

STUDENTS' PERCEPTIONS ON DIGITAL ENTREPRENEURSHIP. A PRELIMINARY STUDY.

Anca Elena LUNGU¹, Mircea Radu GEORGESCU²

¹Alexandru Ioan Cuza University of Iasi, 0000-0001-5086-8789

²Alexandru Ioan Cuza University of Iasi, 0000-0002-7022-3715

Abstract:

A novel field of analyzing entrepreneurial entrepreneurship has been developed under the technological changes of the overall society, namely digital entrepreneurship. Digital entrepreneurship, defined as integrating information and communication technologies in entrepreneurial activities is seen as a significant topic, especially within the youngest generation. Thus, the main aim of the present research endeavor is to identify the business students' perceptions and attitudes on digital entrepreneurship. In this regard, a survey was distributed among 346 students from the Faculty of Economics and Business Administration from Alexandru Ioan Cuza University of Iasi, Romania. According to the results, in the view of the young(est) generation, integrating digital technologies has become an alternative in entrepreneurial activity. Therefore, doing business in a global society is strongly connected with understanding technological progress.

Keywords: Digital Entrepreneurship, Students' Perceptions, Questionnaire

JEL classification: L26, C830, M00

1. Introduction

The dynamism, as a particularity for the actual society and of the youngest generation, led to the transformation of the entrepreneurial activities, that involve the adoption of the digital instruments and assuming adaptability-oriented decisions. Thus, this paradigm shift, defined by its dual nature as both a challenge and a revolutionary opportunity, may be attributed mostly to entrepreneurial initiatives that harness digital technology. Within the scholarly discourse, this discovery substantiates the statement that our contemporary juncture constitutes an evident instance of a budding revolution, namely, the digital revolution (Kraus, S., Palmer, C., Kailer, N., Kallinger, F. L., Spitzer, J., 2019). Basically, a new business model was developed. Subsequently, it can be stated that digital entrepreneurship is critical to the technology revolution, which is regarded as one of the most significant economic achievements in the field of the digital economy (Li, J., Yao, M., 2021).

Taking into consideration an interconnected environment and an exponential use of digital tools, where the youngest generations represent the future direction of entrepreneurial activities, the main aim of the present research endeavor is to provide a preliminary spotlight on the business students' perceptions and attitudes on digital entrepreneurship. For achieving the proposed goal, the paper will follow a logical structure, by presenting, in the first part, a brief literature review on digital entrepreneurship and, secondly, by proving an overview of the results collected through the survey.

By conducting an in-depth exploration of students' perceptions on digital entrepreneurship, this study contributes to the highlight of the symbiotic relationship between technology and entrepreneurial practices. Insights garnered from this research have the potential to inform educational strategies, guide business decisions, and foster an ecosystem conducive to cultivating digital innovation and entrepreneurial excellence. As the digital revolution continues to reshape business landscapes, the present research serves as a compass to navigate the uncharted waters of the digital entrepreneurship

¹ ancalungu01@gmail.com* - corresponding author

² mirceag@uaic.ro

realm, uncovering insights that may highlight the path toward sustainable success and growth in the ever-evolving digital age.

2. A Spotlight on Literature Review

Digitalization provides the means to enhance individuals' lives and optimize their endeavors and tasks. The extent of its triumph hinges on the individuals, particularly those at the helm, who drive this transformation. To thrive in the profoundly altered landscape, organizations must adeptly fuse their operations with technology to remain competitive (Kooskora, 2021).

The integration of technology into entrepreneurial endeavors has precipitated a significant transformation within the entrepreneurial landscape, contributing to a reconfiguration of the ecosystem itself and offering a distinct lens through which enterprises are conceived and developed (Mariani, 2019). In the context of the rapidly growing of digital technology, *digital entrepreneurship* has arisen as a significant and dynamic concept of the modern corporate environment, transforming the conventional ideas of entrepreneurship (Rippa, P., Secundo, G., 2019). According to an extensive approach, digital entrepreneurship refers to the use of digital platforms and technology for the development, management, and creation of new businesses or creative projects (Nambisan, 2017) (Nambisan, S., Wright, M., Feldman, M., 2019) (Nambisan, S., Baron, R.A., 2021).

