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# **Wanasika, Brandt, Dubickis, Treacy, Pihlajarinne, Acorella, Militaru, Bakker, Liu, Rong, Tsuzuki & Vo: Innovation orientation and needed qualities towards entrepreneurship**

- Wanasika, I., University of Northern Colorado, USA
- Brandt, T., Haaga-Helia University of Applied Sciences, Finland
- Dubickis, M., RISEBA University of Applied Sciences, Latvia
- Treacy, S., University College Cork, Ireland
- Pihlajarinne, H., Tampere University of Applied Sciences, Finland
- Acocella, R., University of Malta, Malta
- Militaru, A., University Politehnica of Bucharest, Romania
- Bakker, D., Hanze University of Applied Sciences, Netherlands
- Liu, J., Hanze University of Applied Sciences, Netherlands
- Rong, L., Hubei University of Economics, China
- Tsuzuki, Y., Seijo University, Faculty of Social Innovation, Japan
- Vo, T., University of Applied Sciences Vaasa, Finland

Young people and generation Z bring new values and appreciations into the business world. Entrepreneurship is more appreciated, and plenty of countries try to encourage young people for entrepreneurial paths. Here the interest is to see what kind of entrepreneurial qualities are needed with young business students from different cultures. Entrepreneurial qualities needed were measured with Courage, Willingness to take Risks, Motivation, Self-Esteem, Optimism, Resilience, Persistence, Decisiveness, Innovativeness, Mentor to Help Me, Team to Build Up the Business, More Knowledge of Entrepreneurship, Good Business Idea. Data was analyzed with SPSS-program and results concerning entrepreneurship education are discussed at the end of the paper.

## **Introduction**

Lately entrepreneurship has been spotlighted to be an essential tool and practice to deal with unemployment. Indeed, it has been encouraged and embraced by many educational institutions and strategic planners (Fayolle et al., 2006). Moreover, governments have set entrepreneurship as a prior interest and worked to design a stimulating environment for fostering an entrepreneurial mindset among students (Park, 2017). Also, much interest has been shown thanks to its powerful tendency of allowing students to improve and develop their creative thinking and decision making, broadening their perspective on innovation and generating job opportunities (Malchow-Møller et al., 2011). In point of fact, innovation is one of the factors which the European Commission (2008) believes that entrepreneurial education would develop in students' mindset as a potential benefit economically.

Entrepreneurship and innovation have been studied and often related to each other as they both are connected by the fact entrepreneurs are steadily looking for fresh ideas, products of service in order to innovate their enterprise. As Larson (2000) claims, entrepreneurship can be considered the crux of a company's innovation process. Nevertheless, as well as innovation, entrepreneurs need to flourish a precise mindset by exploring their own personality, strengths and weaknesses so as to acquire what Rae (2012: In Cooney, 2012) labels as entrepreneurial effectiveness.

In this study we will widen the area of innovation orientation and psychological attitudes in relation to entrepreneurship. The case study at issue, which encounters students from several countries, with the goal to gain awareness and to acquire a wider perspective on those factors which positively influence individuals towards entrepreneurship. This particular focus may be helpful for future educators who will have to face applied sciences and business students within universities. Compelling is comparing students in terms of entrepreneurial attitudes they would need to develop in order to innovate the field itself.

## **Earlier studies**

### **Innovation orientation and entrepreneurship**

Innovation has long played a critical role in the development of products, processes, business models, and channels to solidify market positions, to challenge market competitors, and to ensure long-term growth and survival, particularly in highly complex and unstable conditions (Eisenhardt and Brown, 1999; Freeman, 1994; Lawless and Anderson, 1996). Given this breadth of impact, extant research has unsurprisingly focused on various literature streams ranging from innovation typologies (Garcia and Roger, 2002) to innovation diffusion (Rogers, 2014), and while these have provided substantial contributions to our understanding, it largely ignores the propensity of entrepreneurs to continually innovate as an objective. As a result, relatively few studies within the large body of innovation research has explored the concept of innovation orientation. This is problematic because an entrepreneur's success may rely more on an overall orientation that produces capabilities which spawn innovations, and less of the actual innovations themselves (Siguaw and Simpson, 2006). Furthermore, it may also depend on the cultural impact these entrepreneurs have been exposed to that have shaped their approach to developing sustainable levels of innovation.

