From academia to enterprise: how work value and organisational factors influence academic entrepreneurship

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Abstract

Scholars in the social sciences have paid attention to the work value, but little is known about its significance from an entrepreneurship point of view. The purpose of this study is to look into how an organisational factor influences the relationship between academician work value and academic entrepreneurship engagement. This is a first attempt to investigate academician work values from higher learning institutions in developing nations, adding to the body of knowledge regarding the elements that impact academic entrepreneurship engagement. The selected higher learning institutions provided 381 of their academicians for the study, which employed a quantitative cross-sectional design. Structured questionnaires were used to gather data, and structural equation modelling was used to assess the results. The results show that, when organisational factors act as the moderator, work value in terms of terminal values increases its impact on academic entrepreneurship; on the contrary, organisational factors have no moderation effect with the instrumental value when influencing academic entrepreneurship. The study provided implications for higher learning institutions, academicians, and the government.

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1. Introduction

Academic entrepreneurship involves the exploration of information generated by academic institutions through patents, industry alliances, start-ups, spin-offs, licensing, and other means (Guerrero & Urbano, 2010). Academic entrepreneurship plays a crucial role in translating academic research knowledge into tangible products and services for economic development (Wadhwani et al., 2017). It enables researchers to maximize the impact of their work by translating it into tangible outcomes that benefit society, generate revenue, and sustain future research endeavours (Fithri et al., 2021; Neves & Brito, 2020). Developments in academia have heightened the need for academic entrepreneurs to bridge the gap between theoretical research and practical applications by facilitating the transfer of knowledge and technology from academia to industry, which enhances competitiveness in the marketplace (Wadhwani et al., 2017). In society, academic entrepreneurs disseminate research findings that generate positive impact. Effective academic entrepreneurship draws outside funding that enables universities economic development, which lessens the university's need for government financing and tuition fees (Clarysse et al., 2011; Ramadani et al., 2017).

Previous studies have reported that academic roles such as teaching, research, and service-related duties are receiving the fundamental functions in institutional mission statements and strategic plans (Delbari et al., 2021; Nguyen, 2021). Research has continuously shown that they are the source of reward systems within universities, such as promotion, tenure track positions, and recognition within specific fields (Ismayilova & Klassen, 2019). Furthermore, there is a notable emphasis on the publication of research in prestigious journals as a primary metric for evaluation and prioritization (Ismayilova & Klassen, 2019). Despite traditional academic achievements, universities, through their academic staff, play a pivotal role in addressing societal challenges (Meyer & Evans, 2005). Research findings can be commercialized to foster job creation, stimulate economic activity, and enhance competitiveness on a global scale (Version, 2011). Collaborations with industries provide avenues for the translation of research outcomes into practical applications that directly benefit society (D'Este & Perkmann, 2011; Guindalini et al., 2021). Furthermore, through patenting their inventions, they safeguard intellectual property rights and facilitate the transfer of knowledge from academia to industry (Guindalini et al., 2021). However, a significant gap remains in connecting academic commercialization to facilitate society's well-being.

Research shows that universities possess the intellectual capital through research findings to address pressing societal challenges that contribute to economic development (Guindalini et al., 2021). However, many ground-breaking research findings with significant commercial potential decay in academic laboratories without ever reaching the market or benefiting society. For example, a study done by Fussy (2018) found that research dissemination practices continue to favour academic fraternities, and a growing number of researchers believe that research is done primarily for publication and academic

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qualification rather than as a means of directly influencing society and promoting development. Therefore, there are still some fundamental gaps in academic entrepreneurship within universities, specifically in commitment to extracurricular activities beyond teaching and publications. As literature shows, academic entrepreneurship is yet to be commercialized (Alessandrini et al., 2013; Fithri et al., 2021).

Literature shows that individual-level factors play a big role in engagement in academic entrepreneurship (Clarysse et al., 2011). Issues like the individual's belief in their ability, the significance placed on work, and its outcomes are crucial for individual performance (Busque-Carrier & Ratelle, 2022; Ndiango et al., 2024). Work values are work-related qualities, principles, and standards that really matter to individuals and that directly influence actions and choices at work (Judge & Bretz, 1992). These values affect work for oneself and others, the manner in which tasks are accomplished, and aspirations (Busque-Carrier & Ratelle, 2022). In that case, if academic staff value the attainment of economic security, acquiring new knowledge, fulfilling goals, and personal achievement, they are more likely to engage in academic entrepreneurship (Clarysse et al., 2011; Sahu et al., 2023). This is because the psychology of a person influences their decision-making (Landstad et al., 2022). Furthermore, if an academician values social impact and sees entrepreneurship as a means to create positive change, they are more likely to pursue activities that align with this value, leading to more meaningful outcomes (Clarysse et al., 2011; Leuty, 2012).

