind of customer.” (Informant 24)*
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57 One respondent described the contrast between himself and ‘entrepreneurial posers’
58 more bluntly:
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“It's quite trendy these days to be entrepreneur. Many people look and act the part in the sense that they have a MacBook with some stickers on it, they are doing some IT related business. They are all the same age, they look the same and talk the same. I think serious researchers are still the missing link.” (Informant 16)

Interestingly, our respondents also stressed that they were **not like traditional academics**, whom they described as being exclusively focused on publishing research papers with little or no thought of industry applications. Several respondents described their approach to academic work in ways that explicitly contrasted with what they saw as the majority attitude.

“I am interested in doing problem-based research instead of tool-based research. I think something like 90 percent is tool-based where you use the tool that you got as a PhD student and keep working with that. It's like going around with a screwdriver looking for suitable screws to turn. That's the usual way people work. It's a cynical viewpoint, but it's unfortunately true. And that's also how things are rewarded academically.” (Informant 27)

Echoing this attitude, one respondent explicitly saw successfully marketed applications as a natural end point to science:

“A lot of people are happy to find a solution and get a publication, but I find it more interesting when I do something that will eventually turn into money. That is the closed cycle. For me getting a publication is not that difficult, it is much more difficult to get someone else to buy your idea. If you do that in the right way, you will be creating value and solving problems better than other people do... I feel like I have an alarm on my back telling me always that I need to do something practical not just flying around up there.” (Informant 4)

Having distanced themselves from the established roles of entrepreneur and academic researcher, our respondents often fell back on more inclusive terms such as “problem solver” and “innovator” when speaking of themselves. Such categories helped reinforce a positive sense of self that transcended their distinct roles, while simultaneously suggesting a proud refusal to be bounded by traditional terms. When prompted to describe in more concrete terms

1
2
3 what life is like as an innovator, problem solver, or academic entrepreneur, their answers
4 could be broadly grouped into three closely related and increasingly reconciling themes: role
5 demarcating, role cross-fertilizing, and role normalizing.
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9 10 **Role Demarcating**

11
12 Our informants described how role tensions were managed by means of a clear and
13 formal separation between work done for the university and for the company. Central here
14 was the setting of clear boundaries in terms of physical work environments and work-related
15 routines. However, when discussing work content, it became apparent that the line was also
16 drawn between qualified or more pedestrian tasks. Notably, this demarcation did not
17 discriminate between work performed at the university and in the company but focused
18 squarely on whether it was considered appropriate given their sense of professional identity.
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28 *Artifacts maintaining role boundaries*

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30 The academic entrepreneurs we interviewed used several material artifacts to clearly
31 draw a line between their roles as university scientists and academic entrepreneurs. A key
32 behind this behavior is to preempt criticism and reduce confusion about their dual work
33 engagement. Said one professor:
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40 *“Since I started, I have done all business in my home office. I have*
41 *a separate phone line which I have been paying for 30 years. I did not even*
42 *use envelopes from the university. I have never been accused of overusing*
43 *university resources even though I have been heavily engaged in many*
44 *companies. I think that is important to make it work.” (Informant 14)*
45
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47

48 While not always formally required, such material boundaries were established
49 because, in the words of one informant, they “want to do things right”. Perhaps as important,
50 they also want to signal that their conduct is beyond reproach thus forestalling any potential
51 accusations of misusing university resources.
52
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57
58 *“When I do something for the company, I do it on my own time and*
59 *it is paid for by the customers. And it’s done in my home office and on*
60 *computers that are owned by the company. I have separate machines for*

1
2
3 *that. I just want to keep it clear, so I have this clear distinction. It is also*
4 *to make sure that no one will come afterwards and say that I have done*
5 *something wrong,” (Informant 2)*
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9 Boundaries could be temporal as well as physical. This was illustrated by one professor
10 who sought to divide work on university and company tasks into longer chunks of time for
11 ethical as well as practical reasons.
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15
16 *“I try to spend a day at a time on each and not to think too much*
17 *about the other. I don’t work well when I have a lot of distractions, so when*
18 *I work on one, I focus on that.” (Informant 1)*
19
20

21 Just as with material artifacts, our respondents employed several **role-separating**
22 **routines and practices** that minimized any risk of blurring the two roles. Such routines also
23 helped minimize ambiguity regarding their roles, both reflexively for themselves and for others with
24 whom they interacted. This was, for instance, accomplished by very transparently reporting
25 dual affiliation whenever publishing or reviewing scientific work.
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33 *“When I publish, I disclose both my affiliations. I always disclose*
34 *my relationship with the company. Publishers are very careful to avoid*
35 *having a company say what is science. These biases can exist in any field,*
36 *but when there is a company that can profit from a high impact article then*
37 *they are a lot more careful.” (Informant 13)*
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41 Again, going beyond what is required, one informant described coming up with his own
42 rules for reporting sideline activities. This allowed him to customize the standardized
43 reporting guidelines to fit his specific working circumstances, thereby avoiding any
44 ambiguities and allowing for both roles to coexist.
45
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51 *“I made up my own rule for reporting sideline activities. If I have*
52 *time, I will always take it on university time and take the project to the*
53 *university. But if I have full duties, then I take it to my own company as a*
54 *sideline activity. I had a discussion here with my boss who wondered, who*
55 *decided this ...? I decided this!” (Informant 10)*
56

57 *Task recasting*

58 Many of our informants categorized the kinds of work they were doing—both in the
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1
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3 company and at the university—so that the fault line was no longer between these two
4
5 settings. Specifically, they clearly distinguished between work that was considered creative
6
7 and challenging, and therefore worthy of their attention, and work that was pedestrian and
8
9 routine, and hence suitable for delegation to others. In general, many of our respondents tried
10
11 to **minimize involvement in administrative work** whether in the company or at the
12
13 university.
14
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16
17 *“I am an entrepreneur whether in private life or professionally. To*
18 *come up with, cultivate, and dismiss ideas is very much a part of my life. I*
19 *am a really poor administrator. It’s something that I have had to recruit*
20 *personnel to do for me. When I was running EU research projects, I had*
21 *to employ people who could keep things in order” (Informant 14)*
22
23

24
25 Correspondingly, they saw it as natural to **focus on challenging technical and**
26
27 **strategic tasks** both in their roles as entrepreneurs and professors. Also, here derivative and
28
29 boring technology development was gladly delegated, regardless of context, whereas leading
30
31 technological research and setting technology roadmaps were always seen as enjoyable and
32
33 quite appropriate to their roles.
34
35

36
37 *“There is a lot of bulky work in the company. I mean I can do it if*
38 *it’s necessary but it’s not my cup of tea in the long run. It’s very boring*
39 *and not so creative. I know how to do it but what I like is the research part.*
40 *I realized that quite early. I want to work with real challenges that can*
41 *seem impossible to do. That’s the fun thing!” (Informant 11)*
42
43

44
45 Comparing his strategic role in the company to life at his university, one senior
46
47 professor admitted that:
48

49
50 *“I don’t remember the last time I touched something myself, did lab*
51 *work, or coded... I don’t know, maybe 15 years or so...” (Informant 20)*
52
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54
55 Combined with efforts to establish clear boundaries between university work and what
56
57 is done for the company, the abovementioned grounding of professional identity in skills and
58
59 expertise—rather than the setting in which such skills are put to use—appears to have helped
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1
2
3 our academic entrepreneurs maintain a cohesive work identity. Next, we describe how such
4 cohesion can be further achieved by acknowledging differences, while seeking to
5
6 leverage potential synergies.
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9 **Role Cross-Fertilizing**

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12 The academic entrepreneurs we spoke to often described how work practices associated
13 with one role led to desirable outcomes in the other (see Table 3 & Table 4). This suggests that
14 demarcating academic and entrepreneurial work did not only serve to keep the two apart, our
15 informants also appeared to enjoy substantial benefits from their cross-fertilization, with
16 positive outcomes further increasing a sense of legitimacy. We start first by analyzing how
17 material and narrative artifacts helped in bridging the gap between their roles as startup
18 founders and university scientists.
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28 *Artifacts facilitating role accumulation*

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30 Material artifacts played an important role in helping academic entrepreneurs visualize
31 the value of their work in the startup. One informant, who had a successful research career
32 within the field of mathematics, vividly described how proud he was when seeing others
33 present and talk about a medical stint that was developed using his mathematical models.
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40 *“The precedent of the university has one of the stents in his pocket showing it*
41 *to people. At the Swedish ambassadors gathering, he showed the removable stent in*
42 *his presentation. I felt pretty proud about that. Satisfied. Absolutely. And, also here at*
43 *the math department they say but we do some really applied stuff as well and we have*
44 *some inventions with medical doctors.” (Informant 27)*
45
46
47

48 He further explained that working on something as concrete as a stent that could help
49 doctors save lives gave him a sense of purpose. It allowed him to reconcile the roles of
50 academic researcher working on highly complex scientific problems and that of startup
51 founder translating that same knowledge into useful and concrete solutions. This inspired him
52 to further his commitment to the role of company founder by creating another MedTech
53 startups.
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3 Other artifacts, that are narrative in nature, such as research articles and science
4 presentations were brought up when reflecting on the cross-fertilizing effects between their
5 academic and entrepreneurial commitments. Scientific publications were viewed by most
6 informants as highly valuable for both academic and startup purposes. In addition to their
7 main role in advancing one's academic career, publications proved to be a good source of
8 information for their potential startup customers. Said one informant:
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17 *"We found that publishing scientific results is a good way to*
18 *communicate information regarding the system. It is appreciated by*
19 *potential customers. It has strengthened our business. We have patented*
20 *the underlying technology. The research that we do now is how to apply*
21 *this technology and that is something we can publish, there is no problem*
22 *because we have the patent for the basics."* (Informant 10)
23
24
25