Several definitions of innovation orientation have been presented and while many range in their theoretical consensus as to what it actually encompasses, authors agree that it describes a learning philosophy where entrepreneurs have common standards or beliefs about learning and knowledge that permeates and guides all functional areas toward innovation. For example, Berthon, Hulbert and Pitt (1999, p. 37) define innovation orientation as "devoting energy towards inventing and refining superior products", while Hult, Hurley and Knight (2004, p. 430) describe it as "the capacity to introduce... some new processes, product or idea". Similarly, Worren, Moore, and Cardona (2002, p. 1127) conceptualize it as consisting of entrepreneurial intent, linking "product modularity and the firm's strategic intent for developing new items, or entering new markets with existing products". However, while these definitions argue the outcome of innovation orientation as being the innovations themselves, the innovations do not define the orientation, they are merely the outcomes. An innovation orientation should encompass an entrepreneurial approach to strategy, learning, and functional interaction toward the goal of innovations. Therefore, perhaps the most succinct definition is offered by Siguaw and Simpson (2006, p. 7) where they define it to be "a multidimensional knowledge structure composed of a learning philosophy, strategic direction, and transfunctional beliefs that in turn, guide and direct all strategies and actions, including those embedded in the formal formal and informal systems, behaviors, competencies, and processes to promote innovative thinking and facilitate successful development, evolution, and execution of innovations". With this expansive view, the knowledge pursued by the entrepreneur is continuously growing, and changing to identify the next position needed to keep them abreast of competitors and markets. Entrepreneurs must

therefore fundamentally rethink their approach towards strategy, technology and markets in order to capture sustainable opportunities (Hart and Milstein, 1999).

At the individual level, entrepreneurial orientation can consist of risk taking and a proactive drive for innovation creation and adoption (Custodio, Ferreria and Matos, 2017; Danosh et al., 2017). These dimensions have previously gained the attention of scholars that have investigated their influence on innovation (Blanchard, 2017; Mutterlein and Kunz, 2018). This risk-taking approach of the entrepreneur is associated with the willingness to take bold and risky decisions towards innovation, with a risk-taking attitude highly associated with a positive performance towards innovation. Proactiveness on the other hand, deals with the entrepreneur's anticipation of the future, and being eager to succeed with available resources at hand to remain ahead of competitors (Blanchard, 2017). In order to take advantage of those opportunities however, entrepreneurs must be able develop new capabilities to transform resources and reshape their processes.

### **Entrepreneurship and attitudes**

Several traits and attitudes such as motivation, positivity and persistence as well as self-esteem, self-efficacy, optimism, resilience, the four constructs which characterize the psychological capital (PsyCap), are recognized to be essential for entrepreneurship. Indeed, disposing of a positive entrepreneurial affect, which concerns emotions and feelings along the process, enables entrepreneurs to be more involved in social activities and to build interpersonal networks (Nahapiet & Ghoshal, 1998). Furthermore, it has been found that positive emotions stimulate individuals' cognition and boost their creativity (Baron & Tang, 2011).

First of all, evidence claims that motivation and cognitivity highly quicken and vitalize entrepreneurial effectiveness (Fakhri et al., 2012). Furthermore, a recent research conducted in Malaysia found out that motivation, both extrinsic and intrinsic, contributes to establishing in students a deeper desire to start a new business and embracing the entrepreneurial dimension (Sulaiman et. al, 2021). As a matter of fact, motivation can be driven by self-esteem in the sense that believing in oneself and recognizing both strengths and weaknesses allows individuals to advance their strategy towards success, in particular the entrepreneurial achievement (Pautina et al., 2018; Staniewski & Awruk, 2019). In addition, it has been found out that a significant connection can be drawn between self-efficacy plays a beneficial impact on entrepreneurial students' self-esteem. Thus, since individuals who display more self-efficacy and self-esteem have a tendency to be more motivated, it is feasible to connect self-regulation both to goal and entrepreneurial achievement (Eliyana, 2020).