Furthermore, by understanding their work values, academic entrepreneurs can make decisions that resonate with their core beliefs and contribute to the success of their responsibilities (Leuty, 2012). Individuals with similar social interaction tendencies are more likely to form cohesive teams and collaborate effectively (Elias, 2024), leading to enhanced productivity and innovation in the research findings (Clarysse et al., 2011). Thus, work values play a crucial role in team building and collaboration within academic entrepreneurship. While other factors such as skills, knowledge, resources, and networks are undoubtedly important in academic entrepreneurship (Sahu et al., 2023), work values serve as foundational principles that guide academic entrepreneurs throughout their entrepreneurial journey, influencing their decisions, behaviours, and overall success in the endeavour (Mansour et al., 2022; Neves & Brito, 2020).

Furthermore, the literature acknowledges that university support affects the performance of other service-related work (Sukoco et al., 2023). If academicians perceive that their work values align with the expectations and promises made by their universities, they may be more likely to engage in entrepreneurial activities related to their academic work. Again, when individuals perceive that their university values innovation, creativity, and entrepreneurial thinking, they may feel more motivated and engaged to pursue entrepreneurial opportunities within the academic context. However, it has been reported that some institutions and senior university executives saw the dissemination of research findings to society as an unnecessary expense (Fussy, 2018). If individuals perceive that their institution or employer values and supports academic entrepreneurial initiatives, they may have access to resources such as funding, mentorship, and infrastructure that are essential for entrepreneurial success, and they are more likely to engage in entrepreneurial activities. University support is crucial, as it requires a combination of academic and entrepreneurial skills to identify opportunities, develop ideas, and bring them to market.

While previous research has extensively explored the role of organisational factors in shaping academic entrepreneurship (Urban et al., 2020), there is a significant gap in understanding how work values moderated by these organisational factors influence academic entrepreneurship. By addressing this gap, the study will provide comprehensive knowledge for more effective strategies to promote academic entrepreneurship within academic settings. Therefore, the main aim of the study is to find out the influence of work value on academic entrepreneurship when moderated by organisational factors.

The article is organized into six sections: the introduction, which sets the background for the study; the literature review, which provides an overview of the relevant similar research; the methodology, which outlines the research design and procedures; the data analysis, which examines the collected data; the findings and discussion, which interprets the results; and finally, the conclusion and implications, along with the limitations and suggestions for future studies.

2. Literature review

2.1 Social cognitive career theory

Social cognitive career theory (SCCT), developed by Lent et al. (1994), forms the basis of a theoretical review on the relationship between work values and academic entrepreneurship. The theory emphasizes the role of self-efficacy beliefs, outcome expectations, and personal goals in shaping individuals' career

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choices and behaviours. According to SCCT, people who have a strong belief in the potential benefits of commercialising their research and a high level of self-efficacy regarding their entrepreneurial talents are more likely to engage in entrepreneurial activities in the context of academic entrepreneurship. Moreover, SCCT suggests that individuals' outcome expectations, or beliefs about the potential outcomes of their actions, play a crucial role in shaping their career decisions. Scholars, who have a high belief in the potential benefits of academic entrepreneurship, including monetary gains, positive social effects, and professional growth, are more inclined to become entrepreneurs themselves.

2.2 Hypothesis development

2.2.1 The relationship between work value and academic entrepreneurship

Work values are the combinations of qualities, principles, and standards that guide individual behaviour and decisions in the workplace (Judge & Bretz, 1992). These values influence motivations, ethical decisions, and priorities, which in turn affect work performance and job satisfaction. They are crucial for coordinating individual aspirations with corporate aims and developing a positive, harmonious work environment (Nor et al., 2020). Increased employee engagement and organisational success can result from recognising and fostering work values (Gómez-Jorge et al., 2023). Work values play a crucial role in the performance of individual work and others, such as between academicians and industries to solve societal problems (Perkmann et al., 2013). It consists of two key components: terminal values encompassing self-growth, self-realization, and self-esteem, and instrumental values encompassing social interaction, security, economic stability, freedom from anxiety, recreation, health, and transportation (Nor et al., 2020). Studies show that self-growth tendencies motivate individuals to leverage knowledge and expertise to create innovative solutions, products, or services with commercial potential (Nor et al., 2020). Individuals' self-esteem reduces academic procrastination (Batool & Khursheed, 2017) and increases productivity (Gómez-Jorge et al., 2023). Therefore, help the academician recognize and engage in their contributions to academic entrepreneurship. Individuals with a self-growth tendency step outside their comfort zones, take risks, and continuously learn and adapt to new challenges (Landstad et al., 2022). Individuals with a high self-esteem tendency are more likely to engage themselves in risk-taking activities since they like validation and recognition, boosting their confidence and sense of worth (Nor et al., 2020).

