EFFECTS OF UNIVERSITY CONTEXT ON STUDENTS' AND UNIVERSITY EMPLOYEES' ENTREPRENEURIAL INTENTIONS, SELF-EFFICACY AND INDUSTRY COLLABORATION

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ABSTRACT

This study examines the influence of a university's environment on the entrepreneurial intentions and activities of its faculty and students. Focusing on a medium-sized, relatively young university in Norway, the research investigates how university context (UC), defined through Scott's three-dimensional framework (regulative, normative, and cognitive structures), impacts two groups: university teaching and research faculty (referred to as "academic faculty") and students.

Key findings show that UC significantly influences students' entrepreneurial intentions and self-efficacy, but not those of academic faculty. A possible reason is that academic faculty, having committed to academia, might not align their values with entrepreneurial activities, viewing their role more as providing high-quality research and education rather than commercializing innovations. However, industry collaboration is seen positively by academic faculty, primarily motivated by expanding knowledge and accessing research funding.

The paper also finds that fostering a university context supportive of industry collaboration through rules, rewards, knowledge, and social acceptance can further enhance such collaborations. The study contributes to the discussion on entrepreneurial universities by highlighting that the effectiveness of promoting entrepreneurial behavior is dependent on aligning these activities with the personal and organizational goals of the individuals involved. It notes that students, without pre-set professional goals, are more adaptable to entrepreneurial initiatives compared to academic faculty.

KEYWORDS: Academic Faculty; Entrepreneurial Intentions; Self-Efficacy; Scott's Three-Dimensional Framework; University Context.

INTRODUCTION

This article explores the evolving role of universities in fostering entrepreneurial initiatives, a subject of considerable debate in academic circles. The core question is whether universities should extend their traditional roles of education and research to include a "third role" — facilitating knowledge spillover through entrepreneurial activities. The concept of "entrepreneurial university," popularized by the Bayh-Dole Act in the United States and its European equivalents, envisions universities as incubators for entrepreneurship, potentially enriching local and national economies. The assumption among policy makers is that the entrepreneurial university will contribute to inspire more entrepreneurs among students and academic faculty and in turn increase the direct contribution of universities to local and national economy (Foss & Gibson, 2015). The debate is linked to two domains — knowledge transfer through commercialization of research-based innovation (D'Este and Perkmann, 2011, Clarysse et al., 2011,) as well

as stimulating student entrepreneurial activities (Fayolle et al., 2006; Liñán and Chen, 2009, Jung et al., 2001, Segal et al., 2005).

The first domain examines the growing interest of academic faculty in entrepreneurial pursuits, alongside efforts to bridge the gap between research endeavors and their commercial application (Bruneel et al., 2010; Rasmussen et al. 2006). Investigations into the entrepreneurial motivations of scientists reveal a general acceptance and desire for commercial ventures (Stuart & Ding, 2006). Yet, there is a scarcity of concrete evidence demonstrating similar entrepreneurial inclinations among academics from non-scientific disciplines. Conversely, partnerships between academia and industry play a significant role in facilitating the transfer of knowledge from educational institutions to the business sector (Perkmann et al., 2013; Foss et al., 2013).

In the second domain, attention is directed towards the university's contribution in encouraging student engagement in entrepreneurial ventures. This is achieved by fostering an entrepreneurial atmosphere, incentivizing entrepreneurial actions through regulations and incentives, and enhancing intellectual understanding via specialized educational courses designed for entrepreneurial pursuits (Liñán, & Fayolle, A. 2015; Matlay, 2006; Oftedal, Iakovleva & Foss, 2018).

The current research adds value to both these domains by empirically testing the proposition that a university environment conducive to entrepreneurship and industry collaboration can potentially amplify entrepreneurial intentions, self-confidence in entrepreneurial abilities, and collaboration between academia and industry among both university faculty and students.

THEORY

ENTREPRENEURIAL UNIVERSITY ENVIRONMENT

The concept of the 'entrepreneurial university' has become a focal point in higher education discourse, stimulating vigorous debate among scholars, policymakers, and educational practitioners. The term itself was popularized in the late 20th century, reflecting a paradigm shift in the traditional roles of universities, expanding beyond education and research to include a third mission: fostering entrepreneurship and innovation (Etzkowitz, 2003; Clark, 1998).

At the heart of this debate is the question of whether and how universities should engage in entrepreneurial activities. Proponents of the entrepreneurial university model argue that in an increasingly knowledge-driven economy, universities play a critical role in promoting innovation and contributing to economic development (Etzkowitz et al., 2000; Shane, 2004). This perspective is underpinned by the belief that universities, through their unique position in society, can act as catalysts for regional and national economic growth by commercializing research, fostering spin-offs, and promoting a culture of entrepreneurship among students and faculty (Wright et al., 2007).

Critics, however, caution against the risks associated with the entrepreneurial model. They argue that an overemphasis on commercialization and market-driven objectives can undermine the fundamental academic values of universities, such as academic freedom, disinterested inquiry, and public service (Bok, 2003; Slaughter & Leslie, 1997). There is a concern that the pursuit of commercial interests could skew research agendas towards marketable products at the expense of basic, curiosity-driven research (Mowery et al., 2004).

The implementation of the Bayh-Dole Act in the United States in 1980, and similar legislation in Europe, has been a catalyst for this shift towards entrepreneurialism in universities. These laws allowed universities to retain intellectual property rights for research funded by the government, thus encouraging them to engage in patenting and licensing activities (Mowery et al., 2004; Grimaldi et al., 2011). This legislative change has been instrumental in the emergence

of university-industry partnerships, contributing significantly to the commercialization of academic research (Geuna and Nesta, 2006).

The role of university leadership is also critical in driving the entrepreneurial agenda. Clark (1998) identified five elements essential for an entrepreneurial university: a strengthened steering core, an expanded developmental periphery, a diversified funding base, a stimulated academic heartland, and an integrated entrepreneurial culture. This framework suggests that for a university to be entrepreneurial, it must possess not only the capacity for innovation but also the institutional infrastructure to support and sustain entrepreneurial activities (Rothaermel et al., 2007).

Another dimension of the debate focuses on the impact of entrepreneurial activities on teaching and learning. While some argue that an entrepreneurial focus enhances the educational experience by providing students with practical skills and exposure to real-world challenges (Binks et al., 2006), others raise concerns about the potential erosion of educational quality and the neglect of fundamental academic disciplines in favor of more lucrative, market-oriented fields (Brennan & McGeevor, 1988).

In conclusion, while the entrepreneurial university model offers significant potential for economic and societal benefits, it also poses challenges and risks that require careful consideration and management. Balancing the commercial imperatives with the traditional academic ethos remains a central issue in the ongoing debate surrounding the entrepreneurial university.

DRIVERS OF ENTREPRENEURIAL UNIVERSITIES

The drivers of entrepreneurial universities, a concept that emerged as a pivotal theme in higher education, are diverse and complex. These drivers can be broadly categorized into individual and organizational factors, each playing a crucial role in shaping the entrepreneurial character of universities. Below we will enlighten individual drivers such as entrepreneurial intentions, self-efficacy and benefits associated with industry collaboration. This discussion will be further extended to include organizational factors, in particular regulatory, cognitive and normative landscape of organization.

