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ORIGINAL SCIENTIFIC ARTICLE

DOI: 10.5937/ekonomika2601001M

Received: October 15, 2025

Accepted: March 05, 2026

START-UPS AND OPPORTUNITY ENTREPRENEURSHIP IN DIGITAL ENVIRONMENT: GEM BASED

Abstract

Entrepreneurship is a very complex process, and regardless of motivation, factors such as environment and perception play a significant role. In the digital era, digital technology creates specific circumstances that enable a new nature of entrepreneurship. As a result, digital era provides specific conditions for the creation of entrepreneurial ventures and changes to the context of entrepreneurship. The use of digital technologies opens up new opportunities for entrepreneurs to launch new business ventures and stimulate new entrepreneurial activities - start-ups. Consequently, high levels of social, economic, and technological development within an economy creates a business environment that provides greater opportunities for opportunity-driven entrepreneurship and start-up activities. The main goal in this paper is to identify the role of the digital business environment and opportunity-driven entrepreneurship to generate start-up activities. In this research area, 18 variables were grouped into three constructs to investigate the previously mentioned three research units. In the paper, three new variables were generated in the form of a regression factor result by grouping the previously mentioned individual variables. To verify the research hypothesis, multiple regression was used, in which all independent variables are simultaneously entered into the equation, which then evaluates the predictive power of each variable individually. The paper used a sample of 49 countries classified into three groups according to the methodology of the World Economic Forum (WEF). The GEM project was used for the purposes of quantitative procedures in this paper regarding the mentioned variable groups. As a result of the previously defined research model and functional dependencies between the variables, where Start-ups represent the function of Opportunity Entrepreneurship and Digital Environment, the basic research

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hypothesis is confirmed, in that there is a positive correlation between Start-ups as a dependent variable and Digital Environment and Opportunity Entrepreneurship as independent variables at the level of statistical significance. Finally, the study offers theoretical and practical implications for increasing intentions toward digital entrepreneurship and launching start-ups based on opportunities. Furthermore, findings contribute to the understanding of entrepreneurship in the digital environment. The limitation is reflected in the business environment as well as the degree to which the economy develops, which determine the availability of the digital environment, typical for countries with a high level of development.

Key words: Entrepreneurship, Opportunity Entrepreneurship, Start-up, Digital Environment

JEL classification: J23

ПОЧЕТНИ ПРЕДУЗЕТНИЧКИ ПОДУХВАТИ И ПРЕДУЗЕТНИШТВО ЗАСНОВАНО НА МОГУЋНОСТИМА У ДИГИТАЛНОМ ОКРУЖЕЊУ: ЗАСНОВАНО НА ГЕМ ПРОЈЕКТУ

Апстракт

Предузетништво је веома сложен процес, независно од мотивације, оно се налази под утицајем фактора као што су окружење и индивидуална перцепција. Дигитална ера омогућава сасвим нову природу предузетништва креирајући специфичне околности засноване на дигиталној технологији, мењајући на тај начин контекст предузетништва и креирајући специфичне услове за креирање предузетничких подухвата. Дигиталне технологије креирају могућности за предузетнике у сврху покретања нових пословних подухвата и стимулишу нове предузетничке активности. Тако већи степен друштвено, економског и технолошког развоја једне привреде креира пословно окружење које пружа боље услове и пословне прилике за опортунити – дивен ентрепренерсхип и генерисање старт-упс активности. Основни циљ који се поставља у овом раду представља идентификовање улоге дигиталног пословног окружења и предузетништва заснованог на могућностима на генерисање старт-упс активности. Подручје истраживања чине претходно поменути три истраживачке истражене помоћу 18 варијабли груписаних у три конструкта. У раду су у виду регресионог факторског резултата генерисане три нове варијабле груписањем претходно наведених појединачних варијабли док је помоћу вишеструке регресије као основне методе спроведена провера истраживачке претпоставке, чија је основна специфичност да се све независне променљиве истовремено уносе у једначину чиме се оцењује предиктивна моћ сваке независне променљиве појединачно. У раду се користио узорак од 49 земаља разврстаних у три групе према методологији Њорлд Економиц Форум (ЊЕФ). База која је коришћена у раду за потребе квантитативних поступака када су у питању наведене групе варијабли ГЕМ пројекат. На основу претходно дефинисаног модела истраживања и дефинисања функционалних зависности између одабраних варијабли где