26 Spending time on writing and publishing research results, as well as
27 presenting them in different venues was not antithetical to startup work. It was
28 facilitating it by increasing the legitimacy of the university scientist in the eyes of
29 future customers.
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35 *Academic work benefitting the startup*

36
37 Many of our respondents, but especially the more experienced ones, spoke of their
38 **researcher identity as a source of legitimacy** and as an important asset when acting as an
39 entrepreneur. In general, academic researchers tend to be perceived as trustworthy and well
40 intentioned. This can be valuable, as illustrated by one respondent.
41
42
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46

47 *"It's about this trust that is usually associated with researchers. I*
48 *would have never been contacted by [a partner firm] and asked to*
49 *collaborate if I were not a researcher... they thought this guy is a*
50 *researcher making this service based on his research, so he is a "good*
51 *guy". I think this credibility is something you bring with you from*
52 *academia to the startup. It is an advantage that makes it easier to get easier*
53 *access to certain contexts."* (Informant 8)
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57 Beyond the general trust enjoyed by researchers as a profession, several informants
58 described how specific scientific traits and attitudes also proved surprisingly valuable. One
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3 respondent thus described how listing all conceivable shortcomings of the system he was
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5 trying to sell—a natural part of scientific communication—made him stand out as honest and
6
7 trustworthy.
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10 *“When you are a researcher, you are so eager to tell customers*
11 *about the technical aspects that are not working, the remaining issues to*
12 *be solved.... The sales guys on our board, just shake their heads and say*
13 *you will go nowhere, it’s not going to work [laughter]. What is so funny is*
14 *that it builds trust with customers. They have never seen anyone trying to*
15 *sell the system by saying that all these things are not working!” (Informant*
16 *10)*
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19
20 Also, **the established academic infrastructure can benefit the startup.** One
21 informant thus described how academic events became natural arenas for customer
22 prospecting and conversations:
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25
26 *“So, when industrial people hear the research that I am presenting*
27 *at academic conferences and they see the practical part of it, they come*
28 *and want to talk to me [...] We have this specific problem, can you solve*
29 *that? I say, of course I can solve that, my solution was made to solve those*
30 *problems ... and it becomes an opportunity for me to grab a new*
31 *customer.” (Informant 4)*
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36 Several informants described how **their academic skillset was valuable to the startup.**
37 Indeed, the qualities that made them successful as academics were often intentionally, but
38 more often unintentionally, leveraged in the startup. During one interview, in a moment of
39 clarity, an experienced professor suddenly realized that his many years of writing grant
40 applications and research proposals had in fact honed his “pitching skills”.
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48 *“A successful research leader is one who is very good at getting*
49 *funding, and how do you get funding? You need a pitch. If you are not good*
50 *at pitching, you know...how do you expect to get funded? ...[laughs]... It's*
51 *the same for startups, you need to be able to pitch your ideas to customers*
52 *and investors, and I love that, I really love it, I could really imagine how I*
53 *would love being a salesman [laughs]” (Informant 3)*
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57 Similarly, a senior professor who had started several companies made the following
58 observation about his “people” skills.
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“What I am darn good at is coaching young PhD students, I am very good at coaching- This is, of course, very useful in a startup. Giving energy to people is a success factor for an entrepreneur!” (Informant 1)

INSERT TABLE 3

Startup work benefitting academia

The status and practical experience gained from being a startup founder also conferred a number of benefits in academia. We thus heard several examples of how **entrepreneurial experience adds value to teaching and research collaborations**. One interviewee described how his relationship with students had transformed after having started his company.

“This industrial experience [...] earns me a different kind of respect from students. When I lecture to students, I tell them pretty much the same stuff that I always did, but I used to do it as an academic with very little industry experience. Now I do it as an entrepreneur who is using this stuff in practice. This affects the students in the sense that you speak with more authority thanks to a broader range of experiences, including industrial.” (Informant 1)

It appears that the ability to turn research findings into commercially successful solutions also constitutes a valuable academic competence in its own right. This was not only evident in the relationship with students. Since many funding agencies emphasize utilization and societal impact, several respondents described how they had become more attractive as collaborators on applications and projects.

“My research colleagues know of the new experiences I have and ask questions about it or ask me to take part in grant applications where that kind of experience is important. So, we have had quite a lot of feedback between the company and the research group here.” (Informant 24)

Commercialization can also trigger a virtuous cycle whereby working on real problems leads to new research ideas, which in turn yields new applications. One professor of mathematics thus explained how the meaning and value he found in academic work got revitalized as a

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3 consequence of his entrepreneurial work.
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5 *“It's extremely interesting... it opens your eyes to your own*
6 *research. Looking at your own work from a different and new perspective.*
7 *And actually, I see value in my own research. I mean, I'm so much more*
8 *aware of what I should be doing in my research now because of what I*
9 *learned” (Informant 26)*
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13 Even more concretely, it was not uncommon to see **applications yield publishable**
14 **results** by generating new data. In the words of one respondent:
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16

17 *“We get a lot of ‘research data’ out of the work we do at the*
18 *startup, we have full access to this data, we can run statistics on it. We can*
19 *do a lot of things research wise. So, the startup is really enabling us to do*
20 *a lot of new research. Since the creation of the startup, it's been a lot easier*
21 *to get data. So far, we have one publication that is based on our data from*
22 *the company.” (Informant 9)*
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26 One experienced academic entrepreneur was even more clear when describing how
27 work in the startup had translated into academic value and currency:
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29

30 *“When you look at my compilation of papers, three of the most*
31 *cited papers are related to this method and six of the most cited papers are*
32 *related to the product. This says something about the impact as a research*
33 *instrument.” (Informant 14)*
34
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37 Going beyond specific benefits, several respondents described how their
38 commercialization experiences led to a **reassessment of the role of the university** and a
39 deeper appreciation of their own roles as academics. One respondent described how this was
40 personally satisfying.
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46 *“I think that for me the most satisfying aspect is a much more*
47 *comprehensive understanding of the university's role in society. It's a*
48 *much broader comprehension of that role. On one extreme, you have those*
49 *who think that a university should do only mission one and two. The rest*
50 *is a distraction and is compromising one and two. I have the opposite view.*
51 *I believe you can combine them in a fruitful way that benefits both. My*
52 *understanding of this interplay is much deeper than it would have been if*
53 *I had stayed in basic science.” (Informant 14)*
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58 There clearly appears to be a mutually reinforcing dialectic between the academic and
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entrepreneurial roles. However, in addition to demarcating the two roles and appreciating the value of their cross-fertilization, we also noticed how our respondents sought to normalize their hybrid identities as academic entrepreneurs. This we turn to next.

INSERT TABLE 4

Role Normalizing

As we have seen, life as an academic entrepreneur entails tensions and differences that are both problematic and possible to leverage for mutual gain. However, when discussing such tensions and differences, our respondents would frequently switch gears, sometimes midsentence, and start describing research and commercialization as essentially the same and their combination as entirely appropriate. Such normalization was primarily traced to discourses surrounding the modern university but also to essential similarities in the nature of academic and entrepreneurial work.

Latching on to broad discourses

To reinforce a sense of appropriateness, our respondents would often stress that **academic entrepreneurship benefits society**, not only in terms of improved technology and increased productivity, but in terms of tax revenues and employment opportunities. In the words of one respondent:

“Much of my work is done with taxpayer money, and with the company it would be possible to pay back through company taxes, to give them back what I have got. Now the company is around 10 people, all of them paying taxes, and taxes are very high for companies you know.”
(Informant 23)

When asked about those who might object to scientists who engage in commercial activities, one respondent became slightly agitated:

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“These are old people, that would be my guess... because I know that 20 years ago, it was said that research should not be done in the interest of commercialization, it should be for the best of mankind. I think it’s a rubbish argument, I mean in some areas, maybe in the social sciences [...] but computer science is so practical, why should we do anything in science if not for impact on society. The university exists not only to educate people, but also for the economy of Sweden and it must justify that it benefits the economy.” (informant 18)

In addition to specific benefits to society, some scholars suggested that the presence of **mutual value creation proved the appropriateness of academic entrepreneurship**. In doing so, one respondent invoked the fact that no one lost out from his activities, which on the contrary benefitted his academic career, society, the university, as well as his company:

“My academic output is quite high. I publish a lot. That benefits both the university and the company... The company gets PR from my research, and I go to conferences and talk about it, so they get also exposure to those opinion leaders so to speak. As a company, they want such scientific work because they can use it to sell a product so it’s a win-win situation” (informant 13)

Transcending material benefits, several people spoke of **commercialization as a moral imperative for the modern academic**; as something researchers ought to do. This was illustrated by a junior faculty member who described how conversations with an experienced academic entrepreneur had convinced him to press forward with his startup regardless of what others might think.

“Talking with this mentor for research, I changed my views a bit. We discussed a lot the modern university and how it’s supposed to develop society... That’s something we need to do. I need to do it even if I get some bad looks from colleagues.” (Informant 10).

This attitude was echoed by a scholar who suggested that it was instead science for its own sake bordered on the immoral.

