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Exploring the Transition to Working Life of Entrepreneurship Education Graduates: A Longitudinal Study

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Abstract

In this research, we explore the transition of entrepreneurship education (EE) graduates to working life. Even though many EE graduates find employment in established organisations rather than starting a new venture, few studies have empirically investigated the relevance of EE in this context. This paper addresses this gap by providing an in-depth longitudinal analysis of graduates' transition from EE to working life, from entering the labour market to becoming an effective operator. In the study we interview 10 graduates from three master's programmes directly after their graduation and then follow up with an interview 2 years into their careers. It explores how these graduates learn to become legitimate members of their workplace and how they apply their entrepreneurial competencies in this process. This study contributes to the broader debate on the relevance of EE for employability by demonstrating how entrepreneurial competencies foster the transition from EE to working life.

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Introduction

This paper sheds light on entrepreneurship education (EE) graduates' transition to working life, a hitherto under-investigated area in EE research. Studies have shown that many EE graduates do not immediately grow into entrepreneurs but instead become employed in established organisations (Charney & Libecap, 2000; Jones et al., 2017). Still, few empirical studies have attempted to understand how EE prepares students for working life or how they use their competencies within established organisations. The lack of research in this area can be explained by the fact that most researchers are trying to establish a link between EE and entrepreneurial activity by looking at relevant impact measures of new venture creation. Scholars have therefore called for more studies exploring the link between EE and employability. As early as 2007, Pittaway and Cope (2007a) identified that the EE literature lacked studies relating EE competencies to specific factors relevant for employability. Later, Mwasalwiba (2010) explicitly requested research on graduates in the workplace. Longva and Foss (2018) also called for more studies on how EE impacted the employability of graduates. In response, Killingberg et al. (2021), suggested a research agenda to explore this issue more in depth. This paper sets out to explore this missing link in the EE literature.

The few empirical studies exploring how EE prepares students for working life within established organisations can be divided into three streams of literature. The first one aims, through quantitative measures, to demonstrate that EE graduates are more employable than others (Bell, 2016; Charney & Libecap, 2000).

The second stream explores whether EE students develop competencies relevant for working life as seen from the employer's perspective, such as teamwork skills, interpersonal skills, project management, and communication skills (Huq & Gilbert, 2013; Lowden et al., 2011; Yorke, 2006). Scholars have also found that EE fosters skills enabling students to engage in entrepreneurial activities, such as corporate entrepreneurship (Winborg & Hägg, 2022). Moreover, de Villiers Scheepers et al. (2018) showed that EE graduates had developed a professional identity, social capital, and agency. However, several scholars dispute the idea that universities should enhance the employability of individuals by teaching them skills generally desired by employers (Orsmond et al., 2021; Rae, 2007). They question if such skills can be objectively measured and how they may relate to performance "which is always context specific and involves complex interactions with others or with artefacts" (Orsmond et al., 2021, p. 3).

The last stream of literature is concerned about how alumni see the relevancy of EE in their careers (Galloway et al., 2015; Jones et al., 2017). In this respect, Jones et al. (2017) called for more qualitative research to explore how EE competencies are utilised

through the early career trajectory. This paper aims to address this call from the perspective of EE graduates.

Through a longitudinal and qualitative phenomenological study, we explore the process of transitioning from EE to working life of 10 EE graduates. To understand this transition, we draw on situated learning theory (Lave & Wenger, 1991). The relevance of the situated learning theory became clear through our initial analyses. Situated learning rests on the assumptions that learning is contextually situated in practice (Lave & Wenger, 1991; Wenger, 1998) and that people learn by engaging in and negotiating meaning within a community of practice (CoP) (Wenger, 1998). Lave and Wenger (1991) introduced the term "legitimate peripheral participation (LPP)" to describe the process of how newcomers enter a CoP at the periphery and move towards becoming full members by learning and legitimising themselves. The concepts of CoP and LPP have previously been used to explore how newcomers in varied sectors learn to participate and build professional identity (Gardiner, 2016; Gherardi & Nicolini, 2002; Orsmond et al., 2021). CoPs can also occur within workplaces (Orsmond et al., 2021; Wenger, 2009). Orsmond et al. (2021) argue for viewing the transition from higher education to a workplace through a situated learning lens. They contend that the process of transitioning from higher education, such as EE, is "not simply a matter of having the relevant skills and knowledge, but of 'ways of being and relating in professional contexts'" (Goldie, 2012, p. 641, as cited in Orsmond et al., 2021, p. 3).

Through a situated learning lens, we capture the EE graduates' reflections on their participation and process of becoming an accepted work member as this unfolds in time. We particularly explore how they make use of their EE competencies (Haase & Lautenschläger, 2011) to legitimise themselves through different forms of participation in a workplace community.

This paper contributes to the EE literature in three ways. Primarily, it adds to the discussion about the relevancy of EE for employability by demonstrating how the competencies developed through EE are applied in the transition to working life. Secondly, it provides an in-depth longitudinal study of the transition to working life and the early careers of EE graduates and explores the potential challenges these students face in this transition. Finally, our analysis reveals two different trajectories of transitioning from EE to working life and highlights how contextual factors might influence these transitions.

Theory

Fostering Employability Through Entrepreneurship Education

Employability often refers to the set of individual competencies, knowledge, and personal attributes that make it likely that individuals will find employment and succeed in their chosen professions (Hillage & Pollard, 1998; Tomlinson, 2012; Williams et al., 2016; Yorke, 2006). However, some scholars view employability more as a continuous process of learning, rather than as a product (Harvey et al., 2002; Holmes, 2013;

Tomlinson, 2012). This implies treating employability more from a processual point of view, that is, as an ongoing process of learning and adaptation (Holmes, 2013; Tomlinson, 2012). We define employability as "the capability of being an effective operator in the labour market" (Killingberg et al., 2021, p. 714, adapted from Oliver, 2015), more precisely an effective member of a workplace community.

In this paper we focus on the transition from EE to working life and the early careers of graduates which first concerns the ability to gain initial employment. To achieve this, the candidate needs to convince the employer that there is a fit between the competencies sought and the individual (Lowden et al., 2011). In addition, graduates' early careers include overcoming personal challenges, such as learning to put their skills into new contexts, socialising with new colleagues, and familiarising themselves with routines (Herbert et al., 2020; Van Maanen & Schein, 1977; Wendlandt & Rochlen, 2008) in the process of becoming accepted members of the workplace.