Старт-упс представља функцију Опортунити Ентерпренеуршип и Дигитал Енвиронмент потврђена је основна истраживачка претпоставка, односно као резултат истраживања може се навести постојање позитивне корелационе везе на нивоу статистичке значајности између Старт-упс као зависне променљиве и Дигитал Енвиронмент и Опортунити Ентерпренеуршип као групе независних варијабли. На крају, студија пружа теоријске и практичне импликације за повећање намера ка дигиталном предузетништву и покретању стартапова заснованих на препознатим приликама. Такође, резултати доприносе разумевању предузетништва у дигиталном окружењу. Ограничење се огледа у природи пословног окружења и степену привредне развијености националне економије што одређује услове доступности дигиталног окружења, што је типично за земље са вишим нивоом развоја.

Кључне речи: *Предузетништво, Предузетништво засновано на могућностима, Почетни пословни подухвати, Дигитално окружење*

Introduction

As a result of the shift towards digital products and processes during the last decade, the economic system and innovation activities have undergone a significant transformation (Porter & Heppelmann, 2015). This emerging digital paradigm is characterized by the reproducibility, distributedness and generativity of digital objects, which has boosted the global growth of start-ups in the high-tech (digital) sector (Nambisan et al., 2019). With the help of ICT, digital businesses can bring sustainability through new entrepreneurial opportunities (Faludi, 2023). With the digital revolution, open search and business models have undergone a significant change in recent years (Guo, 2023).

Researchers have identified the need for greater attention to entrepreneurship within the digital context for the development of knowledge through innovative concepts, constructs and models regarding the creation of digital start-ups (Fernandes et al., 2022). Global business environments are being transformed by digital transformation (Qasim et al., 2024). Digital transformation is changing many aspects of how people work (Schwarzmueller et al., 2018). Moreover, digital transformation requires leaders to quickly adapt existing approaches in today's highly dynamic environment. Business and IT leaders need to collaborate (since technology and leadership skills are complementary), and new approaches should be adapted to respond to changes in the competitive and technological environment (Hansen et al., 2011; Ko et al., 2022; Philip & Gavrilova Aguilar, 2022). Entrepreneurs can create and exploit new types of business opportunities, such as the development of innovative products and services, the creation of innovative business models as well as venture financing, by leveraging digital technology, including digital platforms and digital infrastructure (Berger et al., 2021). Consequently, digital technology strongly influences new ventures' business approaches within the entrepreneurial process in order to initiate changes and generate income, based on growing flexibility and openness, encouraging implementation, reducing uncertainty, and developing and improving digital innovations continuously (Berger et al., 2021).

It has been demonstrated in previous research that the continuous evolution of digital technologies has significantly influenced entrepreneurial conditions, entrepreneurial processes, and entrepreneurial outcomes, which has had a significant impact on how entrepreneurship is implemented in practice. In this way, the digital environment provides business opportunities and conditions for opportunity entrepreneurship, which previously affected the creation of start-up activities.

The aim of the paper is to identify the role of a high-tech (digital) environment and opportunity entrepreneurship in encouraging start-up activities.

Defining a model as the basis for this study is considered a major contribution to research originality. This is accomplished by combining three selected constructs that are both specific and mutually conditioned, namely digital environment, opportunity-based entrepreneurship, and start-up activities. In this model, three complementary constructs explain how the digital environment creates conditions for opportunity-based entrepreneurship, which in turn leads to start-ups.