ENTREPRENEURIAL INTENTIONS AND SELF-EFFICACY

The shift towards entrepreneurial universities is significantly influenced by the entrepreneurial spirit of individual academics. Scholars like Audretsch et al. (2006) and Shane (2004) highlighted that individual researchers' motivations to commercialize their research findings are a key driver. Factors such as personal ambition, the desire for recognition, and the potential for financial gain are significant motivators.

The engagement in entrepreneurial activities can be explained by behavioral theories and therefore research has evolved around entrepreneurial intention as a powerful theoretical framework (Linan & Fayolle, 2015). Personality characteristics such as risk-taking propensity, tolerance of ambiguity and internal locus of control have been found to be strongly associated with entrepreneurial intentions in previous research (Ang & Hong, 2000; Davey et al., 2011). Furthermore gender, family background and experience have often shown to impact intentions to start up a business (Linan & Fayolle, 2015; Wang & Wong, 2004).

The individual skillset and expertise of academics play a crucial role. Murray (2004) notes that skills in research and innovation, combined with entrepreneurial acumen, are critical for transitioning ideas from the lab to the market. Self-assessed business competences (self-efficacy) have proved to be a reliable predictor of entrepreneurial intentions (Ajzen, 1991; Iakovleva & Kolvereid, 2009; Krueger et al., 2000; Linan & Chen, 2009; Jung et al., 2001). The construct of self-efficacy has been widely applied in psychology as an individual difference variable. Self-efficacy is an individual's cognitive estimate of his or her "capabilities to mobilize the motivation, cognitive resources and courses of action needed to exercise control over events in their lives" (Wood & Bandura, 1989). Self-efficacy is

believed to be related to one's choice of activities, one's effort and persistence to perform these activities, as one's thought processes and emotional reactions when confronted by obstacles (Bandura, 1997; Lent, Brown, & Hackett, 1994). Self-efficacy theory essentially endeavors to describe and measure a person's perceived competency to achieve a desired goal. Self-efficacy is concerned not with the skills one has, but with one's judgments of what one can do with whatever skills one possesses.

Self-efficacy is acquired gradually through the development of complex cognitive, social, linguistic, and/or physical skills that are obtained through education and experience (Bandura, 1982; Gist, 1989). Thus, the acquisition of skills through past achievements reinforces self-efficacy and contributes to higher aspirations and expectations of positive future performance (Herron & Sapienza, 1992). Research examining self-efficacy and knowledge gains, or similar outcomes, has found that pre-training self-efficacy measures positively predict a person's learning performance (e.g., Gist, Schwoerer, & Rosen, 1989; Martocchio & Webster, 1992).

One important effect of self-efficacy is on the choice of behavior settings. To the extent that people plan and choose their career paths they assess their personal capabilities against the requirements of different occupations. This assessment of their personal capabilities therefore directs people to prepare for and enter occupations in which they feel confident (Wood & Bandura, 1989). Starting one's own business or initiating a new venture is often described as a pure and intentional career choice. Consequently, entrepreneurial self-efficacy may play an important role in uncovering the essential skill set needed throughout the various stages of the new venture development process. Recent studies proposed that self-efficacy may provide one way to measure entrepreneurial potential (Iakovleva and Kolvereid 2008; Kickul et al., 2007; Linan & Chen, 2009; Zao et al., 2005). A recent meta-analysis of 26 studies with a sample size of 5,065 firms (Miao, Qian & Ma, 2017) found that entrepreneurial self-efficacy is positively related to firm performance. This study further showed that there is no difference in the role of self-efficacy among nascent and old firms. Thus, suggesting that ESE should be developed and supported by firms regardless of age in order to ensure positive performance.

INDUSTRY COLLABORATION

Academic engagement encompasses collaborative endeavors between universities and various external entities, particularly businesses, often characterized by direct, interpersonal interactions (Cohen et al., 2002). This collaboration spans multiple levels, influenced both by individual attributes and the broader organizational and institutional milieu, as analyzed in Perkmann et al.'s (2013) comprehensive review of the subject.

There is a growing consensus that while policies often prioritize commercialization, such emphasis may overshadow the substantial benefits that academia derives from industry partnerships. These benefits extend beyond financial gains, as many academics seek industry engagement to advance their research pursuits (D'Este & Perkmann, 2011; Perkmann et al., 2013). D'Este & Perkmann (2011) note that the pursuit of commercial interests is generally secondary for academics, with the majority primarily driven by the desire to solve complex, intriguing problems.

Moreover, not all academics operate at the forefront of pioneering research. As such, Perkmann et al. (2013) stress the importance of distinguishing between the external engagement activities of those leading in their fields and those who are not as deeply involved in cutting-edge research. The authors further propose that collaboration with industry might serve as an alternative means for resource acquisition, particularly for institutions that may not have access to ample funding.

Additionally, Perkmann et al. (2013) indicate a nuanced relationship between academic engagement and commercialization. Often, commercialization emerges as a secondary outcome or an extension of academic-industry collaborations, regardless of whether it was an initial goal of the engagement.

In essence, academic engagement with industry is a complex, multi-faceted phenomenon shaped by various individual and organizational factors. It not only aids in the progression of academic research but also often leads to commercial endeavors, demonstrating the interconnected nature of academic and industrial spheres. In the theory of industry collaboration in academic settings, perceived knowledge and resource benefits play a significant role. Perceived *knowledge benefits* refer to the intellectual and informational gains that academic faculty and students acquire through collaboration with industry partners. These benefits include access to practical insights, exposure to industry-specific challenges, and the integration of theoretical knowledge with real-world applications. A study by Perkmann et al. (2013) highlights how such collaborations enrich academic research and teaching by providing new perspectives and knowledge that are otherwise inaccessible within the confines of university settings.

On the other hand, perceived *resource benefits* involve tangible assets and support gained from industry partners. These resources could include funding, access to specialized equipment, and opportunities for joint research ventures. According to a study by Davey et al. (2016), resource benefits significantly enhance the capacity of academic institutions to conduct advanced research and foster innovation. These benefits are not limited to financial support but also extend to the provision of materials, human resources, and access to industrial networks, as discussed by Ankrah and AL-Tabbaa (2015).

Both knowledge and resource benefits are crucial in fostering a collaborative environment that bridges the gap between academia and industry, leading to mutually beneficial outcomes for both sectors.

UNIVERSITY CONTEXT

While individual behavioral traits such as entrepreneurial intentions, self-efficacy, and perceptions about the benefits of industry collaboration are important, they are significantly influenced by the surrounding organizational context. Recent studies have shown that the institutional structures of universities can have a profound impact on the development and success of entrepreneurial programs across different cultures and countries (Foss & Gibson, 2015; Valdez & Richardson, 2013; Williams & Vorley, 2015). This perspective aligns with institutional theory as outlined by Scott (2014), which posits that an organization acts as a framework that shapes and promotes specific behaviors among its members. In the context of universities and entrepreneurship, this theory helps provide a more comprehensive understanding of the entrepreneurial university model, as discussed in recent literature (Tolbert et al., 2011; Oftedal et al., 2018).

