


**THE MODERATING EFFECT OF UNIVERSITIES ON THE RELATIONSHIP BETWEEN LEADERSHIP AND SUCCESSFUL NEW VENTURE CREATION**

Alhazemi Abdulrahman<sup>A</sup>



ARTICLE INFO	ABSTRACT
<p><b>Article history:</b></p> <p><b>Received</b> 03 April 2023</p> <p><b>Accepted</b> 04 July 2023</p>	<p><b>Purpose:</b> The present research explores the moderating effect of universities on the relationship between leadership and successful new venture creation. Leadership is crucial for new venture creation, influencing the venture's direction, strategy, and motivation. However, the influence of universities on this relationship has still not been extensively studied.</p>
<p><b>Keywords:</b></p> <p>Moderating Effect; Universities; Leadership; Successful New Venture Creation; Relationship.</p>	<p><b>Theoretical framework:</b> This research hypothesis proposes that universities can moderate the relationship between leadership and new venture creation by providing several leadership qualities, such as Visionary Thinking, Innovative Thinking, Communication Skills, Financial Management Skills, Team Building, Risk Taking Capabilities, and Strategic Thinking that facilitate the development and scaling up of new ventures.</p> <p><b>Design/methodology/approach:</b> The study uses a mixed-method methodology that includes qualitative and quantitative research methods and a sample size of 512 participants (students &amp; instructors). The study focuses on private and public universities in Saudi Arabia and uses the Smart PLS tool to analyze the data.</p>
	<p><b>Findings:</b> The results of this study will contribute to the existing literature on entrepreneurship by providing valuable insights into the role of universities in creating and supporting new ventures. The study's findings will help policymakers make informed decisions on leveraging university resources to facilitate the development of new experiences. The results demonstrate that Saudi University support is critical in building relationships between leadership and successful new venture creation, highlighting the importance of collaborative efforts between universities and entrepreneurs.</p> <p><b>Originality/value:</b> Ultimately, this research contributes to developing strategies that enhance start-ups' success and promote economic growth.</p> <p>Doi: <a href="https://doi.org/10.26668/businessreview/2023.v8i7.2561">https://doi.org/10.26668/businessreview/2023.v8i7.2561</a></p>

**O EFEITO MODERADOR DAS UNIVERSIDADES NA RELAÇÃO ENTRE LIDERANÇA E CRIAÇÃO BEM-SUCEDIDA DE NOVOS EMPREENDIMENTOS**

**RESUMO**

**Objetivo:** A presente pesquisa explora o efeito moderador das universidades na relação entre liderança e criação bem-sucedida de novos empreendimentos. A liderança é fundamental para a criação de novos empreendimentos, influenciando a direção, a estratégia e a motivação do empreendimento. Entretanto, a influência das universidades nessa relação ainda não foi amplamente estudada.

**Estrutura teórica:** A hipótese desta pesquisa propõe que as universidades podem moderar a relação entre a liderança e a criação de novos empreendimentos, fornecendo várias qualidades de liderança, como pensamento visionário, pensamento inovador, habilidades de comunicação, habilidades de gestão financeira, formação de equipes, capacidade de assumir riscos e pensamento estratégico que facilitam o desenvolvimento e o aumento de escala de novos empreendimentos.

<sup>A</sup> *PhD. Associate Professor of Human Resource Management. College of Business Administration, Jazan University. Saudi Arabia. E-mail: [Afahazmi@jazanu.edu.sa](mailto:Afahazmi@jazanu.edu.sa) Orcid: <https://orcid.org/0009-0008-7121-5806>*

**Projeto/metodologia/abordagem:** O estudo usa uma metodologia de método misto que inclui métodos de pesquisa qualitativos e quantitativos e uma amostra de 512 participantes (alunos e instrutores). O estudo se concentra em universidades públicas e privadas da Arábia Saudita e usa a ferramenta Smart PLS para analisar os dados.

**Conclusões:** Os resultados deste estudo contribuirão para a literatura existente sobre empreendedorismo, fornecendo percepções valiosas sobre o papel das universidades na criação e no apoio a novos empreendimentos. As descobertas do estudo ajudarão os formuladores de políticas a tomar decisões informadas sobre como aproveitar os recursos das universidades para facilitar o desenvolvimento de novas experiências. Os resultados demonstram que o apoio da Universidade Saudita é fundamental para a construção de relacionamentos entre a liderança e a criação bem-sucedida de novos empreendimentos, destacando a importância dos esforços de colaboração entre universidades e empreendedores.

**Originalidade/valor:** Em última análise, esta pesquisa contribui para o desenvolvimento de estratégias que aumentam o sucesso das start-ups e promovem o crescimento econômico.

**Palavras-chave:** Efeito Moderador, Universidades, Liderança, Criação Bem-Sucedida de Novos Empreendimentos, Relacionamento.

## EL EFECTO MODERADOR DE LAS UNIVERSIDADES EN LA RELACIÓN ENTRE EL LIDERAZGO Y EL ÉXITO EN LA CREACIÓN DE NUEVAS EMPRESAS

### RESUMEN

**Objetivo:** Esta investigación explora el efecto moderador de las universidades en la relación entre el liderazgo y el éxito en la creación de nuevas empresas. El liderazgo es fundamental para la creación de nuevas empresas, ya que influye en la dirección, la estrategia y la motivación de la empresa. Sin embargo, la influencia de las universidades en esta relación aún no ha sido ampliamente estudiada.

**Marco teórico:** La hipótesis de esta investigación propone que las universidades pueden moderar la relación entre el liderazgo y la creación de nuevas empresas proporcionando diversas cualidades de liderazgo como el pensamiento visionario, el pensamiento innovador, las habilidades de comunicación, las habilidades de gestión financiera, la creación de equipos, la capacidad de asumir riesgos y el pensamiento estratégico que facilitan el desarrollo y la ampliación de nuevas empresas.

**Diseño/metodología/enfoque:** El estudio utiliza una metodología mixta que incluye métodos de investigación cualitativos y cuantitativos y una muestra de 512 participantes (estudiantes e instructores). El estudio se centra en universidades públicas y privadas de Arabia Saudí y utiliza la herramienta Smart PLS para analizar los datos.

**Conclusiones:** Los resultados de este estudio contribuirán a la literatura existente sobre el espíritu empresarial al proporcionar valiosos conocimientos sobre el papel de las universidades en la creación y el apoyo a nuevas empresas. Los resultados del estudio ayudarán a los responsables políticos a tomar decisiones informadas sobre cómo aprovechar los recursos de las universidades para facilitar el desarrollo de nuevos experimentos. Las conclusiones demuestran que el apoyo de las universidades saudíes es fundamental para establecer relaciones entre el liderazgo y el éxito en la creación de nuevas empresas, lo que pone de relieve la importancia de los esfuerzos de colaboración entre universidades y empresarios.

**Originalidad/valor:** En última instancia, esta investigación contribuye al desarrollo de estrategias que aumenten el éxito de las nuevas empresas y promuevan el crecimiento económico.

**Palabras clave:** Efecto Moderador, Universidades, Liderazgo, Creación de Nuevas Empresas con Éxito, Relación.

### INTRODUCTION

Leadership is essential to the development of new enterprises. Effective leadership can inspire and motivate the team to achieve the common objective of establishing a prosperous business. Nonetheless, the effect of administration on the creation of new companies may be moderated by several factors, including the role of universities in developing entrepreneurial leadership. Education in entrepreneurship has been shown to positively affect the development

of entrepreneurial abilities, which are essential for creating successful new businesses. Universities play a crucial role in providing this type of education, and several of them have established entrepreneurship programs to cultivate entrepreneurial leadership. Unexplored, however, is how such programs moderate the relationship between leadership and the creation of exciting new ventures.

Also state in recent years, Saudi Arabia has made significant investments in its higher education infrastructure. Saudi universities have expanded their entrepreneurship programs, which provide aspiring entrepreneurs with courses, seminars, mentorship, and other resources. Consequently, the number of successful start-ups and small and medium-sized enterprises (SMEs) in the country has increased..