Haase and Lautenschläger (2011) categorized the learning outcomes of EE into three categories of entrepreneurial competencies: "know what," "know how," and "know why." "Know what" competencies refer to the business management and functional skills needed by entrepreneurs and innovators, such as general knowledge about entrepreneurship and innovation processes, commercialisation (Lee et al., 2005), business planning and its methods (Premand et al., 2016), and other relevant business subjects, such as marketing (Lackéus, 2014), finance, and accounting skills (Haase & Lautenschläger, 2011). These are skills that enable a graduate to demonstrate proficiency within innovation and entrepreneurship as a specific professional field. "Know how" competencies include the more flexible and transferable competencies from the learning process of entrepreneurship (Haase & Lautenschläger, 2011; Killingberg et al., 2021), such as learning from experience and reflection (Cope & Watts, 2000; Gibb, 1993; Rae & Carswell, 2000). Moreover, they include applying established knowledge to new problems (Cope, 2005; Gibb, 1997; Pittaway & Cope, 2007b), coping with uncertainty and ambiguity (Kubberød & Pettersen, 2017; Lackéus, 2014; Pittaway & Cope, 2007b), learning from failure (Cope, 2011; Shepherd, 2004), networking skills, and learning from peers (Gibb, 1993, 1997). In addition, the know how competencies include the ability to create and exploit entrepreneurial opportunities (Kubberød & Pettersen, 2018a; Pittaway & Cope, 2007b). "Know why" competencies relate to conviction and confidence, and they include entrepreneurial identity (Donnellon et al., 2014; Hytti & Heinonen, 2013; Kubberød & Pettersen, 2018b), self-efficacy (Karlsson & Moberg, 2013; Kubberød & Pettersen, 2017; Lackéus, 2014), and entrepreneurial attitudes (Bolton & Lane, 2012; Murnieks & Mosakowski, 2007). In an employability context, "know why" competencies might translate to the new graduates' conviction, motivation, and drive in their search for meaningful new opportunities in the workplace (Killingberg et al., 2021).

Building on this categorisation, we explore how these competencies are relevant when transitioning from EE to the workplace. EE graduates in practice-based programmes are trained to cope with uncertainty and ambiguity by working on fuzzy and ill-defined problems situated in unpredictable learning contexts (Kubberød & Pettersen,

2017; Pittaway & Cope, 2007b). One might therefore infer that EE fosters the development of graduates' emotional robustness in dealing with contextual uncertainty and ambiguity when entering and manoeuvring in their first jobs (Killingberg et al., 2021).

With all this in mind, we are interested in investigating how EE competencies are utilised in the process of entering a workplace, which leads to the first research question:

RQ1: How do EE competencies aid in the process of transitioning from university into a workplace?

Becoming a Workplace Community Member Through a Process of Legitimate Peripheral Participation

The entering phase of employability involves a period in which graduates learn the appropriate work routines, culture, and skills and how to adapt their competencies to fit the particular workplace (Herbert et al., 2020; Lave & Wenger, 1991; Van Maanen & Schein, 1977; Wenger, 1998). When studying the transition from higher education to the workplace, it is therefore necessary to consider it as a learning process that these graduates go through.

LPP conceptualises this as a process of learning to become a participant in a CoP and an effective operator in a workplace as one gradually advances from being a newcomer working at the periphery to becoming an experienced participant and accepted member (Lave & Wenger, 1991). This learning is not focused on "objective individual learning" but rather on learning how to function as an active participant in a community (Brown & Duguid, 1991).

In the process of LPP, newcomers usually start out at the periphery, working on tasks with limited complexity and responsibility while still being relevant and meaningful as a future active participant (Lave & Wenger, 1991). Through the LPP process, the newcomer learns the CoP's language and routines, as well as the necessary knowledge and skills that allow them to communicate, exchange knowledge and information, and solve daily tasks (Lave & Wenger, 1991). It is also important that the newcomer achieves the legitimacy that allows them to access new learning opportunities (Lave & Wenger, 1991).

The concept of LPP explains both how people learn to become a member of a CoP and how the CoP eventually can be transformed in the process (Hodge et al., 2011). The learning process is therefore referred to as "both absorbing and being absorbed in the culture of the community of practice" (Hodge et al., 2011, p. 171). Consequently, it is important to consider the competencies, identities, and experiences newcomers bring that might influence both the process of LPP and the CoP itself. However, prior CoP literature has largely neglected the competencies that newcomers bring into these communities, treating them as "tabula rasa" (Lave & Wenger, 1991; Wenger, 1998). On the other hand, several studies have demonstrated that newcomers' experiences, identities, and competencies (including EE competencies) can either aid or impede in

the LPP process (Campbell et al., 2009; Fuller et al., 2005; Gardiner, 2016; Kubberød & Pettersen, 2018a) and that old-timers can also learn from newcomers (Fuller et al., 2005).

The concepts of LPP and CoP have also been widely criticised for not sufficiently considering the power dynamics and hierarchical structures within CoPs (Fuller et al., 2005; Pyrko et al., 2019; Roberts, 2006; Wenger, 2010). Several studies have, however, investigated how power relations may affect the process of LPP. For example, Fuller et al. (2005) emphasised how those in power can either create or remove barriers that allow newcomers access to learning opportunities and thereby control their participation. Carlile (2004) pointed out how old-timers might feel threatened by newcomers, which might, in turn, constrain newcomers' participation. Scholars have also explored the ways in which newcomers have coped with a lack of participation due to the constraints set by their superiors (Bharatan et al., 2022). For instance, Orr's (1996) classical study found that directives imposed by managers impeded photocopier technicians' learning opportunities, forcing them to engage in more informal arenas to learn about the equipment.

Considering these shortcomings of and expansions to LPP, we argue that it provides a suitable framework for studying the learning process that takes place when graduates enter a workplace community. According to Killingberg et al. (2021), the process of LPP is a vital part of the process of employability because increased participation can lead to augmented responsibility and more rewarding and relevant tasks. Becoming an efficient operator in a workplace community therefore requires full participation from a CoP point of view. In this paper, we are particularly interested in how the process of LPP unfolds for EE graduates in the workplace. With this in mind, we put forward the following research question:

RQ2: How do EE graduates learn to become legitimate members of a workplace community, and how does this process differ in different work contexts?