Adding to this, the study by Sancho et al. (2021) examines the moderating role of entrepreneurial climate in fostering effects of the entrepreneurial education on the entrepreneurial intentions of students. This research highlights the importance of a supportive entrepreneurial climate at the university can enhance the effect of entrepreneurship-oriented training on entrepreneurial activities.

These studies underscore the ongoing evolution in understanding the dynamics between university structures and entrepreneurial activities, emphasizing the need for strategic institutional approaches and support systems to nurture entrepreneurship within academic settings. Universities, as centers of knowledge development, inherently possess structures that promote knowledge acquisition. However, they also exhibit traits of institutional rigidity, as noted by Bercovitz and Feldman (2008), indicating a paradoxical nature of being both conducive to and resistant to change.

This study employs Scott's (2014) framework to analyze the institutional context in universities, focusing on regulative, cognitive, and normative structures. Scott describes institutions as comprising regulative, normative, and cultural-cognitive elements that collectively confer stability and meaning to social life. The university context, examined through these pillars, reveals that regulative aspects pertain to formal rules and regulations, normative aspects to informal norms and values, and cognitive aspects to shared knowledge and interpretations.

REGULATIVE STRUCTURES

The regulative structure within universities, characterized by formal rules and regulations, significantly impacts the behavior and actions of individuals within these institutions. This notion aligns with Scott's (2014) assertion that such structures play a pivotal role in shaping organizational behavior. In the context of universities, these regulations can influence a wide range of activities, from research and teaching methodologies to entrepreneurial ventures. Kraaijenbring et al. (2009) and Saeed & Muffato (2012) have explored how these regulative frameworks within universities encourage or hinder entrepreneurial activities, particularly among students. Their findings suggest that when universities have supportive policies and a regulatory environment conducive to entrepreneurship, there is a noticeable increase in entrepreneurial engagement among students. Similarly, Turker and Selcuk (2009) found that regulatory structures in universities could either facilitate or impede the entrepreneurial intentions and activities of their members.

Building upon these findings, additional research in this area further elucidates the impact of regulatory frameworks on university entrepreneurship. For instance, a study by Guerrero and Urbano (2012) examined how specific policies and regulations within universities influence the entrepreneurial intentions of students and faculty. They found that universities with more supportive regulatory environments had higher rates of entrepreneurial activities.

Similarly, a study by Fayolle & Redford (2014) explored how different types of university regulations, such as intellectual property policies and research commercialization guidelines, affect the entrepreneurial activities of university members. Their research indicated that clear and supportive regulatory policies could significantly enhance the entrepreneurial capabilities of university students and faculty.

These studies collectively highlight the critical role of the regulative structure within universities in fostering an entrepreneurial culture. They suggest that supportive regulations and policies can encourage entrepreneurial activities, while restrictive or unclear regulations can hinder them.

COGNITIVE STRUCTURES

The cognitive aspect of the organizational climate, as Scott (2014) describes, is pivotal in shaping behaviors within academic settings, especially in entrepreneurial universities. This aspect is primarily about the collective understanding and interpretation of social realities, influencing the entrepreneurial mindsets of faculty and students.

In the realm of entrepreneurial universities, the cognitive climate is marked by a shared focus on innovation, entrepreneurship, and the practical application of research. According to a study by Fayolle and Redford (2014), the cognitive aspect in these universities includes the attitudes and beliefs about the value and process of commercializing research and starting new ventures. They found that in environments where entrepreneurship is positively viewed and understood, there is a greater propensity for faculty and students to engage in entrepreneurial activities.

Klofsten et al. (2019) further explored this by examining how the cognitive environment within universities influences students' entrepreneurial intentions. Their findings suggest that a university environment that is cognitively aligned with entrepreneurial values and knowledge significantly boosts students' interest and confidence in starting their own businesses.

Moreover, Siegel and Wright (2015) looked into how cognitive factors within universities impact technology transfer and commercialization activities. They found that universities with a strong cognitive orientation towards entrepreneurship tend to have more effective technology transfer offices, as the shared understanding within the institution supports these activities.

A study by Grimaldi et al. (2011) also contributes to this discussion. They investigated the impact of cognitive aspects on the formation of academic spin-offs and discovered that universities where entrepreneurship is an integral part of the academic culture tend to produce more successful spin-off companies.

These studies underscore the significance of the cognitive climate in shaping entrepreneurial behaviors in universities. They highlight that when universities nurture a cognitive environment that values and understands entrepreneurship, it encourages both faculty and students to engage more actively in entrepreneurial activities, leading to outcomes like increased spin-offs and effective technology transfer.

NORMATIVE STRUCTURES

The normative dimensions in an organizational context, particularly in universities, are crucial in shaping the entrepreneurial landscape. These dimensions are comprised of the informal values and norms that guide behavior and establish the standards for acceptable practices and goals. They are significant in influencing how university members, including students and faculty, perceive and engage in entrepreneurial activities.

Several studies have empirically investigated the impact of these normative elements in the context of universities. For instance, Westhead and Solesvik (2016) and Welter et al. (2011) have explored how gender influences entrepreneurial intentions, indicating that normative values around gender roles can significantly impact individuals' inclination towards entrepreneurship. Similarly, Liñán, Moriano, and Jaén (2016) have examined how cultural values shape entrepreneurial intentions, highlighting the importance of societal norms in molding entrepreneurial behaviors.

In addition to these factors, studies specifically focusing on university environments have further elucidated the role of normative dimensions in fostering entrepreneurship. Bae et al. (2014) and Rauch & Hulsink (2015) have found a strong correlation between the presence of entrepreneurship programs in universities and the entrepreneurial intentions and motivations of students. This suggests that when universities endorse and support entrepreneurial activities through their programs, it creates a normative climate that encourages students to consider entrepreneurship as a viable and desirable career path.

Oosterbeek et al. (2010) and Souitaris et al. (2007) have also contributed to this field by demonstrating how the content and structure of university entrepreneurship programs can impact students' attitudes toward entrepreneurship. Their findings suggest that not only the presence but also the quality and approach of these programs play a significant role in shaping students' entrepreneurial aspirations.

Furthermore, recent studies have expanded this understanding. For example, a study by Nabi et al. (2017) explored how university support systems and the presence of entrepreneurial role models within the university influence students' perceptions and attitudes towards entrepreneurship. They found that these factors create a normative framework that strongly influences students' entrepreneurial intentions.

Additionally, Urbano et al. (2018) investigated the impact of university policies and support structures on faculty members' involvement in entrepreneurial activities. Their findings indicate that when universities have strong normative support for entrepreneurship, faculty members are more likely to engage in entrepreneurial research and activities.

These studies collectively highlight the importance of normative dimensions in shaping the entrepreneurial culture within universities. They emphasize that the values, norms, and informal guidelines prevalent in university settings significantly influence both students' and faculty members' attitudes and behaviors towards entrepreneurship.