Self-efficacy, as well as contributing to self-esteem's development, represents one of the four constructs of the psychological capital together with hope, optimism, and resilience. Indeed, there is an entire field of research focused on exploring and analyzing the psychological capital and its relation to entrepreneurship. As claimed by Tang (2020), hope helps keep the individual optimistic, enhancing its willingness to take more risks and preserving effective communication and interpersonal cooperation when hurdles and misunderstandings between team members come to light. Moreover, being resilient facilitates entrepreneurs to be emotionally stable and cope with unexpected changes and events (Ziyae et al., 2015 In Tang, 2020).

### **Methodology**

## Sample

Sample was collected from 423 business students from universities of applied sciences and universities in the years 2021 and 2022. Countries represented were mainly Lithuania (n=65), USA (n=64), Finland (n=40) and Latvia (n=25). Respondents also came e.g. from France, Russia, Germany, Italy, Netherland, Romania, Vietnam and Belgium. Together all this data formed 423 respondents. Filling in the background information was voluntary, thus following information concerning gender, age and study field is provided only by some of the respondents.

## The questionnaires and procedure

**Innovativeness and proactiveness** Altogether 16 questions were formed about innovativeness and proactivity based on earlier studies (e.g. Bolton & Lane, 2012; Brandt & Wanasika, 2021) of the topics. The work of Bolton and Lane (2012) surveyed a large student sample (n = 1102) with items generated from Lumpkin and Dess's (1996) original five EO variables (innovativeness, willingness to take risks, proactiveness, competitive aggressiveness, and autonomy). Bolton and Lane (2012) analyzed their data and found: Innovativeness, Risk-taking, and Proactiveness for individual entrepreneurial orientation. These were the same three variables that have been examined predominantly in EO research (Rauch, et al., 2009). Here our interest was to study the dimensions Innovativeness and Proactiveness.

The questionnaire was factor analyzed using Principal Component Analysis (Varimax) to determine content validity. The Innovativeness and Proactiveness loaded as separate factors. 58,5% of the variance was explained by the two factors. Cronbach alphas computed for the two factors were above 0.859, further verifying the internal consistency of the IEO.

Likert scale was 1-7 (1=Never or almost never to 7=Always or almost always). Factor analyses (Varimax) produced 8 items for both dimensions. Innovativeness was measured using e.g. the following items: "How often do you look for opportunities to improve things?", "How often do you wonder how things can be improved?" "How often do you create new ideas?". Cronbach's alpha was 0.914 in the Innovativeness. Proactiveness was measured in the items e.g. "How often do you try to convince people to support an innovative idea?", "How often do you put effort in the development of new things?", "How often do you make suggestions to improve current products or services?" Cronbach's alpha was 0.859 in the Proactiveness. Both the Innovativeness and Proactiveness were divided into two dimensions: high and low groups. The distribution was made dividing respondents based on 50%/50% proximate. Accordingly, the Low-Innovation group included 202 persons and the High-Innovation group 237 persons, when dividing people in the middle point. The Low-Proactivity group included 207 persons and the High-Proactivity group 219 persons, when dividing people at the middle point.

**Entrepreneurial intention** was measured with the following question: How likely is it that you will become an entrepreneur in the next 5 years? Scale was Likert-scale 1-5 here: 1= I will definitely not start a business... 5=I will definitely start the business.

Entrepreneurial tendencies were measured with risk-taking and growth orientation with either or questions, e.g. Security related risk: "a) Working for someone else the best thing is security or b) You do not need security related to working with others", success related risk:

“a) Do you start working only with that kind of projects, whose success is relatively sure or  
b) If you want to succeed, you must take risks?”