This paper seeks to investigate the moderating influence of Saudi Arabian universities on the relationship between leadership and successful new venture creation. The research emphasizes entrepreneurship education and other university programs' potential power in developing entrepreneurial leaders and new venture.

While there has been previous research that established the relationship between leadership and successful new venture creation, there is a lack of studies investigating the moderating effect of universities on this relationship. This research gap is particularly relevant given the increasing role of universities in promoting entrepreneurship and their potential to enhance leadership skills among students. Therefore, there is a need to investigate whether Saudi Arabian Universities can act as a moderator in the relationship between leadership and successful new venture creation and how this relationship might differ between university-affiliated and non-university-affiliated start-ups. Such research could help inform policies and programs to foster entrepreneurship and leadership development, particularly in higher education institutions.

The study employed a quantitative research design, collecting data through surveys distributed to a sample of Saudi Arabian entrepreneurs. The survey will ask respondents about their leadership abilities, exposure to entrepreneurship education and university programs, and new venture creation outcomes.

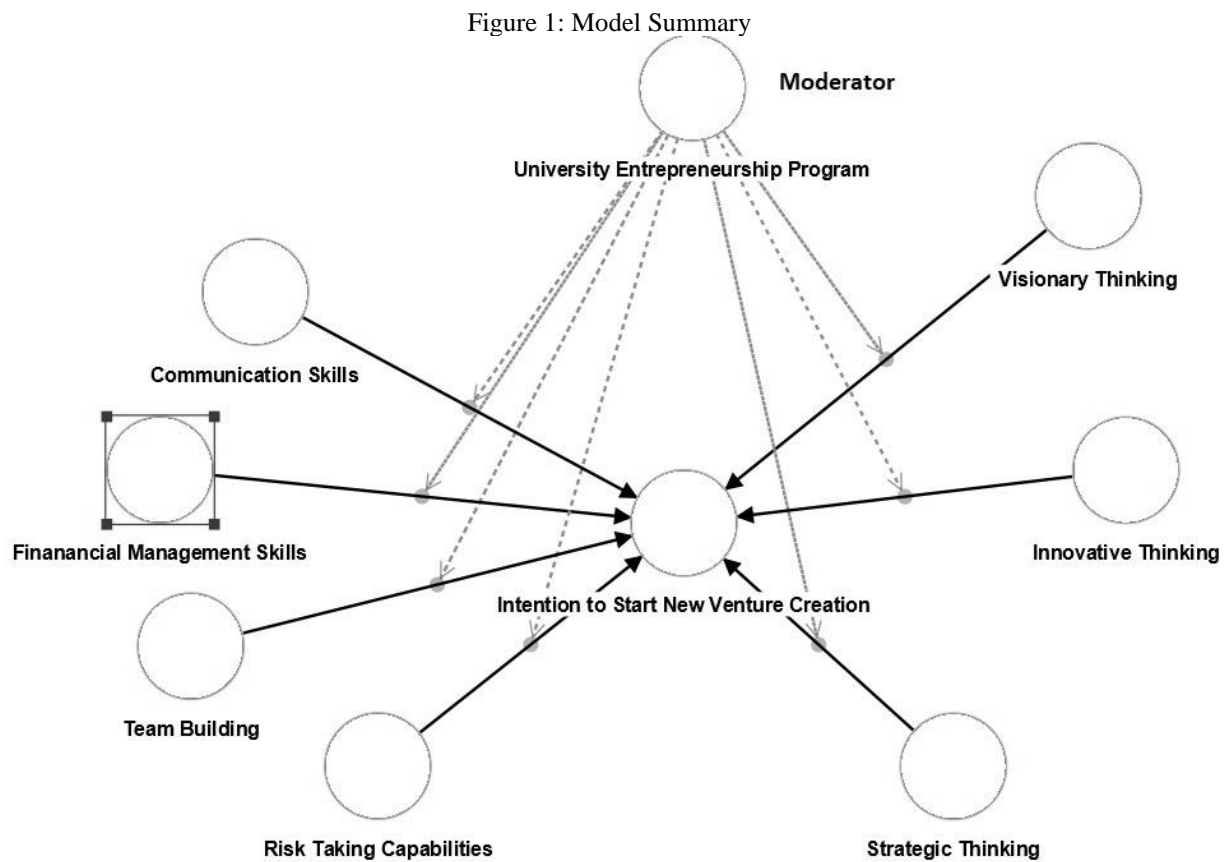
This study's findings can shed light on the efficacy of entrepreneurship education and university programs in developing leadership skills and fostering the creation of successful new businesses. This information is helpful for policymakers, educators, and entrepreneurs in Saudi Arabia and other nations seeking to promote entrepreneurship and economic growth.

## REVIEW OF LITERATURE

Several studies have demonstrated that leadership is vital to a new venture's success. In an uncertain and complex environment, recent venture creation success is more likely dependent on leaders who can inspire and motivate their team members, make strategic decisions, and take calculated risks (AlAnazi, Kura, Suleiman, & Abubakar, 2022). In addition, universities play a significant role in fostering the formation of successful new creations (Fischer, 2019). Universities provide a wide range of resources and support, such as mentorship, networking platform, and funding support that can considerably increase the likelihood of success for the new ventures. However, the role of universities as a moderator between leadership and the start-up of successful new businesses has still not been adequately examined (Bazan et al., 2020). While some research suggests that universities can help find a balance by offering leadership development programs.

In contrast, others believe they may inhibit entrepreneurial leadership growth by fostering a culture of conformity and risk aversion. According to a study by (Fottler, Blair, Rotarius, & Youngblood, 1996), Universities and colleges can play a moderating role by providing an environment favourable to the growth of entrepreneurial leadership (Santoso, Junaedi, Priyanto, Santoso, & Entrepreneurship, 2021). The study concluded that educational institutions are effective places to cultivate leadership traits like risk-taking, inventiveness, and perseverance, all of which are necessary to launch successful new firms (Gubalova, 2016). Institutions can also provide access to mentorship and other resources that can help aspiring business owners develop their leadership abilities and expand their professional networks. According to research (Kohtamäki, 2019), universities may also negatively affect the relationship between leadership and successful new venture creation. The study discovered that academic institutions could hinder entrepreneurial leadership development due to their culture and values promoting conservatism and conformity. In addition, they (Akidi & Udoh, 2021) state that universities may lack the resources and support necessary to develop entrepreneurial leadership abilities. While the significance of leadership and universities in fostering the creation of successful new ventures has been well-established, the moderating effect of universities on the relationship between leadership and successful new venture creation is a relatively unexplored area (Camilleri, Gamble, Kopecky, Wood, & Hockema, 2005) and (Cole, Cox, & Stavros, 2018). Understanding this relationship is essential for policymakers, university administrators, and entrepreneurs, as it can inform the development of programs and policies

that foster the growth of entrepreneurial leadership skills and boost the success of new ventures (Clayton, Sanzo, & Myran, 2013).



### Visionary Think and New Venture Creation

Visionary thinking (V.T.) is essential to developing successful new businesses. An innovative entrepreneur can identify and pursue opportunities that others cannot see, as well as inspire and lead others toward a shared vision (Clayton, Sanzo, & Myran, 2019). Universities play a crucial role in nurturing entrepreneurial aspirants' visionary thinking. Universities can help entrepreneurs develop the skills and perspective necessary to think and act as visionaries by providing an environment that encourages creativity, innovation, and risk-taking (Abidi, Nimer, Bani-Mustafa, & Toglawa, 2022) and (Green, 2009).

Universities promote visionary thinking by offering courses and programs encouraging students to think creatively and investigate innovative ideas (Hossain, Tabash, Siow, Ong, & Anagreh, 2023). Universities can help students develop the extensive knowledge base and interdisciplinary thinking skills required to identify new opportunities by exposing them to various disciplines and points of view (Zhu & Zayim-Kurtay, 2018).