“Before this stage, when I was a pure academic, I could do a project just because it’s fun. I was working on chaos theory and things like that and it was lots of fun. After a while I realized I can’t really just go to work and have fun. For some people that was enough, but for me it was

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3 *not enough... when you go to the hospital and you see the patient and you*
4 *talk to the medical doctors and they describe the problems they are*
5 *having... we are talking about real people's lives in those situations. This*
6 *is motivating for me as a scientist, and as a businessman” (Informant 11)*
7
8 *Essential work-related similarities*
9

10 As described above, all respondents acknowledged that the character and approach to
11 work in many ways differed between research and entrepreneurship. Still, many respondents
12 pointed to inherent similarities when it came to essential methodological principles governing
13 work. For instance, both roles involve **dealing with complexity through reductionism**. This
14 was clearly stated by one respondent.
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22 *“The basic research that has dominated the first ten years of my*
23 *academic life was a training on how to not be afraid of complex situations,*
24 *complex problems. Knowing that and by using the reductionist approach,*
25 *you can sort out what the key questions are and not be distracted by*
26 *secondary questions. I was reasoning in exactly the same way in the*
27 *startup. Can I make this work as a company, as a commercial venture?”*
28 *(Informant 14)*
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32 Complementing and guiding such process related qualities, several scholars mentioned
33 the **ability to act on goals and visions despite uncertainty** as defining of high performers in
34 both roles.
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39 *“If you take the good researchers that are internationally*
40 *recognized and then the other big mass of researchers that are doing good*
41 *work that will never have huge impact. There is a divide between these two*
42 *groups... I mean those who are really good seem to have a vision of where*
43 *they are going but the other ones are very good analytically and at problem*
44 *solving but they cannot really formulate a vision... My view of an*
45 *entrepreneur is someone who also has a vision and is open minded to*
46 *quickly change his mind about where he is going. That I think is critical*
47 *and also for entrepreneurs!” (Informant 3)*
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51 The combination between big picture thinking and attention to detail was further
52 illustrated by another experienced academic entrepreneur.
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56 *“A business coach in a previous startup told me this. You are really*
57 *good at moving quickly, in a fraction of a second, from details to abstract*
58 *thinking. Now, I have never thought about that, but you certainly train*
59 *yourself this way as a researcher. In fact, to survive as a researcher you*
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3 *need to have that. I think this is critical also for entrepreneurs.”*
4 *(Informant 27)*
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7 In sum, our respondents secured a sense of normalcy by latching on to broad discourses
8
9 about the modern academic, as well as by seeking similarities in the scientific and
10
11 entrepreneurial methods of attacking big ideas by analytically breaking them down and
12
13 systematically working to develop them.
14

15 16 17 18 **DISCUSSION** 19

20
21 The purpose of this paper is to use deep interviews to explore how academic
22
23 entrepreneurs construct and sustain professional identities amid frequent transitions between
24
25 academic and entrepreneurial work. At the most aggregate level of analysis—role
26
27 demarcation, role cross-fertilization, and role normalization—our findings are consistent with
28
29 earlier research. However, where our findings differ quite dramatically is in the underlying
30
31 mechanisms and explanations whereby, for instance, role normalization is achieved. We now
32
33 turn to the theoretical implications, focusing on the role of practice in hybrid identity
34
35 construction, the importance of artifacts and practices to professional micro-transitions, and
36
37 what this tells us about the liminality of academic entrepreneurship.
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44 **Practices and the Constitution of Hybrid Identities** 45

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47 While we agree with prior research that academic entrepreneurs develop hybrid
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49 identities (Jain et al., 2009; Karhunen et al., 2017), our findings reveal a different structural
50
51 relationship and a more granular account of how these identities interconnect. Existing
52
53 literature typically characterizes the identities of academic entrepreneurs as hierarchically
54
55 structured, with the entrepreneurial identity clearly positioned as "secondary" (Giunti &
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57 Doberly, 2023: 540) and the academic identity as the more "cherished" or central one (Jain et
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3 al., 2009: 931). Our results challenge this picture. While respondents identified as academics
4
5 in abstract terms, their identity-in-practice was constructed not around institutional roles, but
6
7 around the content and character of qualified work across domains. Rather than identifying
8
9 wholly or even primarily with one role, they would distinguish between tasks they saw as
10
11 qualified and professionally meaningful and those they considered mundane. And this
12
13 regardless of whether it occurred in academia or the startup. Routine activities—such as lab
14
15 work, grading, administrative duties, or product development—were gladly delegated to
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17 others, whereas strategic, creative, and technically demanding work was embraced. Echoing
18
19 contemporary accounts of entrepreneurs-as-scientists (Zellweger and Zenger, 2023), our
20
21 respondents also saw similarities in how such qualified work was undertaken—such as
22
23 managing complexity through reductionism and the need to combine abstract ideas and
24
25 concrete details. This suggests that their professional identity was not primarily understood in
26
27 terms of broad categories, related to either free pursuit of knowledge for the public good or
28
29 secretive venture development undertaken for private profit. Instead, the content and character
30
31 of work played a central role, giving rise to an identity hierarchy structured around perceived
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33 distinctions between qualified and pedestrian work. This supports Bailey and Madden’s
34
35 (2017) argument that meaningful work is rooted in tasks aligned with purpose or requiring
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37 creativity, rather than formal roles.
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47 By highlighting the nature of work, our results also suggest a possible reinterpretation
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49 of studies that have found academic entrepreneurs in different national and professional
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51 contexts to perceive their identities very differently ranging from naturally integrated to
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53 fundamentally incompatible (e.g., Karhunen et al., 2017; Giunti & Duberley, 2023). If
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55 investigated primarily through the lens of abstract categories, one may suspect such variation
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57 to reflect prevailing and socially desirable discourses and attitudes toward commercialization.
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3 If instead, identity is conceptualized and investigated as related to the content and character
4 of work across the two roles, we may find that academic entrepreneurs with ostensibly very
5 different view on how the two roles may be reconciled—such as the Finnish and Russian
6 entrepreneurs interviewed by Karhunen et al. (2017)—may have more in common than
7 surface-level distinctions suggest. While identity should not be conflated with practice, we
8 posit that a closer connection between identities and concrete and materially mediated
9 practices are warranted (cf. Barley 1986), and especially so in contexts characterized by
10 micro-transitions between multiple professional roles.
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24 **Artifacts, Practices, and Professional Micro-Transitions**

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26 It is well known that professionals derive meaning from their work and that their
27 identity work often seeks an authentic alignment between professional activities and broader
28 self-conceptions (Pratt et al., 2006; Caza and Creary, 2016; Lifshitz-Assaf, 2018). Extending
29 this, we show how professionals who frequently transition between multiple domains, in our
30 case academia and entrepreneurship, similarly seek alignment between the two roles. Prior
31 studies have also focused on artifacts as a way to express one's professional identity (e.g.,
32 Elsbach, 2009; Anteby, 2008; Courpasson & Monties, 2017). Our findings suggest that they
33 also play a more concrete role by helping professionals practically navigate such micro-
34 transitions.
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47 Echoing the way digital technologies help manage micro-transitions between
48 professional and private life (Aljabr et al., 2021), our respondents relied on using a
49 combination of material artifacts and concrete practices to maintain clear and appropriate
50 boundaries between their professional roles. While Aljabr and colleagues focus on after-hours
51 connectivity in academic contexts, we show that similar practices are employed to manage
52 transitions between professional domains—namely, academia and entrepreneurship.
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Such demarcation in turn enabled fruitful cross-fertilization. While seemingly paradoxical, establishing temporal, material, and procedural separation between academic and entrepreneurial work, established ethical as well as practical clarity, which in turn made exploiting synergies between them easier. This was done in several ways. Concretely, our respondents described how scientific publications bolstered credibility with customers, how entrepreneurial experiences improved their teaching, how academic grant-writing was similar to startup fundraising, and how their ability to recruit and mentor talent and build strong research groups transferred well to the company setting. More broadly, some respondents described designing their ventures to align with and affirm their academic ideals—for instance, by choosing to make company software open-source. Such examples of cross-fertilization and mutual adaptation were not incidental side-effects of their dual roles but constituted the practical core of how our respondents made sense of what they did and thereby established their new hybrid identities. Stated differently, identity work in the context of professional micro-transitions is intimately related to practical work.

Generalizing these observations, our findings inform the broader literature on role transitions and identity work by illustrating mechanisms at play during the increasingly common experience of plural careerists navigating competing role demands in practice (e.g. artist entrepreneurs, clinician researchers etc.) (Campion et al., 2020; Caza et al., 2017). Prior studies of professional identity work have predominantly addressed macro-transitions, or "movements between sequentially held roles" (Ashforth, 2001; Ibarra & Barbulescu, 2010). Whereas professional macro-transitions involve intensive, unidirectional adaptation and socialization into the new role, we describe the kinds of mutual adaptation that is ongoing as professionals manage the demands, practices, and cultural norms associated with their dual roles.

Liminality and Academic Entrepreneurship

Building on the dual insights that identity formation is rooted in work practices, and that academic entrepreneurship involves ongoing transitions between professional domains, we argue that academic entrepreneurs remain in a liminal state. Yet this state is not necessarily problematic. Instead, they achieve identity coherence by actively orchestrating transitions and aligning work practices (i.e., cross-fertilizing) with broader narratives and institutional norms (i.e., normalizing). Like Giunti and Duberley (2023), we find that liminality can be a stable, enduring condition, made sense of in part through engagement with legitimizing discourses. However, our findings extend this view by showing that academic entrepreneurs also rely on material artifacts—such as separate office spaces, computers, and phone lines—to reduce role confusion and proactively signal ethical conduct (cf. Chamakiotis et al., 2023; Aljabr et al., 2021). Our findings thus contribute a more granular and practice-oriented perspective by showing how academic entrepreneurs actively navigate and negotiate liminality, as opposed to merely experiencing it.