Based on its interdisciplinary character (Goh, K.T., Pentland, B., 2019), different researchers assume that digital entrepreneurship is characterized by the harmonization of conventional entrepreneurial practices with innovative methods of business creation and operation in the contemporary digital age (Le Dinh, T., Vu, M. C., Ayayi, A., 2018), with implications on how business models work (Hull, C.E., Hung, Y.-T.C., Hair, N., Perotti, V., DeMartino, R. , 2007) (Kuester, S., Konya-Baumbach, E., Schuhmacher, M.C. , 2018). Subsequently, due to its emphasis on digital technologies, which enables entrepreneurs to take advantage of unique possibilities in a linked digital environment, digital entrepreneurship is an important facilitator in reducing the barriers in the market ecosystem (Dy, A.M., Marlow, S., Martin, L. , 2017). Hence, the complexity of digital entrepreneurial activity is mainly explained by “the use IT in the role of a ubiquity” (Steininger, 2018) and “the use of digital networking capabilities” (Hattingh, M., Mathee, M., Smuts, H., Pappas, I., Dwivedi, Y. K., Mäntymäki, M. (eds.), 2020).

The process of transformation leads to the emergence of novel entrepreneurial activities, and conversely, these new entrepreneurial activities establish the groundwork for digital transformation (Hull, C.E., Hung, Y.-T.C., Hair, N., Perotti, V., DeMartino, R. , 2007). The spatial aspect stands out as a potential outcome of digital technology's influence on entrepreneurial ecosystems. In essence, these ecosystems can manifest as local, global, or even broader entities (Cavallo, A., Ghezzi, A., Balocco, R., 2018). The scale of digital entrepreneurial ecosystems is contingent upon the uptake, assimilation, and spread of digital technology. The culmination of these dynamics is a self-sustaining ecosystem, as highlighted by Sussan and Acs (Sussan, F., Acs, Z.J., 2017). In this regard, specific digital technologies, i.e. artificial intelligence, blockchain technology, and big data analytics are essential in shaping the trajectory of future research within the field of digital entrepreneurship (Recker, J., Indulska, M., Green, P.F., Burton-Jones, A., Weber, R., 2019).

3. Methodology

From a methodological point of view, the research combines both qualitative and quantitative analysis. Thus, the first part of the article provides an overview on digital entrepreneurship literature, while the second one represents a synthesis and the interpretation of a distributed questionnaire, conducted on the Faculty of Economics and Business Administration from Alexandru Ioan Cuza University of Iași, Romania during the academic year 2022-2023.

Excepting the general information that provides a screening of the respondents, for achieving a clear image of students' perceptions and attitudes on digital entrepreneurship, the questions were formulated considering a five degrees Likert scale, where 1 represents a strong disagreement and 5, a

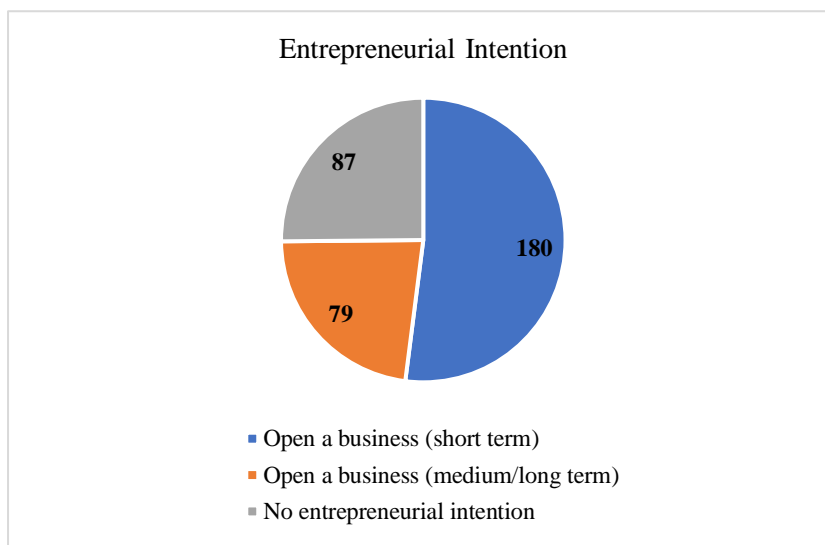
strong agreement. The questions included relevant aspects on the selected topic, taking into consideration previous studies and the specialty literature. The questionnaire was distributed via Google Forms, during classes, with the mention of anonymized responses. Overall, the sample consists of 346 students, enrolled in bachelor's (92.80%) and master's degree (7.20%).