Method

We adopted a phenomenological approach in the research. Berglund (2007) suggests that "the goal of phenomenological methods is to study the meanings of phenomena and human experiences in specific situations and try to capture and communicate these meanings in empathetic and lucid ways" (p. 76). In this paper, we aim to capture the experiences of EE graduates as they transition from EE to working life and go through their first year of employment.

We also adopted an abductive research process, like the systematic combining process proposed by Dubois and Gadde (2002). In this process, "the theoretical framework, empirical fieldwork and analysis evolve simultaneously" (Dubois & Gadde, 2002, p. 554). This involves going back and forth between the fieldwork, theory, and conceptual framework (Dubois & Gadde, 2002). It allowed us to consider "surprises" and "active data" that we did not expect initially (Dubois & Gadde, 2002).

The study rests on a descriptive longitudinal research design, which is the appropriate design to explore how a phenomenon changes over time (Ployhart & Vandenberg, 2010). More specifically, we explored the graduates' transition to working life over a period of ca. 24 months, where we foresaw a change during this period reflecting a complex interrelationship between the graduates' EE competencies and the workplace environment. The data collection is organised in two rounds of interviews; the first took place within six months after graduation and the second between 18 and 24 months after graduation. Longitudinal designs are especially appropriate when exploring theories and constructs that inherently incorporate change, such as graduates' transition into a workplace, illuminated by the theory of CoPs. The longitudinal design provided real-time data at two time points regarding the participants 'employment status, role and position, and legitimacy within the workplace community. Moreover, the design allowed us to analyse the change within the period, capturing the dynamic nature of the variables and their interrelationships, hence revealing individual growth patterns and trajectories (Ployhart & Vandenberg, 2010).

Further, the longitudinal design enabled us to make redirections in our theoretical framework as we aimed to achieve a good fit between data and theory. This corresponds to an abductive research process (Dubois & Gadde, 2002). We started (first round) with an understanding of this transition by drawing on the employability theory (Van Der Heijde & Van Der Heijden, 2006), but due to its static character, we expanded to the more dynamic CoP framework and LPP process (Lave & Wenger, 1991), which allowed us to understand the learning process and the individual trajectories that facilitated this transition. The second round enabled us to further explore these concepts and related questions, and to validate the matching of theory and data.

Description of the Entrepreneurship Education Programmes

The graduates were enrolled in three different master's programmes in entrepreneurship in Norway. The programmes included students with different educational backgrounds: (1) students with bachelor's degrees from varied educational backgrounds, (2) students with bachelor's degrees in economics and administration, and (3) students with bachelor's degrees in engineering and STEM subjects. All programmes emphasise experiential learning wherein students learn through a mix of theory, practice, and reflection (Kolb, 1984). The curricula include topics related to innovation and entrepreneurship, finance, marketing, management, methods, and research. The students gained practical experience through working on tasks and assignments provided by external stakeholders, as well as their own entrepreneurship projects and internships in start-ups (Kubberød & Pettersen, 2017). Most of the students also travelled to the United States to participate in the Norwegian School of Entrepreneurship, combining work placements in start-ups and lectures at Rice University (Kubberød & Pettersen, 2017).

Sample of Students and Data Gathering

The graduates were recruited following a theoretical sampling procedure (Eisenhardt, 1989). We selected the graduates in accordance with three criteria: (1) The participants all graduated in the same year, 2018; (2) With one exception, the participants had no or limited relevant work experience prior to starting their master's programmes. Individuals with substantial work experience were excluded, as we assumed they would have developed professional experience and identities influencing their transition from EE to working life; (3) All participants were employed or were seeking employment in established organisations. A total of 10 graduates satisfying the criteria were recruited: six women and four men. All names are fictive. An overview of the participants and their employment status at the time of the interviews is shown in Table 1.

We used semi-structured interviews. The first round of interviews took place between October 2018 and January 2019. The interviews were inspired by the critical incident technique (Flanagan, 1954) and focused on critical learning events in the interviewees' education, as well as critical events in the transition from EE to working life. Most of the interviews were face to face. The second round of interviews occurred between February and June 2020 and involved themes related to their status in the workplace and their learning to become full members of the workplace communities. In this round, we mainly used interviews through Skype due to Covid-19 restrictions. All interviews were fully transcribed. The questions in the two interview guides are summarised in Table 2.

Data Analysis

The data were analysed using the NVIVO 12 software suite. The analysis procedure was iterative, in line with the abductive method (Dubois & Gadde, 2002). The initial data analysis mainly followed an open coding procedure (Eisenhardt, 1989; Glaser & Strauss, 1967). Through initial coding and development of preliminary themes, we learned the relevance of the situated learning analytical framework in terms of grasping our data. Next (second round), the data was coded through a six-step process. First, we read the transcripts to make sense of the whole corpus. Second, the transcripts were divided into units of meaning and then coded, following a combination of open and thematic coding. The coding was informed by the analytical framework, while also being open to other interpretations and themes. Third, we followed an axial coding process whereby the different codes were grouped together to form themes. Fourth, the themes were compared across the graduates to analyse differences and similarities across the different graduates (Eisenhardt, 1989). In the fifth step of the process, we interpreted aggregated dimensions by grouping together themes from the two groups and common themes that related to the same overarching dimension. The codes, themes, and aggregated dimensions resulting from the analysis process are summarised in Figure 1.

Table 1. Overview of Participants with Employment Status at Interviews 1 and 2.

Name	Gender	Programme	Other educational experience	Employment status interview 1	Employment status interview 2
Tor	Male	1	Mechanical engineering	Consultant in large private consultancy firm	Consultant at the same consultancy firm
Martin	Male	2	Business and administration	Unemployed/part-time irrelevant work	Consultant in small IT-firm
Frank	Male	3	Civil engineer	Temporary project manager at a university	Consultant in large private consultancy firm
Jens	Male	2	Human resource management	Consultant at large private consultancy firm	Consultant at the same consultancy firm, on his way to a new position in small company
Anne	Female	1	Business and administration	Consultant in large private consultancy firm	Consultant at the same consultancy firm
Hanne[a]	Female	3	Oil and gas engineer	Sales engineer in major upstream oil and gas company	Contract manager in medium-sized manufacturing company
Lilly	Female	1	Business and administration	Temporary part-time position in the innovation ecosystem	Community manager in co-working space
Siri	Female	1	Journalism	Business developer in a technology transfer office	Business developer in the same technology transfer office
Berit	Female	1	Business and administration	Temporary irrelevant position	Trainee in several different companies, currently working in an innovation unit of a larger electric utility company in Norway
Ellen	Female	2	Human resource management	Trainee in public sector	Project manager in same part of public sector

[a]Unlike the others, Hanne was employed when starting the master's programme.