Our findings also extend Hayter et al.'s (2022) concept of “liminal venturing”, which denotes a macro-transitory phase where academics experiment and work with their identities, which results in either development and enactment of a new entrepreneurial identity, exit and retreat back to the academic identity, or an enduring state of maladaptive liminality. We nuance this image by proposing that academic entrepreneurs always remain in a liminal state, but also achieve stability through the active and materially mediated orchestration of micro-transitions in combination with a measure of “reincorporation” (Hayter et al. 2022: 1471) that is grounded in the character and content of work.

In their effort to stimulate academic entrepreneurship, policy makers should be aware that a rigid role separation between science and entrepreneurship may be a necessary, but is probably not a sufficient condition, for achieving desired outcomes. Indeed, our study

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3 suggests that university scientists' ability to nurture mutually reinforcing relations between
4 their different roles may hold the key. Therefore, creating a conducive environment that
5 allows professors to experiment with and try out the role of startup founder while keeping
6 their jobs at the university can be valuable. Here, cross-fertilization between concrete work
7 practices, underpinned and facilitated by appropriate role demarcations, is an important factor
8 for developing productive hybrid identities.
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19 In sum, we highlight three key contributions to research on identity work, professional
20 transitions, and academic entrepreneurship. First, we reframe hybrid professional identity not
21 as a hierarchical combination of abstract roles (e.g., academic versus entrepreneur), but as
22 grounded in the content and character of work tasks. By showing how academic entrepreneurs
23 distinguish between “qualified” and “pedestrian” work across both domains—and build
24 identity around the former—we advance a more practice-centered understanding of hybrid
25 identity that moves beyond categorical accounts. Second, we extend research on materiality
26 in professional identity work by showing that material artifacts are not merely expressive, but
27 instrumental in managing role micro-transitions. Prior work has explored how professionals
28 use objects to signal identity (e.g., Elsbach, 2009; Anteby, 2008), but we show that academic
29 entrepreneurs use artifacts like computers, phones, and office routines to structure boundaries,
30 sustain ethical clarity, and facilitate smooth transitions between conflicting professional
31 domains. Third, we offer a novel conceptualization of liminality in the context of academic
32 entrepreneurship. While prior work often treats liminality as a transitory or problematic phase,
33 our findings show how academic entrepreneurs can sustain a stable hybrid identity by actively
34 orchestrating micro-transitions through material and practice-based strategies. In doing so, we
35 reconceptualize liminality as a durable and adaptive condition that can support, rather than
36 undermine, identity coherence.
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For Peer Review

FUTURE RESEARCH

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First, we showed that material artifacts—such as separate offices, devices, or communication channels—play a key role in managing identity tensions and signaling ethical boundaries. Future work could examine more systematically how specific material configurations and spatial arrangements support or constrain identity work, particularly in hybrid or liminal work settings. Comparative studies across institutional or national contexts could shed light on how material strategies for managing liminality vary and what conditions enable their success.

Second, future research could explore how differences in involvement level in the venture—such as time commitment, ownership, or decision-making authority—shape identity work. While our study focused on academic entrepreneurs who were actively involved in both academic and entrepreneurial roles, participants varied in how much time they dedicated to the venture, their ownership stakes, and their decision-making responsibilities. These differences likely influence how they experience role tension, and the identity work they rely on. A more systematic comparison across different levels of involvement could offer deeper insight into how identity is shaped by the structure and demands of working across two professional domains.

Finally, future research could usefully examine how gender shapes experiences of identity work and role micro-transitions between academia and entrepreneurship. Given the underrepresentation of women in STEM fields, and the likelihood that their presence is even more limited within the subset of academic entrepreneurs, it is important to investigate how women—and other underrepresented groups—experience, manage, or challenge role expectations in these hybrid contexts. Such studies could illuminate whether identity tensions and transition strategies differ by gender, and how structural or cultural factors may shape the

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3 conditions for identity work across social positions.
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10 PRACTICAL IMPLICATIONS

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12 This study offers several practical implications for university leaders,
13 entrepreneurship support units, and policymakers seeking to foster academic entrepreneurship
14 in meaningful and sustainable ways. Our findings show that academic entrepreneurs at all
15 career stages experience both identity related and practical tensions stemming from their dual
16 roles as academics and entrepreneurs. Here our findings that identity conflicts can be
17 overcome in ways other than buffering and delegation (Jain et al. 2009) suggest implications
18 from a university management perspective. For many academics, commercialization support
19 such as licencing and ‘surrogate entrepreneurship’ (Lundqvist, 2014) are likely very attractive
20 options, however it is also clear that many academics see great benefits from the combination.
21 However, productive cross-fertilization requires clear differentiation. As we could see,
22 academic entrepreneurs often take it upon themselves to create rules and routines to manage
23 separations, transitions, and synergies between the two roles. Here, institutions can make life
24 easier for academic entrepreneurs by establishing and publicly communicating transparent
25 guidelines for dual affiliations, university resource use, and disclosure practices, along with
26 physical workspace arrangements that support responsible engagement across both domains.
27 While such policies are often perceived as restrictive, they also function as enablers by
28 providing clarity, legitimacy, and psychological safety that support experimentation and
29 deeper engagement in academic entrepreneurship.
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56 Universities should frame it as a productive tension that can enrich research, teaching,
57 and societal impact. When supported by appropriate routines, ethical safeguards, and cultural
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3 legitimacy, academic entrepreneurship can be a site of professional growth—where new
4 forms of identity are not only tolerated but meaningfully developed.
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7 8 CONCLUSION 9

10 In this paper, we have explored how academic entrepreneurs construct and sustain
11 their professional identities amid frequent transitions between academic and entrepreneurial
12 roles. Focusing on academic entrepreneurs—scientists who found research-based startups
13 while remaining in academia—we have shown how hybrid professional identities are not
14 simply a matter of reconciling abstract role categories but are fundamentally shaped through
15 the material and practical character of work. By framing academic entrepreneurial identities
16 work in terms of a distinction between qualified and pedestrian tasks, rather than domain-
17 based role labels, we offer an alternative to existing accounts that tend to regard hybrid
18 identity as hierarchical, transitional, or otherwise problematic.
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33 Building on this, we have introduced the concept of professional micro-transitions as
34 a distinct site of identity formation and argued that material artifacts and routines play a
35 central role in navigating and stabilizing such transitions. Rather than viewing liminality as a
36 temporary or maladaptive state, we have shown how ongoing liminality can be actively
37 managed through material boundary-setting, practice-based cross-fertilization, and
38 normalization anchored in broader discourses and work-related similarities. In doing so, we
39 contribute to the literature on identity work, professional role transitions, and academic
40 entrepreneurship by offering a more granular, materially grounded account of how hybrid
41 identities are enacted and sustained in practice.
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Data Type	Description	Purpose	Data Format	Time Frame
Secondary Data	Publicly available sources (e.g., university press releases, company websites, media articles, institutional bios) used to verify entrepreneurial involvement and enrich interview preparation.	Contextual understanding and interview tailoring.	Textual documents	Collected throughout data collection phase
Pilot Interviews	2 initial exploratory conversations used to refine the interview guide and identify emerging themes. Not included in final dataset but informed methodological design.	Refinement of interview guide and analytic focus.	Audio-recorded conversations (not transcribed or analyzed)	Conducted early in research process
Main Interviews	27 semi-structured interviews with male academic entrepreneurs across STEM fields, spanning a range of disciplines, career stages, and entrepreneurial experiences. Focused on dual-role navigation.	Primary empirical material for grounded theory development.	Audio-recorded and transcribed interviews	Main phase of data collection

Table 1: Summary of Datasets Used in the Study

	Position	Gender	Academic discipline (Research)	Business area (Startup)	Startup founding year	Number of previously created startups
Informant 1	Professor	Man	Computer Science	Software testing	2006	1 (Based on research results)
Informant 2	Professor	Man	Computer Science	Translation Services	2013	0
Informant 3	Professor	Man	Computer Science	Memory and cache compression	2015	1 (Based on research results) + Board member of many other companies
Informant 4	Assistant professor	Man	Physics	High speed data transmission	2013	1 (consultancy firm)
Informant 5	Postdoc	Man	Computer Science	Memory and cache compression	2013	0
Informant 6	Postdoc	Woman	Biology and biological engineering	Yeast biotechnology	2013	0
Informant 7	Postdoc	Man	Biology and biological engineering	Yeast biotechnology	2015	0
Informant 8	PhD, lecturer	Man	Energy and Environment	Carbon footprint calculator	2010	0
Informant 9	Associate Professor	Man	Product and Production development	Production development	2012	1 (Not based on research)
Informant 10	Associate Professor	Man	Mechanical engineering	Vehicle Dynamics	2012	1 (consultancy firm)
Informant 11	Professor	Man	Electrical engineering	Medical devices		More than 2
Informant 12	Professor	Man	Electrical engineering	Medical devices		1
Informant 13	Associate professor	Man	Electrical engineering	Medical devices		0
Informant 14	Professor emeritus	Man	Physics	Surface science instruments	2010	More than 2
Informant 15	Professor	Man	Computer science	Machine learning	2017	0
Informant 16	Research engineer	Man	Computer science	Machine learning	2017	0
Informant 17	Postdoc	Man	Biology and biological engineering	Biotechnology	2017	0
Informant 18	Professor	Man	Computer science	3D Visualization	2013	More than 2
Informant 19	Assistant professor	Man	Computer science	Cloud computing		1
Informant 20	Professor	Man	Electronics and Communications Engineering	Motion detection	2014	1

