administrative sciences

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Digital Entrepreneurship: Public Perception of Barriers, Drivers, and Future

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Abstract: The widespread access to the Internet has undoubtedly changed the way businesses handle their processes and interact with their customers. With the surge of new devices, business models, technologies, and platforms, alongside social media growth and innovative advertising, it became easier to transition from employment to entrepreneurship. The paper aims to assess the public perception of digital entrepreneurship, with a focus on its barriers, drivers, and expectations for the future. The results show that there is a slight agreement with a digital business being easier to establish compared with a traditional one. The driving forces behind starting a digital business are recognized, and the digital environment is considered essential for business growth in the following years. With some exceptions, there are no significant differences between age groups, genders, relationship statuses, levels of education, and/or occupations when rating the barriers, drivers, and expectations for the future of digital entrepreneurship.

Keywords: digital entrepreneurship; online business; e-business; e-commerce; technology entrepreneurship; online platform; social media; digital transformation

Citation: Biclesanu, Isabelle, Sorin Anagnoste, Ovidiu Branga, and Marco Savastano. 2021. Digital Entrepreneurship: Public Perception of Barriers, Drivers, and Future. *Administrative Sciences* 11: 125. https://doi.org/10.3390/admsci11040125

Received: 6 September 2021
Accepted: 29 October 2021
Published: 3 November 2021

1. Introduction

The widespread access to the Internet has undoubtedly changed the way in which businesses handle their processes and interact with their customers.

While entrepreneurship has been around for thousands of years, the concept of digital entrepreneurship has only recently been introduced to the business landscape. However, what is currently being defined as digital entrepreneurship greatly differs from what it was at its beginning. In the early days of the Internet, digital entrepreneurship implied transforming an existing business venture to accommodate the online environment, usually by building a website (McCullough 2018). Nowadays, digital entrepreneurship has evolved into a much larger meaning due to the advancements in technology (Johnson 2021; Le Dinh et al. 2018). Digital entrepreneurship incorporates businesses whose main activities are made possible through the use of digital technologies (Allen 2019). Thus, digital entrepreneurship could be defined as the process of creating and pursuing entrepreneurship opportunities through the use of information and communication technology (ICT) (Antonizzi and Smuts 2020; Sussan and Acs 2017) and seen as "the reconciliation of traditional entrepreneurship with the new way of creating and doing business in the digital era" (Le Dinh et al. 2018, p. 1).

While established corporations mostly rely on incremental innovation of their business models, driving efficiency, and creating value for the ever-changing market expectations by implementing new technologies and ways of carrying out their activities (BCG 2021; Ang and Jamshed 2021; Anagnoste et al. 2021; Savastano and Anagnoste, 2020), start-ups have more flexibility to produce creative disruption, innovative business models, and value propositions. Regardless, looking at the two most common approaches of doing business, namely business-to-consumer (B2C) and business-to-business (B2B), B2C seems to be more

adaptable to new technologies. For example, smartphones generate the most B2C traffic (Cassidy 2019). However, while mobile drives traffic, ultimately, the sales mostly come from a computer (BroadbandSearch 2021). This might happen because customers are still uncomfortable finalizing purchases on mobile devices (Bhatia 2020). In contrast, the B2B model ranks lower in terms of its adaptation to digital entrepreneurship, as transactions usually require direct contact and negotiation as opposed to having an online shopping cart experience (Balance 2021). For example, in the United States of America, the B2B market generated $9 trillion sales in 2018, out of which only 12% were made online. This percentage is expected to reach 17% by 2023 (Bruno 2019). However, global B2B e-commerce accounted for 82% of all e-commerce in 2019, based on market value (UNCTAD 2021).

Digital tools enable collaboration and knowledge sharing within new social dynamics (Sahut et al. 2021), and with the surge of new devices, business models, technologies, and platforms, alongside social media growth and innovative advertising, it became easier to transition from employment to entrepreneurship.

2. Context

Although the ideas of personal computers and the Internet were very much exploratory and adventurous in the 80s, the 90s propelled digital entrepreneurship through the dot-com bubble (Smith 2011). With digitalization came new ways for businesses to manage their processes, interact with their customers, and market their offerings (Schallmo and Williams 2018).