Table 2. Themes and Keywords Describing the Different Interviews.

Interview 1	Interview 2
• **Content and earning outcomes from EE** Difference with earlier educational experience Knowledge and skills developed Situation that was integral for your learning Situation where you got to apply what you learned • **How the participant got his job** Steps taken How did you present yourself to employers? Challenges in the application process Motivations for the current job Why did you get the job? • **Talk about the first period in the job** Describe the position, tasks, and responsibilities Relevance for your background Incidents where you got to apply competencies from EE Challenges in the transition process	• **Talk about the time between the first interview and now** What has worked well/what has been difficult? (examples) Changes in the workplace (downsizing/reorganizing/digitalization) Personal changes (change job/applied for a new job/planning to apply for a new job) • **Personal development and development in status** How did it feel being new, how do you feel now? Do you feel like a full member? has there been any development? What have been done to become accepted? What have the employer done to include you? Tasks and responsibilities, changes in tasks and responsibilities How do you learn and approach new tasks? Relationship with co-workers What kind of feedback do you receive/how do others look at you and your competencies? Do you have autonomy to solve the tasks as you like, explain? Relevance to EE, examples of incidents where you have applied competencies from EE

In the final step of the data analysis, we organised the themes chronologically into a three-step learning process: entering the workplace, manoeuvring at the periphery of the workplace, and becoming an effective operator in the workplace. This process is illustrated in Figure 2, which illuminates the themes and learning trajectories of the two groups, along with the round of interviews in which the themes emerged.

Findings

We found two groups that differed both in their LPP process and regarding how they applied their EE competencies. One group of graduates had occupations as business developers, mainly as co-workers within innovation units and one as a co-ordinator in an innovation co-working space. We refer to these graduates as the "innovation manager group." Other graduates had occupations as engineers, advisers, consultants, and management consultants, and we refer to them as the "consultant group." The two groups of graduates (the innovation manager group and the consultant group) differed

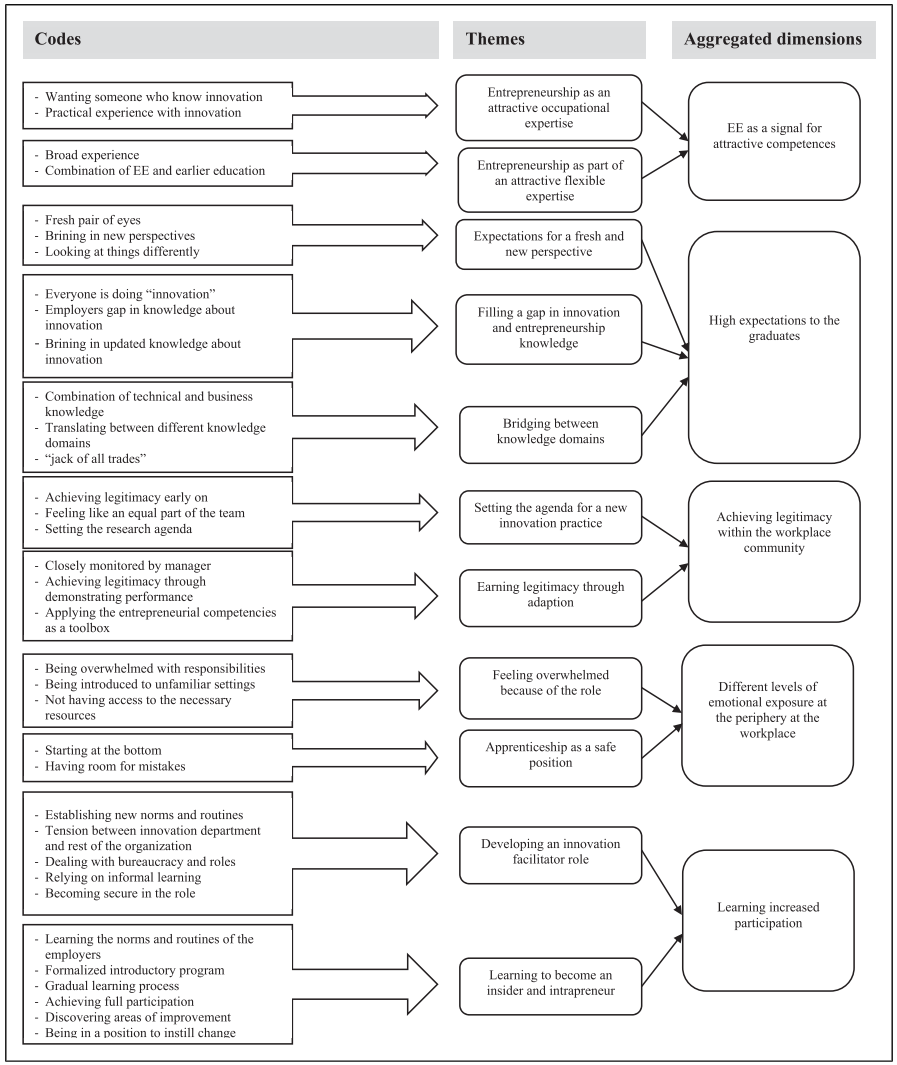

Figure 1. Codes, themes and aggregated dimensions.

along several dimensions in terms of how their EE competencies facilitated the entering and co-participation process in the workplace.