For processing the survey results, JASP Statistical Software was used.

4. Results and Discussions

For understanding the students' perceptions on digital entrepreneurship, the results of the survey will be presented. Based on the fact that the sample is represented by the students enrolled in the field of business, a preliminary step on the addressed topic was to identify their intention to start a new business. According to the survey, the majority of the students declared their intention to start a new business on the short term and on the medium-long term (Figure 1).

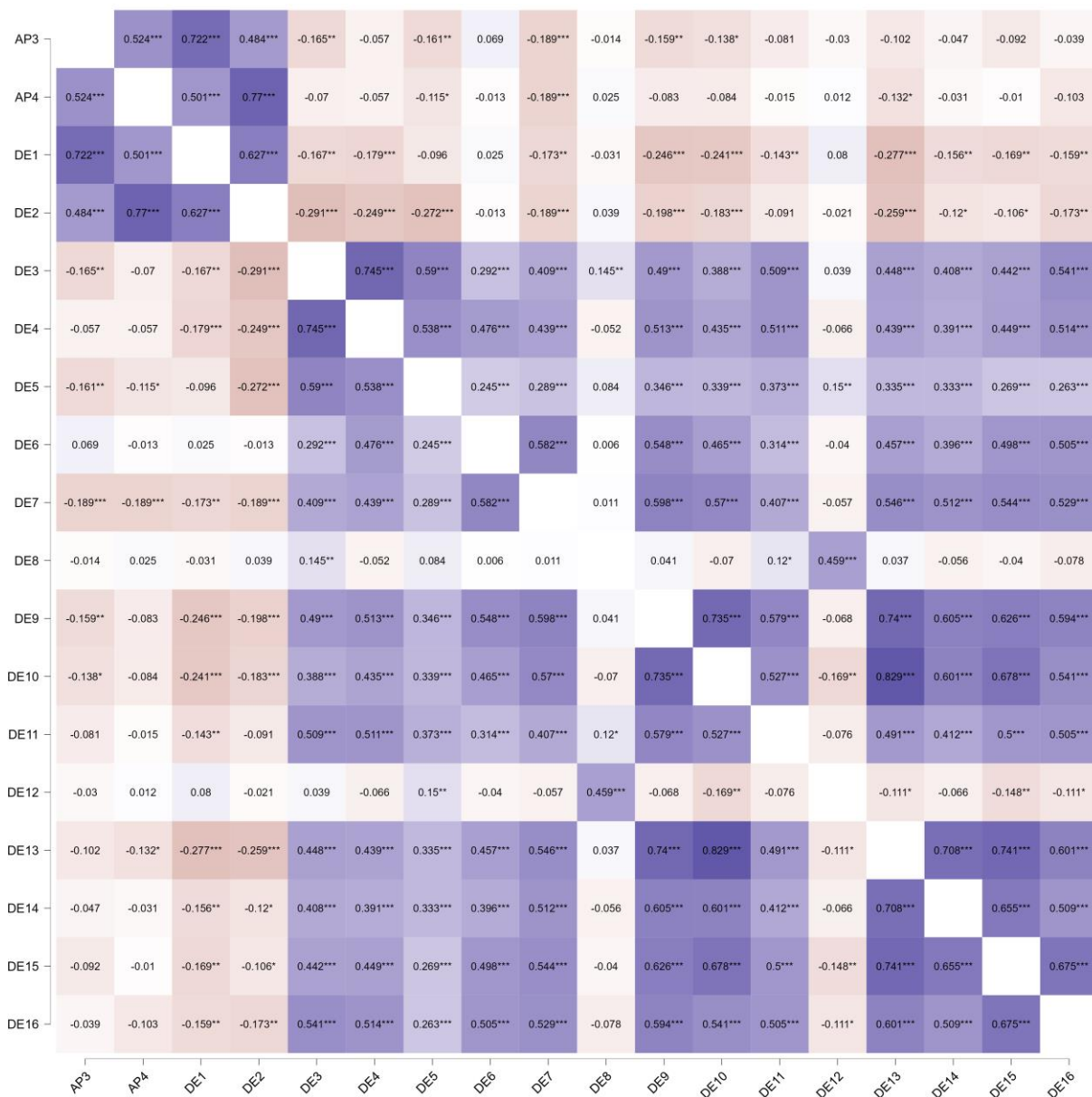
Figure 1: Entrepreneurial Intention Among Students



Source: authors' own processing of the survey

In this regard, the debate will have as a starting point a correlation matrix, illustrated below, that can contribute on a deep understanding of the analyzed aspects (Figure 2).