Informant 21	Associate professor	Man	Computer Science and Engineering	Virtual/augmented reality and simulation	2017	0 (board member in another startup since 2006)
Informant 22	Professor	Man	Microtechnology and Nanoscience	Microwave Electronics	2008	0
Informant 23	Professor	Man	Microtechnology and Nanoscience	Microwave Electronics	2006	0
Informant 24	Associate professor	Man	Biomedical Engineering	Acoustic cell separation	2010 (works as advisor)	0
Informant 25	Professor emeritus	Man	Medical Microbiology	Adsorption clothing	2013	0
Informant 26	Associate professor	Man	Mathematics	Traffic flow and congestion management	2014	0
Informant 27	Professor	Man	Mathematics	Medical devices	2013	0

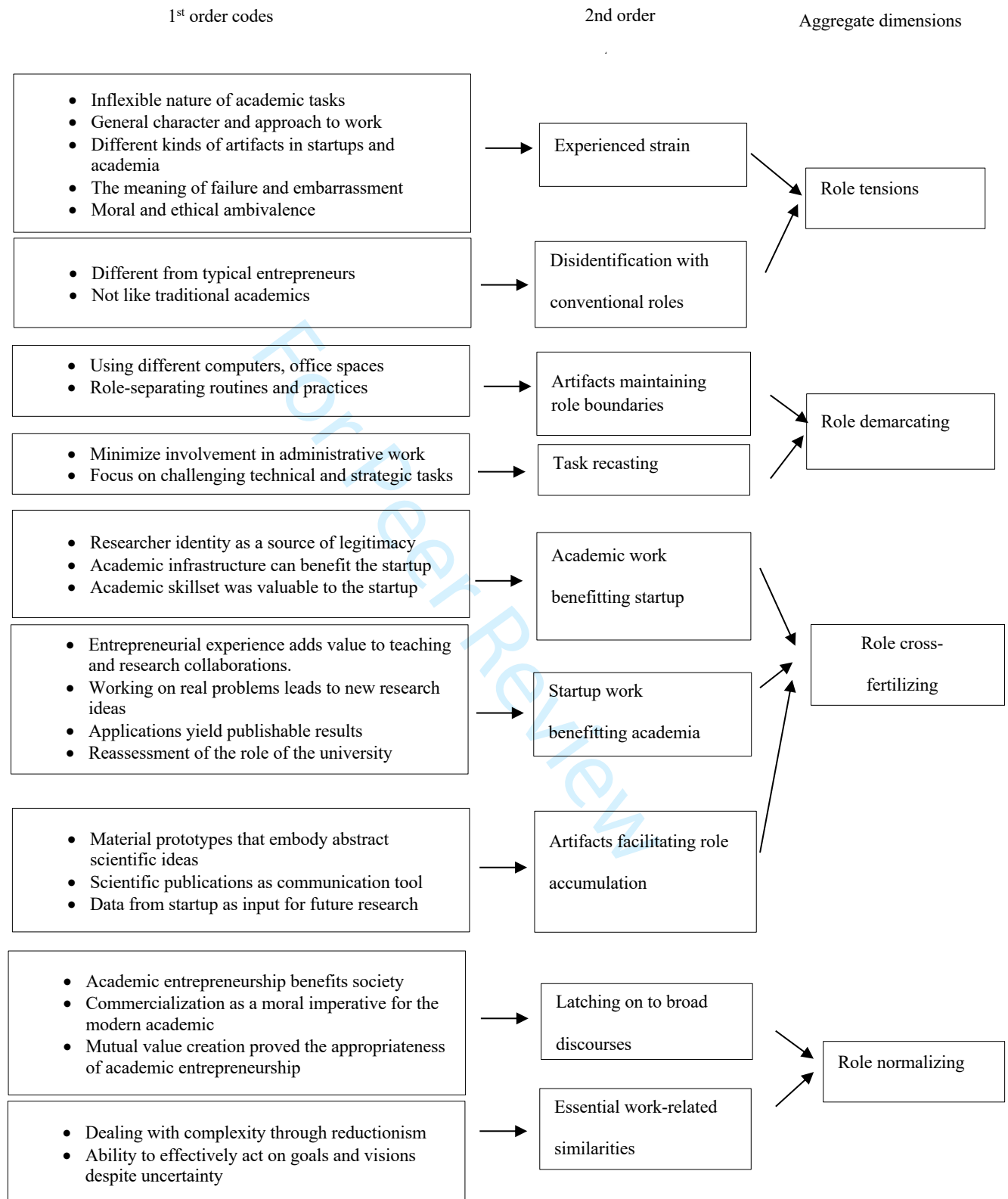
Table 2: List of informants and their background details

Academic practices	Interpretation in entrepreneurial domain
Doing research at university	Enhances my legitimacy as an inventor
Transparently discussing research limitations	Increases my trustworthiness when engaging with potential customers
Attending and presenting research at conferences	Creates opportunities to initiate conversations with potential partners or clients
Publishing research articles	Serves as a way to communicate and build credibility around the invention
Writing grant applications	Strengthens my ability to pitch ideas to investors and stakeholders
Supervising PhD students	Develops my skills in managing and leading startup team members

Table 3: Academic practices and their interpretations

Entrepreneurial practices	Interpretation in academic domain
Founding a research-based startup	My students view me with greater respect and admiration.
Turning an invention into a marketable innovation	My colleagues seek my expertise as co-applicant for future research grants
Solving real world problems in the startup	My perspective on what constitutes valuable research topics has evolved
Immersive engagement with industry	I have developed a more nuanced understanding of the university's mission and role

Table 4: Entrepreneurial practices and their interpretations

Figure 1: Data structure

APPENDIX 1: INTERVIEW GUIDE

I. Career Background and Involvement in Commercialization

- Can you tell me about your path into academic research?
- How did your involvement in commercialization begin?
- How has that involvement developed over time?
Follow-up: Was there a turning point, or has it been more gradual?
- What kinds of commercialization-related activities have you engaged in?

II. Current Work and Role Configuration

- What does your work look like at the moment?
- What kinds of tasks or activities are you involved in, across different settings?
- How do you navigate between different parts of your work?
Follow-up: Are there moments when the shift feels more difficult or disruptive?
- Are there things—places, routines, or objects—that play a role in how you move between roles?

III. Professional Roles and Viewpoints

- How do you relate to the idea of entrepreneurship?
- How would you describe your relationship to it now?
- In what ways, if any, does this work relate to or differ from your academic role?
- How, if at all, do these roles influence each other?
Follow-up: Have you seen effects—positive or negative—across domains?

IV. Self and Others

- How would you describe yourself, professionally?
- Has your involvement in entrepreneurial activities influenced how you see yourself?
- Have you noticed any changes in how others (colleagues, students, family) relate to you? *Follow-up: Have these changes been encouraging, challenging, or both?*

V. Transitions and Tensions

- Are there certain tasks or situations that make switching roles easier or harder?
- How do you respond when your roles place competing demands on you?
- Have there been moments of friction or discomfort that stood out to you?
- Do you try to set boundaries—formal or informal—between roles?
- Have you made any adjustments to your working environment over time?
Follow-up: What prompted those changes?

VII. Looking Ahead

- How do you see your work evolving in the near future?
- What do you think is important to sustain this combination of roles?

Closing

- Is there anything we haven't covered that you'd like to add?
- Would you be open to a follow-up conversation later on?
- Thank you for your time.

For Peer Review

Response to Reviewer 1

We sincerely thank you for your thoughtful and constructive feedback, which has greatly helped us improve the clarity, structure, and contributions of our manuscript. Your expertise in technology studies and the literature on micro-transitions has prompted us to refine our theoretical framing, improve our methodological presentation, and update our literature review. Below, we respond point-by-point to your comments and indicate how we have addressed each issue in the revised manuscript. Page numbers refer to the updated version.”

Comment 1

The paper is very well-written and it was very enjoyable reading it. The introduction is very well-written but I would probably cut down the 'literature review' part in it as I felt it was a little verbose and some of it could be moved to the actual literature review parts of the paper.

Response:

Thank you for this observation. We revised the introduction (pp. 3–5) by trimming down the literature discussion and moving detailed theoretical framing to the dedicated Theoretical Background section. The revised introduction now focuses more directly on framing the research problem, motivation and purpose.

Comment 3

Reviewer comment:

Moving on to the literature review, my advice is that you have one big Literature Review section and then place your current sections (Role Accumulation, Role Transitions, etc.) within it as sub-sections. At the start of it, you should develop a short “roadmap” paragraph so that the reader knows how the section is structured and why. Currently, you leave this “heavy lifting” to the reader. You do have a roadmap earlier in your Intro, but I would rather you simplified that (saying you start with the relevant literature) and then provide more detail in the Literature Review section’s opening paragraph.