In 1994, the first Internet browser was introduced, Netscape Navigator (Sharwood 2014). Amazon appeared a year later as an e-commerce platform for books and grew over the next three decades to be one of the biggest companies in the world (Miva 2011; Fortune 2021). Successful e-commerce companies perfected the customer's purchase journey by understanding the drivers of customer satisfaction and optimizing customer experience (Anagnoste et al. 2020; Teneva 2021).

Following all the hype and speculation placed around the Internet during its beginning, the 2000s brought digital entrepreneurship to the hands of the masses (CSP 2016). With desktop computers becoming more affordable (Statista 2021a) and a home Internet connection increasingly more common (Ariguzo et al. 2006), it did not take long for people and companies to start interacting in new ways.

Social media platforms began taking shape, and by the mid-2000s, companies such as Facebook and Myspace were exploding in popularity (Edosomwan et al. 2011). Nowadays, there is a plethora of social media platforms specialized in short videos, visuals, short conversations, the professional environment, and so on. The growth of the social media industry and its marketing capabilities turned out to be of great support for digital entrepreneurship by creating new opportunities for people to start a business that takes advantage of the digital environment.

This expansion of the social media industry led to innovative marketing approaches. Currently, traditional advertising is becoming increasingly unattractive, with digital advertising spending expected to overpass traditional ad spending in the next five years (Buchholz 2020) and start generating more revenue from mobile devices compared with desktops (Statista 2021b).

The technological developments alleviate part of the challenges faced by entrepreneurs, especially since the costs involved in using or implementing some technologies are lowering (Rayna and Striukova 2021; Koetsier 2021). However, digital entrepreneurship in developing countries is affected by the weak infrastructures supporting the access to start-up funds, the lack of protective and stimulating policies, the weak digital infrastructure, and deficiencies in digitally competent human resources (Samara and Terzian 2020). Moreover, new technology adoption within companies comes with change management challenges. For instance, some studies show the disruptive effect of big data and blockchain over job profiles and organizational structure (Tiron-Tudor and Deliu 2021; Tiron-Tudor et al. 2021).

As a result of the dynamic growth of technology, how fast entrepreneurs and consumers are accepting and integrating it became a complex problem. A number of re-

searchers have developed technology adoption theories and frameworks with the aim of understanding consumer behavior (Venkatesh and Davis 1996; Venkatesh et al. 2003; Dapp et al. 2012; Lai and Zainal 2015). For example, the Technology Acceptance Model (TAM) was first proposed in 1986 to explain computer usage behavior, and since then, it has gone through multiple iterations, including different predictor variables (Lai 2017). With the aim of nurturing entrepreneurial behavior, Elia et al. (2021) proposed a model for a Digital Society incubator, which combines the digital and entrepreneurial environments, taking into account the required actors, flows, processes, and values. Moreover, Satalkina and Steiner (2020a) divided the determinants of digital entrepreneurship within three innovation system dimensions: the ecosystem, the entrepreneur, and the entrepreneurial process.

Fundamentally, the ease of having a digital business has a positive relationship with the level of digital evolution within a country, digital entrepreneurship being a contributor to the innovation system (Satalkina and Steiner 2020b).

Contrary to the general fear that the COVID-19 pandemic would generate a decrease in spending (Anderson 2021), it increased sales, especially in e-commerce (UNCTAD 2021; Statista 2021c). The interest for "digital" has grown starting March 2020, as presented in Figure 1, for all the categories of search worldwide. The "digital" keyword registered a significantly higher search volume in March 2020–August 2021 compared with the August 2016–March 2020 period, $t(258) = -33.2$, $p < 0.001$.