Figure 2: Correlation Matrix



Source: JASP output (based on the survey)

Having as a starting point the intention to start a new business on short term and considering the main aim of the present research paper, a logical flow conducted us to identify the technology adoption intention. Thus, from the adventurous students, that declared their short-term intention in starting a new business, 98,33% (177 students) affirm the necessity of implementing digital technologies in their new business (DE1). Comparatively, the medium- and long-term orientation to implement new technologies in the business models is quite smaller.

Fundamentally, according to the theoretical background, adaptability and innovation are defining elements in entrepreneurial activities. Empirically, this statement was confirmed in the case of selected sample by the 87.86% of the respondents, that affirmed their perception related on the mentioned topic, similarly with a sample of Brazilian students, which agree in 84% that the use of digital platforms is an innovative way of doing businesses (Paz, C.F.S., Carvalho, P., da Silva, M.C., Santos, R.R.O., 2020). Based on the previous idea, other researchers identified the crucial role of mentorship in building an

innovative attitude, knowledge oriented. To exemplify, Ul Haq *et al.*, identified leadership's impact on performance (Ul Haq, I., Paracha, A. T., Shakeel, W., 2020), but also the role of innovation and knowledge in digital entrepreneurship, with a study case on Chinese educational system (Zhao, 2021). Therefore, the orientation to digital entrepreneurship is supported by creativity, as it was highlighted (Mugiono, M., Prajanti, S.D.W., Wahyono, W., 2020).

Starting from these arguments, another objective was to identify the perception of the respondents related on the entrepreneurial capability to survive, assuming the use of digital technologies as a decisive factor (DE5). In this regard, the student's perception on the topic was categorized by using the same scale. According to the results, 2.6% of the respondents cannot associate to digital tools the entrepreneurial resilience. Similarly, 6.9% of the students are agree that for businesses survival, the ICT is not a feasible solution. Oppositely, 38.72% of them consider the significant impact of using ICT in traditional business models, while 34,97% emphasized it as a decisive instrument. 17.34% are indifferent related on the impact of ICT on traditional businesses' survival. These conclusions are consistent with Shukla *et al.*, that identified among woman students a positive relationship between the use of internet technologies and digital entrepreneurial intention (Shukla, A., Kushwah, P., Jain, E., Sharma, S.K., 2021).

If it is not a pillar of survival, the question is related on the way in which these instruments can affect entrepreneurial performance (DE4). For the selected sample, it can be stated that 46.24% of the business students perceive the use of ICT and digitalization as a driving force for achieving entrepreneurial performance and, similarly, 37.28% confirm their significant influence. This is in dissonance with only 4.33% of the respondents, which suggests the lack of influence of ICT in a firm's performance. For the rest, the performance is neither positively or negatively influenced by the ICT adoption strategy.

In a broad context, the entrepreneurial mindset finds manifestation in consumer behavior. As such, the chosen participant pool was subjected to inquiries concerning their disposition toward online shopping. To this end, a specific query was formulated to ascertain whether students exhibit an inclination to employ digital platforms for procuring goods or services (DE6). Based on the collected responses, it can be deduced that 79.19% of the surveyed students engage in frequent online purchases, whereas 5% exhibit hesitance in adopting this particular consumer behavior. Furthermore, an analogous 84.39% of the participants express their intent to extensively and recurrently utilize digital platforms, should they assume entrepreneurial roles (DE7). This observation reflects a pervasive inclination toward envisioning heightened financial outcomes for enterprises (DE9), as underscored by the fact that 93% of respondents identify the digitalization of businesses as a potential catalyst for growth. In contrast (DE8), 34.94% of viewpoints concur that digitalization and digital technologies, on the whole, do not inherently equate to a formula for achieving business success.