Literature shows that individuals with social interaction create networks for individuals, organisations and groups that enable them to access valuable information, expertise, recommendations, resources, and support (Prodan & Drnovsek, 2010). Social interaction and networks favourably impact an individual's intention to be an entrepreneur (Elias, 2024), researcher's likelihood of patenting (Prodan & Drnovsek, 2010), and becoming a spin-off entrepreneur (Audretsch et al., 2011). According to recent research, people who are driven to pursue financial gains may choose entrepreneurship as a way to diversify their sources of income and become financially independent (Anzak et al., 2023). Instrumental values influence academic entrepreneurship by shaping academics' motivations, attitudes, and behaviours towards venturing into entrepreneurial activities, navigating challenges, and realizing their entrepreneurial aspirations (Mansour et al., 2022). Embracing these values can empower academics to harness their expertise, creativity, and passion to drive innovation, create value, and make meaningful contributions to society through entrepreneurship (Mansour et al., 2022; Neves & Brito, 2020). Therefore, it has been hypothesized that:

H1a: Terminal value positively influences academic entrepreneurship.

H1b: Instrumental value positively influences academic entrepreneurship.

2.2.2 The relationship between organisational factors and academic entrepreneurship

Scholars like Urban (2017) have identified organisational antecedents for corporate entrepreneurship factors such as management support, work discretion/autonomy, rewards/reinforcement, time/resource availability, and organisational boundaries. The same has been used to predict academic entrepreneurship (Urban et al., 2020). Empirical studies show that it is crucial for senior management to actively support entrepreneurial strategies and aid in nurturing the requisite entrepreneurial mindset among employees (Ireland et al., 2009). However, in the university setting, it has been found that senior management has no influence on academic entrepreneurship (Urban et al., 2020). On the contrary, university management motivates the academicians to be entrepreneurs for the benefits of newly generated knowledge to society at large for the university to achieve its third mission mandate (Guerrero & Urbano, 2010; Sormani et al., 2022).

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An empirical finding shows a good reward system is the strong drive for academicians to engage themselves in entrepreneurship (Urban et al., 2020; Zhang, 2024), in which Urban (2017) found a positive and significant relationship among all organisational factors influencing entrepreneurship innovativeness. Organisational factors play a crucial role in translating these tendencies into action by providing necessary resources and incentives (Urban et al., 2020). According to research by Ireland et al. (2009), management should be committed to accepting the possibility that entrepreneurial outcomes may not succeed. They should also give some freedom to those who are expected to carry out the entrepreneurial strategy while delegating authority to enable independent action. Employees that have time to spare can concentrate on important work-related details that affect entrepreneurship (Hornsby et al., 2009). Scholars contend that favourable opinions about the organisation's capacity to support entrepreneurial endeavours, as well as a readiness to take chances and a capacity for accepting setbacks when they happen, should be held (Ireland et al., 2009). Urban (2017) and Stevenson (1983) found that the structure that best defines an entrepreneurial organisation is structural organicity. In doing so, it promotes decentralised decision-making, minimal formality, broad spheres of influence, power based on knowledge rather than position, procedural flexibility, freely flowing information networks, and lax observance of laws and regulations. Therefore, it has been hypothesized that:

H2: Organisational factors positively influence academic entrepreneurship.