Three basic sections make up the structure of the paper, along with an introduction and conclusion. In Section 2, the theoretical foundation for the research area is described within the framework of the conceptual model created with research units such as low-tech (digital) environments, opportunity entrepreneurship, and start-up activities. In Section 3, the methodology used in the paper based on the *Regression factor score* is described to generate new variables, as well as a standard multiple regression based on the conceptual framework. Section 4 contains the analysis and interpretation of the research results, while Section 5 provides concluding considerations.

Theoretical Background

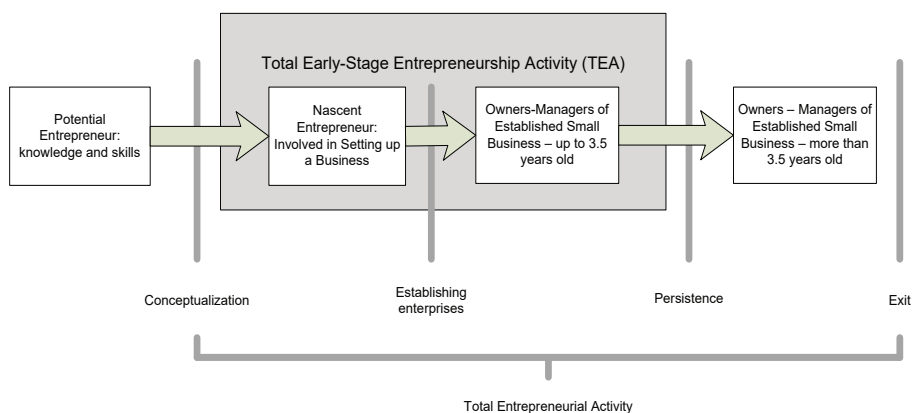
Start-ups are organizations in the early stage of the development process, or entrepreneurial ventures in the initial stage of the entrepreneurial process. As compared to start-ups and new ventures, large companies/corporations have larger resources, but are more inert and slower to react to changing environments (Muliawan et al., 2022). On the other hand, start-ups are naturally flexible and in the short term utilize the opportunities presented by their operating environment due to a lack of resources as a limiting factor for growth and business (Jayanagara & Wuisan, 2023). By learning from others' experiences and failures, start-ups increase their chances of success and speed up their learning (Hegeman et al., 2024). The following characteristics are attributed to start-ups by some authors: founded less than a decade ago, have a significant increase in employment and/or sales or have an aspiration towards the mentioned goals, and/or are innovative in terms of the technology they use as well as in terms of the business model (Kollmann, et al., 2023). According to Parthasarathy (2022), start-ups are viewed as a form of entrepreneurship emphasizing their ability to find innovative solutions to problems as well as their fundamental contribution to the growth of individual countries and the global economy. Inegbedion et al. (2024) additionally point out that production innovation and differentiation serve as a significant incentive for the growth of SMEs and competitiveness. Since the data collected and presented by the GEM (Global Entrepreneurship Monitor, 2025) project will be used to test hypotheses and scientific conclusions in this paper, the same approach will be applied to defining and understanding start-up organizations or activities within a more broadly defined entrepreneurial process.

By doing so, the entire scientific paper becomes consistent, increasing the importance and relevance of the study results.

Start-Ups and Digital Environment

Today, digital entrepreneurship is a growing phenomenon. A growing body of literature has attempted to understand this phenomenon, but it has largely focused on free market digital start-ups. It is unclear, however, how a startup could digitally transform its business through entrepreneurial actions in order to overcome regulatory challenges and barriers (Dong, 2019). Identifying entrepreneurs as bearers of entrepreneurial activity and the entire entrepreneurial process - from identifying a business opportunity, creating an entrepreneurial venture (nascent, start-up), to acquiring ownership and management of an established company, are precisely defined phases within the framework of observing the entrepreneurial process according to the GEM methodology, and in particular identifying, delimiting, and defining start-up activities. The flow chart in Figure 1 illustrates all of the above. As it can be seen, start-ups refer to Total Early-Stage Entrepreneurial Activity (TEA), which includes emerging and nascent ventures as well as established ventures/organizations up to 3.5 years old. The above mentioned is depicted in gray in Figure 1.