To sum up the previous arguments, it was studied if this new approach, named digital entrepreneurship, supports market development (DE16). Through an in-depth analysis of the perceptions harbored within the chosen sample, a decisive majority emerges with a clear acknowledgment of the burgeoning digital infrastructure as a pivotal and foundational element within the landscape of entrepreneurial advancement. This acknowledgment is notably robust, with 43.64% expressing strong agreement and an additional 34.68% indicating agreement. Within this context, a dedicated exploration was undertaken to investigate the perceived ramifications emanating from social networks and cloud computing on the entrepreneurial sphere. By probing into the perceived advantages attributed to cloud computing solutions in the realm of entrepreneurship, a significant 78.2% of students underscored the inherent potential of such solutions in terms of cost reduction (DE11). This viewpoint finds further reinforcement through a subsequent inquiry that delved into the proposition of a neutral impact of cloud computing on business enterprises—an assertion that was largely contradicted by the prevailing stance among respondents (DE12).

The social networks' effect on building a digital business is strongly associated with the evolution of digital entrepreneurship. In these circumstances, another point was to study their perceived effect.

Two of the questions were if these can contribute to building a successful affair (DE13), and transform it into a profitable business (DE14). Complementary, the student's perception on how social networks can affect the appearance and the development of new entrepreneurial activities was considered (DE15). According to their responses, 86,12% are agree that the connection of business environment through digital technologies can represent a solution for increasing profits and conduct to success. In this context, the appearance and development of new businesses in interdependence with digital tools and online connection is a logical step, recognized by 78,32% of the respondents. The results are convergent with other previous researches. For example, Paz *et. al.* identified on a sample of Brazilian students that the social networks positively influence the development of the firms but, paradoxally, they not prefer to invest their resources in similar activities, especially due to the lack of credibility of digital businesses (Paz, C.F.S., Carvalho, P., da Silva, M.C., Santos, R.R.O., 2020). Additionally, the findings of a recent study show that providing digital entrepreneurial education, together with the acquisition of digital entrepreneurial knowledge, serves to develop and augment students' proclivity to engage in digital entrepreneurial activities. Furthermore, the significant influence of digital entrepreneurial vigilance as a moderating construct in the context of digital entrepreneurial education, digital entrepreneurial knowledge, and students' digital entrepreneurial intentions were highlighted (Wibowo, A., Narmaditya, B.S., Saptono, A., Effendi, M.S., Mukhtar, S., Shafiai, M.H.M, 2023).

5. Conclusions

Overall, this study stresses the complex interplay of digital technology, entrepreneurship, and innovative mindsets, offering insight on the numerous forces that drive modern business paradigms. These findings have ramifications for educational practices, digital business tactics, and the development of entrepreneurial ecosystems.

In the particular case of the selected sample, we can draw the following conclusions:

- (1) There is a general tendency in adopting an entrepreneurial attitude, translated in a high rate of the analyzed respondents to create and develop a new business. Even there are discrepancies in terms of time horizons, we have noticed a positive attitude in assuming risk and uncertainty.
- (2) The Romanian business students, that are analyzed through the questionnaire, identified the benefits of adopting ICT tools in entrepreneurial activities, especially solutions as social networks or cloud computing. Even the benefits were identified, there is a balance between the respondents in terms of planning to incorporate these in their future businesses.
- (3) A vast majority of the respondents identified that social networks are a feasible solution for businesses' survival and achieving important profits. Therefore, it can be stated the interconnection between new businesses and implementing digital technologies.

Acknowledgments:

This work was co-funded by the European Social Fund, through Operational Programme Human Capital 2014-2020, project number POCU/993/6/13/153322, project title "Educational and training support for PhD students and young researchers in preparation for insertion into the labor market".

References

- Cavallo, A., Ghezzi, A., Balocco, R. (2018). Entrepreneurial ecosystem research: Present debates and future directions. *International Entrepreneurship and Management Journal*, 1-31.
- Dy, A.M., Marlow, S., Martin, L. . (2017). A web of opportunity or the same old story? Women digital entrepreneurs and intersectionality theory. *Human Relations*, 70(3), 286-311.
- Goh, K.T., Pentland, B. (2019). From Actions to Paths to Patterning: Toward a Dynamic Theory of Patterning in Routines. *Academy of Management Journal*.
- Hattingh, M., Matthee, M., Smuts, H., Pappas, I., Dwivedi, Y. K., Mäntymäki, M. (eds.). (2020). Responsible Design, Implementation and Use of Information and Communication Technology. . *Lecture Notes in Computer Science*.