2.2.3 The Moderation role of organisational factors on work value and academic entrepreneurship

The relationship between work values and academic entrepreneurship can indeed be moderated by organisational factors (Brandão et al., 2019). For instance, Urban et al., (2020) found that the positive relationship between self-growth tendencies and academic entrepreneurship is strengthened in organisations with comprehensive entrepreneurial ecosystems where academics have time to spare (Subramaniam et al., 2020), rewarded (Huyghe & Knockaert, 2015), with top management support (Hornsby et al., 2009; Moog et al., 2012), and flexible working conditions (Huyghe & Knockaert, 2015; Subramaniam et al., 2020). It helps academics realize the instrumental value of entrepreneurship in terms of economic benefits and organisational stability (Moog et al., 2012). The positive organisational environment mitigates the negative impact of anxiety-related work values on entrepreneurial intentions, providing a sense of stability and resources necessary for entrepreneurial pursuits (Javier et al., 2017). Furthermore, organisations that prioritize and incentivize entrepreneurship through policies such as tenure considerations, promotion criteria, and resource allocation signal to academics that entrepreneurial endeavours are valued and compatible with their work values (Urban et al., 2020; Zhang, 2024). However, it is important to note from the study by Clarysse et al. (2011) that other factors are less concerned with influencing the relationship between individual attributes and academic entrepreneurship. However, due to the diversification of organisational factors based on culture, nature of institutions, and roles conducted, exploring and identifying other potentially influential factors could contribute to a more comprehensive understanding of the dynamics between individual work values and academic entrepreneurship. Therefore, it has been hypothesised that:

H3a: Organisational factors moderate the relationship between terminal value and academic entrepreneurship.

H3b: Organisational factors moderate the relationship between instrumental values and academic entrepreneurship.

2.3 Conceptual framework

In Figure 1, the conceptual framework posits that the academician work value influences academic entrepreneurship, with this effect being moderated by organisational factors. The study draws on social-cognitive career theory to understand these relationships. Within this study's scope, work values, which are explained by terminal value and instrumental value, serve as the independent variable, organisational factors as the moderating variable, and academic entrepreneurship as the dependent variable.

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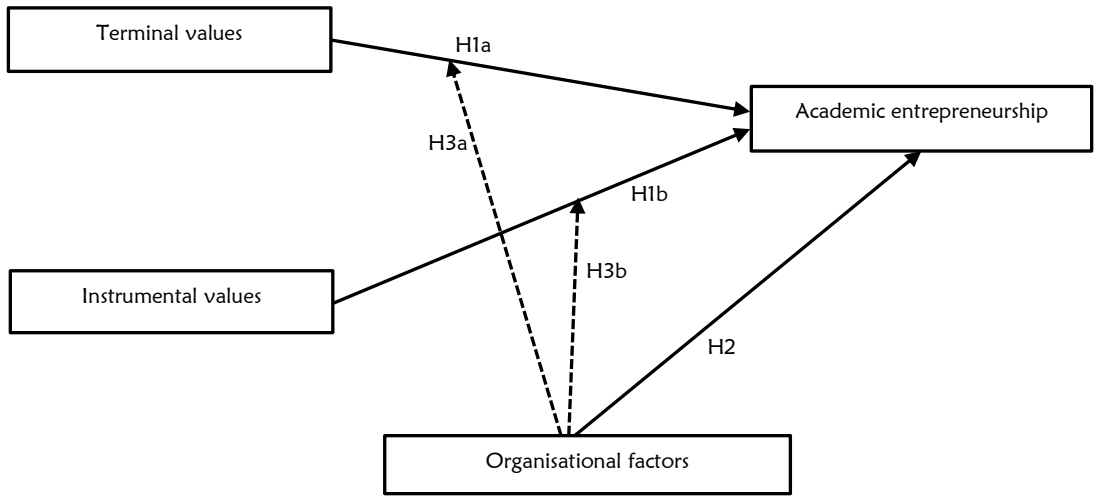

Figure 1. The conceptual framework
Source: Figure by the author

3. Methodology

3.1 Study design and sample

The study was conducted in higher learning institutions in Tanzania and used a cross-sectional survey approach. Because this study involves collecting data at a single point in time and place without the goal of tracking changes after an intervention, the cross-sectional survey design was a suitable choice (Cummings, 2014). This study's population comprises academicians from the level of assistant lecturer to professor from public universities. In selecting the academicians, people who had worked in academic institutions for at least three years were considered. The simple random sampling approach was used for the sampling process within each academic rank to have a representative sample. We collected 381 responses, which were found necessary for the model.