**Qualities needed** were measured with the following questions: What would you need to become an entrepreneur in the future (Scale 1= I would not need at all... 7=I would need a lot). Items were: Courage, Willingness to take risks, Motivation, Self-esteem, Optimism, Resilience, Persistence, Decisiveness, Innovativeness, Mentor to help me, Team to build up the business, More knowledge of entrepreneurship, Good business idea.

The SPSS program with t-test was used for statistical analyses to calculate statistically significant results to see the relationship between innovativeness, entrepreneurial tendencies and qualities needed for becoming an entrepreneur.

## **Results**

### **Innovation and proactiveness in relation to entrepreneurial qualities**

In the Table 1. are results concerning Innovation orientation and Entrepreneurial tendencies. The High-Innovation group differed statistically significantly from the Low-Innovation group in relation to security (A1), risk-taking (A2, A4) and willingness to succeed (A3, A5). Also the High-Innovation group has significantly more likelihood to start their own business (A7) in the next 5 years than the Low-Innovation group.

In Table 2. can be seen the results concerning Proactivity and Entrepreneurial tendencies. The High-Proactivity group differed statistically significantly from the Low-Proactivity group in relation to risk-taking (A2, A4) and willingness to succeed (A3, A5, A6). Also the High-Proactivity group has significantly more likelihood to start their own business (A7) in the next 5 years than the Low-Proactivity group.

	Low Innov. Mean	High Innov. Mean	F	Sig.	t	Sig (2-tailed)
A1. Security for working someone else / No need for security	1,25	1,38	35,756	0	-2,975	0,003
				-3,001	,003**	
A2. Success is sure / You must take risks	1,64	1,84	103,677	0	-5,111	0
				-5,005	,000***	
A3. LossCurrentPosition / LossSuccess	1,51	1,62	11,748	0,001	-2,223	0,027
				-2,219	,027*	
A4. AvoidRisks / MustTakeRisks	1,74	1,84	21,805	0	-2,328	0,02
				-2,3	,022*	
A5. ForLiving / Best in the Field	1,67	1,74	12,269	0,001	-1,779	0,076
				-1,769	,078+	
A6. For living / Significant Position	1,6	1,78	56,207	0	-3,982	0
				-3,936	,000***	
A7. How likely it is that you will become and entrepreneur at next 5 years	3,03	3,74	2,939	0,087	-6,937	,000***
				-6,937	0	

Note: \*\*\* p<0.001, \*\*p<0.01, \*p<0.05, +p<0.10

Table 1. Low-Innovation compared to High-Innovation in relation to entrepreneurial qualities with t-test.

	Low-Proactivity Mean	High-Proactivity Mean	F	Sig	t	Sig, (2-tailed)
A1. Security for working someone else / No need for security	1,3	1,34	2,58	0,109	-0,802	0,423
				-0,803	0,422	
A2. Success is sure / You must take risks	1,67	1,82	51,343	0	-3,564	0
				-3,545	,000***	
A3. LossCurrentPosition / LossSuccess	1,5	1,65	22,221	0	-3,246	0,001
				-3,241	,001**	
A4. AvoidRisks / MustTakeRisks	1,76	1,84	15,854	0	-1,977	0,049
				-1,969	,050*	
A5. ForLiving / Best in the Field	1,65	1,78	32,776	0	-2,889	0,004
				-2,88	,004**	
A6. For living / Significant Position	1,63	1,76	34,833	0	-3,023	0,003
				-3,013	,003**	
A7. How likely it is that you will become an entrepreneur at next 5 years	3,05	3,79	0,761	0,384	-7,329	,000***
				-7,33	0	

Note: \*\*\* p<0.001, \*\*p<0.01, \*p<0.05, +p<0.10

Table 2. Low-Proactivity compared to High-Proactivity in relation to entrepreneurial qualities with t-test.