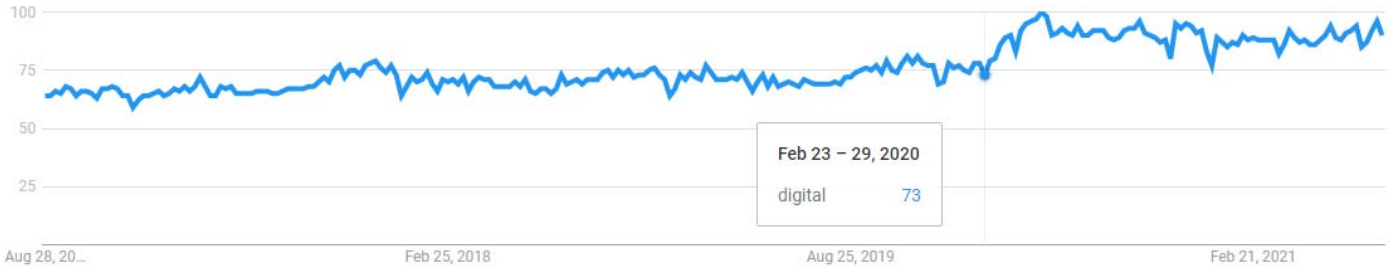

Figure 1. Google trends worldwide interest for the "digital" keyword in the August 2016–August 2021 period for all categories of search. Source: Google trends.

Similarly, the interest in "e-commerce" has grown starting March 2020, as available in Figure 2. The "e-commerce" keyword registered a significantly higher search volume in March 2020–August 2021 compared with the August 2016–March 2020 period, $t(258) = -17.3$, $p < 0.001$.

Figure 2. Google trends worldwide interest for the "e-commerce" keyword in the August 2016-August 2021 period for all categories of search. Source: Google trends.

The COVID-19 crisis is likely to produce an increase in nationalist policies in corporate law, with long-term orientation toward stakeholder interests (Gelter and Puaschunder 2021). Wise capital allocation seems to be of foremost importance (Patel and Patel 2020), while family shareholders having controlling positions within the organization is one of the determinants of organizational resilience (Amore et al. 2020).

However, with the difficulties in running a traditional business came a sudden interest for anything online, including start-ups (Tai 2021).

3. Research Aims

As the digital environment's attractiveness has increased because of the pandemic, this paper aims to assess the current public perception of digital entrepreneurship, with a focus on its barriers, drivers, and expectations for the future. There is no national digital transformation strategy for enterprises in Romania (European Commission 2020) and understanding the present view over digital entrepreneurship is valuable for developing support measures for the digitalization of companies as well as awareness programs to address digital technologies' benefits.

The investigation will be based on the following questions (Q_1–Q_4) and hypotheses (H_1–H_2):

Q_1: "Is a digital business considered to be easier to establish compared with a traditional one?"

The challenge level refers to the starting investment; the required level of research, knowledge, time, and the number of employees needed for starting a digital business compared with a traditional one; as well as the legal standpoint and the perceived level of risk.

Q_2: "Are the driving forces behind starting a digital business recognized?"

The question investigates public perception of drivers, such as social media, the influence of self-proclaimed digital business experts, the digital age generations reaching adulthood and the right to own a business, the work-life balance, and the possibility of achieving a high level of income through a digital business.

Q_3: "Is the digital environment considered essential for business growth in the following years?"

Q_4: "Are there significant differences in rating the barriers, drivers, and expectations for the future of digital entrepreneurship, between age groups, genders, relationship statuses, levels of education, and/or occupations?"

Hypothesis 1 (H_1). *A lower level of perceived barriers in starting a digital business coincides with a higher level of trust that the digital environment is essential for business growth in the following years.*

Hypothesis 2 (H_2). *A higher level of perceived strength of the driving forces behind starting a digital business coincides with a higher level of trust that the digital environment is essential for business growth in the following years.*

4. Research Methods

A self-administered, online survey collected 221 valid answers from Romanian citizens during May 2021. Data were collected through random and snowball sampling. The sample size meets the requirements for a 95% confidence level with 6.6% margin of error.

The first section of the survey is aimed at gathering demographic data (i.e., gender, age, relationship status, occupation, and the highest level of education completed). The second and last section has 27 Likert-style items for assessing the respondents' opinion on digital entrepreneurship, rated on a scale from 1 to 7 (1 = "strongly disagree"; 7 = "strongly agree").