Figure 1. GEM approach to defining the entrepreneurial process



Source: GEM Project

It is true that many influential companies, such as Apple, Google, Amazon, Facebook, Uber, were founded as digital start-ups by taking advantage of digital technologies and doing exactly what Schumpeter described. As a result, companies were founded, achieved significant, and above all, rapid growth, and disrupted a number of existing organizations operating in stable and balanced conditions in different economic sectors. The entrepreneur is the central figure in all of these events (Leković & Marić, 2017).

Generally, the basic advantage of start-ups in the innovation process is reflected in appropriate response and behavior, while the basic limitation is related to the issue of resources (Leković & Marić, 2016). Consumers have played a pivotal role in startups' success thanks

to digital technology (Chen, 2023). However, entrepreneurs often lack the knowledge and experience to create a sustainable business strategy based on a digital platform that would guarantee success for new products and services on the market during the commercialization process (Ajah, 2023). Accordingly, the above-mentioned shortcoming is identified in the majority of entrepreneurs, regardless of the level of technological advancement of the entrepreneurial venture and digitization of businesses. Entrepreneurial ventures (start-ups), through their creation and dissolution, introduce a dynamic imbalance or state of disequilibrium, enabling them to sometimes outperform larger, established entities (Leković & Marić, 2012). Digital entrepreneurship emphasizes openness, but it is unclear how digital startups, which build their business models around digital artifacts, actually realize value from OSC engagement (Lin, & Maruping, 2021). The paper explains that digital startups develop in liminal spaces where founders experience disorientation, ambiguity and uncertainty continuously.

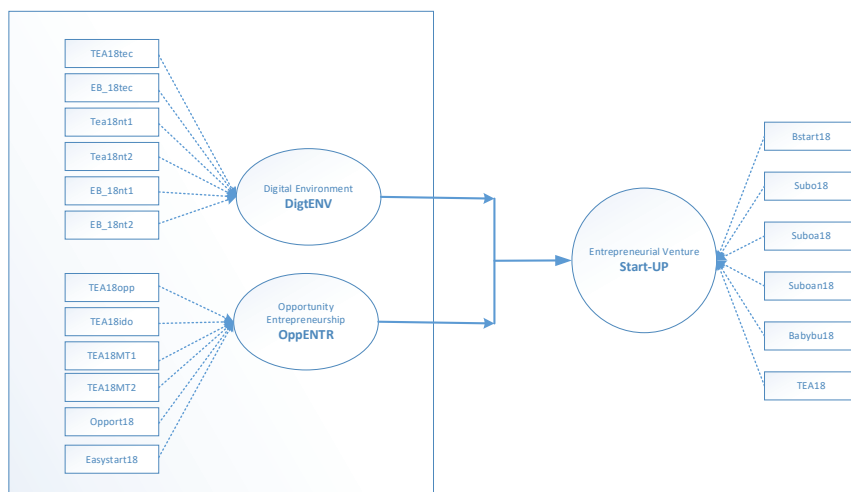
Opportunity Entrepreneurship and Digital Environment

Increasingly mature digital technologies, such as AI, big data, and the Internet of Things, have driven a new wave of innovation and entrepreneurship across the globe (Wang et al., 2022). Opportunity Entrepreneurship is unerring in identifying and realizing value-creating business opportunities through innovative solutions (Carayannis et al., 2012). There are two categories of entrepreneurial activities described by the GEM project as two extremes - necessity entrepreneurship and opportunity entrepreneurship (Block & Wagner, 2010). Despite having other employment options, opportunity entrepreneurs usually engage in entrepreneurship to increase their own income (Sautet, 2013). When the business environment is unfavorable, citizens may need to turn to necessity entrepreneurship, even in an informal way, as a survival strategy (Williams et al., 2017). Accordingly, the extent of opportunity-driven entrepreneurship in a country is determined by its economic development. The development of technology plays an important role in enabling entrepreneurship (Afawubo & Noglo, 2022), while digitization plays a crucial role in stimulating the development of business ideas. Digital technologies create opportunities for entrepreneurs to launch new business ventures and stimulate new entrepreneurial activities (Del Giudice & Straub, 2011). When it comes to start-up organizations, there is a special complementarity between entrepreneurship, especially opportunity-driven entrepreneurship, and ICT. Thus, a wide range of economic branches are being transformed, in that a single, significantly changed business environment is created that is conditioned by the mentioned technology. The digital business environment is a result of the development of the aforementioned technologies, which cannot be stopped, so business adaptation and evolution become crucial. Therefore, digital technologies become indispensable tools for entrepreneurs to maximize resources and generate value (Gomes & Lopes, 2022).