Six overarching aggregated dimensions revealed interesting themes that showed the nuances and differences between the two groups along the learning trajectory from student to employee. Below we elaborate on these two groups' trajectories, showing the

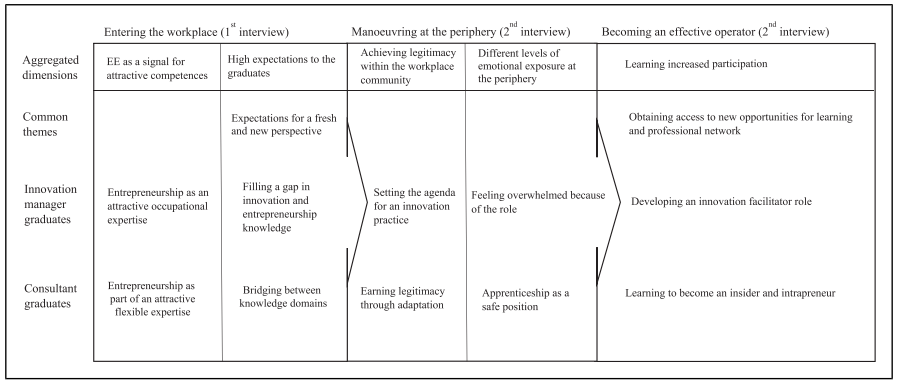

Figure 2. The process of transitioning from EE to becoming an effective operator in the labour market for the two different groups of EE graduates.

process from entering the workplace, manoeuvring at the periphery, to becoming an effective operator.

Belove, we elaborate on the different phases, themes, and aggregated dimensions for both groups.

Entering the Workplace—Attractive Competence and High Expectations

Most of the graduates considered that they had relevant competencies for the labour market and obtained relevant positions. Both groups experienced being attractive to employers and employers had high expectations of them. Below we elaborate on the nuances between the two groups in terms of the aggregated dimensions: Entrepreneuship education as a signal for attractive competences and *high expectations to the graduates.*

Entrepreneurship education as a signal for attractive competences. The two groups experienced being attractive to employers in the process of applying for jobs, but for slightly different reasons, according to the following underlying themes: *Entrepreneurship as an attractive occupational expertise* for the innovation manager group and *Entrepreneurship as part of an attractive flexible expertise* for the consultant group.

Entrepreneurship as an attractive occupational expertise—innovation manager group. The "know what" competencies developed through EE made the graduates in the innovation manager group attractive to employers:

> They wanted someone who knew design thinking, someone who could be innovative, the fact that you had tried it out in practice (Ellen, interview 2).

Hence, the employer wanted someone who had design thinking and innovation as their core expertise. Ellen had gained practical experience and competence through EE using design thinking methods in real-life innovation projects, which aided her in securing the job. From the analysis, it appears that those in the innovation manager group were mainly hired because of their expertise within the "hard fact" domain of innovation and entrepreneurship (Haase & Lautenschläger, 2011). We may therefore infer that experience with innovation methods were highly valued from the employers' perspective.

Entrepreneurship as part of an attractive flexible expertise—consultant group. The consultant group of graduates attracted employers who were interested in the broad combination of competencies and varied experience developed through EE:

> You have done lots of different things, you have some economics, some engineering, you have a master's, that is great! (Frank, interview 1).

The consultant group of graduates was attractive because of their broad set of different competencies across domains and disciplines, often with EE in combination with other areas of professional expertise (e.g., engineering and nursing). They offered a unique combination of professional expertise within a specific domain and a master's degree in EE. For Anne, the combination of a bachelor's degree in nursing and EE made her an attractive candidate:

> The impression that I got through the interview process was that it was the combination of several things. That I had studied entrepreneurship and innovation and had chosen to combine it with a bachelor's in nursing. … That was what they found interesting (Anne, interview 1).

We can therefore infer that these graduates were attractive to employers because of their flexible expertise, combining EE with other backgrounds. EE is here a complementary expertise that legitimises the individuals' former professional backgrounds for new positions, rendering them more attractive and unique for employers, as well as adaptable in terms of different tasks and responsibilities.

High expectations to the graduates. The graduates experienced that the employers had high expectations of them. From the analysis, it is evident that EE by nature brings the expectation of a fresh and new perspective which contributes to the renewal of the workplace:

> They have said that they needed a fresh pair of eyes to come in and look at things differently. And that might have something to do, or a lot of things to do, with my master's. Someone who dares to question how things have been done (Jens, interview 1).

Interestingly, the graduates experienced that the employers had high expectations of their contributions to the workplace for slightly different reasons across the two groups. From our analysis, we identified two different themes that describe the employers' expectations for the two groups: *filling a gap in innovation and entrepreneurship knowledge* (innovation manager group) and *bridging between knowledge domains* (consultant group).

Filling a gap in innovation and entrepreneurship knowledge—innovation manager group. We found that the innovation manager group of graduates were expected to fill the employer's gap in innovation and entrepreneurship knowledge, either alone (Lilly) or as part of a team (Berit and Ellen):

> Many are not up to date on the new way of thinking and doing innovation and are very concerned about getting updated. In many ways, they have leaned on me, and that I am going to teach everyone, and the "fantastic entrepreneurship programme" and what I did there (Lilly, interview 2).

Lilly is employed as a coordinator in a co-working space. She explains that the organisation has an outdated view of innovation and entrepreneurship and that the employers are aware of these shortcomings. By entering the organisation as an EE graduate, she brings updated knowledge and competencies in innovation, and thereby fills the organisation's knowledge gap.

Bridging between knowledge domains—consultant group. The perceived expectations for the consultant group were to engage in *bridging between knowledge domains*. Here, the employers expected the graduates to communicate and act as translators and brokers between different knowledge domains and professions, employing their entrepreneurial competencies more indirectly in this process:

> They say we work at the intersection between technology and business … we have some people in the company that are very technology oriented and some that are very business oriented. I would say that I am somewhat in between. … I do not think anyone sees me as being at the extreme of either technology or business. I am an all-rounder who can be used both for technical and business issues (Tor, interview 2).

This shows the value of combining an EE master's degree with an engineering background. When Tor started his work as an IT consultant, he found himself in a workplace where his co-workers were specialised either in business or in a technical domain, and his colleagues expected him to be an all-rounder with general knowledge in both domains. This grants Tor the initial legitimacy as a bridging agent between co-workers from different specialised fields.

Manoeuvring at the Periphery of the Workplace—Legitimacy and Emotions

Most of the graduates experienced a relatively smooth transition from EE, and many felt working life was a continuation of what they had been doing in the EE programme:

> I don't recall any specific challenges. It is the same principle; you must deliver whether it is a task you get at school or a project at work. You must handle people and learn as you go. So, I would say it is much of the same (Tor, interview 1).