Data analysis was performed in SPSS. A principal components analysis (PCA) was used for the Likert items and checked against a parallel analysis. The internal consistency was measured through Cronbach's alpha, with values over 0.7 being considered reliable. Index variables were constructed for each of the latent variables through arithmetic mean of their items. Cluster analysis was performed based on the demographic variables. Tests of association, correlation, and difference of means were used where appropriate.

5. Findings

5.1. Factor Analysis

Three Likert items were removed as a result of PCA. After comparing the scree plot and eigenvalues with a parallel analysis, the remaining 24 items were split into three factors: (1) *barriers*, representing the respondents' belief that a digital business would be easier to establish compared with a traditional one; (2) *drivers*, representing the recognition of the digital business driving forces; and (3) *future*, representing the respondents' belief that the digital environment is essential for business growth in the following years. The items constructing the *barriers* factor were coded b1–b8, the ones for *drivers* d1–d10, and the ones for *future* f1–f6. Each factor is presented in Table 1.

Table 1. Factor analysis results.

Factor	Item Code	Item	Cronbach's Alpha (std.)
barriers	b1	The starting investment needed for a digital business is lower than the one for a traditional business.	0.747
	b2	The required level of research needed for starting a digital business is lower than the one for a traditional business.	
	b3	From a legal standpoint, it is easier to start a digital business than a traditional one.	
	b4	Starting a traditional business is risky.	
	b5	The starting investment for a traditional business is high.	
	b6	Running a traditional business requires a substantial time investment.	
	b7	Starting a traditional business requires a high level of knowledge.	
	b8	Traditional businesses need more employees than digital businesses.	
drivers	d1	Social media content plays an important part in promoting the idea of starting a digital business.	0.873
	d2	A better work-life balance is an important motivating factor in starting a digital business.	
	d3	The possibility of achieving a high level of income is an important motivating factor in starting a digital business.	
	d4	The social status associated to entrepreneurs is an important motivating factor.	
	d5	Work satisfaction is higher when owning a business as opposed to being an employee.	
	d6	There is a strong link between social media and the recent interest for digital businesses.	
	d7	The self-proclaimed digital business experts generate much of the interest for starting an online business.	
	d8	Social media advertising has amplified the interest for digital businesses.	
	d9	Social media introduces the business environment to people of increasingly younger ages.	
	d10	The desire to own a business is greater for people born in the digital age (after 1990).	
future	f1	In the near future, the turnover of the digital business market will surpass the one for the traditional business market.	0.798
	f2	It is essential for a business to have a social media presence in order to stay relevant.	
	f3	It is important for a business to use targeted social media advertising.	

Table 1. *Cont.*

Factor	Item Code	Item	Cronbach's Alpha (std.)
	f4	Digital businesses will replace many traditional businesses in the following 10 years.	
	f5	Companies that will not adapt to the digital environment will fail to be competitive.	
	f6	People will prefer to shop online for increasingly more products and services.	

Source: Analysis of the dataset in SPSS.

The factors have acceptable reliability values, KMO = 0.884 > 0.6, and Bartlett's test of sphericity $p < 0.001$. The three factors explain 46.53% of the variance.

The lowest item mean was observed for b2 (M = 3.76, SD = 1.726, Skewness = 0.156, Kurtosis = −0.791), which is significantly lower than the scale midpoint of 4, t(220) = −2.062, $p < 0.05$, showing that the respondents might believe the level of research needed for starting a digital business not to be lower than the one needed for starting a traditional business.

All the other items had means statistically higher than the Likert scale midpoint, showing a level of agreement with the statements, $p < 0.05$.

Index variables were constructed for each of the latent variables through arithmetic mean of their items and will be referred to as: BARRIERS (the respondents' belief that a digital business would be easier to establish compared with a traditional one), DRIVERS (the recognition of the digital business driving forces), and FUTURE (the respondents' belief that the digital environment is essential for business growth in the following years).

As presented in Table 2, BARRIERS, DRIVERS, and FUTURE have moderate tendencies to vary in the same direction, validating H_1 and H_2.

Table 2. Intercorrelations and descriptive statistics of the index variables.