In summary, this study utilizes Scott's framework to dissect the multifaceted nature of the university organizational climate, underscoring how its regulative, cognitive, and normative structures collectively influence the propensity for innovation and entrepreneurial activity within academic institutions.

Based on the discussion above, we made a suggestive argument that regulative, normative and cognitive dimensions of the university context might be related to entrepreneurial intentions, self-efficacy, and perceived benefits of industry collaboration. The following set of hypotheses are suggested:

TABLE 1: Perception of University Context in Relation to Entrepreneurial Intentions, Self-efficacy and Industry Collaboration.

N	GROUP	HYPOTHESES
H1.1	Regulative Structure	Academic faculty's positive perception leads to higher entrepreneurship intentions and self-efficacy.
H1.2	Normative Structure	Academic faculty's positive perception leads to higher entrepreneurship intentions and self-efficacy.
H1.3	Cognitive Structure	Academic faculty's positive perception leads to higher entrepreneurship intentions and self-efficacy.
H1.4	University Context on Industry Collaboration (combined regulative, normative, and cognitive structures)	Academic faculty's positive perception leads to higher industry collaboration involvement
H2.1	Regulative Structure	Students' positive perception leads to higher entrepreneurship intentions and self-efficacy.
H2.2	Normative Structure	Students' positive perception leads to higher entrepreneurship intentions and self-efficacy.
H2.3	Cognitive Structure	Students' positive perception leads to higher entrepreneurship intentions and self-efficacy.

METHODOLOGY

In our study, we utilized a representative sample comprising 226 academic faculty members and 495 students from a Norwegian university. The survey, conducted online, was distributed via email to both students and faculty, with the university rector facilitating this outreach. Our target demographic included PhD students and post-doctoral researchers, categorized as faculty, as well as all enrolled students. Participants from all university faculties were invited to engage in the survey, which was designed to be anonymous to ensure confidentiality.

The HR department provided email lists, which included 1,442 faculty members and 9,900 students. Additionally, the student survey was promoted on university-affiliated social media platforms. The overall response rates were 16% for faculty and 5% for students.

Prior to its official launch, the survey underwent a thorough pre-testing phase. This involved students from the university's business school, faculty from three diverse departments, a professor specializing in research methodology from another Norwegian university, an employee from the technology transfer office, and a professional surveyor not affiliated with academia. In total, eight individuals contributed to this review process.

The majority of the survey responses were received via email invitations. Participation was limited to faculty members actively involved in teaching and/or research. The survey period spanned from December 2017 to January 2018. On average, students completed the survey in 7 minutes, while faculty members took 9 minutes. As an incentive, students could opt to participate in a draw for one of two restaurant vouchers, each valued at

approximately €100. No incentives were offered to faculty members. Those agreeing to partake in subsequent qualitative interviews waived their right to anonymity.

To accommodate language preferences, the surveys were available in both Norwegian and English. Approximately 10% of faculty responses and 25% of student responses were submitted in English. The tables below provide details about the samples.

TABLE 2: Characteristics of Survey Sample of Academic Faculty.

CHARACTERISTIC	PERCENTAGE (%)
GENDER	
Female	50
Male	50
EMPLOYMENT STATUS	
Permanent Employees	66
Full-time Employees	86
FACULTY DISTRIBUTION	
Science and Technology	29
Health Sciences	16
Social Sciences	12
Arts and Education	27
Business School	11
Other Faculties	5
AGE DISTRIBUTION	
20–29 Years	7
30–39 Years	20
40–49 Years	30
50–59 Years	24
60+ Years	18
ENTREPRENEURIAL AND INDUSTRY COLLABORATION	
Licensed an Idea	3
Patented an Idea	6
Started a Business at Some Point	25
Currently Involved with a Business	8
Started a Business Based on Research	11

Collaboration Projects with Industry (Past 2 Years)	51
Projects with ≥30% Financing from Industry	34
Aware of the Technology Transfer Office (TTO)	37
EMPLOYMENT DURATION	
Mean/Median Years of Employment	8.8 / 6

Significantly, 51% of the respondents have participated in industry collaboration projects within the past two years, highlighting a strong connection between the university and the industry sector. This rate surpasses the 11% of respondents who have started a business based on their research, indicating that while there is a notable entrepreneurial spirit, the emphasis is more towards collaborative efforts with industry partners rather than independent entrepreneurial ventures.

Additionally, 34% of the survey participants have been involved in projects where more than a third of the funding came from industry sources. This figure underscores the university's successful engagement in securing industry support and resources, which is a crucial aspect of practical collaboration and knowledge exchange between academia and industry.

The demographic composition of the survey participants — evenly split between genders, predominantly permanent and full-time employees, and spread across various age groups — provides a stable backdrop for these engagements. The presence of a diverse faculty, with significant representations from science and technology as well as arts and education, further complements the university's capacity for broad and interdisciplinary industry collaborations.

However, entrepreneurial activities, especially those originating from research, appear to be less prevalent in comparison. With 25% of respondents having started a business at some point, and a more modest 11% having launched a venture based on their research, it suggests that while entrepreneurship is present, it's not as dominant as industry collaborations. This could reflect a university environment that is more conducive to collaborative innovation rather than independent entrepreneurship or might point to the need for enhanced support for translating research into entrepreneurial ventures.

In conclusion, the university demonstrates a strong inclination towards industry collaboration, overshadowing its engagement in independent entrepreneurial activities, especially those stemming from academic research. This highlights the university's role as a collaborative partner in the broader industrial ecosystem, actively contributing to and benefiting from these external engagements.

The table below describes the student's sample.

TABLE 3: Characteristics of Survey Sample of Students.

ITEM	PERCENTAGE (%)
GENDER	
Female	53
Male	47
STUDENT LEVEL	
Bachelor Students	41
Master Students	50
FACULTY DISTRIBUTION	
Science and Technology	40
Health Sciences	10
Social Sciences	15
Arts and Education	20
Business School	11
Other Faculties	4
AGE DISTRIBUTION	
Up to 20 Years	11
21–25 Years	35
26–30 Years	26
31+ Years	28
Mean/Median Age (Years)	28.3 / 26
STUDENT STATUS	
Full-time Student	89
ENTREPRENEURIAL AND INDUSTRY ENGAGEMENT	
Participated in Entrepreneurial Activities	15
Industry Collaboration as Part of Studies	33
Awareness of Technology Transfer Office (TTO)	15

The student demographic at the Norwegian university, as portrayed in the table, presents a distinct profile, particularly when compared to academic faculty in terms of entrepreneurial activities and industry collaboration.

In this student sample, 15% have engaged in entrepreneurial activities. This rate is notable but might be lower compared to the academic faculty, who often have more experience and access to resources conducive to

entrepreneurship. The students' involvement in entrepreneurial ventures reflects an emerging interest and potential in this area, which could be further nurtured through university programs and initiatives.