**Innovation and proactiveness in relation to needed entrepreneurial needs**

Overall business students needed mostly Good Business Idea, secondly Motivation and thirdly Persistence if they would start own business (see Table 3).

<b>Needed for entrepreneurship (n=423)</b>	<b>Mean</b>	<b>Std.</b>
<b>B13. Good Business Idea</b>	<b>6,03</b>	<b>1,337</b>
<b>B3. Motivation</b>	<b>5,88</b>	<b>1,56</b>
<b>B7. Persistence</b>	<b>5,7</b>	<b>1,603</b>
<b>B1. Courage</b>	<b>5,63</b>	<b>1,516</b>
<b>B2. Taking Risks</b>	<b>5,62</b>	<b>1,489</b>
<b>B8. Decisiveness</b>	<b>5,6</b>	<b>1,473</b>
<b>B11. Team to Build up the Business</b>	<b>5,56</b>	<b>1,463</b>
<b>B9. Innovativeness</b>	<b>5,5</b>	<b>1,539</b>
<b>B4. Self-Esteem</b>	<b>5,45</b>	<b>1,59</b>
<b>B12. More Knowledge of Entrepreneurship</b>	<b>5,45</b>	<b>1,436</b>
<b>B6. Resilience</b>	<b>5,44</b>	<b>1,577</b>
<b>B5. Optimism</b>	<b>5,25</b>	<b>1,578</b>
<b>B10. Mentor to Help Me</b>	<b>4,96</b>	<b>1,455</b>
<b>Needed for entrepreneurship (n=423)</b>	<b>Mean</b>	<b>Std.</b>
<b>B13. Good Business Idea</b>	<b>6,03</b>	<b>1,337</b>
<b>B3. Motivation</b>	<b>5,88</b>	<b>1,56</b>
<b>B7. Persistence</b>	<b>5,7</b>	<b>1,603</b>
<b>B1. Courage</b>	<b>5,63</b>	<b>1,516</b>
<b>B2. Taking Risks</b>	<b>5,62</b>	<b>1,489</b>

Table 3. Needed qualities for becoming entrepreneur



In Table 4. can be seen the results concerning Innovation orientation and entrepreneurial needs for starting their own company. The High-Innovation group differed statistically significantly from the Low-Innovation group in relation to Courage and Decisiveness, otherwise entrepreneurial needs were similar.

In Table 5. can be seen the results concerning Proactivity and entrepreneurial needs for starting the own company. The High-Proactivity group differed statistically significantly from the Low-Proactivity group in relation to Resilience, Persistence, Decisiveness, Mentor to Help Me, Team to Build up the Business, More Knowledge of Entrepreneurship.

Qualities	Innov Low Mean	Innov High Mean	F	Sig	t-test	Sig. (2-tailed)
B1.Courage	5,47	5,78	0,024	0,878	-2,161	,031*
				-2,17	0,031	
B2.TakeRisks	5,51	5,71	0,021	0,886	-1,409	0,16
				-1,421	0,156	
B3.Motivation	5,84	5,92	0,475	0,491	-0,53	0,596
				-0,535	0,593	
B4.Selfesteem	5,38	5,5	1,834	0,176	-0,794	0,428
				-0,802	0,423	
B5.Optimism	5,17	5,31	4,535	0,034	-0,97	0,333
				-0,98	0,328	
B6.Resilience	5,33	5,53	3,175	0,075	-1,328	0,185
				-1,347	0,179	
B7.Persistence	5,63	5,77	1,448	0,229	-0,866	0,387
				-0,878	0,381	
B8.Decisiveness	5,51	5,75	0,41	0,522	-2,398	,017*
				-2,407	0,017	
B9.Innovativeness	5,44	5,55	1,895	0,169	-0,764	0,445
				-0,773	0,44	
B10.MentorToHelpMe	4,89	5,03	0,693	0,406	-0,967	0,334
				-0,975	0,33	
B11.TeamtoBuilduptheBusiness	5,48	5,62	1,222	0,27	-1,039	0,299
				-1,047	0,296	
B12.MoreKnowledgeOfEntrep	5,35	5,54	0,015	0,902	-1,369	0,172
				-1,369	0,172	
B13.GoodBusinessIdea	6,04	6,03	0,349	0,555	0,119	0,906
				0,119	0,905	