Cronbach's alpha, confirmatory factor analysis, and average variance extracted (AVE) were used to evaluate the validity and reliability of the research questionnaire as it has been presented in Table 1. The estimated effect size was 0.3, with 80% statistical power, 4 latent variables, and 16 observed variables at a 95% significance level. According to the calculator, a minimum sample size of 119 was necessary to detect an effect, a minimum sample size of 100 was required for the model structure, and a minimum sample size of 119 was advised. During data collection, 381 questionnaires were retrieved from randomly selected respondents. This sample size was deemed sufficient based on the research environment and earlier studies carried out in the context of universities on academic-based studies (Jaffu et al., 2023; Ndiango et al., 2024). Additionally, the assessment of sampling adequacy through the Kaiser-Meyer-Olkin measure and Bartlett's test confirmed the suitability of the sample (Macharia et al., 2023; Pallant, 2020).

3.2 Survey instrument and measure

The primary objective of the study was to find out variables influencing academic entrepreneurship at the public universities in Tanzania. The smart PLS-SEM structural equation modelling was utilised to examine the relationship among the latent variables. Every condition pertaining to the validity and reliability of the structural equation models was met in full as presented in Table 1. The two types of work value: terminal and instrumental were adopted from (Nor et al., 2020), while organisational factors such as management support and work discretion/autonomy were adopted from (Urban et al., 2020; Urban, 2017). Lastly, academic entrepreneurship activities variable such as patenting and licensing and spin off was adopted from (Klofsten et al., 2000). Furthermore, with the theoretical framework, they formed a conceptual framework. Indicators or items that were used to measure the variables were derived and modified from previous studies to reflect the needs of this study. The modification however, did not reduce the original meaning from previous studies, but it enhanced contextual understanding. The items used to measure work value were derived from Nor et al. (2020), which comprise three items for terminal values and four items for instrumental values. Four indicators used to measure organisational

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factors were derived from Urban (2017) and Urban et al. (2020). Six indicators used to measure academic entrepreneurship activities were derived from Klofsten et al. (2000).

Preliminary questionnaire was created with consideration from the conceptual framework and its theoretical underpinnings. First, five professionals in the field of entrepreneurship at the University Dodoma, were given the initial questionnaire to complete to use their opinions about the tool and the measurements (Dana & Dana, 2005). The survey had 16 questions, from the variable of interest. Subsequently, the respondents were given the final questionnaire, which included a five-point Likert scale ranging from "not important at all to extremely important" in measuring work values, from "strongly disagree to strongly agree" in measuring organisational factors, and from "not at all to frequently" on addressing engagement of academic entrepreneurship activities.

3.3 Common method variance

Common method variance (CMV) is a common concern in statistical data analysis. In traditional statistics, the data from the respondents is expected to vary. But such variation should not be too high since it will affect the reliability and validity of the data and instruments. To overcome common method variance in this study, Harman's one-factor method was employed to assess whether CMV was the problem because the study involved self-reported questionnaires (Podsakoff et al., 2003). The findings show that CMV is not a problem because the variance obtained from exploratory factor analysis indicates that the variance for unrotated factors is less than 50% (Podsakoff et al., 2003).

3.4 Data analysis

The smart PLS-SEM version was used as a data analytical tool for this study. The tool was adopted because it was able to determine the relationship between the study variables. The study used terminal value (TM) and institutional value (IV) as independent variables. Organisation factor (OF) was the moderator variable, and academic entrepreneurship (AE) was the dependent variable. To study all variables, the study used various indicators for each variable. The number of indicators varies from one variable to another. The presence of variables that were captured by a number of indicators was perfectly utilized under smart PLS-SEM since the analysis involved both observed and unobserved variables.

4. Findings and discussion

4.1 Assessment of the measurement model

Table 1 contains the results of a PLS-SEM analysis, focusing on the assessment of the measurement model. The result shows that, all composite reliability values are above the recommended threshold of 0.7, indicating good reliability of the constructs (Purwanto & Sudargini, 2021). Also, for all constructs, the outer loadings are quite high, with values above 0.7, suggesting that each item effectively measures the latent variable as expected. The findings for Average variance extracted (AVE) are relatively high, ranging from 0.644 to 0.706, indicating that the constructs are well-measured by their indicators. Thus, there is no concern for convergent validity (Purwanto & Sudargini, 2021). On the other hand, Cronbach alpha values were ≥ 0.7. This indicates high internal consistency in the results from the respondents. The result shows that all variance inflation factor (VIF) values are below 5, indicating acceptable levels of multicollinearity (Cheung et al., 2023). Therefore, these findings provide confidence in the measurement model, supporting the subsequent analysis of the structural model and interpretation of the relationships between constructs.