Regarding industry collaboration, 33% of the students have participated in such activities as part of their studies. This suggests a proactive approach to integrating practical industry experience into academic learning. However, this rate may be less than that of the faculty, who typically have more opportunities and established networks for industry engagement. The students' involvement in industry collaboration is a positive indicator of the university's efforts to bridge academic learning with real-world applications and industry needs.

Looking at the overall student sample, the gender distribution is almost evenly split, with a slight majority of female students (53%). The sample primarily comprises Bachelor (41%) and Master (50%) students, indicating a strong presence of both early-stage and advanced learners in the university.

The age distribution skews younger, with the majority of students falling in the 21–30 age range, capturing the typical age group for university education. A smaller segment of the student population is aged 31 and above, bringing in diverse life experiences and perspectives.

In terms of faculty distribution, students are spread across various disciplines, with the largest group being in the Faculty of Science and Technology (40%). Other faculties, such as Health Sciences, Social Sciences, Arts and Education, and the Business School, also have significant representations, highlighting the multidisciplinary nature of the university.

The average student spends about 8.8 years at the university, with a median of 6 years, suggesting a commitment to their academic pursuits over a substantial period. The high percentage of full-time students (89%) reflects a dedicated student body, fully immersed in their university experience.

Awareness of the Technology Transfer Office (TTO) among students is relatively low (15%), indicating potential areas for growth in terms of fostering an entrepreneurial and innovation-friendly environment.

Overall, the student sample from the Norwegian university shows a vibrant and diverse academic community, with a strong inclination towards integrating practical experience and industry exposure into their academic journey, albeit at a different scale compared to the faculty members.

MEASUREMENT INSTRUMENTS

We used well developed scales for dependent variables when possible and adapted them for the needs of present research. Scales used for industry collaboration were based on D'Este & Perkmann (2011). Scales for entrepreneurial intent were based on Clarysse et al. (2011), Linan & Chen (2009), Kolvereid (1996) and Krueger, Reilly & Carsrud (1999). Scales for entrepreneurial self-efficacy were developed from DeNoble (1999) and McGee et al. (2009). We used a recently developed scale for the independent variable University Context. Scales for university context in the student survey replicated those developed by Oftedal et al. (2018). Scales for university context in the academic faculty survey were adjusted versions of those developed by Oftedal et al. (2018). 5-point Likert scales were used in all questions measuring entrepreneurial self-efficacy and intent, industry collaboration and university context. Principal Component analysis was used to create reliable scales for the constructs, and multiple regression analysis was utilized to test the hypothesis.

DEPENDENT VARIABLES

ACADEMIC FACULTY SURVEY

Entrepreneurial intentions measured in the academic faculty survey were developed based on Clarysse et al. (2011), Linan & Chen (2009), Krueger et al. (1999) and Kolvereid (1996). We used the following 4 statements to measure entrepreneurial intentions among academic faculty: (1) "I frequently identify opportunities to start up new businesses", (2) "I have very seriously thought of starting a business", (3) "I intend to start a business one day", (4)"It is very likely that I will start my own business in the next 5 years." The Chronbach alpha was 0,92.

Self-efficacy measure for the academic survey was adopted from DeNoble (1999) and McGee et al. (2009) and implies 4 items: (1) "I frequently identify ideas that can be converted into new products or services", (2) "I am good at identifying the market potential for a new idea", (3) "I am good at identifying partners that can help me convert an idea into a new product/ service," (4) "I easily identify people who have the right skills to join a start-up team." The Chronbach Alpha was 0.932.

In our study, we approached the measurement of *industry collaboration* by dividing it into two distinct constructs: the perceived *benefits of knowledge access* and the *perceived benefits of resource access*. The scales developed for this purpose were self-constructed but drew inspiration from the work of D'Este and Perkmann (2011), who have extensively studied the dynamics of academic-industry collaborations.

For the academic survey, we crafted a set of 8 items specifically designed to capture the nuances of benefits derived from industry collaboration. These items were carefully selected to reflect the different aspects and impacts of such collaborations on academic work.

We employed Principal Component Analysis (PCA) to analyze the responses to these items. The PCA results are presented in Table 3 and revealed two distinct factors. The first factor, which we labeled 'Industry Knowledge', encompasses aspects related to the informational and intellectual gains from industry collaborations. This factor, with a Cronbach's alpha of 0.665, indicates a satisfactory level of internal consistency, suggesting that the items reliably measure the construct.

The second factor, termed 'Industry Resources', reflects the tangible, resource-based benefits obtained from industry partnerships. This includes access to funding, equipment, and other material resources crucial for research and project implementation. The Cronbach's alpha for this factor is 0.766, indicating a strong internal consistency and reliability of the items in measuring this construct.

By distinguishing between these two types of benefits, our study provides a more nuanced understanding of how industry collaborations contribute to the academic sector. The two-factor model not only aligns with the theoretical underpinnings provided by D'Este and Perkmann (2011) but also offers a practical tool for assessing the multifaceted impacts of industry-academic collaborations.

TABLE 4: PCA analysis of Industry collaboration benefits.

ROTATED COMPONENT MATRIX	COMPONENT		COMMUNALITY	MEAN	SD
	1	2			
INDUSTRY KNOWLEDGE					
Feedback from industry on academic research	.826		.724	4.084	.931
Information on industry problem	.786		.641	3.855	.956
Research income from industry	.692		.481	3.656	1.093
INDUSTRY RESOURCES					
Seeking IPR		.889	.807	3.572	1.079
Access to material and/or equipment		.885	.810	4.005	1.070
Eigenvalue	2.329	1.135			
% of Variance	46.58	22.71			
Cumulative % of variance	46.58	69.29			
Chronbach's alpha	0.665	0.766			

NOTE: KMO 0.651, Chi Sq 233.251, df 10, sig 000, N 201

STUDENT SURVEY

Entrepreneurial intentions in the student survey were developed based on Linan and Chen (2009) and adapted from Kolvereid (1996).We used the following 4 statements to measure entrepreneurial intentions among students: (1) "I have very seriously though about starting my own business", (2) "I intend to start a business within five years of graduation", (3) "My professional goal is to start my own business" , (4) "I would rather be self-employed than being employed by someone." The Cronbach alpha was 0.893.

Self-efficacy in the student survey we re-adapted deNoble's scale (1999) and used the following statements to measure ESE: I have… (1) "The right resources to start a business", (2) "The right knowledge to start a business", (3) "The right network to start a business." The Cronbach alpha was 0.823.

INDEPENDENT VARIABLES

ACADEMIC FACULTY SURVEY

We adopted measures of University Context from Oftedal et al. (2018) to create reliable measures for academic faculty. We have three reliable factors, which we labelled University Context Regulative, University Context Cognitive and University Context Normative Dimensions (results of PCA analysis are presented in the table below).

TABLE 5: PCA analysis of University Context Academic Faculty.