	BARRIERS	DRIVERS	FUTURE
BARRIERS	1		
DRIVERS	0.449 **	1	
FUTURE	0.432 **	0.628 **	1
Mean	4.9	5.79	5.75
Std. Deviation	0.91	0.86	0.97

** $p < 0.001$. Source: SPSS.

The respondents believe that a digital business would be easier to establish compared with a traditional one, the BARRIERS variable (M = 4.9, SD = 0.91) having a significantly higher mean compared with the scale mean of 4, t(220) = 14.89, $p < 0.001$, thus answering Q_1. However, with a mean of 4.9, the answers fall into the "slight agreement" range.

The driving forces behind starting a digital business are recognized, with DRIVERS (M = 5.79, SD = 0.86) having a significantly higher mean compared with the scale mean of 4, t(220) = 30.83, $p < 0.001$, answering Q_2.

The respondents consider that the digital environment is essential for business growth in the following years, the FUTURE variable (M = 5.75, SD = 0.97) having a significantly higher mean compared with the scale mean of 4, t(220) = 26.89, $p < 0.001$, thus answering Q_3.

5.2. Demographic Differences in Rating the Statements

This section aims to answer Q_4.

The 221 valid answers came mostly from the younger generations, as available in Table 3.

Table 3. Dataset demographics.

Item	Value	Frequency	Percent
age	18–24	164	74.2
	25–34	46	20.8
	35–44	8	3.6
	45–54	2	0.9
	55–64	1	0.5
gender	man	46	20.8
	woman	175	79.2
relationship status	single	92	41.6
	in a relationship	94	42.5
	engaged	9	4.1
	married	26	11.8
highest education level completed	high school	125	56.6
	bachelor's degree	63	28.5
	master's degree	31	14
	PhD	2	0.9
occupation	unemployed	43	19.5
	employed	121	54.8
	self-employed	47	21.3
	entrepreneur	10	4.4

Source: Analysis of the dataset in SPSS.

All demographic variables have very weak associations with the three index variables, Eta coefficients <0.19.

Regarding their level of agreement with the statements, entrepreneurs were the only sub-group who did not have a statistically significant difference between the mean of each of the index variables and the scale mean of 4. In their case, the BARRIER variable mean was not statistically different than the neutral point, $t(9) = 1.906$, $p = 0.09$, showing that entrepreneurs might not consider the barriers for digital businesses as being lower compared with the ones for traditional businesses. However, this result is influenced by the modest number of entrepreneurs in the sample.

The dataset was split into two clusters based on the age, relationship status, and education level items, as resulting from the Ward method in hierarchical cluster analysis, followed by the *k*-means cluster analysis. Gender and occupation were not deemed significant for clustering. A visual representation of the clusters is available in Figure 3.

Cluster 1 has 30 cases and is comprised of the respondents who are mostly in the upper levels based on age, relationship status, and education. Cluster 1 has no unemployed or single respondents. Cluster 2 has 191 cases and is represented by the people who are mostly in the lower levels based on age, education, and relationship status. Cluster 2 has no respondents over 45 years old or married. Cluster 1 has a lower number of cases compared with cluster 2; however, the differences between clusters are significant, $p < 0.001$, showing cluster 1 as acceptable but underrepresented as a result of the demographic distribution of the sample.

There were no statistically significant differences between the ways the two clusters rated each of the index variables, $p > 0.05$. However, women in cluster 1 (representing 66% of the cluster) had a weak to moderate tendency to rate the DRIVER and FUTURE variables higher, Eta = 0.430 and Eta = 0.307, respectively, compared with men in the same

cluster, the difference being significant $p < 0.05$ for the DRIVERS variable. Still, this result is influenced by the small number of cases in cluster 1.