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3 Response:

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5 We followed your suggestion and created a unified Theoretical Background section (pp.
6 6–13) that includes 3 clearly labeled sub-sections:

- 7
8
- 9 • Identity Work and Professional Role Transitions
 - 10 • Identity Work and Materiality
 - 11 • Identity work and Academic Entrepreneurship
- 12

13
14 At the beginning of this section, we added a roadmap paragraph to orient the reader to
15 how the section is structured (see first paragraph on page 6 of the revised manuscript)

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19 **Comment 4**

20 Reviewer comment:

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23 *Your literature on Role Transition is a little outdated to be honest.*
24 *This is evident by the old citations in it (this applies to the other*
25 *sections too) but also because you have neglected important*
26 *developments in the field. For example, Chamakiotis et al. (2024)*
27 *have recently challenged the topic of micro-transitions by arguing*
28 *that in today's technologically infused lives, individuals live on a*
29 *spectrum of hybridity and liminality. I wonder if this view is*
30 *something you can make use of — or at least report as an important*
31 *development in the role transitions literature. Similarly,*
32 *Waizenegger et al. (2023) study how role boundaries change in*
33 *today's contemporary work context and I believe this paper too*
34 *represents an important evolution of this literature.*
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43 Response:

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45 Thank you for pointing out recent developments in the role transitions literature. We fully
46 agree that the field has evolved and appreciate your suggestion to incorporate more
47 current scholarship. In response, we have revised the literature review to engage directly
48 with Chamakiotis et al. (2024) and Waizenegger et al. (2023), both of whom offer
49 important extensions to traditional models of role transition.

50
51 Specifically, we draw on Chamakiotis et al. (2024) to highlight how digital technologies
52 increasingly facilitate hybridity and liminality in professional life, enabling individuals to
53 inhabit in-between spaces rather than move cleanly between distinct roles. We also
54 incorporate Waizenegger et al. (2023) to illustrate how role boundaries are actively
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3 shaped through digitally mediated communication strategies, even within the same
4 professional setting. (see 9 of the revised manuscript)
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7 In addition to these specific contributions, we have updated the entire section with more
8 recent references throughout to better reflect the current state of the literature.
9

10 **Comment 5**

11 Reviewer comment:

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13 *In your section on Sensemaking and Identity Work (also outdated),*
14 *I wonder if the paper by Symon and Whiting (2019) which explicitly*
15 *focuses on transitions and ‘social entrepreneurs’ could be of any*
16 *value. Similarly, Catherine (Katie) Bailey’s papers on*
17 *‘meaningfulness’ (e.g. Bailey and Madden, 2016) could help you*
18 *improve and update this section.*
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23 Response:

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25 Thank you for suggesting these two papers. We have incorporated Bailey & Madden
26 (2016) to support our treatment of how individuals attribute meaning unevenly across
27 different tasks. This is now discussed in the Theoretical Background (pp.6) and
28 connected to our findings in the Discussion (pp.38).
29
30

31 **Comment 6**

32 Reviewer comment:

33
34 *Following, the section called Method should be renamed to*
35 *Research Design or Research Approach as you do not speak about*
36 *your method, but about how you approached your research.*
37
38

39
40 *I found your sentence “The empirical context of academic*
41 *entrepreneurship offered an information rich setting where*
42 *individuals juggle two distinct work roles (i.e. academic researcher*
43 *and startup founder).” (p.12) extremely poor. In fact, your sample*
44 *selection is currently both a strength and a weakness in your work.*
45 *You need to expand this significantly to ensure it is clear why you*
46 *focused on that population. Is it representative of the issues you*
47 *discuss in your Introduction? Maybe it is ideal for helping you*
48 *achieve something that other populations would not? Can you say*
49 *what? I would expect at least one properly developed paragraph on*
50 *this. A paper that you may find useful (which in fact has a whole*
51 *section on this) is by Aljabr et al. (2022) which focuses on work-life*
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3 *boundaries of academics (not academic entrepreneurs, but still it*
4 *can be used as an example).*
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10 Response:

11 We renamed the section to 'Research Approach and thoroughly revised the text - second
12 paragraph under sampling and data collection (pp.15) to clearly explain why academic
13 entrepreneurship provides a rich context for studying identity and micro transitions. We
14 elaborate on the presence of competing institutional values and logics, the frequency of
15 role transitioning, and the pragmatic need for using material artifacts to manage these
16 transitions.
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22 **Comment 7**

23 Reviewer comment:

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26 *I believe before Table 1 on the presentation of your research*
27 *participants, you could include another table that brings together,*
28 *and details, all datasets (secondary data, pilot interviews, actual*
29 *interviews) for clarity purposes.*
30
31

32 Response:

33
34
35 Thank you for the suggestion. We created a new Table 1 (p. 51) that details the full
36 dataset, including the number and type of interviews, pilot data, and secondary sources
37 used in the study. This offers readers a clearer understanding of the empirical base of the
38 analysis. Table 2 (p.52) offers more details regarding the separate respondents and their
39 companies.
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42 **Comment 8**

43 Reviewer comment:

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45
46 *Your analysis is very well-performed in my view and very clearly*
47 *presented. However, Gioia's data structure is just a method for data*
48 *organisation/visualisation purposes. It is good you explain how you*
49 *adopted it, but before that I would expect more information on the*
50 *actual data analysis method which I feel is either a grounded theory*
51 *approach or a thematic analysis approach. Can you let the reader*
52 *know what it was and explain why it was suitable given your*
53 *research aims?*
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3 Response:

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5 Thank you for this helpful observation. We agree that the Gioia data structure serves as a
6 visual and organizational tool rather than a standalone analytical method. In response, we
7 have clarified at the outset of the Data Coding and Analysis section that our study
8 employed a grounded theory approach (Glaser & Strauss, 1967) to guide the analysis.
9

10
11 This approach was particularly well-suited to our research aims, which focused on
12 inductively exploring the situated, practice-based, and materially mediated nature of
13 micro-transitions among academic entrepreneurs.
14
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16 We now explicitly articulate this rationale at the Data Coding and Analysis section and
17 clearly differentiate the grounded theory methodology from the use of the Gioia structure
18 for organizing and communicating results. These clarifications can be found on (p.16-17-
19 18) of the revised manuscript.
20
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22 23 24 **Comment 9**

25 Reviewer comment:

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28 *Your Findings section is probably the best section of your paper.*
29 *However, can you be a little more creative with the title of this*
30 *section? Instead of “Findings” can you say something that says a*
31 *little more about them?*
32
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37 Response:

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39 We appreciate the compliment. The section is now titled 'Navigating Micro transitions
40 between Academia and Entrepreneurship (p.19), which better reflects the core empirical
41 insight and theoretical framing of our findings.
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44 **Comment 10**

45 Reviewer comment:

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47 *I feel the Discussion is good, however, making the revisions I*
48 *suggested above (on the front end of your paper) is likely to lead to*
49 *additional contributions. For example, Symon and Whiting’s (2019)*
50 *paper which focuses on social entrepreneurs could spark additional*
51 *ideas, whereas your Findings also contribute to Aljabr et al.’s*
52 *(2022) practices which are about Saudi academics. See what you*
53 *think and how you can expand your contributions further. In my*
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3 *view, a focus on technology is something that you could present as a*
4 *future research direction.*
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7 Response:

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10 Thank you for encouraging us to incorporate more recent developments in the role
11 transitions literature. In response, we have revised the manuscript to include Aljabr et al.
12 (2021), whose work highlights how digital technologies support boundary management
13 between professional and personal domains, particularly in academic contexts.
14

15 Building on their insights, we show that similar boundary-maintaining strategies—often
16 involving material artifacts and concrete routines—are also used by academic
17 entrepreneurs to navigate transitions between professional roles. Specifically, we
18 highlight how our respondents used dedicated devices, spaces, and communication norms
19 to manage ethical clarity and role differentiation across domains. This allows us to extend
20 Aljabr et al.'s findings from work-life transitions into the underexplored area of
21 professional–professional micro-transitions.
22
23

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25 The revised discussion appears on (p.39) of the manuscript and contributes to a more
26 contemporary, practice-oriented account of identity work
27

28 **Comment 11**

29 Reviewer comment:

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32 *Finally, I disagree strongly with your first limitation (lack of*
33 *statistical generalisability) which I would remove completely as it*
34 *undermines your own study. Instead, I now think that in your*
35 *Research Design section you should emphasise your interpretive*
36 *approach and its significance for your research area. And then in*
37 *the very last paragraph of your paper, there is no need to say that*
38 *your findings are not statistically important, as this is not really a*
39 *limitation when your work is clearly presented as interpretive, as it*
40 *fully achieves its aims through interviews.*
41
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45 Response:

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47 Thank you for this important observation. We fully agree that referencing a lack of
48 statistical generalizability as a limitation is not only unnecessary but potentially
49 misleading in the context of our interpretive, qualitative design. In response, we have
50 removed the statement about statistical generalizability from the limitations section and
51 instead emphasized the strength and relevance of our interpretive approach in the
52 introductory paragraph of the research approach section (pp.14)
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Comment 12

Reviewer comment:

In the final section on your reflection you should also explain how the findings from your selected population could relate to other populations, which ones, and what other populations would be worthwhile to investigate in this area

Response:

Thank you for encouraging us to consider the broader applicability of our findings beyond academic entrepreneurs. In response, we mention now in the discussion section the potential transferability of our findings beyond the selected population. Specifically, we discuss how the identity work and micro-transition patterns observed among academic entrepreneurs in our study may also be relevant to other hybrid professionals operating at institutional boundaries—such as clinician-scientists or artists engaging with commercial markets. We believe our results may resonate with most professionals in interdisciplinary fields who bridge multiple epistemic cultures. Please see (pp.40) of the revised manuscript.

Minor Issue

Reviewer comment:

While your paper is very well-written, there are some parts that have been overlooked. For example, the sentence “ See table 1 for a more detailed description of informants.” on p.13 appears twice.

Response:

Many thanks for this observation. We have removed the duplicate sentence now.

Response to Reviewer 2

We sincerely appreciate your detailed and constructive feedback, which has been invaluable in strengthening our manuscript. Below, we offer a comprehensive response to each of your numbered comments, with corresponding page references to the revised manuscript for clarity.