In addition (Zeng & Xu, 2020) argued that universities could offer aspiring entrepreneurs access to various resources and support networks that can assist them in bringing their visionary ideas to life. This includes access to mentors and advisors with pertinent domain expertise and networking opportunities with potential investors and other stakeholders (Bazan et al., 2020).

Overall, the role of universities in nurturing entrepreneurial aspirants' visionary thinking is crucial to the success of new venture creation (Dell'Anno & Del Giudice, 2015). Universities can assist entrepreneurs in identifying and pursuing opportunities with the potential to generate significant economic and social value by equipping them with the skills, knowledge, and resources required to think and act like visionaries (VanTassel-Baska & Little, 2021).

H1a: There is a significant relationship between Innovative thinking and the Intention to Start New Venture.

H1b: University Entrepreneurship Program Significantly moderates the relationship between Innovative Thinking and Intention to Start New Venture.

### **Innovative Thinking (IT) and New Venture Creation**

Innovation is vital to the success of new business creation. Universities can be crucial in promoting innovative thought among their students and faculty, leading to entrepreneurial success (Kamberidou, 2020) and (VanTassel-Baska & Little, 2021). Universities can empower students with the skills necessary to generate new ideas and transform them into viable business ventures by creating an environment that fosters innovation and creativity (Shalina, Larionova, & Stepanova, 2021).

Having access to state-of-the-art technologies and research facilities is another valuable resource that many universities offer their students (Pérez-Ortega & Moreno-Freites, 2019; Pounder, 2001). Universities also provide students with mentorship and networking opportunities to help them connect with industry experts and possible investors, as well as courses and programmes that teach them about the latest trends and breakthroughs in their particular professions (Fareed, Su, & Aslam, 2023). Universities can also foster a culture of innovation and entrepreneurship by organising hackathons, start-up competitions, and networking events where students, faculty, and business executives can meet, talk shop, and share their respective expertise (Hernández-López, Álamo-Vera, Ballesteros-Rodríguez, & De Saá-Pérez, 2020).



Hence, universities can serve as innovation incubators by fostering a culture of creativity and entrepreneurship that can lead to the establishment of effective new businesses (Kachalov & Finogenova, 2023). Universities can play a crucial role in shaping the future of entrepreneurship by equipping students with the skills, resources, and networks necessary to develop innovative concepts and transform them into successful businesses (Lanzi et al., 2019).

H2a: There is a significant relationship between Innovative thinking and the Intention to Start New Venture.

H2b: University Entrepreneurship Program Significantly moderates the relationship between Innovative Thinking and the Intention To Start New Venture.

### **Strategic Thinking (ST)**

Strategic thinking is essential for creating successful new businesses because it enables entrepreneurs to plan for the future, identify opportunities and threats, and develop effective strategies for attaining their objectives (Marcial, 2021). Through various educational programs, seminars, and mentorship opportunities, universities play a crucial role in developing strategic thinking skills in aspiring entrepreneurs (Parker, Fazio, Volante, & Cherubini, 2008).

Universities provide students with theoretical knowledge and practical skills related to strategic planning and decision-making through academic programs and entrepreneurship courses (Rosli, de Silva, Rossi, & Yip, 2018; Steiner, Mazure, Siggins, Waxman, & Jacobs, 2004). These programs also expose students to the challenges entrepreneurs encounter in the real world, allowing them to develop strategies to overcome these obstacles.

Moreover, universities frequently collaborate with industry specialists and successful entrepreneurs to provide students with mentorship and guidance (Penpokai, Vuthisopon, & Saengnoee, 2023). This mentoring program helps students develop strategic thinking by exposing them to seasoned professionals who have successfully navigated the challenges of the new venture creation (Shalina et al., 2021).

In addition, universities can provide access to resources such as research facilities, funding support & assistance, and networking events that can facilitate creating and implementing strategic plans for new ventures.

Strategic thinking is vital for creating a successful new business, and universities play a crucial role in developing this skill in aspiring young entrepreneurs (Baghel, Pawar, Ingale, A jotikar, & Sahoo, 2023). Universities can provide students with the knowledge, skills, and

support necessary to create effective strategies for achieving their entrepreneurial objectives through academic programs, mentorship opportunities, and access to resources (J. Zhou, San, & Liu, 2023).

H3a: There is a significant relationship between Strategic thinking and the Intention to Start New Venture.

H3b: University Entrepreneurship Program Significantly moderates the relationship between Strategic Thinking and Intention to Start New Venture.

### **Communication Skills (S.C.)**

Practical communication skills are essential to any establishment of successful new businesses. Entrepreneurs must effectively convey their concepts and vision to potential investors, business partners, and customers. Universities are crucial in nurturing communication skills among aspiring entrepreneurs (Martín, Rodríguez, & Sánchez, 2019).

Universities can provide classes and seminars on communication skills, such as public speaking, presentation, and compelling messaging. Such programs can aid entrepreneurs in gaining confidence in their communication skills and preparing them for the realities of launching a new business (Gimenez-Jimenez, Edelman, Dawson, & Calabrò, 2022). In addition, universities can provide students with opportunities to hone their communication skills through networking events, proposal competitions, and collaborative projects (Morgan, Porter, & Lockard, 2007).

Through the development of interpersonal skills, universities can also promote communication abilities. Effective communication requires speaking, attentive listening, and empathy (Hernández-López et al., 2020). Universities can provide training in interpersonal skills to assist aspiring entrepreneurs in establishing and maintaining solid relationships with their team members, clients, and other stakeholders (Korach & Sanders, 2012).

In addition, (Fifield, 2015) mentions that universities can utilize technology to improve the communication skills of aspiring entrepreneurs. Online courses and webinars can give students the flexibility and accessibility to learn from experts worldwide. Also (Gimenez-Jimenez et al., 2022) argue that virtual reality (V.R.) technology can provide a safe and regulated environment for students to practice and refine their communication skills in a simulated environment.

Communication skills are crucial for establishing successful new businesses, and universities play an essential role in fostering these skills among aspiring entrepreneurs. By



providing communication and interpersonal skills courses, seminars, and training, universities can equip students with the tools to effectively communicate their ideas and bring their new ventures to life.

H4a: There is a significant relationship between communication skills and the Intention to Start New Venture.

H4b: University Entrepreneurship Program Significantly moderates the relationship between Communication Skills and Intention To Start New Venture.

### **Financial Management Skills (FMS)**

Financial management abilities are indispensable to the success of any new business venture. Entrepreneurs must have the knowledge and skills to effectively manage their finances and make informed decisions regarding investments, financial flow, and revenue streams and (Alawamleh, Francis, & Alawamleh, 2023; Khan, Ismail, Hussain, & Alghazali, 2020). Through courses, seminars, and mentoring programs, universities play an essential role in equipping aspiring entrepreneurs with the necessary financial management skills (Auletta, Kallen, di Bernardo, & Richardson, 2023).

Courses curricula on financial planning, budgeting, accounting, and financial analysis are one-way universities can promote financial management skills (Dziubaniuk, Ivanova-Gongne, & Nyholm, 2023). These courses allow business owners to comprehend the financial aspects of their enterprises and make informed decisions. In addition, universities can offer mentoring programs and access to financial specialists who can provide financial management guidance and advice (Shek, Cheng, & Ma, 2019).

In addition, universities can provide seminars and events emphasizing financial management abilities. These workshops give entrepreneurs hands-on financial management experience and a deeper comprehension of financial management principles. These workshops may cover bookkeeping, tax preparation, and fundraising (Suh, 1990; W. Zhou, Zhang, & Shen, 2017).

Overall, universities' promotion of financial management skills is crucial to the success of new venture creation (Bhusari et al., 2022). Universities can help create a new generation of financially knowledgeable entrepreneurs equipped to navigate the complex financial landscape of the business world by providing aspiring entrepreneurs with the necessary financial knowledge and skills (Gošnik, Kavčič, Meško, & Milost, 2023).