Note: \*\*\* p<0.001, \*\*p<0.01, \*p<0.05, +p<0.10

Table 4. Low-Innovation compared to High-Innovation in relation to entrepreneurial needed qualities with t-test

Qualities	Proactiv Low Mean	ProactivHigh Mean	F	Sig.	t.	Sig. (2-tailed)
B1.Courage	5,52	5,7	0,031	0,861	-1,202	0,23
				-1,203	0,23	
B2.TakeRisks	5,51	5,69	0,005	0,946	-1,222	0,222
				-1,226	0,221	
B3.Motivation	5,79	5,95	0,037	0,847	-1,087	0,278
				-1,09	0,276	
B4.Selfesteem	5,36	5,5	0,062	0,804	-0,869	0,385
				-0,871	0,384	
B5.Optimism	5,14	5,32	1,93	0,166	-1,194	0,233
				-1,196	0,232	
B6.Resilience	5,27	5,58	0,073	0,787	-1,971	,049*
				-1,973	0,049	
B7.Persistence	5,52	5,86	3,162	0,076	-2,132	,034*
				-2,131	0,034	
B8.Decisiveness	5,46	5,71	0,26	0,61	-1,837	,067+
				-1,839	0,067	
B9.Innovativeness	5,43	5,56	0,138	0,711	-0,855	0,393
				-0,857	0,392	
B10.MentorToHelpMe	5,15	5,72	0,162	0,687	-2,969	,003**
				-2,973	0,003	
B11.TeamtoBuilduptheBusiness	5,32	5,72	0,155	0,694	-2,827	,005**
				-2,828	0,005	
B12.MoreKnowledgeOfEntrepr.	5,21	5,61	0,545	0,461	-2,853	,005**
				-2,847	0,005	
B13.GoodBusinessIdea	6,06	5,98	3,936	0,048	0,585	0,559
				0,588	0,557	

Note: \*\*\* p<0.001, \*\*p<0.01, \*p<0.05, +p<0.10

Table 5. Low-Proactivity compared to High-Proactivity in relation to entrepreneurial needed qualities with t-test

## Conclusions

The objective of this study was to see if there is a relationship between individuals' psychological qualities; innovativeness and proactiveness and entrepreneurial tendencies and

also if those qualities impact on what a person might feel that they would need for starting their own company. 423 business students from many countries filled in the questionnaires and based on that statistical analyses were made.

In relation to entrepreneurial tendencies there were several statistically significant differences indicating that those people with high innovation and proactive orientation are clearly more towards entrepreneurial mindset.

When looking at the differences in what qualities would be needed for becoming an entrepreneur there were less statistically significant differences, indicating that most business students around the world have similar tendencies. However, more innovative people would need Courage and Decisiveness for their entrepreneurial path. It may be that highly innovative and idea-rich people tend to get so many ideas that it is difficult for them to choose one and start working with that one, and also stick with the plan. Courage is one of the qualities needed for entrepreneurship and even innovative people have higher tendencies for starting their own business they still need extra boost for that. In case of Proactiveness more statistically significant differences occurred. So it seems that even Highly-Proactive persons have more tendencies towards entrepreneurship, they also have more needs relating to that. A Highly-Proactive person would need more Resilience, Persistence, Decisiveness, Mentor to Help Me, Team to Build up the Business, More Knowledge of Entrepreneurship than Low-Proactive persons. Interestingly High-Proactivity persons need long-term qualities like resilience and persistence and also social support like mentor or team. Proactiveness is social behavior thus when they probably like to interact with others they also like to have social interaction when building the business. Team would probably increase their level of Resilience and Persistence as well.