Comment 1

Thank you for the opportunity to review this manuscript. The topic is of interest, and focuses a somewhat less studied population of academic entrepreneurs. I find that the care with the data analysis, interpretation of findings and discussion of these are strengths in the paper. However, the purpose and motivation, theory and findings need to be more logically presented. The story line is unclear—largely because the theory presented is not directly linked to the data or the discussion. I have some suggestions below that might be helpful. Below are my detailed

Response:

Thank you very much for your thoughtful and constructive review. We greatly appreciate your recognition of the strengths in our data analysis, interpretation, and discussion. At the same time, we fully acknowledge your concerns regarding the clarity of the paper's purpose, theoretical grounding, and overall coherence.

In response, we have significantly revised and refined the literature review to ensure stronger alignment with both our empirical findings and the overall contribution of the paper. We have also clarified the motivation for the study and explicitly articulated our purpose (see page 5). In addition, the theory section has been thoroughly rewritten and brought into closer alignment with the discussion. We hope these changes enhance the manuscript's clarity, coherence, and theoretical contribution. Below, we address each of your detailed comments in turn.

Comment 2

Purpose- the purpose of the paper needs to be clarified. On the first page- the abstract notes the paper will “describe how individuals who repeatedly transition between professionally distinct roles construct their work identities” then at the end of the abstract- it is stated that the paper “can unpack how these individuals weave their professional identify (sp) as they constantly switch between professional commitments”. On page 5 it is stated that the purpose is to “explore the lived experience and potential conflicts of academic entrepreneurs to better understand the role of professional micro-transitions in the construction and management of their work identities”. On p. 6 it is stated that the paper is about how academic entrepreneurs manage multiple roles. Finally, on p. 12 under method, it is stated that the paper is “targeting the relation between roles, work practices and identity”. How one transitions, constructs, manages, deals with conflict and handles work practices and identity are related but not necessarily the same thing.

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6 Response:

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8 We thank the reviewer for pointing out the inconsistencies in how the purpose of the
9 paper was articulated across different sections. In response, we have unified our framing
10 of the paper's purpose throughout the abstract, introduction, method and discussion
11 sections. We have also reviewed the manuscript to ensure consistent language across all
12 sections.
13

14 15 **Comment 3**

16 *Moreover, there is no clear statement of the research question driving this work so it is*
17 *difficult to know what the reader where the paper is headed. Even when I got to the*
18 *methodology, I still wasn't sure exactly what to expect because the purpose of the paper*
19 *was unclear. The RQ should be stated at the beginning of the paper, used consistently*
20 *throughout and be linked directly to the methodology. Then, at the end of the paper,*
21 *hopefully the question will be answered.*
22

23
24 Response:

25
26 Thank you for this helpful observation. In response, we have clarified both the purpose in
27 the introduction to guide the reader more effectively through the paper. The revised text
28 now explicitly states that the paper explores *how academic entrepreneurs construct and*
29 *sustain their professional identities amid frequent transitions between academic and*
30 *entrepreneurial roles*. This is now clearly formulated and consistently referenced
31 throughout the manuscript, including in the methodology section, where we explain how
32 our research design directly addresses it (see p.14). We also return to the research
33 question in the discussion and conclusion to highlight how our findings provide an
34 empirically grounded response.
35
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37 38 **Comment 4**

39 **Definition- The paper is about "academic entrepreneurs" but the term is never**
40 **really defined for this work. It is mentioned that there are lots of different**
41 **definitions, but it's not clear exactly how you are defining the term in this paper (see**
42 **for instance, Miller, et al, 2018). Because this is the core of your paper and relates to**
43 **the sample selection and interpretation of the findings, I would encourage you to**
44 **carefully define this term early in the paper.**
45

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47 Response:

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49 Thank you for highlighting the need to define the term "academic entrepreneur" more
50 clearly. We agree that clarity on this point is critical, given its centrality to the paper's
51 focus, sample, and interpretation of findings. In response, we now explicitly define
52 academic entrepreneurs both in the introduction (p. 3 and 5) and again in the method
53 section (p.15), where we link this definition to our sampling logic.
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Comment 5

Motivation- I would like to see a much stronger motivation for this paper. On p. 4, the paper says we don't know a lot about the conflicting demands on identity and then on p. 5 no-one has investigated how the continuous transitioning between these ostensibly different professional roles influences this development. Just because something has not been studied is not really a compelling motivation for the study. What are the debates regarding identity that might better set up the motivation for this paper? How might you problematize the motivation more clearly? (Locke & Golden-Biddle, 1997). The current introduction presents a few studies (all different definitions of academic entrepreneurs) but does not present a strong motivation for why we need to better understand the development, transitioning, or development and why this matters practically or theoretically. Note- the text on p. 10-11 does seem to provide more theoretical logic for what's missing in the literature and why this study is important.

Response:

Thank you for this insightful comment. In the revised manuscript, we have strengthened the theoretical motivation by explicitly situating our study within a broader gap in the professional identity literature. Specifically, we emphasize that while identity work during macro-transitions—such as major, sequential changes in professional roles—is well developed in the literature, there has been far less attention to how individuals navigate identity through frequent, everyday transitions between concurrently held professional roles. These micro-transitions are often treated as unproblematic, especially when they occur within the same organization, which overlooks the complexity and tension that can arise when professionals shift between roles grounded in divergent norms, values, and material contexts. (p.4)

Comment 6

Lit review- there is a short summary of the literature on academic entrepreneurs and role theory in the introduction- it seems like this might be a separate section. Maybe you could include a chart or table to summarize what is currently known on this topic?

Response:

Thank you for this helpful suggestion. In response, we have moved the summary of the literature on academic entrepreneurs and identity work from the introduction to a dedicated section within the literature review (p. 11). This improves the structure of the manuscript and allows for a clearer positioning of our contribution. We have also updated this section with recent references to ensure the review reflects the current state of the field. While we chose not to include a table or chart, we have revised and expanded the text to more clearly synthesize key strands of existing work and highlight what is currently known—and unknown—about the topic.

Comment 7

Theory- This section just dives into aspects of role identity theory without providing an overarching definition or frame about role theory. Not all readers will be familiar with role identity theory and so it would be a good idea to provide a short overview, then explain why you chose to consider role accumulation, role transitions, sensemaking identity and materiality in more detail. Some of this is on p. 10 but it needs to be moved forward. I found the whole theory section to be choppy and hard to follow the logic.

Response:

Thank you for this helpful comment. In response, we have substantially rewritten the theory section in the revised manuscript (see pp. 6–13 of revised manuscript). The revised section now begins with a clear overview and explicitly links identity work to micro-role transitions, materiality, and academic entrepreneurship—the three core pillars of our empirical analysis and theoretical contribution. We have also improved the overall structure and flow of the section to enhance clarity and better guide the reader through the theoretical framing.

Comment 8

Methodology- Once again, in the absence of a clear research question, this seemed a little confusing. Help the reader by providing a clear purpose/RQ here so we can follow the logic for the methodological approach.

Response

Thank you for this important observation. In response, we have clarified the purpose of the study explicitly both in the introduction and at the beginning of the methodology section.

Comment 9

I was wondering how you identified the entrepreneurs? What as the criteria used to determine if they fit the sample or not? And what does it mean to have “founded a research-based venture?” is it applied research? Tech transfer? A joint venture? A patent? Does the university share in the patent? Does it mean they have a separate location? Employees? Are profitable? What about ownership? Or does this have something to do with the % of time (or hours/week) devoted to their venture? Are these funded separately or does the University provide some funding for these ventures? In other words, explain the sampling frame. Why was the sample all male? Again, a clear definition of academic entrepreneur at the outset would really help the reader to see how the sample fits the definition.

Response:

Thank you for your thoughtful and detailed questions regarding our sampling strategy and criteria. In the revised manuscript (see pp. 14, 15, 16), we have clarified and

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3 expanded the description of how we identified academic entrepreneurs and determined
4 their eligibility for inclusion in the study.
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7 Specifically, we adopted a purposive sampling strategy to recruit individuals who
8 had founded or co-founded a research-based venture while maintaining an active
9 academic affiliation. To qualify as "research-based," ventures needed to be directly linked
10 to outputs generated within the university setting—such as patented inventions, applied
11 technologies, or scholarly methods with clear commercial relevance. These ventures
12 included both university-affiliated spinouts and independently launched startups,
13 reflecting a diversity of institutional and funding arrangements. Importantly, our focus
14 was not on any particular structural form, but rather on active and ongoing
15 entrepreneurial engagement grounded in academic research.
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18 Our definition of academic entrepreneur emphasizes hands-on participation in the
19 venture—meaning the individual was actively involved in shaping the business and its
20 development trajectory (e.g., through strategy, product design, business development),
21 rather than contributing only IP or serving a symbolic role. This definition allowed us to
22 focus on participants whose dual engagement in academia and entrepreneurship created
23 the most pronounced potential for identity tensions and micro-role transitions.
24 While we did not use criteria such as profitability, ownership percentages, or specific
25 weekly time commitments to define inclusion, we did use multiple sources of secondary
26 data—including company websites, press coverage, public funding records, and
27 university profiles—to ensure that participants had verifiable and meaningful
28 entrepreneurial involvement. This triangulation process helped us confirm that
29 individuals met our criteria prior to interviews.
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33 Regarding venture funding and infrastructure, our sample included ventures that varied
34 widely in terms of financial backing and organizational maturity. Some had external
35 investment or institutional support (e.g., from incubators or public grants), while others
36 were bootstrapped. In several cases, university facilities or informal support networks
37 played a role early on, but we did not require a specific funding source or location (e.g.,
38 separate office space) for inclusion. *What mattered was the practical and sustained dual
39 involvement in both academic and entrepreneurial work.*
40
41

42 On the gender composition of the sample, we acknowledge that 26 participants were
43 men, only one woman. This was not a design choice but rather a reflection of
44 the empirical reality within the targeted STEM-based academic entrepreneurship
45 ecosystem at our study site, where gender imbalance remains significant. We now note
46 this more explicitly in the methods section (p. 17) and recognize it as an important
47 limitation. We also suggest that future research explore the experiences of women
48 academic entrepreneurs to better understand how gender may shape identity work and
49 role transitions (p. 45)
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52 Finally, as suggested, we have reiterated and clarified our definition of academic
53 entrepreneurship earlier in the manuscript to help the reader better understand how our
54 sampling aligns with the study's conceptual focus.
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Comment 10

Why did you choose to have a span of experience from post-docs to full professors? It would seem there would be different levels of role identification for post-docs versus full professors that might influence your interpretation of results.... moreover, post-docs probably don't have the same teaching responsibilities, service obligations and or research expectations.