H5a: There is a significant relationship between Financial Management skills and Intention to Start New Venture.

H5b: University Entrepreneurship Program Significantly moderates the relationship between Financial Management Skills and Intention to Start New Venture.

### **Team Building (TB)**

Team building is an essential aspect of launching a new business, as it enables entrepreneurs to put together individuals with complementary skills and experience to accomplish their objectives. Through various programs, courses, and initiatives, universities can play a vital role in fostering teamwork skills among their students (Haaland, Øygarden, Storm, & Mikkelsen, 2023).

Universities can contribute to developing teamwork abilities through experiential learning programs like hackathons, start-up retreats, and business plan competitions (Feakes, Lindsay, Palmer, & Petrovski, 2023; Karakus, Usak, & Ersozlu, 2021). These competitions allow students to work in teams to solve real-world issues and develop innovative solutions. Students learn how to collaborate effectively with others, identify their strengths and weaknesses, and work towards a common objective through these experiences (Dziubaniuk et al., 2023; Habibi, Sofyan, & Mukminin, 2023).

Universities can also promote team-building skills by encouraging students to partake in entrepreneurial extracurricular activities and clubs (Tinkov, Tinkova, Babenko, Demina, & Fomicheva, 2023). These groups provide students with opportunities to network, collaborate, and learn from one another, which can assist them in forming solid relationships and cohesive teams when they launch their ventures (Gačić, Milojević, Knežević, & Adamović, 2023).

Universities may also provide training programs emphasizing team-building skills, such as conflict resolution, communication, and leadership (Gimenez-Jimenez et al., 2022). These abilities are essential for assembling solid and effective teams capable of navigating the challenges of launching a new venture. By providing students with the knowledge and tools necessary to develop these skills, universities can create a pool of entrepreneurs better equipped to establish successful businesses (Islam et al., 2023).

New business creation relies significantly on effective teamwork, and educational institutions can play an essential part in developing this capacity in their students. The key is surrounding yourself with like-minded people who can help you achieve your goals.

H6a: There is a significant relationship between Team building and the Intention to Start New Venture.

H6b: University Entrepreneurship Program Significantly moderates the relationship between Team building and Intention to Start New Venture.

### **Risk Taking Capabilities (RTC)**

Risk-taking is an essential trait of entrepreneurs, as they must be ready to take an opportunity on something with an unclear conclusion (Ramazan, Danielson, Rougee, Ardasheva, & Austin, 2023). The ability to effectively manage risks is essential for creating new businesses, and universities can play a crucial role in fostering this ability among aspiring entrepreneurs.

Through various programs and initiatives, universities can provide students with opportunities to develop their risk-taking skills in a controlled and supportive environment (Youtie, Li, Rogers, & Shapira, 2017). Entrepreneurship courses and workshops, for instance, can teach students how to identify and evaluate risks, develop risk management strategies, and take calculated risks in their business ventures (Ochs, Watkins, & Snyder, 2003).

In addition, universities can cultivate a risk-taking culture by encouraging students to try out new ideas, embrace failure as a learning opportunity, and seek feedback from mentors and peers (Döş & Savaş, 2015). Universities can assist students in developing the self-assurance and resiliency required to take risks and pursue their entrepreneurial aspirations by cultivating a supportive and nurturing environment (Milligan, Hulse, & Davison, 2013).

Also, some researchers like (AlAnazi et al., 2022) and (Milligan et al., 2013) state that universities can provide students with access to resources that can assist them in effectively managing risks. Universities may offer networking opportunities with successful entrepreneurs, access to industry specialists, and financial resources such as seed funding and business incubators (Milligan et al., 2013). Universities can assist students in developing a comprehensive comprehension of risk-taking and how to manage it in the context of new venture creation by providing these resources (Marcial, 2021; Milligan et al., 2013).

Risk-taking is a crucial aspect of entrepreneurship, and universities can play a pivotal role in fostering this trait in aspiring entrepreneurs. Universities can enable a new generation of risk-takers equipped to flourish in the competitive world of new venture creation by providing students with opportunities to learn, experiment, and access resources (Marcial, 2021; Milligan et al., 2013).

H7a: A significant relationship exists between risk-taking capabilities and the Intention to Start New Venture.

H7b: University Entrepreneurship Program Significantly moderates the relationship between Risk Taking Capabilities and Intention to Start New Venture.

## **METHODOLOGY**

The hypotheses were evaluated by an in-depth interview with 512 students and instructors from Saudi Arabian Universities. The study's methodology and the demographics of the sample are presented in Table 1. Regarding the procedure, the surveyors sought out respondents from specific demographic groups (based on age and gender, respectively). Interviews with instructors are conducted and recorded to guarantee the accuracy of the findings. Psychological tests based on the work were used to evaluate the cognitive and normative components (Hancock, Algozzine, & Lim, 2021). For every item, the possible responses were between 1 (strongly disagree) and 5 (strongly agree). According to (Leung, Wu, Chen, & Young, 2011), a normal distribution or interval scale can only be achieved with 21 elements. An instrument derived from the PAD semantics differential scale (García-Milon, Pelegrín-Borondo, Juaneda-Ayensa, & Olarte-Pascual, 2021) was used to assess the emotional component.

### **Principal evaluation procedure and Participants**

Participating students were surveyed by online questionnaire. Over twelve days, responses were gathered for the study. Only 512 replies were used for the primary analysis after 53 careless responses from straight-liners who always picked the same answer were thrown out. There was a very even split between the gender among respondents (36.3% female).

### **Measures**

A 5-point Likert scale was used, with "strongly disagree" (1) and "strongly agree" (5) serving as the extremes. The pre-existing instruments were adapted to be suitable for the research at hand. The items on the utility-scale came from (Goldstein, Bertels, & Davis, 1989), while those on the social capability scale came from (Song & Kim, 2022). (Nomura, Suzuki, Kanda, & Kato, 2006) provided us with the items for the anxiety regarding the robotics scale, and (Leung et al., 2011) provided us with the items for the attitudes towards the HRI scale, which together make up the inhibitory factor. Last, we used indicators of expected service

quality (Kettinger, Lee, & Lee, 1995) and behavioral intention to use the RSR (Xin & Yingxi, 2022). The survey questions were subjected to a content analysis by four professors from the same university and were then updated to increase readability and comprehension.

## RESULTS

Table 1 displays that "Cronbach's alpha and composite reliability" for all constructs were more extensive than 0.70, indicating high internal consistency. Moreover, they met the "convergent validity criterion" because their "average variance extracted (AVE)" was less than 0.5. All constructs were found to satisfy the Fornell-Larcker criterion for discriminant validity (Table 2). In addition, the Fornell-Larcker "square root of the AVE" for a construct is more significant than its correlation with any other construct, indicating that the construct has discriminant validity (Kettinger et al., 1995; Song & Kim, 2022).

We also assessed the collinearity between the existing antecedents of "attitude" (i.e., "Innovative Thinking," Visionary Thinking, Strategic Thinking, Communication Skills, Financial Management Skills, Team Building, Risk Taking Capabilities, and Intention"). Collinearity issues may exist if the VIF is greater than 10 (Curto & Pinto, 2011).