Table 2 presents the values of the heterotrait-monotrait (HTMT) ratio, a measure used to assess discriminant validity. The findings reveal that all HTMT values are below the recommended threshold of 0.9, indicating that discriminant validity has been achieved, as each construct distinctly explains specific aspects of the data, differentiating it from other constructs. Complementing this, Table 3 shows the cross-loading findings, which indicate that no factor loads significantly on more than one construct. This means that each factor loads higher on its respective construct than on any other, further supporting the distinctiveness of the constructs. Together, these results confirm that the constructs in the analysis are well-defined and distinct from one another, ensuring the validity in the measurement model.

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Table 1. Measurement model assessment

Constructs/Items	VIF	Outer loadings	Alpha	CR	AVE
Academic entrepreneurship			**0.916**	**0.935**	**0.706**
AE1: I undertake specific research project with the university system for external organisations	2.442	0.842			
AE2: I have sold a personal scientific or technological expertise to solve a specific problem	3.039	0.875			
AE3: I have formulated of new firm or organisation to exploit the results of university research	4.064	0.891			
AE4: I have provided short courses to non-university personnel/students and external organisation	4.281	0.895			
AE5: Commercial selling of products developed within the university	1.965	0.777			
Instrumental value			**0.818**	**0.878**	**0.644**
IV1: The importance of valuing social interaction, sharing daily emotions with colleagues and superiors, and fostering harmonious relations at work.	1.757	0.759			
IV2: The importance individuals place on attaining economic security through a organisational system to satisfy their sense of stability at work.	2.101	0.881			
IV3: The degree of important which an individual's places on performing this job without tension, anxiety, or fear.	1.693	0.796			
IV4: The important which an individual's places on attaining sufficient physical energy, healthy and availability of transport options during their work.	1.674	0.769			
Terminal values			**0.781**	**0.868**	**0.688**
TM1: The important which an individual focusing on acquiring new knowledge, enhance creativity and personal development during the course of their work.	1.676	0.808			
TM2: The important which an individual places on fulfilling their goals, application of personal talent and their social welfare during the course of their work.	1.702	0.905			
TM3: The important which an individual places on personal achievement, self-recognition, respect from others during the course of their work.	1.520	0.768			
Organisational factors			**0.836**	**0.890**	**0.670**
OF1: Employees are given the freedom to make decisions and take calculated risks without constant oversight.	1.756	0.822			
OF2: Reward systems that recognize and encourage entrepreneurial actions are crucial for embedding a CE culture.	1.818	0.815			
OF3: Adequate availability of time and resources allows employees to focus on entrepreneurial opportunities and take risks.	2.024	0.860			
OF4: Flexible organisational structures facilitate quick decision-making and information flow, fostering entrepreneurial behaviour.	1.717	0.775			

Source: Table by the author

Table 2. Heterotrait-Monotrait (HTMT)

Construct	AE	IV	OF	TM
Academic entrepreneurship				
Instrumental value	0.168			
Organisational factors	0.489	0.440		
Terminal value	0.364	0.429	0.511	

Source: Table by the author

Table 3. Cross loadings

Items	AE	IV	OF	TM
AE1	**0.842**	0.075	0.369	0.255
AE2	**0.875**	0.157	0.362	0.243
AE3	**0.891**	0.113	0.392	0.295
AE4	**0.895**	0.131	0.371	0.266
AE5	**0.777**	0.091	0.303	0.271
IV1	0.085	**0.759**	0.280	0.216
IV2	0.151	**0.881**	0.313	0.320
IV3	0.124	**0.796**	0.298	0.300
IV4	0.110	**0.769**	0.304	0.274
OF1	0.384	0.407	**0.822**	0.384
OF2	0.338	0.244	**0.815**	0.388
OF3	0.399	0.314	**0.860**	0.388
OF4	0.289	0.229	**0.775**	0.244
TM1	0.211	0.302	0.335	**0.808**
TM2	0.358	0.313	0.437	**0.905**
TM3	0.202	0.261	0.276	**0.768**

Source: Table by the author

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4.2 Assessment of structural model and hypothesis testing

The findings show that H1a is supported, demonstrating that the relationship between instrumental values and academic entrepreneurship is positive and significant (p = 0.000, β = 0.358). There is also a positive and significant relationship between terminal value and academic entrepreneurship (p = 0.000, β = 0.255), thus hypothesis H1b is supported. The relationship between organisational factors and academic entrepreneurship is positive and significant (p = 0.008, β = 0.109), supporting H2. Terminal value on academic entrepreneurship moderated by organisational factors (p = 0.016, β = 0.1), that hypothesis H3a is supported. The hypothesis H3b, which posited that organisational factors moderate the relationship between instrumental value and academic entrepreneurship, was not supported (p = 0.967, β = 0.002). This suggests that the interaction effect between organisational factors (OF) and independent variable (IV) is not statistically significant in predicting academic entrepreneurship (AE).