Furthermore, digital technologies play a crucial role in ensuring economic growth and increasing productivity (Higón, 2017). Businesses can gain a competitive edge in today's business environment by integrating digital technologies, which provide them with a valuable and diverse source of resources (Zhang & Li, 2018). Digital technology simplifies numerous business operations, generating the basis for the development of entrepreneurship, especially opportunity entrepreneurship, across various economic sectors. In the first place, digital technologies help identify and develop new ideas and opportunities, such as expanding businesses into new markets and forming business partnerships, while they also engage

entrepreneurs in continuous innovation (Alderete, 2017). Moreover, digital technologies ensure communication and facilitate networking with suppliers, which are essential components of entrepreneurial success. The use of digital technologies in business operations can optimize business processes, reduce transaction costs, and facilitate information exchange. However, a growing number of successful digital startups and their performance in commercialization remain influenced by a number of factors, such as a lack of qualified personnel, a lack of financial resources, unfavorable government regulations, and a digital divide in rural areas. Entrepreneurs can create sustainable competitive advantages thanks to high-quality and extensive information provided by digital technologies. In knowledge-based economies, actual entrepreneurs are also involved in the dissemination and acquisition of knowledge, which is the key to transforming and integrating knowledge into competitive advantages (Cuevas-Vargas et al., 2022). By creating specific circumstances based on digital technology, the digital era has enabled a completely new form of entrepreneurship, changing the context of entrepreneurship and creating specific conditions for entrepreneurial ventures (Marić et al., 2023). Entrepreneurs are capitalizing on the mentioned opportunities in the digital age, which signifies a shift towards high-tech sectors. In other words, technology-based entrepreneurship refers to businesses that change their business models from traditional to digital. A broader understanding can refer to the continual change of our civilization, facilitated by technology, in this case digital one, which results in the digitization of the economy and society as a whole (Boneva, 2018).

Figure 2: Conceptual Framework



Source: the authors

$$(1) \text{ Start-UP} = f(\text{DigENV}, \text{OppENTR})$$

We gain a better understanding of start-up activities using digital technologies thanks to the theoretical framework developed in this study. In addition to offering theoretical and empirical insights, it provides valuable guidance for researchers. In particular, it outlines practical strategies for digital businesses and market penetration, helping digital startups become sustainable and successful.

Methodology

Using the available database of the GEM project as a secondary source, research was conducted on a sample of 49 countries, which were divided into three different categories based on their economic development status, based on the WEF (World Economic Forum, Schwab 2009) methodology. One group comprises factor-driven economies with low income (less than \$25,000) which make up 14.28% of the sample; the second group consists of efficiency-driven economies with medium income (between \$25,000 and \$50,000) which make up 20.40% of the sample; and the third group of innovation-driven economies with high income (greater than \$50,000), which make up 61.22% of the sample. In the mentioned database, the first group of variables reflects the digital environment, the second group reflects opportunity entrepreneurship, and the third group reflects start-up activity. A list of 18 variables from three research units was selected for the research. Considering the large number of variables, the variables were selected in accordance with the research concept, followed by a quantitative analysis using the Regression Factor Score to group the variables. Based on the analysis of the mentioned method, three factors (groups of variables) were identified, i.e. three new variables were formed: Digital Environment, Opportunity Entrepreneurship, and Start-ups. The advantage of creating new variables using the regression factor lies in its ability to represent new, more complex variables in the form of economic or social phenomena, as opposed to available regression analyses that focus on the relationships between individual characteristics.