Table 1: Construct Reliability & Validity - Fornell-Larcker criterion

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	The average variance extracted (AVE)
CS	0.806	0.924	0.814	0.615
FMS	0.927	0.927	0.927	0.808
IT	0.798	0.812	0.800	0.574
RTC	0.929	0.929	0.928	0.812
ST	0.914	0.926	0.916	0.785
TB	0.860	0.870	0.863	0.678
UEP	0.883	0.883	0.883	0.791
VT	0.824	0.835	0.821	0.608

Source: Primary Data using SMART PLS-4

Table 2 Discriminant Validity

	ATNVC	CS	FMS	ISNV	IT	RTC	ST	TB	UEP	VT
ATNVC	1									
CS	0.933	0.984								
FMS	0.673	0.628	0.899							
ISNV	0.581	0.869	0.276	1						
IT	0.717	0.715	0.827	0.440	0.899					
RTC	0.776	0.778	0.869	0.521	0.767	0.901				
ST	0.696	0.682	0.860	0.416	0.623	0.812	0.985			
TB	0.732	0.745	0.861	0.443	0.802	0.883	0.841	0.930		
UEP	0.574	0.648	0.666	0.414	0.801	0.833	0.708	0.639	0.889	
VT	0.846	0.832	0.872	0.521	0.893	0.858	0.866	0.823	0.629	0.78

Source: Primary Data using SMART PLS-4

### Assessment of the Structural Model

(Kettinger et al., 1995; Leung et al., 2011) The R<sup>2</sup> was used to determine the model's fit According to (Curto & Pinto, 2011), 0.75 (significant), 0.50 (moderate), and 0.25 (poor) are the levels of this accuracy.

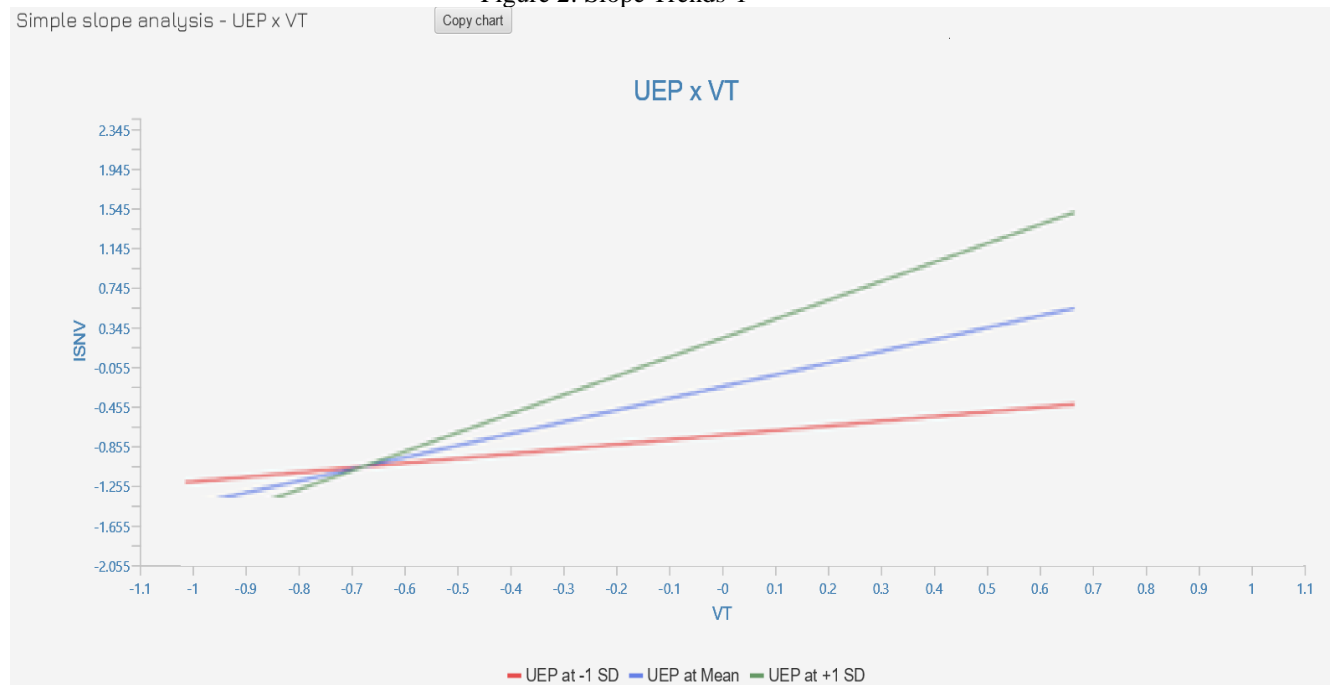
Table 3 Effect on the endogenous variables

Hypothesis	Path	Effect	t value	P - Values	Result
H1a	VT -> ISNV	0.199	0.000	0.000	Supported
H1b	UEP x V.T. -> ISNV	0.089	0.000	0.000	Supported
H2a	IT -> ISNV	1.484	0.000	0.000	Supported
H2b	UEP x IT -> ISNV	0.937	0.000	0.000	Supported
H3a	ST -> ISNV	-2.605	0.000	0.000	Supported
H3b	UEP x ST -> ISNV	0.005	0.000	0.000	Supported
H4a	CS -> ISNV	2.287	0.000	0.000	Supported
H4b	UEP x CS -> ISNV	0.127	0.000	0.000	Supported
H5a	FMS -> ISNV	1.433	0.000	0.000	Supported
H5b	UEP x FMS -> ISNV	0.153	0.000	0.000	Supported
H6a	TB -> ISNV	-0.445	0.000	0.000	Supported
H6b	UEP x TB -> ISNV	0.631	0.000	0.000	Supported
H7a	RTC -> ISNV	-0.832	0.000	0.000	Supported
H7b	UEP x RTC -> ISNV	1.562	0.000	0.000	Supported

Source: Primary Data using SMART PLS-4

### Slope Analysis

Figure 2: Slope Trends-1



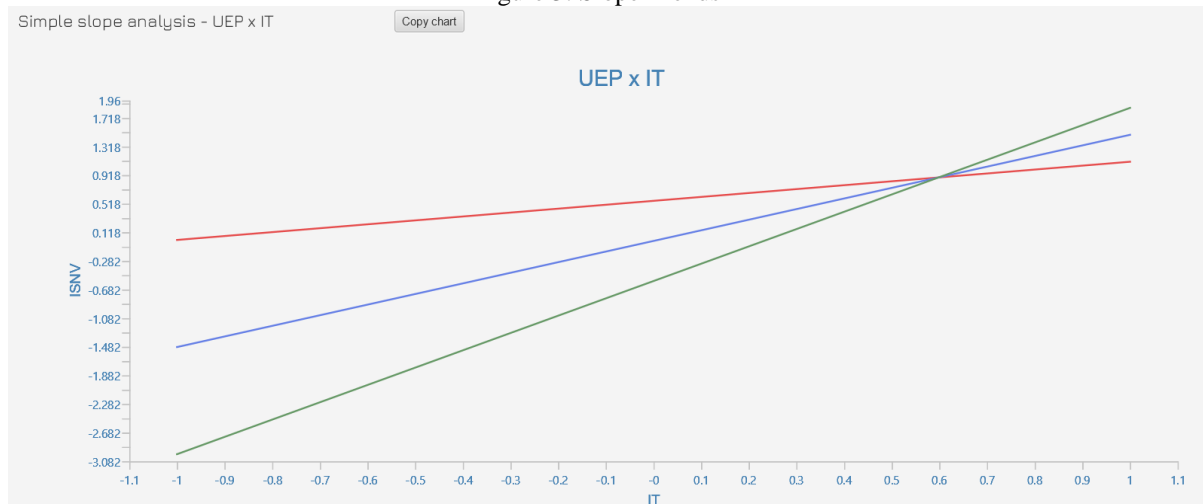
Source: Primary Data using SMART PLS-4



### Moderating Effect of University Entrepreneurial Program with Visionary Thinking and Intention to Start a New Venture

The intersection points at -0.4 indicates that the relationship between UEP and ISNV is more robust for those with low levels of V.T. and weakened for those with high levels of V.T. Overall, this indicates that a person's level of V.T moderates the effect of UEP on ISNV.