Table 4. Structural model results

Hypotheses	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	p-values
IV -> AE	0.358	0.358	0.043	8.296	0.000
TM -> AE	0.255	0.258	0.047	5.385	0.000
OF -> AE	0.109	0.112	0.041	2.647	0.008
OF x TM -> AE	0.100	0.096	0.042	2.403	0.016
OF x IV -> AE	0.002	0.002	0.052	0.041	0.967

Source: Table by the author

The coefficient for work value on the instrumental value in the regression model is 0.358, with a significant t-value of 8.296 and a p-value of 0.000. This result indicates that academicians who highly value their work are more inclined to pursue entrepreneurial endeavours such as commercializing their research findings, starting spin-off companies, or engaging in consultancy activities. This is because instrumental values play a crucial role in shaping the behaviour, decisions, and outcomes of academicians within academic settings (Mansour et al., 2022). For example, academicians who personify values such as teamwork, cooperation, and collegiality are more likely to collaborate with colleagues, share resources and expertise, and contribute to a positive and inclusive academic entrepreneurship characterized by mutual respect and cooperation. These results of the positive impact of social contact and networks and the change to become an entrepreneur are in line with the study by Elias (2024), Prodan and Drnovsek (2010), and Audretsch et al. (2011) on the intention of academicians to be an entrepreneur and patent their work.

On the other hand, the finding shows that there is a significant and positive relationship between work values in terms of terminal values and academic entrepreneurship. This has been evidenced by the fact that (p = 0.000, β = 0.255). This relationship means that people who place a high priority on terminal values (such as reaching long-term objectives, developing personally, or having a significant influence) are more likely to take part in entrepreneurial activities in an academic setting. This research highlights the role that long-term goals and internal motivations play in encouraging academics to pursue entrepreneurial endeavours. This finding aligns with existing literature suggesting that a person's preference towards self-improvement encourages them to use their knowledge and skills to develop new ideas for goods or services that could be sold (Nor et al., 2020). Again, high self-esteem helps people become more productive (Gómez-Jorge et al., 2023), prevent academic delaying or postponing tasks, and become active (Batool & Khursheed, 2017). This is because most individuals with work value attributes are intrinsically motivated to enhance their skills and knowledge, believe in their capacity to succeed, mitigate fears of failure, and create networks and social connections. These abilities help them engage in entrepreneurial endeavours.

Furthermore, the study indicates that organisational factors positively influence academic entrepreneurship. The coefficient for organisational factors is 0.109, with a significant t-value of 2.647 and a p-value of 0.008. Factors such as management support, reward, availability of time, flexible working conditions, and work autonomy play crucial roles in facilitating entrepreneurial activities among academics. Interestingly, institutions that provide a conducive environment for innovation and risk-taking are more likely to see increased engagement in entrepreneurial endeavours among their faculty members (Etzkowitz, 2003; Fayolle & Gailly, 2015). However, the findings of the current study do not support previous research, such as that of Urban et al. (2020), which found that management support does not have any significant influence on academic entrepreneurship. This can be explained as, in one or both studies, there could be some other factor influencing the relationship between organisational factors and academic entrepreneurship. For example, there might be an issue of organisational culture, academic motivations, or external market conditions that could act as mediators or moderators between the

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relationships. Again, the relationship between organisational factors and academic entrepreneurship could be dependent on the relations between multiple variables. For example, even though organisational factors could be helpful in some situations, the presence of other elements like strict bureaucratic systems may neutralise their impact.