Some of the graduates explained that the practical nature of the EE programme, including the internships, had prepared them for working life:

> I felt like it gave us a unique experience relevant to working life, in terms of knowing that you have understood the assignment, daring to ask follow-up questions, and daring to make demands (Ellen, interview 1).

We interpret this as the practical nature of EE attributing to the work-readiness and employability of the EE graduates, which is consistent with the view of Killingberg et al. (2021) proposing that the practical nature of EE enables individuals to overcome some of the early challenges faced when transitioning from higher education to working life (Wendlandt & Rochlen, 2008).

Below, we elaborate on the nuances between the two groups in terms of the aggregated dimensions: *achieving legitimacy within the workplace community* and *different levels of emotional exposure at the periphery of the workplace.*

Achieving legitimacy within the workplace community. Being newly employed and situated at the boundary of the work practice, the two groups differed in terms of legitimacy and consequently in the practice of their EE competencies. Through our analysis, two subthemes emerged: *setting the agenda for a new innovation practice* (innovation managers) and *earning legitimacy through adaptation (*consultant group).

Setting the agenda for a new innovation practice—innovation manager group. We found that the innovation manager group experienced that their roles as innovation managers, and the fact that they were filling the employer's gap in knowledge of innovation and entrepreneurship gave them legitimacy. Because of this, they quickly became "accepted" as co-workers and experienced newcomers within their work units (Gardiner, 2016), where they were expected to "set the agenda for a new innovation practice."

> I have, from the very beginning, gained the trust of my manager and have all the time felt that I have been an employee in line with the rest of the team (Berit, interview 2).

The graduates in the innovation manager group were generally working with establishing new innovation practices and units in their workplace: advising, teaching, or

facilitating innovation and entrepreneurship activities, using their "know what" competencies within innovation and entrepreneurship. The fact that these graduates were given legitimacy immediately through their roles as innovation managers allowed them to set the premises for how innovation was understood and practised in the organisation:

> They [colleagues] think it is very good because they feel that I can put some understanding to these buzzwords that they hear all the time. I can help them to see that this is what they are doing, they know how to do it, they just don't use these fancy words (Ellen, interview 2).

As such, Ellen obtained even more legitimacy by helping her co-workers become familiar with these concepts, and hence she was treated as an "experienced newcomer" (Gardiner, 2016). She acted as a guide and teacher who offered an understanding of innovation that was accessible to others in the workplace.

Earning legitimacy through adaptation – consultant group. On the other hand, we found that the consultant graduates had "to start at the bottom" as apprentices (Lave & Wenger, 1991), meaning that they were initially placed at the periphery to solve less complicated, entry-level tasks and treated more as novice newcomers (Lave & Wenger, 1991):

> The first 6 months …, my boss asked me to copy him on every email that I sent. … In the beginning, I got to solve small tasks, including working on the app that my boss had made. He was also integrally involved in the tasks that I solved, and I discussed everything with him (Martin, interview 2).

These graduates needed to demonstrate their performance with different tasks and responsibilities in order to *earn legitimacy through adaptation*. For most of those in the consultant group, this was a process of gradually learning the tasks they were assigned, adapting their competencies in the process, and thus demonstrating increased preparedness. Eventually, by demonstrating acceptable performance, they were assigned more complex tasks and responsibilities:

> Over the period, I have delivered what is expected of me and then some. And then I have gradually gotten more responsibilities (Anne, interview 2).

The consultant jobs involved a variety of tasks and responsibilities. The graduates needed to be flexible as they had to constantly adapt to new situations and clients. The competencies they had developed through EE were therefore brought forward, adapted, and used in new contexts and situations. Hence, the EE competencies served as a toolbox to be applied in different situations:

> It becomes a sort of a toolbox, where I have been involved in many different things. So, I get to use a little bit here and a little bit there (Tor, interview 1).

It thus appears that their exposure to varied situations and the development of a broad variety of competencies enabled these graduates to accommodate the workplace demands of the consultant roles, and thereby earn legitimacy. As these graduates were given tasks that differed from their experiences in EE, their ability to apply their competencies to new situations and contexts was essential for them to accommodate the workplace demands (Cope, 2005).

Different levels of emotional exposure at the periphery of the workplace. The initial differences in the level of legitimacy, trust, and co-participation led to different levels of emotional exposure across the groups. Through our analysis, two underlying themes emerged: *feeling overwhelmed because of the role* (innovation manager group) and *apprenticeship as a safe position* (consultant group).

Feeling overwhelmed because of the role—innovation manager group. The high level of co-participation and trust experienced by the innovation manager group early on led to high emotional exposure, as the following quote from Siri illustrates:

> It was tough in the beginning, mostly because you were thrown into many different things. I got a lot of trust and responsibilities early on. And then it was hard to know who to contact to get more information or what strings to pull (Siri, interview 2).

Siri here feels overwhelmed because she was assigned these tasks before she was properly socialised in the organisation and therefore was not able to utilise the available organisational resources to solve them. The innovation manager group were generally working in small flat-structured departments where they were quickly accepted as mutual co-workers. However, when addressing the larger organisational landscape, they experienced that they lacked legitimacy, which interfered with their agency and further added to their emotional exposure. In addition, the employer organisations of the innovation manager group took little responsibility for training and educating these graduates. Rather than following a natural progression whereby newcomers are gradually assigned more complex tasks and responsibilities as they learn and perform, these graduates quickly experienced high levels of co-participation, trust, and autonomy within their units. As a result, they needed to cope with feeling overwhelmed and the fear of failure. For these graduates, the central challenge to becoming an effective operator in the workplace was not necessarily to achieve a more centralised status within the CoP, but rather to cope with and overcome the feelings of being overwhelmed because of the role demands.

Apprenticeship as a safe position—consultant group. In general, the consultant group "started at the bottom" and had to demonstrate performance in the workplace. Their

workplaces were rather hierarchical. This group's experiences correspond to the process of LPP (Lave & Wenger, 1991) in a CoP. These graduates started with less complicated tasks and limited responsibility, which provided an opportunity to demonstrate their abilities and be awarded increased participation. Yet, it also allowed them to gradually familiarise with the tasks and the organisation, thus limiting their negative emotions. Jens describes being new and undergoing training as a window of opportunity:

> You are undergoing training, and you learn to utilise it in new settings. You just say, I am new, so I might not know all this particularly well, and then it creates a window of opportunity, because you get more acceptance and room to make mistakes (Jens, interview 2).