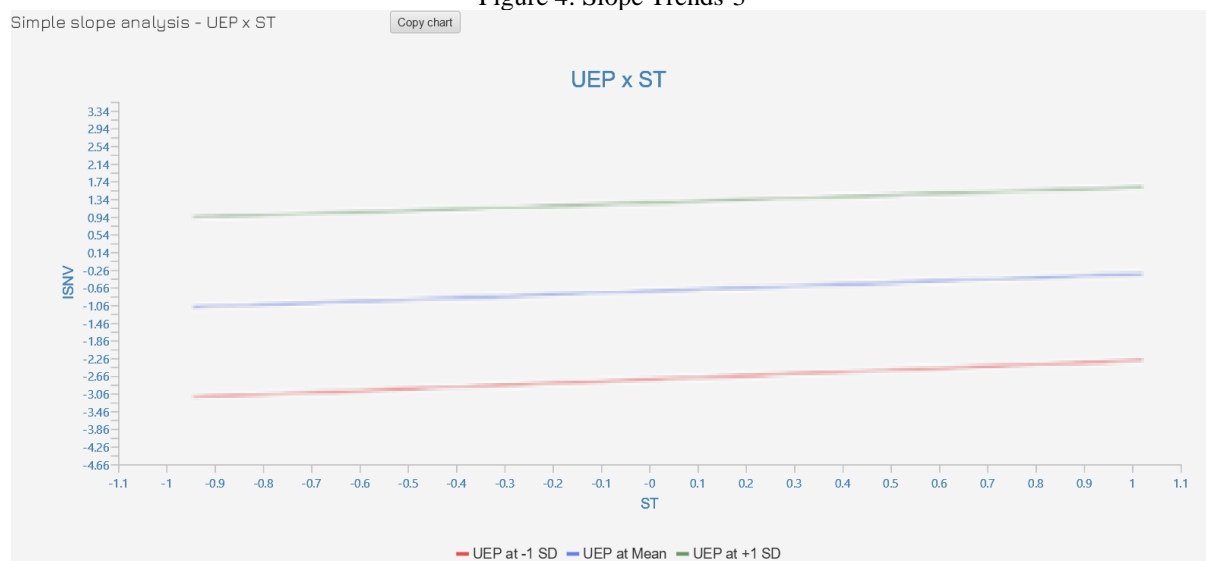
Figure 3: Slope Trends-2



Source: Primary Data using SMART PLS-4

Since the intersection point is positive and more significant than 0.5, we can conclude that IT strongly moderates the relationship between UEP and ISNV. The combination of UEP and IT has a more substantial impact on ISNV than either variable alone.

Figure 4: Slope Trends-3

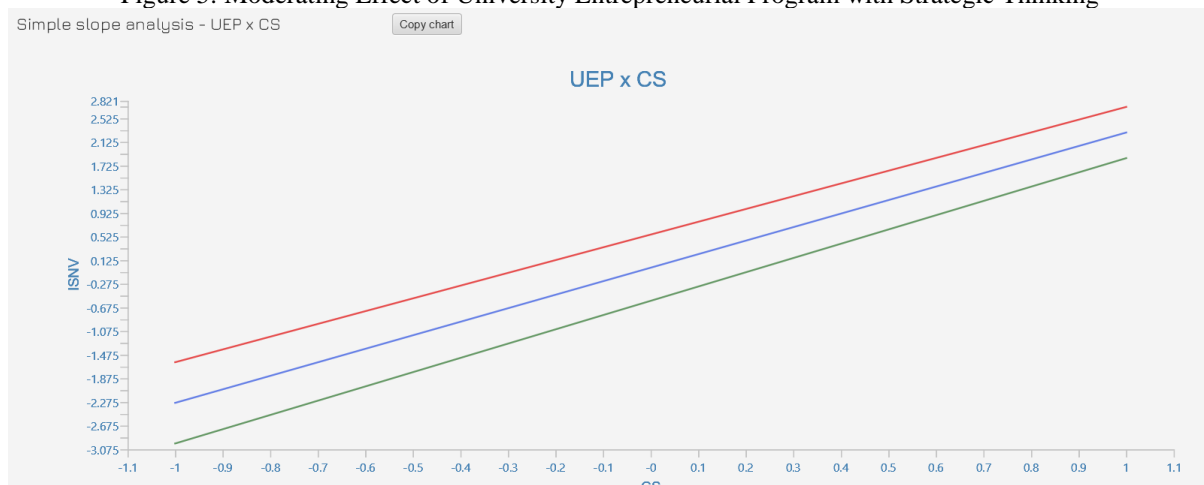


Source: Primary Data using SMART PLS-4

### Moderating Effect of University Entrepreneurial Program with Strategic Thinking and Intention to Start New Venture

The path coefficient value for the interaction effect of UEP and ST on ISNV is minimal (0.005), and the site of intersection is also minimal (0.005) based on the information provided. This suggests that the interaction between UEP and ST has no significant moderating effect on ISNV. There is no evidence that the relationship between UEP, ST, and ISNV varies based on the levels of UEP and ST. The relationship between UEP, ST, and ISNV will likely be non-existent.

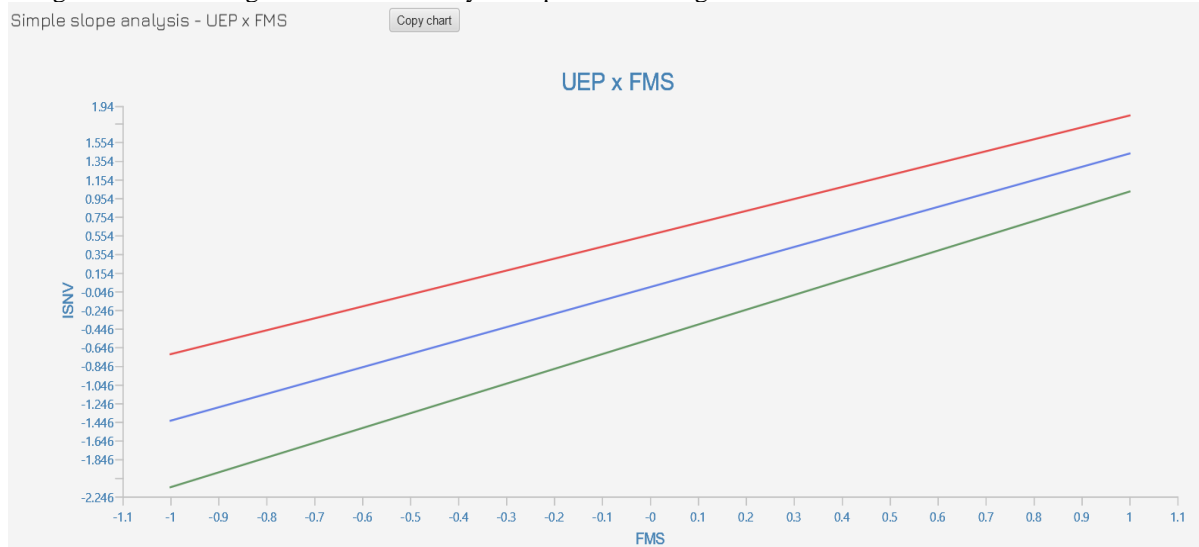
Figure 5: Moderating Effect of University Entrepreneurial Program with Strategic Thinking



### Moderating Effect of University Entrepreneurial Program with Communication Skills and Intention to Start a New Venture

The positive coefficient value of 0.127 indicates a positive UEP relationship between CS and ISNV. However, the point of intersection, as mentioned in the figure illustrates, lying outside the graph suggests the possibility of a moderation effect. This means that the relationship between UEP x CS and ISNV may vary depending on the level of another variable. Hence, further analysis is needed to determine the nature and significance of this moderation effect.