On the other hand, the coefficient for the interaction term (Int_1) is 0.002, suggesting a moderating effect of organisational factors on the relationship between instrumental value and academic entrepreneurship, but it is not statistically significant at the conventional significance level ($p = 0.967$, $\beta = 0.002$). While the coefficient for the interaction term was not statistically significant in the current analysis, previous research suggests that the moderating role of organisational factors on the relationship between individual characteristics and entrepreneurial behaviour can be significant (Hornsby et al., 2009; Huyghe & Knockaert, 2015; Moog et al., 2012; Subramaniam et al., 2020). Further exploration may be warranted to understand the nuanced dynamics between instrumental work values and organisational factors in shaping academic entrepreneurship. These results suggest that instrumental work values hold a significant influence on academic entrepreneurship compared to other factors examined in the study. This finding gives emphasis to the importance of academicians' instrumental values in driving entrepreneurial behaviour within academic settings. It implies that individuals who deeply value their work in terms of valuing social interactions with colleagues, acquiring new knowledge, enhancing creativity, and achieving economic security are more likely to exhibit entrepreneurial traits and engage in innovative activities. This strong intrinsic motivation can inspire them to go above and beyond their prescribed duties, demonstrating a willingness to take initiatives and pursue opportunities for growth and development. In the same vein, the relationship between an individual's work values and academic entrepreneurship may be impacted by differences in institutional policies, industry dynamics, or organisational culture, which could lessen the moderating influence.

5. Conclusion and implications

5.1 Conclusion

The study looks into how work values, both instrumental and terminal, and organisational factors influence academic entrepreneurship. The findings support previous research highlighting that individual work values motivate entrepreneurial behaviour by demonstrating that people who place a high value on their work are more likely to pursue entrepreneurship. In a similar vein, academic entrepreneurship is greatly encouraged by organisational factors. Contrary to earlier conclusions, the study finds no evidence of a significant moderating effect of organisational factors on the relationship between instrumental value and academic entrepreneurship; however, it shows a positive and significant moderation effect between terminal values and academic entrepreneurship.

5.2 Knowledge implications

The study reveals that instrumental and terminal values significantly drive academic entrepreneurship; highlighting the significance of teamwork, long-term goals, and personal growth in driving entrepreneurial activities. Organisational elements, including flexibility, rewards, and support, are also very important, but their effects can be complicated and impacted by other elements like external market conditions and organisational culture. The results highlight the need for more research into the particular instrumental values that are most effective in fostering entrepreneurship, the function of social networks, and the circumstances in which organisational support works best. Furthermore, it has been determined that intrinsic motivation and self-worth are important psychological components, indicating that fostering these qualities in a working setting can improve entrepreneurial conduct.

5.3 Policy implications

The study's findings offer a number of policy implications for academic institutions looking to encourage their faculty members to pursue entrepreneurship. Institutions should use cooperative projects and shared resources to foster instrumental values like collegiality and teamwork. Policies that provide chances for career advancement and lifelong learning should assist long-term objectives, individual development, and provide opportunities for meaningful work, recognition of accomplishments, autonomy in decision-making, and networking. Policies should also recognize achievements such as the successful commercialization of research and the development of impactful community engagement projects. It is very important to improve organisational support through flexible work arrangements, rewards, and strong managerial support.

To optimise the efficacy of policies, institutions should also be flexible enough to adjust to contextual factors like institutional culture and outside society's circumstances. To create more focused solutions,

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additional investigation into the moderating impact of organisational characteristics on entrepreneurial behaviour is advised. Universities may involve establishing technology transfer offices, providing funding and resources for commercialization efforts, and fostering collaboration with industry partners to improve the translation of research findings from academic laboratories to the market and society. For flexible organisational boundaries, universities could establish mechanisms for sharing information and knowledge across organisational boundaries. This can include creating digital platforms, organizing networking events, and fostering communication channels that facilitate the exchange of ideas and best practices among academic members and external partners.

5.4 Limitations and future studies

Although the study contributes to addressing the knowledge gap, it has some limitations. Based on the focus of the current study on the influence of organisational factors, it does not examine in depth the contextual factors like organisational culture, specific institutional policies, and external market conditions on academic entrepreneurship. Given the non-significant interaction term of instrumental value, the study suggests that it failed to understand how organisational factors interact with work values to influence academic entrepreneurship. Furthermore, this study did not take into consideration the diverse nature of academic disciplines and their influence on work values and entrepreneurial activities. For that reason, this study suggests that another study can be conducted on the influence of organisational culture and external market conditions on academic entrepreneurship. Further research is needed to explore these potential moderating and mediating effects. Therefore, future studies may investigate the relationship between work values and academic entrepreneurship across different academic disciplines, such as STEM (Science, Technology, Engineering, and Mathematics) versus the humanities or social sciences. This will create a stronger and more comprehensive framework for applying the study's findings to a broader population of academic disciplines.

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