- Hull, C.E., Hung, Y.-T.C., Hair, N., Perotti, V., DeMartino, R. . (2007). Taking advantage of digital opportunities: a typology of digital entrepreneurship. *International Journal of Networking Virtual Organizations*, Vol. 4 No. 3, 290-303.
- Kooskora, M. (2021). The Role of an Entrepreneurial Mindset in Digital Transformation Case Study of the Estonian Business School. În M. H. Soltanifar, *Digital Entrepreneurship. Future of Business and Finance* (pg. 143-164). Cham, Switzerland: Springer.
- Kraus, S., Palmer, C., Kailer, N., Kallinger, F. L., Spitzer, J. (2019). Digital entrepreneurship: A research agenda on new business models for the twenty-first century. *International Journal of Entrepreneurial Behavior & Research*, 25(2), 1-24.
- Kuester, S., Konya-Baumbach, E., Schuhmacher, M.C. . (2018). Get the show on the road: go-to-market strategies for e-innovations of start-ups. *Journal of Business Research*, Vol. 83, 65-81.
- Le Dinh, T., Vu, M. C., Ayayi, A. (2018). Towards a living lab for promoting the digital entrepreneurship process. *International Journal of Entrepreneurship*, vol. 22(1), 1-17.
- Li, J., Yao, M. (2021). New framework of digital entrepreneurship model based on artificial intelligence and cloud computing. *Mobile Information Systems*, 202111 .
- Mariani, M. (2019). Big data and analytics in tourism and hospitality: A perspective article. *Tourism Review*, Vol. 75(1), 299-303.
- Mugiono, M., Prajanti, S.D.W., Wahyono, W. (2020). The Effect of Digital Literacy and Entrepreneurship Education towards Online Entrepreneurship Intention through Online Business Learning and Creativity at the Marketing Department in Batang Regency. *Journal of Economic Education*, Vol. 10(1), 21-27.
- Nambisan, S. (2017). Digital Entrepreneurship: Toward a Digital Technology Perspective of Entrepreneurship. *Entrepreneurship Theory and Practice*, 41(6), 1029-1055.
- Nambisan, S., Baron, R.A. (2021). On the costs of digital entrepreneurship: Role conflict, stress, and venture performance in digital platform-based ecosystems conflict, stress, and venture performance in digital platform-based ecosystems. *Journal of Business Research*, 125, 520-532.
- Nambisan, S., Wright, M., Feldman, M. (2019). The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes. *Research Policy*, 48, 1-9.
- Paz, C.F.S., Carvalho, P., da Silva, M.C., Santos, R.R.O. (2020). Entrepreneurship digital in Students perception of a Management Course. *International Journal of Advanced Engineering Research and Science (IJAERS)*, 54-59.
- Recker, J., Indulska, M., Green, P.F., Burton-Jones, A., Weber, R. (2019). Information systems as representations: a review of the theory and evidence. *Journal of the Association for Information Systems*, 20(6), 735-786.
- Rippa, P., Secundo, G. (2019). Digital academic entrepreneurship: the potential of digital technologies on academic entrepreneurship. *Technological Forecasting and Social Change*, 146, 900-911.
- Shukla, A., Kushwah, P., Jain, E., Sharma, S.K. . (2021). Role of ICT in emancipation of digital entrepreneurship among new generation women. *Journal of Enterprising Communities: People and Places in the Global Economy*, Vol. 15 (1), 137-154.
- Steininger, D. (2018). Linking information systems and entrepreneurship: A review and agenda for IT-associated and digital entrepreneurship research. . *Information Systems Journal*, 1-45.
- Sussan, F., Acs, Z.J. (2017). The digital entrepreneurial ecosystem. *Small Business Economics*, 49(1), 55-73.
- Ul Haq, I., Paracha, A. T., Shakeel, W. (2020). A multiple parallel mediation between transformational leadership and project-based performance. A process model. *International Journal of Financial Engineering*, Vol. 7(3), 1-23.

- Wibowo, A., Narmaditya, B.S., Saptono, A., Effendi, M.S., Mukhtar, S., Shafiai, M.H.M. (2023). Does Digital Entrepreneurship Education Matter for Students' Digital Entrepreneurial Intentions? The Mediating Role of Entrepreneurial Alertness. *Cogent Education*, 10(1), 1-17.
- Zhao, H. (2021). Examining Digital Entrepreneurship: The Goal of Optimization of Transformation Path Normal Education in China. *Frontiers in Psychology*, vol. 21, 1-12.