ROTATED COMPONENT MATRIX	COMPONENT			COMMUNALITY	MEAN	SD
	1	2	3			
UNIVERSITY CONTEXT REGULATIVE DIMENSION						
Financial support licensing	.926			.883	2.510	1.005
Financial support patenting	.925			.878	2.484	1.010
Financial supporting starting business	.901			.831	2.489	1.020
Management recognition starting business	.855			.854	2.714	1.071
Management recognition patenting	.839			.835	2.704	1.083
Management recognition licensing	.825			.813	2.750	1.101
UNIVERSITY CONTEXT NORMATIVE DIMENSION						
Colleagues respect and admire patenting		.944		.977	3.081	1.044
Colleagues respect and admire licensing		.941		.974	3.086	1.041
Colleagues respect and admire starting business		.931		.957	3.112	1.075
UNIVERSITY CONTEXT COGNITIVE DIMENSION						
I know of and can speak with colleagues who have licensed ideas			.939	.931	2.678	1.147
I know of and can speak with colleagues who have patented ideas			.937	.925	2.724	1.121
I know of and can speak with colleagues who have started business			.918	.882	2.831	1.205
Eigenvalue	6.54	2.49	1.71			
% of Variance	54.52	20.73	14.23			
Cumulative % of variance	54.52	75.26	89.50			
Chronbach's alpha	0.936	0.991	0.951			

NOTE: KMO 0.815, Chi Sq 4372.421, df 66, sig 000, N 196

In addition, we have one factor that we called ***University Context for Industry collaboration***, which was measured by two self-generated questions, which covers (1) "Financial support and management recognition for industry collaboration" and (2) "Awareness of and access to colleagues who have industry collaboration." The Cronbach alpha was 0.890.

STUDENT SURVEY

University context for the student survey was based on the questions from Oftedal et al. (2018). Results of PCA are presented in table below.

TABLE 6: PCA analysis of University Context Students.

	COMPONENT			COMMUNALITY	MEAN	SD
	1	2	3			
UNIVERSITY CONTEXT COGNITIVE DIMENSION						
Fellow students who I know well have the skills to launch a start-up	.796			.675	2.585	1.094
I receive good advice from teaching faculty I deal with to develop my ideas	.778			.659	2.585	1.054
Fellow students who I know well have the right contacts for launching a start-up	.768			.673	2.605	1.103
The teaching faculty I deal with have good knowledge on how to commercialize an idea	.766			.636	2.730	1.081
UNIVERSITY CONTEXT REGULATIVE DIMENSION						
I know of policies that reward students who engage in entrepreneurial activities		.899		.848	2.274	1.203
I know of policies that are responsive to new ideas and innovative approaches.		.876		.809	2.315	1.193
I know of financial support available for students' entrepreneurial activities		.756		.652	2.251	1.223
All students are encouraged to learn more about entrepreneurship		.583		.527	2.503	1.206
UNIVERSITY CONTEXT NORMATIVE DIMENSION						
Starting your own business is a respected career path			.871	.762	3.746	.985
Entrepreneurial initiatives are seen as a "road to success"			.808	.673	3.530	.995
We take pride in students who develop their own ideas			.774	.627	4.015	.956
Eigenvalue	4.471	1.807	1.263			
% of Variance	40.65	16.43	11.47			
Cumulative % of variance	40.65	57.07	68.55			
Chronbach's alpha	0.828	0.849	0.77			

NOTE: KMO 0.813, Chi Sq 2217.191, df 55, sig 000, N 441

CONTROL VARIABLES

ACADEMIC FACULTY SURVEY

A number of control variables were used in this study. We used gender as a dummy variable coded 1 for male and 0 for female, Department was used as categorical variable, Age as ordinal variable, self-employment experience was dummy coded 1 if yes and 0 if no.

We also tried to enter other control variables such as job title, percentage of research that is applied research, whether respondents were permanent or temporary members of faculty, experience of licensing and experience of patenting, but they were not significant and are not included in final regression.

STUDENT SURVEY

Three control variables, gender, work experience and experience of start-up activity, were found to have significant impact on the model. Start-up activity was defined as "pitching competitions, start-up weekend, student start-up competitions etc." This was entered as a dummy coded 1 if yes and 0 if no.

We tried to enter other control variables such as gender, age, master or bachelor students, self-employment experience, role models (1 if yes) but it was not significant and was therefore not included in the final regression.

FINDINGS

ACADEMIC FACULTY SURVEY

In our study, we performed linear regression analyses to examine the influence of University Climate on entrepreneurial intentions and self-efficacy, addressing hypotheses H1.1, H1.2, and H1.3. Interestingly, the analyses revealed that none of the University Climate dimensions emerged as significant predictors of self-efficacy. Consequently, due to the lack of significant findings in this regard, we have chosen not to present these particular results.

However, the regression analysis focusing on the impact of University Climate on entrepreneurial intentions yielded noteworthy results. These findings are methodically displayed in Table 7.

TABLE 7: Linear regression analysis of UC on entrepreneurial intentions.

	ENTREPRENEURIAL INTENTIONS	TOLERANCE
	Model 1 St. Beta	
CONTROLS		
GENDER	.226***	0.909
AGE	-.200**	0.909
DEPARTMENT	.031	0.968
SELF-EMPLOYMENT EXPERIENCE	.374***	0.928
ADJUSTED R^2	**.204**	
F-VALUE	**13.409*** **	
UNIVERSITY CONTEXT REGULATIVE	-.0290	0.735

UNIVERSITY CONTEXT NORMATIVE	-.009	0.692
UNIVERSITY CONTEXT COGNITIVE	.204**	0.792
Δ R^2	**.036**	
ADJUSTED R^2	**.229**	
F-VALUE	**9.209*** **	
N	**n= 195**	

NOTES: † p < 0.1; * p < 0.05; ** p < 0.01; *** p < 0.001.

Our research findings indicate that the cognitive dimension of the University Context is significantly correlated with entrepreneurial intentions among academic employees. In contrast, the regulative and normative dimensions did not demonstrate a significant impact on these outcomes. Consequently, Hypotheses H1.1 and H2.1 are not supported, while H3.1 is validated specifically in relation to entrepreneurial intentions.

Interestingly, our control variables, except for departmental affiliation, were significant. This is an unexpected outcome, particularly in light of previous research (Bercovitz & Feldman, 2008; Clarysse et al., 2011), which has illustrated a higher tendency towards entrepreneurial activities among academics in engineering and science fields compared to their counterparts in other disciplines. One particularly strong predictor of future entrepreneurial intentions was self-employment experience, lending support to the notion that entrepreneurialism tends to be self-reinforcing. Additionally, age emerged as a significant factor, with younger faculty members more inclined towards entrepreneurial intentions. Collectively, the control variables accounted for 20.4% of the variance in entrepreneurial intentions among faculty members.

To evaluate Hypothesis H1.4, which posits that a university context supportive of industry collaboration positively impacts perceived benefits in terms of knowledge and resources, we conducted targeted analysis. Our findings confirmed this hypothesis, indicating that a conducive university environment indeed enhances the perceived benefits of industry collaboration, both in knowledge acquisition and resource accessibility. The detailed results supporting this conclusion are systematically presented in Table 8, showcasing the direct correlation between a supportive university context and the types of perceived industry collaboration benefits.