The construct **highly technological (digital)** comprises individual variables within REGR factor score 1:

Table 1. High technology (digital) environment – DigitENV

TEA_tec	TEA: Active in technology sectors (high or medium)
EB_tec	EB: Active in technology sectors (high or medium)
Tea_nt1	TEA: Uses very latest technology (only available since last year)
Tea_nt2	TEA: Uses new technology (1 to 5 years)
EB_nt1	EB: Uses very latest technology (only available since last year)
EB_nt2	EB: Uses new technology (1 to 5 years)

Source: GEM Project Database

The analysis considers all 49 cases valid, which is 100.00% of the sample. Cronbach Alpha for this variable is 0.676 suggesting marginal reliability and internal consistency of the Digital Environment scale for this sample. A value of 0.70 is considered acceptable, but a value over 0.80 is preferred.

The construct **Opportunity Entrepreneurship** comprises individual variables within REGR factor score 2:

Table 2. Opportunity Entrepreneurship – OppENTR

TEA18opp	TEA and Opportunity motive
TEA18ido	Improvement Driven Opportunity motive: independence or increase income
TEA18MT1	Opportunity motive: increase income
TEA18MT2	Opportunity motive: independence
Opport18	Good conditions to start business next 6 months in area I live
Easystart18	Easy to start a business

Source: GEM Project Database

According to the analysis, 43 out of 49 cases are valid, which represents 87.80% of the sample. Cronbach Alpha for this variable is 0.738 suggesting acceptable reliability and internal consistency of the Opportunity Entrepreneurship scale for this sample. A value of 0.70 is considered acceptable, but a value over 0.80 is preferred.

The construct **Start-ups** comprises individual variables within REGR factor score 3:

Table 3. Start-ups – StartUPS

Bstart18	YES: Currently involved in business start-up
Subo18	Currently starts business and will be (part) owner
Suboa18	Starts business, active past year and will be (part) owner
Suboan18	START-UP/NASCENT (SU): active past year, (part) owner, no wages yet
Babybu18	BABY BUS OWNER (BB): owns-manages business with income<3.5 year
TEA18	Setting up firm or owner of young firm (SU or BB)

Source: GEM Project Database

The analysis considers all 49 cases valid, which is 100.00% of the sample. Cronbach Alpha for this variable is 0.936 suggesting acceptable reliability and internal consistency of the Start-ups scale for this sample. A value of 0.70 is considered acceptable, but a value over 0.80 is preferred.

These new variables result from the high linear interdependence of the individual measures within the three factors, which is indicated by the high value factors.

The method of standard multiple regression, used in this paper, enables a set of predictor variables to predict a certain outcome. As a result, a model presents the functional interdependence between variables Digital Environment and Opportunity Entrepreneurship, and identifies which variable represents the best predictor, considered individually. Furthermore, this method can be used to determine how much of the unique variance of the dependent variable, in this case Start-ups, is explained by each independent variable.

Following the previously defined model (Figure 1), where *Start-ups* represent the function of *Opportunity Entrepreneurship* and *High-Tech (Digital) environment*, we set the following basic research hypothesis:

H1: There is a positive direct correlation at the level of statistical significance between the volume of Start-up activities as a dependent variable and Opportunity Entrepreneurship and Digital Environment as a group of independent variables.