It appears that the consultant group of graduates were comfortable with starting at the bottom, as they experienced low emotional exposure and were able to utilise their apprentice status as a window of opportunity to learn and become more experienced in the workplace.

However, even if the status of apprentice felt comfortable and safe, some of the consultant graduates were a bit impatient, as illustrated by the following quote:

> To go from being a person who has a lot to contribute to become someone who has very little to contribute is a challenge, and something one must learn to cope with (Frank, interview 2).

This finding corresponds with Killingberg et al.'s (2021) argument that EE graduates are less motivated to work with non-entrepreneurial tasks in transitioning to working life.

Becoming an Effective Operator in the Workplace—Learning and Opportunities

For both groups, moving towards full participation, and hence becoming an efficient operator, required learning the workplace employer's language, norms, routines, and practices, as well as the competencies necessary to effectively meet the workplace tasks and responsibilities.

From our analysis, we found that EE provided the students with both a frame of reference and an ability to merge themselves quickly into new situations and organisational dynamics in the workplace. As the graduates became effective operators, they experienced new opportunities for more rewarding work, networking, and professional development, thereby increasing their employability. Below, we elaborate on the nuances between the two groups in terms of the aggregated dimension *learning increased participation in the workplace.*

Learning increased participation in the workplace. The nature of the different roles to which the groups were assigned made their learning trajectories quite different. Two underlying themes emerged from our analysis: *Developing an innovation facilitator role* (innovation managers) and *Becoming an insider and intrapreneur* (consultant group).

Developing an innovation facilitator role—innovation manager group. Most of the graduates in the innovation manager group (Lilly, Ellen, and Berit) were tasked with establishing new innovation units, or functions, in which no routines or norms had been established. They therefore had to co-participate to establish the new routines, norms, and practices within these units.

Simultaneously they needed to learn how to manoeuvre in the organisational landscape. Although these graduates relatively easily achieved and experienced high levels of co-participation within their units, they did not initially have the same legitimacy and trust when addressing the rest of the organisation. The learning process they went through was therefore complex and ambiguous concerning the making of a role and negotiating it with the rest of the organisation. They also experienced tensions as they tried to establish the innovation practice in the workplace, which relied on acceptance and commitment from organisational members in several departments and at different levels.

> We have three different business areas; everyone wants to work with innovation and have ideas on new concepts within their business areas. And then we come in with knowledge, skills, and methods that we can use to scale it up, but then they have different goals than us. So, it is hard to find out how the innovation unit is going to be organised to reach our goals, but at the same time get the business areas on board. Because we need their expertise (Berit, interview 2).

The graduates therefore needed to cope with new responsibilities in making their role, while simultaneously learning to legitimise this role and manoeuvre the organisational landscape characterised by complexity and bureaucracy (barriers and rules). Furthermore, they learned to utilise the opportunity to engage in informal arenas in order to socialise and learn about the more hidden dimensions of the workplace:

> The coffee machine is a nice place to meet more people. When you are standing there and making your coffee, you get to talk to people you haven't worked with. It starts with, "hello, how are you," and then you get to know their frustrations and other things, and you get a lot of information (Ellen, interview 2).

Through this type of informal learning, the graduates familiarised themselves with the rest of the organisation while at the same time acquiring important information. In this process, their "know how" competencies, such as networking skills and learning from peers (Gibb, 1993, 1997), became apparent.

To handle the emotional exposure early on, the innovation manager group also needed to become confident in their roles in order to become effective operators. As these graduates gradually managed to execute their roles more efficiently, their confidence increased, and they experienced personal growth.

> I would say I have come a long way and have had huge personal development, not only in the technical aspects but also in becoming more secure in my own role (Siri, interview 2).

In the process of developing to performing a role, the graduates utilised "know why" competencies from EE, such as self-efficacy and conviction, in filling their role. As they became more confident, they also enhanced their ability to handle their emotional exposure and fear of failure in the workplace.

Becoming an insider and intrapreneur—consultant group. In accordance with the LPP process described by Lave and Wenger (1991), we found that as the consultant group learned the specific language, norms, and routines of their employer organisation, their co-participation increased accordingly. Thus, the learning that the consultant group went through focused on *learning to become an insider:*

> You are all new and must get to know the people and learn how the organisation functions. … You must familiarise yourself. And as soon as you have managed to map the organisational culture and the company's values and knowledge, it becomes easier to talk to your colleagues, both on the same level as you and higher (Anne, interview 2).

Most of the graduates within this group (Frank, Anne, Jens, and Tor) went through a formalised introductory training programme designed to introduce them to the employer's organisation, systems, and work routines in order to acquire the skills and knowledge necessary for them to become operational:

> New hires get a two-week boot camp, where we get trained in all the tools that we use, … a lot of different courses, and then you are put on a project … (Tor, interview 2).

From our analysis, it seems that the "apprentice" status allowed for a more gradual learning process of participation in which graduates initially underwent training as part of becoming an insider:

> I was focusing on learning the software, really immersing myself in it. I didn't experience any pressure that I had to deliver results. That made me feel like I had the time to really immerse myself in it (Martin, interview 2).

Most of the graduates experienced increased co-participation (Martin, Frank, and Anne), while some (Lene and Tor) described themselves in a way that suggested they had achieved "full participation" (Lave & Wenger, 1991) in the workplace community:

> We got another person coming into our team, and then it was all about welcoming him into the project in the best way possible, and helping him to become involved in the project, so that he could start contributing. I acted as a bit of a leader for him (Tor, interview 2).

We interpret the task of onboarding another newcomer as a sign of legitimacy as a trustworthy full member of the workplace.

Several of the graduates in the consultant group demonstrated intrapreneurial behaviour as they approached full participation (Åmo, 2010) in their workplace. These graduates came up with new ideas, usually related to improvements in working practices:

> I have been responsible for following up our offerings. After having done this process a couple of times, I saw that we could do this in a much better way. So, I made a new template and procedure on how to do it. And today one of my colleagues tested this, and I got very good feedback (Frank, interview 2).