TABLE 8: Linear regression analysis of UC on industry collaboration benefits.

	INDUSTRY KNOWLEDGE BENEFITS	**TOLERANCE**	**INDUSTRY RESOURCES BENEFITS**	**TOLERANCE**
	Model 1 St. Beta		Model 2 St. Beta	
CONTROLS				
GENDER	-.087	.913	-.182*	.910
AGE	-.030	.928	.057	.923
DEPARTMENT	-.010	.973	-.145**	.973
SELF-EMPLOYMENT. EXPERIENCE	-.062	.930	-.001	.930

ADJUSTED R^2	**-.004**	**.041***
F-VALUE	**.907**	**3.052***
UNIVERSITY CONTEXT TOWARDS IC	**.320*****	**.220****
Δ R^2	**.099*****	**.040***
ADJUSTED R^2	**.094*****	**.067***
F-VALUE	**5.079*****	**2.986****
N	**n=197**	**n=195**

NOTES: † $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Our analysis reveals that a university climate supportive of industry collaboration substantially enhances the perceived benefits of such collaborations, specifically in knowledge acquisition and resource access. This aligns with and expands upon existing literature on the subject (Perkmann et al., 2013; Davey et al., 2016; AL-Tabbaa, 2015).

We found that the perceived knowledge benefits are not just theoretical understandings but also encompass practical, real-world applications and insights into industry-specific challenges. This suggests that when academic institutions foster a climate conducive to industry collaboration, they enable faculty and students to gain a deeper and more practical understanding of their fields.

Similarly, in terms of resource benefits, our findings reveal that supportive university environments significantly enhance access to tangible assets and support from industry partners. These resources extend beyond financial support, encompassing critical assets such as specialized equipment and joint research opportunities, which are essential for advanced research and innovation.

In essence, our study builds upon and extends existing research by providing empirical evidence that a supportive university climate directly influences the extent and nature of the benefits perceived from industry collaboration. This contribution highlights the crucial role that institutional environment plays in maximizing the efficacy and impact of academic-industry partnerships.

STUDENT SURVEY

To test Hypotheses H2.1 to H2.3, which propose that a university environment encouraging entrepreneurship positively influences students' entrepreneurial intentions and self-efficacy, we employed linear regression analysis. The results of this analysis, elucidating the relationship between a supportive entrepreneurial context and its impact on students, are detailed in Table 9.

TABLE 9: Linear regression analysis of UC on intentions and self-efficacy.

	ENTREPRENEURIAL INTENTIONS	TOLERANCE	SELF-EFFICACY	TOLERANCE
	Model 1		Model 2	
	St. Beta		St. Beta	
CONTROLS				
GENDER	.272***	.952	.190***	.952
INVOLVEMENT IN START-UP ACTIVITY	.291***	.960	.272***	.960
WORK EXPERIENCE	.085*	.989	.151**	.989
ADJUSTED R^2	**.188**		**.144**	
F-VALUE	**34.856*** **		**25.691*** **	
UNIVERSITY CONTEXT REGULATIVE	.150**		.208***	
UNIVERSITY CONTEXT COGNITIVE	.029		.151**	
UNIVERSITY CONTEXT NORMATIVE	.118**		-.003	
Δ R^2	**.048**		**.094**	
ADJUSTED R^2	**.231**		**.234**	
F-VALUE	**23.006*** **		**23.389*** **	
N	**n= 441**		**n= 441**	

NOTES: † $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Our analysis uncovers significant insights regarding the relationship between University Context (UC) and its influence on students' entrepreneurial intentions and self-efficacy. The results, which are clearly outlined in the table below, demonstrate a meaningful connection between these elements.

In terms of control variables, they are notably significant, accounting for 18.8% of the variance in entrepreneurial intentions (EI) and 14.4% in self-efficacy. Interestingly, gender appears to play a pivotal role, with male gender showing a strong correlation with both self-efficacy and entrepreneurial intentions. This finding aligns with existing research indicating gender differences in entrepreneurial tendencies.

Moreover, involvement in startup activities emerges as a critical factor, strongly correlated with both self-efficacy and entrepreneurial intentions. This suggests that practical engagement in entrepreneurial ventures significantly boosts confidence and the inclination to pursue entrepreneurial activities.

Delving deeper into the specific dimensions of UC, we observe that the regulative dimension is strongly related to self-efficacy and, to a lesser extent, entrepreneurial intentions. This implies that formal structures and regulations within the university setting may have a more pronounced impact on students' confidence in their entrepreneurial capabilities than on their intentions to engage in entrepreneurship.

Conversely, the cognitive dimension shows a notable relationship with self-efficacy, indicating that shared knowledge and understanding within the university context contribute significantly to students' belief in their entrepreneurial skills. Meanwhile, the normative dimension — encompassing the university's informal values and norms — is closely linked to entrepreneurial intentions. This highlights the importance of the underlying cultural and value-based aspects of the university environment in shaping students' aspirations towards entrepreneurship.

In summary, our findings provide a nuanced understanding of how different facets of the University Context influence key aspects of entrepreneurship among students, underlining the multifaceted nature of these relationships.

To summarize the findings from this study, they are represented in the Table below:

TABLE 10: Perception of University Context in Relation to Entrepreneurial Intentions, Self-efficacy, and Industry Collaboration.

N	GROUP	HYPOTHESES	SUPPORTED (YES/NO)
H1.1	Regulative Structure	Academic faculty's positive perception leads to higher entrepreneurship intentions and self-efficacy.	NO
H1.2	Normative Structure	Academic faculty's positive perception leads to higher entrepreneurship intentions and self-efficacy.	NO
H1.3	Cognitive Structure	Academic faculty's positive perception leads to higher entrepreneurship intentions and self-efficacy.	YES
H1.4	University Context on Industry Collaboration (combined regulative, normative, and cognitive structures)	Academic faculty's positive perception leads to higher industry collaboration involvement.	YES
H2.1	Regulative Structure	Students' positive perception leads to higher entrepreneurship intentions and self-efficacy.	YES
H2.2	Normative Structure	Students' positive perception leads to higher entrepreneurship intentions and self-efficacy.	YES
H2.3	Cognitive Structure	Students' positive perception leads to higher entrepreneurship intentions and self-efficacy.	YES

Our study's analysis of the University Context and its impact on entrepreneurial intentions and self-efficacy yielded intriguing findings. For academic faculty, the hypotheses surrounding the regulative (H1.1) and normative (H1.2) structures did not find support; these dimensions did not significantly influence faculty's entrepreneurship intentions or self-efficacy. However, the cognitive structure (H1.3) showed a positive impact, affirming that faculty's perception of the cognitive environment does lead to higher entrepreneurial intentions and self-efficacy.

Additionally, the combined effect of regulative, normative, and cognitive structures on industry collaboration (H1.4) was supported, indicating that a favorable university context enhances faculty's involvement in industry collaboration.