Research Results and Discussion

Prior to interpreting and analyzing the results of the quantitative research, it is necessary to check whether the assumptions are met for multiple regression. Consequently, the reliability of quantitative procedures is ensured as well as confirmation of set conceptual models and reasoning processes that are based on research findings. When it comes to evaluating the mentioned assumptions, an emphasis should be placed on the correlation between variables within the set model. As long as a group of independent variables have a weak correlation of 0.3 or higher with a dependent variable, the conditions are satisfied. Even a weak correlation between the variables and the dependent variable is preferred. In this case, DigitENV and OppENTRE, with coefficients 0.276 and 0.332, respectively, meet the stated condition, since a minimum of 0.3 is preferred. Moreover, the independent variables should not show strong correlations. As a result, variables with correlations exceeding 0.7 should not be included in the analysis, and these variables do not exist in this case. Correlation matrix data does not show collinearity between variables, a condition that needs to be checked when there is multiple correlation. The results of this type of analysis are presented in the table Coefficients in the *Tolerance* and *VIF (Variance inflation factor)* columns. *Tolerance* shows how much of the dependent variable is not explained by the variances of the independent variables in the model. A small value (less than 0.1) indicates a significant correlation with other variables, i.e. multicollinearity. According to the values obtained from the table in the specified columns, the mentioned problem of this type does not exist. The next essential condition includes atypical points, normality, linearity, and homogeneity of variance. The Normal P-P Plot diagram shows that all the points are grouped around a straight diagonal line from the lower left to the upper right corner, indicating that there is no significant deviation from normality. It is also important to pay attention to the scatter plot of the standardized residuals or *Scatterplot*. There is a rectangular distribution of residuals and most of the results cluster in the center, which indicates that none of the assumptions of the model are violated.

Table 4 Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.455 ^a	.207	.167	.91254593

a. Predictors: (Constant), REGR factor score 1 for analysis 3_DigitENV, REGR factor score 1 for analysis 2_OppENTRE

b. Dependent Variable: REGR factor score 1 for analysis 1_Start-Ups

Source: the authors

Having verified the assumptions of the quantitative method model, the process of model evaluation can begin. When evaluating the model, the starting point is the squared value of the coefficient of determination, presented in this paper in Table 4 titled Model Summary in the R Square column, which in our case is $r^2 = 0.207$. This coefficient shows how much of the variance of the dependent variable *Start-ups* is explained by the set model that includes the group of independent variables *Digital Environment* and *Opportunity Entrepreneurship*. The value of this indicator is 20.70%, meaning that the model set in this paper explains 20.70% of the variance of *Start-ups*, which is an acceptable result for this

sample size. Due to all the characteristics of the sample, it is not necessary to include the adjusted value of the given indicator (Adjusted R Square).

Table 5 ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.690	2	4.345	5.218	.010 ^b
	Residual	33.310	40	.833		
	Total	42.000	42			

a. Dependent Variable: REGR factor score 1 for analysis 1_Start-Ups

b. Predictors: (Constant), REGR factor score 1 for analysis 3_DigitENV, REGR factor score 1 for analysis 2_OppENTRE

Source: the authors

Table 5, ANOVA - analysis of variance, presents statistically significant coefficients of determination for the presented model, and the null hypothesis test results, where $r^2=0$. Since the value of Sig $p = 0.010$, which actually means that $p < 0.05$, the model reaches statistical significance. In order to determine the contribution of each variable in the model for predicting the dependent variable *Start-ups*, the values presented in Table 6 Coefficients, in the Beta column, in the segment standard coefficients, must be analyzed. Our first step is to determine which independent variable is contributing the most, which is *Opportunity Entrepreneurship* with a Beta value of 0.364. This means that this variable contributes to the explanation of the dependent variable in a relative amount of 36.40%. By adding $p = 0.014$ from column Sig., we conclude that this individual contribution is statistically significant in predicting the dependent variable.