Interesting is that in case of needed qualities for entrepreneurship the High-Innovative and High-Proactive groups were more emphasizing the needs than low ones. One reason can be that they had a higher tendency for entrepreneurship and thus they were thinking more deeply about the needed qualities list. If the people in the low-group are not so interested in entrepreneurship, they probably feel that they do not need any special qualities for that either.

According to this data the business students need mostly Good Business Idea, Motivation and Persistence. In arranging entrepreneurial studies these qualities should be enhanced. Special attention should be paid to those students with the likelihood to start their own business and to highly Innovative people build self-esteem concerning Decisiveness and Courage. In the case of Proactive persons, the social gatherings and courses in purpose to build common enterprise would give them opportunities to find partners and teams. Also this information for students is important, when they recognize qualities needed for entrepreneurship and evaluating themselves, they can consider most fruitful career path for themselves.

### **Restrictions and future studies**

Some of the qualities important to entrepreneurs were not included in the list. When all of the respondents did not answer on the open field either to list their own choices, some of the qualities might be still missing. Also, the sample of respondent groups was small and unbalanced, so that more detailed analysis could be done only with a bigger number of respondents. Additionally, it should be noted that respondents were business students, so the results might be different if the different areas would have been chosen.

In the future studies the more entrepreneurial qualities could be listed. As this study gives the result of interesting statistical significance between the factors described in earlier chapters, these dependencies should be studied in more detail.

## References

- Baron, R. A. & Tang, J. (2011). The role of entrepreneurs in firm-level innovation: Joint effects of positive affect, creativity, and environmental dynamism. *Journal of Business Venturing*, 26(1), 49-60.
- Berthon, P., Hulbert, J.M. and Pitt, L.F. (1999). To Serve or Create? Strategic Orientations toward Customers and Innovation. *California Management Review* 42(1), 37–58
- Blanchard, K. (2017). Rural and remote SMEs' innovative behaviour: Is it in the genes or location? An examination of entrepreneurial traits and characteristics. *Strategic Change*, 26(4), 301-309.
- Bolton, D.L., & Lane, M. D. (2012). Individual entrepreneurial orientation: Development of a measurement instrument. *Education + Training*, 54 (2/3), 219-233.
- Brandt, T., & Wanasika, I. (2021). Innovativeness and entrepreneurial intentions – Students from Finland, Lithuania and USA in comparison. *Proceedings of 16th European Conference on Innovation and Entrepreneurship (ECIE)*, 16-17 Sept., Portugal
- Custódio, C., Ferreira, M. A., & Matos, P. (2017). Do general managerial skills spur innovation? *Management Science*, 65(2), 459-476
- Dansoh, A., Oteng, D., & Frimpong, S. (2017). Innovation development and adoption in small construction firms in Ghana. *Construction Innovation*, 17(4), 511-535
- Eisenhardt, Kathleen M. and Brown, Shona L. (1999). Patching: Restitching Business Portfolios in Dynamic Markets. *Harvard Business Review* 77(3), 72–82.
- Eliyana, A. , Musta'in, Sridadi, A. R. & Widiyana, E. U. (2020). The Role of Self-Efficacy On Self-Esteem and Entrepreneurs Achievement. *Systematic Reviews in Pharmacy*, 11(8), 314-319.
- European Commission (2008) – Entrepreneurship in Higher Education, Especially Within NonBusiness Studies – European Commission, Brussels.
- Fayolle, A., Gailly, B. and Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programmes: a new methodology, *Journal of European Industrial Training*, 30(9), 701-20.
- Fakhri, K. P., Ghanimat, P., Koopahi, M., and Behnie, S. (2012). The study of the effects of personality and psychological traits approach on the rate of entrepreneurship. *J. Basic Appl. Sci. Res.* 2, 4159–4166.
- Freeman, Chris (1994). Innovation and Growth. In: *Handbook of Industrial Innovation*, Part I. Mark Dodgson and Roy Rothwell (eds.). Aldershot, UK: Edward Elgar Publishing Limited, 78–93.
- Garcia, R. and Calantone, R., (2002). A critical look at technological innovation typology and innovativeness terminology: a literature review. *Journal of Product Innovation Management: An international publication of the product development & management association*, 19(2), 110-132.
- Hart, S.L. and Milstein, M.B. (1999), Global sustainability and the creative destruction of industries, *Sloan Management Review*, 41(1), 23-33.
- Hult, G., Tomas M., Hurley, R.F. and Knight, G.A. (2004). Innovativeness: Its Antecedents and Impact on Business Performance. *Industrial Marketing Management*, 33(5), 429–38.