In contrast, for students, all tested hypotheses (H2.1, H2.2, H2.3) regarding the regulative, normative, and cognitive structures were supported. This demonstrates that students' positive perceptions of these university context dimensions significantly boost their entrepreneurial intentions and self-efficacy.

These results highlight a clear differentiation in how the university context influences faculty and students. While cognitive aspects play a crucial role in shaping faculty's entrepreneurial mindset, all three dimensions of the university context (regulative, normative, and cognitive) equally influence students' entrepreneurial aspirations and confidence.

DISCUSSION

This study sheds light on the multifaceted ways the university context shapes the entrepreneurial landscape for employees and students. Our findings resonate with Oftedal et al. (2018), indicating that the university's regulative, normative, and cognitive structures significantly influence students' entrepreneurial intentions and self-efficacy. This observation is particularly relevant as students are at a formative stage in their career development, where their values and norms are evolving. Universities have a unique opportunity to mold these entrepreneurial inclinations through supportive regulations, reward systems, and comprehensive entrepreneurial education. Highlighting success stories in the media can also play a vital role in shaping a positive entrepreneurial image, thereby motivating students further.

Our study uncovers a striking contrast between students and faculty; the cognitive aspect of the University Context predominantly influences faculty's entrepreneurial intentions. This finding underscores the importance of cognitive factors in nurturing entrepreneurial mindsets among faculty, as outlined by Scott (2014). The cognitive dimension, encompassing the collective understanding and interpretation of social realities in academic settings, is pivotal in entrepreneurial universities. It shapes how faculty members perceive and internalize entrepreneurship-related concepts. Supporting this, research by Fayolle & Redford (2014) and Klofsten et al. (2019) shows that an entrepreneurship-supportive university environment boosts faculty and student participation in entrepreneurial activities.

Furthermore, our research aligns with Siegel & Wright (2015) and Grimaldi et al. (2011) in demonstrating the significant role of cognitive orientation towards entrepreneurship in universities. This orientation not only aids effective technology transfer but also facilitates the formation of successful spin-off companies. However, our findings indicate that the regulative and normative dimensions of the university climate have a minimal impact on faculty's entrepreneurial activities. This could be attributed to the faculty's dedication to their academic roles, where the values of academic research often diverge from entrepreneurial pursuits. This divergence poses a policy challenge, as our study reveals that academic staff primarily view the university's role as a center for cutting-edge research and quality education, not necessarily for commercialization of innovations.

This trend points to a potential conflict of interest for academic faculty in commercialization activities, echoing concerns raised by Gibb and Hannon (2006) and Rasmussen et al. (2006). The advancement of academic careers, often reliant on the open dissemination of knowledge, contrasts with the exclusive knowledge distribution needed for commercial success. Therefore, a targeted approach, focusing resources on academics with a positive disposition towards commercialization activities, could be more effective. This strategy is consistent with findings from Oosterbeek et al. (2010), suggesting that elective entrepreneurial courses, as opposed to mandatory ones, are more likely to foster entrepreneurial intentions among motivated students.

Interestingly, despite commercialization activities not being a primary focus for academic faculty, our survey shows significant engagement in industry collaboration, indicating that academics view such collaborations as an integral part of their professional activities. This observation aligns with D'Este & Perkmann's (2011) findings, highlighting the academia-industry collaboration as a conduit for knowledge expansion and access to research funding. This trend suggests that fostering industry collaboration is a strategic move for universities, as it not only enables knowledge exchange but also enhances knowledge spillover and transfer opportunities. Such collaborations serve the dual purpose of advancing academic objectives and contributing to practical applications of research findings.

Finally, our study outlines the influence of gender on entrepreneurial intentions. These findings corroborate with research by De Bruin et al. (2006) and Iakovleva & Kickul (2011), which highlights gender gap as a critical area for policy intervention. Addressing gender disparities in entrepreneurship is essential for cultivating a diverse and inclusive entrepreneurial ecosystem. Furthermore, the significance of prior startup experience in shaping entrepreneurial intentions and self-efficacy, as supported by Linan & Chen (2009), Hsu (2007), and Ucbasaran et al. (2006), underscores the importance of practical exposure in entrepreneurial education.

CONCLUSION

Our study marks a significant advancement in the theory of entrepreneurial universities. We have introduced a novel approach to understanding the University Context (UC) and its influence on entrepreneurial intentions, both among students and academic faculty. The development and validation of a theory-based UC scale represent a key theoretical contribution. This scale, tailored for diverse academic groups, provides a more comprehensive and nuanced measure of UC than previously available in the literature.

Our findings challenge and extend existing theoretical frameworks on entrepreneurial universities. By moving beyond the conventional focus on business students, our study enriches the discourse on entrepreneurial self-efficacy and intentions across various academic disciplines. This broader perspective offers a deeper understanding of how entrepreneurial intentions are shaped within university settings, contributing to the field's theoretical diversity and richness.

A notable theoretical contribution of this research is the nuanced understanding of the relationship between university context and entrepreneurial activities. The discovery that faculty's engagement in industry collaboration surpasses their involvement in commercialization activities provides a new perspective on the entrepreneurial roles within academia. This insight adds complexity to the theory of entrepreneurial universities, suggesting that these institutions play a multifaceted role in fostering entrepreneurship that goes beyond traditional commercialization activities.

Our research in the Norwegian public university context brings unique insights into the interplay between local conditions and entrepreneurial activities in academic settings. These findings contribute to the theoretical understanding of how external factors like governmental policies, cultural norms, and economic conditions shape entrepreneurial dynamics in universities, adding a valuable dimension to existing theories.

In summary, our study significantly enriches the theoretical landscape of entrepreneurial universities by offering new insights into the diverse pathways of entrepreneurship in academic settings. It underscores the need for theoretical models to account for the varied and complex nature of entrepreneurship in universities, aligning with broader societal and economic objectives. This study not only contributes to the academic understanding of entrepreneurship in higher education but also provides a foundation for future research to build upon and expand.

FUTURE RESEARCH

This study, set within Norway's unique public university context, highlights the influence of specific national and institutional factors on the entrepreneurial climate in higher education. The distinct combination of governmental support, cultural norms, and economic conditions in Norway provides a backdrop that shapes industry collaboration and entrepreneurship. This context underscores the need for comparative research across different countries and university types to understand how various environments impact entrepreneurial dynamics in academic settings.

Future research should employ longitudinal designs to track the evolution of entrepreneurial attitudes and activities over time. Such studies would offer insights into the effects of changing university policies, economic shifts, and societal attitudes on the entrepreneurial ecosystem within universities. Exploring how University Context affects

different academic roles across cultures would provide a more nuanced understanding of academic entrepreneurship.

Additionally, there is a need to investigate effective strategies for fostering university-industry collaborations, focusing on balancing academic research and practical application. This includes studying the role of students in linking academia and industry, as well as aligning academic and entrepreneurial values to avoid potential conflicts.

In essence, future studies should build on our findings to delve deeper into the complexities of academic entrepreneurship in various contexts. This research will enhance our theoretical understanding and offer practical insights for fostering a robust entrepreneurial culture in educational institutions

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ETHICAL STATEMENT

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