Figure 6: Moderating Effect of University Entrepreneurial Program with communication skills and Intention

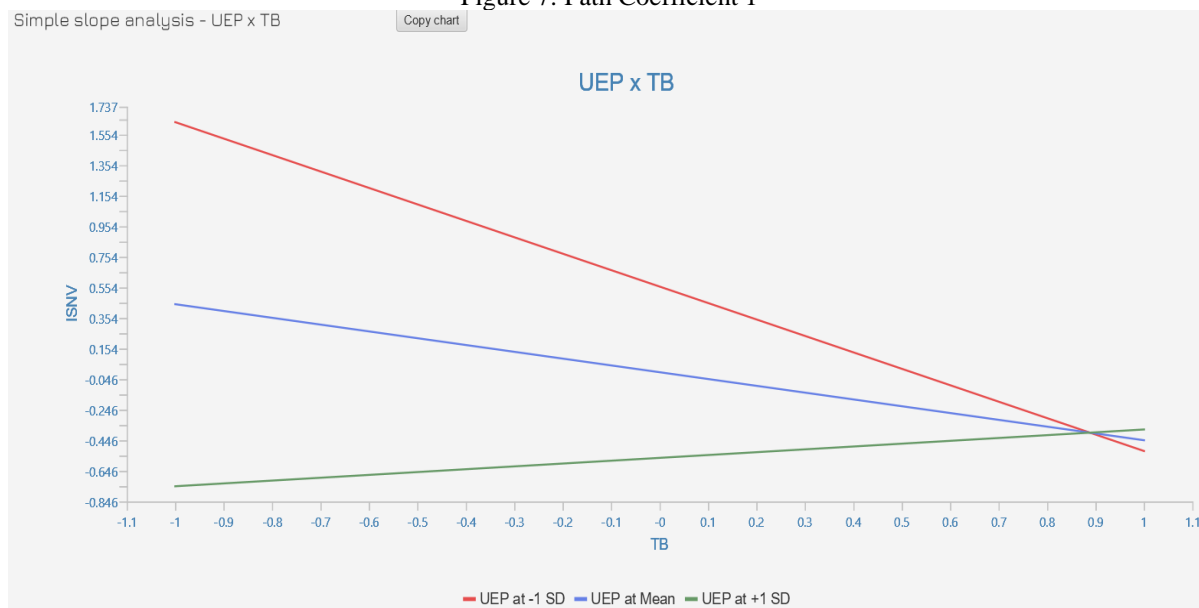


Source: Primary Data using SMART PLS-4

### Moderating Effect of University Entrepreneurial Program with Financial Management Skills and Intention to Start the New Venture

The positive path coefficient of UEP x FMS on ISNV is (0.153), indicating a significant direct effect of the interaction between UEP on FMS and ISNV. However, the fact that the point of intersection lies outside the graph suggests that there may be a moderation effect. Specifically, the impact of UEP x FMS on ISNV may be more robust for some values of the moderator variable (i.e., the point of intersection) and weaker for others. Further analysis would be needed to determine the specific nature of this moderation effect.

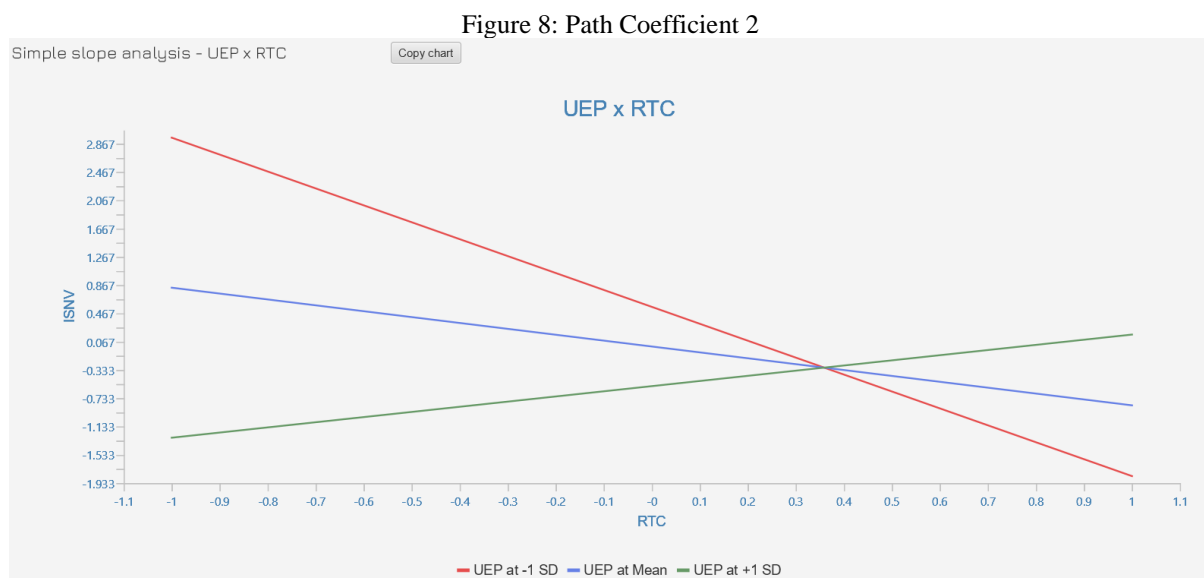
Figure 7: Path Coefficient 1



Source: Primary Data using SMART PLS-4

### Moderating Effect of University Entrepreneurial Program with Team Building and Intention to Start the New Venture

Based on the path coefficient value of 0.631 and the intersection point of 0.9, we can conclude that UEB moderates the relationship between TB and ISNV significantly and positively. This suggests that the impact of TB on ISNV is more significant for individuals with more excellent UEP capabilities.



### Moderating Effect of University Entrepreneurial Program with Risk Taking Capabilities and Intention to Start a New Venture

Based on the path coefficient of UEP x RTC  $\rightarrow$  ISNV being 1.562 and the intersection point is 0.4, it can be inferred that UEP exerts a substantial positive moderating effect on the relationship between RTC and ISNV. This indicates that the presence of UEP enhances the impact of RTC on ISNV and that the development of moderation is considered substantial due to the high path coefficient value. The intersection points of 0.4 indicate that moderation's effect occurs when RTC is present in a moderate amount.

## RESULTS & DISCUSSION

The table presents the analysis results regarding each hypothesis's path, effect size, t-value, and p-value. The passage refers to the relationship between the factor and new venture creation, while the effect size refers to the strength of the relationship. A statistically significant link will have a high t-value, whereas a low p-value implies that the results may have been obtained by chance alone. There is a favourable and statistically significant correlation between

having creative thinking, inventive thinking, communication abilities, and financial management skills and the likelihood of starting a new business, as shown in the data. However, strategic thinking (ST) and risk tolerance (RTC) are detrimental to the development of new businesses.

The findings suggest a moderately positive relationship between V.T. and ISNV (innovative, successful, new venture formation;  $p=0.199$ ). So, on average, more inventive thinking leads to more successful new business launches. In addition, a significant impact ( $t=0.089$ ,  $p=0.000$ ) was discovered between university entrepreneurial programmes (UEP) and visionary thinking and the incidence of successful new venture development (ISNV). This indicates that UEPs mitigate the effect of being far-sighted on the development of new businesses. In particular, the presence of UEPs reinforces the beneficial impact of innovative thinking on the birth of new businesses. Both the primary effect of visionary thinking and the interaction effect of UEPs and inventive thinking have moderate to small effect sizes. However, even moderate results can be significant in practise, particularly in the realm of entrepreneurship. These findings imply that UEPs offered by universities can play an important role in cultivating visionary thought and increasing its impact on the formation of successful new ventures. Supporting H2a (IT  $\rightarrow$  ISNV), the data point to a positive and statistically significant relationship between the two. The coefficient value of 1.484 indicates a rather small effect size. This means that there is a 1.484-fold rise in ISNV for every unit increase in IT. A significant interaction effect (UEP  $\times$  IT  $\rightarrow$  ISNV) also shows that UEP moderates the association between IT and ISNV. The interaction effect coefficient is similarly quite sized, coming in at 0.937. This suggests that the influence of ICT on ISNV varies with UEP.