- Larson, A.L. (2000). Sustainable innovation through an entrepreneurship lens. *Business Strategy & the Environment*, 9(5), 304–317.
- Lawless, Michael W. and Anderson, Philip C. (1996). Generational technological change: Effect of innovation and local rivalry on performance. *Academy of Management Journal* 39(5), 1185–217.
- Lumpkin, G. T. & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *The Academy of Management Review*, 21 (1), 135-172.
- Malchow-Møller, N., Schjerning, B., & Sørensen, A. (2011). Entrepreneurship, job creation and wage growth. *Small Business Economics*, 36(1), 5-32.
- Mütterlein, J., & Kunz, R. E. (2017). Innovate alone or with others? Influence of entrepreneurial orientation and alliance orientation on media business model innovation. *Journal of Media Business Studies*, 14(3), 173-187.
- Nahapiet, J. & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242-266.
- Park, C. (2017). [A study on effect of entrepreneurship on entrepreneurial intention](#). *Asia Pacific Journal of Innovation and Entrepreneurship*, 11(2), 159–170.
- Pautina, M. R., Puluhalawa, M., & Djibran, M. R. (2018). The correlation between interest in entrepreneurship and students' self-esteem. *Journal of Business and Behavioral Entrepreneurship*, 2(2), 62–67.
- Rae, D. (2012) – Enterprise & Entrepreneurship Education: The New Curriculum Guidelines in Ireland and the UK – ISBE Conference, Dublin, November 6 In Cooney, T. M. (2012). *Entrepreneurship Skills for Growth-Orientated Businesses*. Report for the Workshop on 'Skills Development for SMEs and Entrepreneurship.
- Rauch, A., Wiklund, J., Lumpkin, G.T. & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 33(3), 761-787.
- Rogers, E.M., Singhal, A. and Quinlan, M.M. (2014). Diffusion of Innovations, In: *An Integrated Approach to Communication Theory and Research*, ed. Rogers, E.M., 432-448.
- Siguaw, J.A., Simpson, P.M. and Enz, C.A. (2006). Conceptualizing innovation orientation: A framework for study and integration of innovation research. *Journal of Product Innovation Management*, 23(6), 556-574.
- Sulaiman, A., Zawawi, N. I. A. B. M., Shaiful, M. A. S.b.M., Hisham, M. H.b., Al-Jubari, I. (2021). The role of motivation, entrepreneurial skills and university environment in determining university students' decision to become entrepreneurs. *International Journal of Human Potentials Management*, 3(1), 44-55.
- Tang, J.-J. (2020). Psychological Capital and Entrepreneurship Sustainability. *Frontiers in Psychology*, 11(866).
- Worren, N., Moore, K. and Cardona, P. (2002). Modularity, Strategic Flexibility, and Firm Performance: A Study of the Home Appliance Industry. *Strategic Management Journal*, 23(12), 1123–40.
- Ziyae, B., Mobaraki, M. H., and Saediyoun, M. (2015). The effect of psychological capital on innovation in information technology. *J. Glob. Entrepreneurship Res.* 5-8. In Tang, J.-J. (2020). *Psychological Capital and Entrepreneurship Sustainability*. *Frontiers in Psychology*, 11(866).