Table 6 Coefficients^a

Model		Unstandard Coefficients		Standard coefficients Beta	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error				Lower Bound	Upper Bound	Zero-order	Partial	Part	Toler	VIF
1	(Constant)	.139		.000	1.000		-.281	.281					
	REGR factor score OppENTRE	.364	.142	.364	2.569	.014	.078	.650	.332	.376	.362	.990	1.01
	REGR factor score DigitENV	.313	.142	.313	2.211	.033	.027	.599	.276	.330	.311	.990	1.01

a. Dependent Variable: REGR factor score 1 for analysis 1_Start-Ups

Source: the authors

Digital Environment is the next largest variable based on the set model and correlation coefficient, with a Beta coefficient of 0.313, contributing to 31.30% of the predicted dependent variable. Based on the Sig column value $p = 0.033$, we conclude that there is statistical significance in the individual contribution in predicting the dependent variable. As a result of the previous analysis of the results, the set research model can be fully confirmed. According to our findings, digital platforms have played a key role in entrepreneurship, answering research questions and clarifying key events leading to

digital entrepreneurship. Accordingly, the findings build on those of Taylor-Wesselink and Teulon (2021), as well as Makarainen-Suni (2021), providing an in-depth theoretical analysis of the factors that motivate entrepreneurs to pursue innovative business opportunities on digital platforms. Hence, the results support the view that digital platforms facilitate crowdsourcing for product co-creation, which will create economic value for all parties (Hein et al., 2020). This paper, therefore, adds to the literature by showing how the openness and convergence of digital platforms have transformed the entrepreneurial process and extended market reach. The findings of this study advance knowledge in several other ways as well; it is further confirmed by conceptualizing the liminal experiences of digital entrepreneurs who engage in entrepreneurship in a digital context. Especially noteworthy is that the study echoes Ajah's (2024b) findings in that liminal experiences of founders during the development of digital startups are filled with ambiguity, disorientation, and uncertainty as a result of different environmental structures. The findings provide new insights into digital entrepreneurship by conceptualizing collaboration, adaptability, avoidance of problem investors, and cognitive engagement as the steps third-party developers can take to overcome challenges.

Conclusion

Previous research has demonstrated that the continuous evolution of digital technologies has greatly impacted the conditions, the process, and the outcomes of entrepreneurship, which has also significantly altered the way entrepreneurship is implemented in practice. Thus, the digital environment creates business opportunities and creates conditions for opportunity entrepreneurship, which previously affects the creation of start-up activities (Berger et al., 2021). Technology, in this case digital technology, and its improvement change the existing business conditions by providing new opportunities for some market actors and imposing limitations on others.

In fact, business opportunities within the digital business environment are not exclusively aimed at the IT sector, as their influence is spreading across the whole economy as well. In other economic branches, digital technologies are helping to eliminate traditional forms of business by innovating products and services, business models, and business processes. Considering the research conducted within the conceptual model and the research results, the conclusion is that the research hypothesis is confirmed, as evidenced by the fact that start-ups as a dependent variable and digital environment and opportunity entrepreneurship as independent variables have a positive correlation at the level of statistical significance. Additionally, the results of the research indicate the general goal of the paper, which is encouraging start-up activities based on opportunity entrepreneurship due to the development of a business environment based on digital technologies that encourages start-up activities.

Our conclusion follows from the results obtained from applying the basic method of multiple regression used in the paper, primarily as the square coefficients of determination, *R Square*, $r^2=0.207$. We conclude from the results interpretation that the group of independent variables in this study explains 20.70% of the variance of the dependent variable, in this case Start-up activities.

This paper interprets the presented research results in accordance with previous research findings, whose conclusions and values are presented as facts here, in order to

demonstrate that the digital business environment creates conditions for entrepreneurship and encourages start-up activities.

Finally, the study provides theoretical and practical implications for increasing digital entrepreneurship intentions and launching startups based on identified opportunities. Furthermore, the results contribute to a better understanding of digital entrepreneurship in digital environment.

The limitation is reflected in the nature of business environment as well as the degree to which the economy develops, which determine the availability of the digital environment, typical for countries with a high level of development. This limitation has direct implications for the GEM project, which for research purposes uses the WEF (World Economic Forum) classification of countries. Countries are classified into Factor-driven economies, Efficiency-driven economies, and Innovation-driven economies based on their GDP per capita as a classification criterion. A different level of economic development means different business opportunities based on the digital environment, and this can lead to different perceptions when interpreting the results if the research outcomes are not precisely delineated.

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