We fully agree that academic seniority can shape levels of role identification, as well as access to resources, responsibilities, and institutional expectations. These are important factors that likely influence how individuals experience and make sense of academic entrepreneurship.

That said, our study takes a different approach. Rather than focusing on levels of identification with particular roles across ranks, our aim was to explore the *practices* through which individuals manage *micro-role transitions*, and how these transitions give rise to *identity work* in the flow of everyday academic life. We were particularly interested in how participants—regardless of seniority—navigate competing expectations, reconcile norms across roles, and engage with the material and relational dynamics of their dual academic and entrepreneurial identities.

Including a range of participants from postdocs to full professors allowed us to capture this processual and practice-based view across different career stages. While responsibilities certainly varied, many of the core challenges related to micro-transitions—such as managing boundaries, shifting between logics, or adjusting self-presentation—were shared across the sample.

We have clarified in the revised manuscript that a more systematic comparison across career stages would be a valuable direction for future research.

Comment 11

Interview guide- what questions were asked? It would be helpful to have an appendix with the interview guide so the reader can see what questions were asked regarding role identity, transitions, etc.

Response:

Thank you for this helpful suggestion. In response, we have added an appendix containing the full interview guide used in the study. We refer to the appendix in the methods section (see appendix 1 of the revised manuscript).

Comment 12

Data- was the only source of data the interviews? Data analysis- the data analysis seems to be carefully and thoughtfully done- I like how you have included example quotes which gives us a sense of the richness of the data.

Response:

Thank you for your encouraging feedback on the data analysis. We're glad to hear that the use of illustrative quotes conveyed the richness of the data. While interviews were our primary source of data, we also drew on a second data stream—publicly available secondary materials such as university press releases, company websites, media articles, and institutional biographies. These sources helped us verify participants' entrepreneurial involvement, tailor our interview questions, and contextualize the findings. For more clarity, we created a new Table 1 (p.52) that details the full dataset, including the number and type of interviews, pilot data, and secondary sources used in the study. This offers readers a clearer understanding of the empirical base of the analysis.

Comment 13

Findings- the four key findings, role tension, role demarcating, role transference and role normalizing seem to make sense and are supported by the data that you present. I still can't help but wonder if there is variation in your sample depending on academic role or role in the business? More specifically- the number of hours per week spent in each endeavor would seem to be important for understanding the role identity? In other words, if I am spending more time in one role, I might be more attached to this identity than the other. The same might be true for ownership and for decision-making role within the business- missing on the sample description is the role that the academics have in their entrepreneurial venture? If I am a CEO, 100% owner and spending 40 hours a week in a start up- I might think about my start-up differently than if I'm a contributing team member, spending 10 hours a week with under 50% ownership. I am wondering if you thought about doing a subgroup analysis to see if there is variation in your sample depending on the role of the academic in his founding company?

For me, understanding some of the variation in the sample would be a more interesting contribution, as the ideas of role tension, role demarcating, role transference and role normalizing are interesting, but I don't find these terribly surprising.

We thank the reviewer for stressing this point. We fully agree that the level of involvement in the venture—such as time commitment, ownership, or decision-making authority—can shape how identity is experienced and managed. In our sampling, we specifically focused on academic entrepreneurs who were actively working in their ventures. These were not individuals who served only as advisors or licensors, but people

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3 directly engaged in operational and strategic aspects of the business in parallel with their
4 academic roles.
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7 We also agree with the reviewer's suggestion that the more time someone spends in a
8 particular role, the more likely they are to identify with it. However, our study is not
9 centered on how strongly participants *identify* with one role over another in the abstract.
10 Rather, we focus on the **content of their work and how identity is constructed**
11 **through concrete, everyday practices**. Our interest lies in how individuals shift between
12 academic and entrepreneurial roles, how the roles affect each other, and how participants
13 make sense of similarities and differences across contexts.
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16 In this sense, what mattered most for our sampling was that participants were
17 meaningfully active in both domains and frequently transitioned between them. We now
18 reflect more explicitly on how variation the level of involvement in the venture could be
19 an important direction for future research (see p. 44, second direction for future research).
20

21 22 **Comment 14**

23 **Discussion- since the theory section brought up role accumulation, role transition,**
24 **sensemaking and identity and materiality- how do your findings contribute to these**
25 **concepts? I'm not seeing a direct connection. Instead, the idea of hybrid identities**
26 **while mentioned once or twice above is brought up here. As I read through this**
27 **section- it occurs to me that instead of reviewing theory on role accumulation, role**
28 **transition, sensemaking, identity and materiality (which are not discussed at the**
29 **back end) maybe you should focus on the concept of hybrid identity at the beginning**
30 **of the paper. This would be a much cleaner and better focused approach.**
31

32
33 Response:

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35 Thank you for this thoughtful comment. We appreciate the suggestion to streamline the
36 theoretical framing and more directly align the discussion with the concepts introduced
37 earlier. In the revised manuscript, we have strengthened the connections between our
38 findings and the theoretical concepts of micro-role transitions, identity work, and
39 materiality throughout the discussion section. Rather than treating these as discrete
40 theoretical domains, we now clarify how they come together in the formation of hybrid
41 professional identities among academic entrepreneurs.
42 Specifically, we show how hybrid identities are not just cognitively negotiated but
43 materially enacted amid frequent role transitions—using artifacts, routines, and work
44 practices to navigate and reconcile competing professional commitments.
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50 51 **Comment 15**

52 **Implications and future research- this section needs further development- what are**
53 **future research questions? This goes back to variations among different types of**
54 **academic entrepreneurs, considering women in the sample, etc. Once again, because**
55 **the theories mentioned at the beginning are not discussed at the end, the conclusion**
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3 **seems a bit disjointed. What are implications for universities? Or for department**
4 **chairs who supervise faculty?**
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7 Response:

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9 Thank you for this helpful comment. We have revised the “Implications and Future
10 Research” section to address these points more clearly. First, we now outline directions
11 for future research, including how identity work may vary based on gender, role in the
12 venture, time spent, and career stage. Second, we have reconnected the conclusion with
13 the key theoretical themes from the introduction—particularly identity work, micro-
14 transitions, and materiality—to provide stronger conceptual closure. Finally, we have
15 added practical implications for universities and department chairs, highlighting how
16 institutions can better support academic entrepreneurs by providing more flexible
17 evaluation and support structures.
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20 **Comment 16**

21 **Conclusion- I think the paper would benefit from a stronger conclusion as well.**
22
23

24 Response

25 Thank you for this helpful suggestion. In response, we have revised and strengthened the
26 conclusion section to more clearly articulate the core contributions of the paper
27
28

29 **Comment 17**

30 **Overall, it is clear that you have some very interesting data, you are studying**
31 **something that is not widely studied and you have taken great care to analyze the**
32 **data. However, the story line is quit choppy from the motivation and purpose, to the**
33 **theory to the findings. The theory and discussion need to be much more coherently**
34 **connected to the data and the contributions. Good luck with your paper.**
35

36 Response

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38
39 Thank you for this thoughtful overall assessment and your encouraging words about the
40 data and analysis. We fully appreciate your concerns regarding the coherence of the
41 manuscript—from the motivation and theoretical framing through to the findings and
42 discussion. In response, we have undertaken substantial revisions to improve the clarity,
43 structure, and narrative flow of the paper.
44
45

46 Specifically, we have:

- 47
48
- 49 • Clarified the motivation and purpose in the introduction.
 - 50 • Rewritten the theory section to provide a more structured and accessible framing,
51 with explicit links between role transitions, identity work, materiality, and
52 academic entrepreneurship.
 - 53 • Strengthened the discussion section to ensure that the theoretical concepts
54 introduced earlier are directly connected to the empirical findings and used to
55 frame the contributions more clearly.
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- Improved transitions across sections to enhance readability and guide the reader through the manuscript more effectively.

We hope these revisions significantly improve the coherence and impact of the paper, and we truly appreciate your careful reading and constructive guidance throughout the review process.

Comment 18

Minor things

- **There are typos here and there, formatting and other grammatical things that should be fixed.**
- **What is CUDOS norms (p.3?)**

Response

Thank you for pointing out these minor but important issues. We have reviewed the manuscript for typos, formatting inconsistencies, and grammatical errors and have corrected them throughout. In addition, we have removed the reference to CUDOS norms on p. 3.

CUDOS norms refer to Merton's normative structure of science—Communism, Universalism, Disinterestedness, and Organized Skepticism (Merton, 1942/1973)—which underpin traditional academic values.