Since the interaction effect is statistically significant, it's likely that UEP reinforces the favourable relationship between IT and ISNV. This result lends credence to the claim that UEP is instrumental in elevating the effect that ICT has on ISNV. In particular, the findings suggest that the impact of IT on ISNV is larger when UEP is high than when it is low. The implications of these findings for businesses working to improve their ISNV are substantial. As a result, researchers argue that UEP is more important than just investing in IT to spur innovation. To maximise the contribution of information technology to creativity, businesses should encourage an atmosphere of UEP.

The results for H3a show a significant negative direct effect of ST on ISNV, with a large magnitude of -2.605 ( $t=0.000$ ,  $p=0.000$ ). This suggests that entrepreneurs are less risk-averse, more comfortable with uncertainty, and more likely to create new ventures. However, the

moderation effect of UEP on the relationship between ST and ISNV is also significant ( $t=0.005$ ,  $p=0.000$ ). This suggests that the impact of ST on ISNV is more substantial for entrepreneurs with high UEP than those with low UEP. The magnitude of the moderation effect is relatively small, with a value of 0.005. These findings imply that less risk-averse entrepreneurs are more likely to engage in new venture creation, and this effect is more substantial for those with high UEP. These results align with previous research on the importance of risk-taking behavior for entrepreneurship. The moderation effect of UEP suggests that entrepreneurs with high UEP may be better equipped to manage the uncertainty and risk involved in new venture creation, which can lead to tremendous success. However, the magnitude of the moderation effect is relatively small, indicating that other factors beyond UEP may also play a significant role in shaping the relationship between risk aversion and new venture creation. These findings have important implications for entrepreneurship education and training programs, as they suggest that developing risk-taking behavior and UEP may benefit aspiring entrepreneurs.

In the context of university entrepreneurial programs, the findings suggest that communication skills (CS) are positively associated with entrepreneurial intention (ISNV), indicating that students with more vital communication skills are more likely to have a higher meaning to start their businesses. This underscores the importance of developing communication skills in entrepreneurial programs to enhance students' entrepreneurial intentions. Furthermore, the study found that the effect of CS on ISNV is moderated by the university entrepreneurial program (UEP), as indicated by the significant interaction effect of  $UEP \times CS \rightarrow ISNV$ . This suggests that the positive impact of communication skills on entrepreneurial intention is more decisive for students who participate in a university entrepreneurial program. Thus, universities need robust entrepreneurial programs that provide opportunities for students to develop their communication skills, which may enhance the effectiveness of entrepreneurial education. The magnitude of the impact of CS on ISNV was relatively large (2.287), indicating that communication skills are an essential factor that significantly contributes to entrepreneurial intention. Similarly, the magnitude of the interaction effect of  $UEP \times CS \rightarrow ISNV$  was also relatively large (0.127), indicating that the positive impact of communication skills on entrepreneurial intention is strengthened by participation in a university entrepreneurial program.

The results indicate that FMS has a significant positive impact on ISNV with a magnitude of 1.433. This suggests that individuals with higher levels of FMS are more likely to have a positive attitude toward new venture creation, an essential outcome for university



entrepreneurial programs. Furthermore, the moderation effect of UEP on the relationship between FMS and ISNV was significant ( $t = 0.153$ ,  $p = 0.000$ ), indicating that the relationship between FMS and ISNV is stronger when UEP is high. This suggests that UEP plays a crucial role in enhancing the effect of FMS on ISNV. Therefore, it is recommended that university entrepreneurial programs focus on developing and strengthening the FMS of their students as it is positively related to their entrepreneurial intentions. Additionally, UEP can be used to enhance the effect of FMS on ISNV, thereby increasing the effectiveness of university entrepreneurial programs.

The effects of teamwork building (TB) and risk-taking capabilities (RTC) on the desire for starting a new business were also investigated. Students with a greater level of TB may be less likely to embark on a new business venture, since the data reveal that TB has a negative but minor effect on ISNV ( $= -0.445$ ,  $p 0.001$ ). A lack of statistical significance for the UEP x TB interaction effect ( $= 0.631$ ,  $p > 0.001$ ) suggests that UEP did not attenuate the effect of TB on ISNV. ISNV was also found to be negatively impacted by RTC ( $= -0.832$ ,  $p 0.001$ ), showing that students with a greater level of RTC have less entrepreneurial aspirations. While RTC did have an effect on ISNV, the UEP x RTC interaction effect was statistically significant ( $= 1.562$ ,  $p 0.001$ ). This provides support for the hypothesis that taking part in an academic entrepreneurship programme can mitigate the deleterious effects of RTC on ISNV. These results imply that students' unwillingness to establish their own businesses may be reduced by taking part in an entrepreneurial programme at their university, regardless of whether or not they naturally exhibit risk-averse qualities (Penpokai et al., 2023). It was also discovered that collaboration behaviour has a detrimental influence on ISNV, and that UEP does not moderate this effect.

The current research has some restrictions that can open avenues for future research that could explore other potential moderators that may impact the moderation effect of the UEP on the relationship between several predictors and ISNV, say, for example, the role of individual differences such as personality traits or cultural factors could be investigated. Secondly, the current study focused on a specific university entrepreneurial program, but future research could examine the impact of different types of entrepreneurial programs on ISNV. Comparing and contrasting the outcomes of other program structures, curricula, and delivery methods could provide valuable insights for designing effective entrepreneurship education programs. Thirdly, while the current study investigated the impact of various predictors on ISNV, future research could examine the influence of ISNV on other important outcomes, such as new venture

creation or entrepreneurial success. This could involve longitudinal studies tracking the development and performance of entrepreneurs over time. Finally, the current study focused on a specific geographic region and sample population. Future research could extend the investigation to different cultural and institutional contexts to explore how the relationships between the predictors and ISNV may vary across other regions and populations.

### **PRACTICAL IMPLICATION OF THE STUDY**

The findings of this study have numerous managerial and practical implications. Initially, the research emphasizes the significance of university entrepreneurial programs in fostering leadership in entrepreneurial aspirations and, ultimately, the formation of new businesses. Therefore, policymakers and university administrators should consider investing in entrepreneurial support programs. Second, the study emphasizes the importance of factors at the individual level, such as IT, CS, FMS, TB, and RTC, in shaping entrepreneurial intentions (Tan, Fatt Hee, & Yan Piaw, 2015). Therefore, individuals who aspire to become entrepreneurs should concentrate on acquiring these skills and competencies to increase their chances of success. Thirdly, the study indicates that UEPs can moderate the association between certain individual-level variables and entrepreneurial intentions. Therefore, UEPs should be designed in such a manner that not only imparts knowledge and skills but also foster and encourage the growth of entrepreneurial aspirations. The study concludes by emphasizing the need for additional research into the mechanisms underpinning the relationships between UEPs, individual-level factors, and entrepreneurial intentions. Future research could utilize longitudinal data or experimental designs to generate more substantial evidence and identify causal relationships. In addition, the study could investigate the impact of cultural and institutional factors on entrepreneurial intentions and the formation of new businesses.

### **CONCLUSION**

Based on the study's findings, it is possible to conclude that the identified factors, including Visionary Thinking, Innovative Thinking, Communication Skills, Financial Management Skills, Team Building, Risk Taking Capabilities, and Strategic Thinking, are positively associated with starting a new business. In addition, the study found that the interaction between these factors and the prior entrepreneurial experience of the participants has a significant impact on their intention to launch a new business.

According to the findings, individuals with higher levels of Visionary Thinking, Innovative Thinking, Communication Skills, Financial Management Skills, Team Building, Risk Taking Capabilities, and Strategic Thinking are more likely to intend to launch a new venture. In addition, the study provides evidence that the participants' prior entrepreneurial experience moderates the relationship between these variables and their intention to launch a new business.

Hence, these findings suggest that entrepreneurs and policymakers should concentrate on developing and refining the identified factors to increase the likelihood of individuals launching new businesses. Policymakers can implement policies that promote and support entrepreneurship. At the same time, entrepreneurs can concentrate on enhancing their skills in the identified areas to increase their possibilities of success when launching new ventures.

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