Moving from the periphery towards a more centralised position, Frank could take initiative and improve practices in the workplace. In this process, the "know why," "know how," and "know what" competencies are utilised. The "know why" competencies depended on achieved confidence and self-efficacy among the graduates, which motivated them to develop and exploit opportunities. The "know how" competencies enabled them to creatively see areas of improvement. Finally, the "know what" competencies give them the tools and resources that enabled them to carry out these improvements, thus leading to innovations in the workplace.

Discussion and Conclusions

This research aimed to enhance understanding of the relevancy of EE in the transitioning process from university to working life, and thereby answer the call for more studies exploring this issue (Galloway et al., 2015; Jones et al., 2017). Our inquiry accords with Orsmond et al. (2021), who view the performance of certain skills in the workplace as context specific and highly dependent on the type of work role. Our study materialised two learning trajectories in the transitioning process explored in this study.

The consultant group followed a transition process similar to the LPP process described by Lave and Wenger (1991). The main challenge for these graduates was to learn the language, norms, and culture of the workplace, as well as to adapt their competencies and learn new ones to achieve full participation, thus holding back and waiting for the "right opportunity" to be entrepreneurial. The innovation manager group, on the other hand, quickly became legitimised within the innovation units they aided in establishing and could act more entrepreneurial from the beginning. The challenge of the innovation manager group came more from handling the complexity and ambiguity when negotiating these units and roles with the wider organisation.

The two different trajectories demonstrate how contextual factors affect different roles and how power relations within a CoP can influence access to learning opportunities (Fuller et al., 2005). For some of the consultant graduates, being at the periphery as an inexperienced newcomer provided an opportunity for learning, a finding which is consistent with several scholars who see the periphery as an empowering learning position (Kubberød & Pettersen, 2018a; Lave & Wenger, 1991). The innovation manager graduates, on the other hand, faced uncertainty and ambiguity and lacked the necessary legitimacy when addressing the wider organisation. The findings demonstrate the challenge of applying CoP to complex organisational structures, which exemplifies Pyrko et al.'s (2019) concept of "triple legitimation" (pp. 495–496). Thus, the legitimation process of the innovation manager graduates was multileveled, as they first needed to build legitimacy within their departments through developing their roles, and then through exposing themselves as representatives from the innovation units to the rest of the organisation, eventually achieving legitimacy at multiple organisational levels. We therefore provide a richer and more nuanced understanding of the early career trajectories of EE graduates than extant studies.

Our research sheds light on how entrepreneurial competencies, exemplified through the "know what," "know how," and "know why" competencies, are utilised in the process of transitioning from EE to working life (Haase & Lautenschläger, 2011; Killingberg et al., 2021). For both groups, parts of the transition process resemble an entrepreneurial process, and the students therefore benefited from having relevant competencies and exposure to similar processes in EE. For the innovation manager group, the process of starting an innovation unit required dealing with uncertainty and ambiguity (Pittaway & Cope, 2007b), as well as learning from different stakeholders in the wider organisation in order to successfully construct the role and manoeuvre in the organisational landscape (Gibb, 1997). As the consultant graduates moved closer to full participation, they were also able to spot areas of improvement as entrepreneurial opportunities (Pittaway & Cope, 2007b), utilising the entrepreneurial competencies more as intrapreneurs.

The "know what" competencies enabled the graduates to demonstrate their proficiency with various tasks. The innovation manager group were generally hired because of their knowledge of innovation, thus meeting the employers' needs to fill their gaps in knowledge, which provided initial legitimacy. The consultant graduates were mainly hired because of their combinations of competencies, which gave them a unique value. For some of the graduates the employer saw the combination of EE with a particular subject domain, such as engineering particularly valuable. As this further added to the students' uniqueness. This further underlines the problematic aspects of aiming to instil certain transferable skills to increase graduates' employability (Lowden et al., 2011; Orsmond et al., 2021). According to our findings, the EE graduates were not employed based on transferable skills, but rather because of their uniqueness and the additional value they contributed to the workplace with flexible combinations in their backgrounds.

The "know how" competencies enabled the graduates to learn and adapt to their organisations, as well as to co-create roles and manoeuvre in the organisational landscape. By engaging in different learning situations through EE, both groups had developed a "cognitive stock of knowledge" (Cope, 2005; Minniti & Bygrave, 2001) that they were able to bring forward and adapt to new situations and roles in the workplace.

Finally, the "know why" competencies gave the graduates confidence and determination in the transition process. For many of them, working life felt like a continuation of what they had experienced in EE. We can infer that the practical nature of the EE programmes and the opportunities to engage in practical tasks resembling working life had given the students self-efficacy (Karlsson & Moberg, 2013) and confidence that contributed to the overall work-readiness of the graduates. For the innovation manager group, self-efficacy contributed to overcoming negative feelings during their transition. Although the innovation manager group experienced feeling overwhelmed, they effortlessly overcame these feelings and developed efficacy in their roles. For the consultant group, the self-efficacy they had acquired provided the confidence to initiate change and carry out intrapreneurial behaviour (Åmo, 2010).

This longitudinal study contributes with a fine-grained understanding of the dynamic nature inherent in the work life transition of EE graduates, showing the complex interrelationships of the factors influencing the transition and thereby representing originality.

Implications for Entrepreneurship Education

Our research findings have several implications for EE. Since many students find jobs in established organisations, the curriculum and experiential practice should include intrapreneurship and how to operate and innovate in larger organisations to better prepare the students for future employment. Educators should also focus on preparing students for employment in established organisations through casework and internships.

Limitations and Implications for Future Studies

This study has some limitations. With a longer time frame, we ideally could have followed students from the start of their EE course to the second or third year of their career. Moreover, although we were interested in studying the transition to working life from the EE graduates' point of view, adding data from others' perspectives, such as managers and colleagues in the workplaces, could enhance research validity, as well as enrich research on graduates' transition process.

Future studies should be conducted on innovative behaviours among these graduates (corporate entrepreneurship and intrapreneurship) and on how motivational factors and "know why" competencies relate to career choices beyond starting a business. There is also a potential of conducting future studies on a larger scale, including a larger number of graduates within different work contexts. Additional studies could potentially uncover alternative trajectories, enriching our understanding on work life transition of

entrepreneurship education graduates. Future studies could also include observations of the graduates in their workplaces. Finally, future studies could include similar groups, such as graduates from business administration or management, to explore the similarities and differences in the transition process.

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