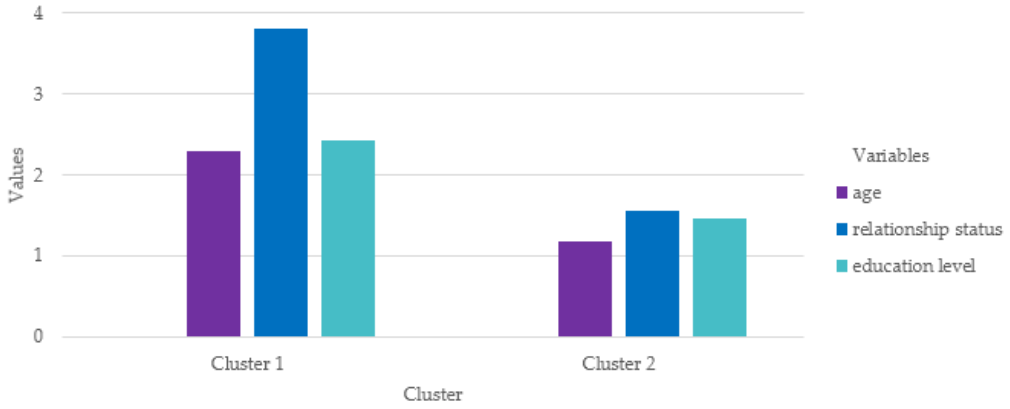

Figure 3. Dataset clustering based on age, relationship status, and education level, as represented by the cluster center values. Source: Authors' elaboration in SPSS.

6. Discussion

There is a slight agreement with a digital business being easier to establish compared with a traditional one when considering the starting investment need, the level of research, knowledge, time, and the number of employees required for starting the business as well as the legal standpoint and the perceived level of risk. Moreover, the driving forces behind starting a digital business are recognized, such as the influence of social media and self-proclaimed digital business experts, the digital age generations reaching adulthood and the right to own a business, or the hopes of having a better work-life balance and the possibility of achieving a high level of income through a digital business.

The respondents' belief that a digital business would be easier to establish compared with a traditional one and the recognition of the digital business driving forces have moderate tendencies to vary in the same direction with the respondents' belief that the digital environment will be essential for business growth in the following years.

In terms of socio-demographics, there are no significant differences in rating the barriers, drivers, and expectations for the future of digital entrepreneurship between age groups, genders, relationship statuses, levels of education, and/or occupations. However, entrepreneurs might not consider the barriers for digital businesses as being lower compared with the ones for traditional businesses.

There were no statistically significant differences between the ways people who are mostly in the upper levels based on age, relationship status, and education (cluster 1) rated their agreement level with the statements concerning the barriers, drivers, and expectations for the future of digital business compared with people on the lower levels of these demographic variables (cluster 2). As an exception, women in cluster 1 had a weak-moderate tendency to rate the DRIVER variable higher, $p < 0.05$, compared with men in the same cluster.

The national innovation systems approach underlines the importance of the flows of technology and information between institutions, enterprises, and people to the innovative process (OECD 1997). With the difficulties in running a traditional business that have resulted from the COVID-19 pandemic (Tai 2021), and since the ease of having a digital business has a positive relationship with the level of digital evolution within a country (Satalkina and Steiner 2020b), a positive outlook on the national innovation systems could be considered as a result of the potential growth in digital entrepreneurship in the following years. Moreover, since Romania lacks a national digital transformation strategy for enterprises (European Commission 2020), by analysing the public perception of digital entrepreneurship, this paper contributes to the development of support mea-

sures for the digitalization of companies as well as awareness programs to address digital technologies' benefits, also for other countries characterised by similar settings.

This paper can be seen in light of some limitations. The 221 valid answers are unbalanced demographically, the respondents being mostly women in the younger generations. Moreover, the modest number of entrepreneurs in the sample decreased the confidence in certain analyses pertaining to them.

Further research could focus on specific categories of digital entrepreneurship drivers and their relationships with the demographic variables or take a qualitative approach covering digital SMEs, especially in the light of the COVID-19 pandemic's influence over them. Future cross-country comparisons based on this analysis would also be interesting in order to enlarge the observations and generalise the evidence obtained.

Author Contributions: Conceptualization, S.A., O.B., I.B. and M.S.; methodology, S.A., O.B., I.B. and M.S.; validation, S.A., O.B., I.B. and M.S.; formal analysis, S.A., O.B., I.B. and M.S.; investigation, S.A., O.B., I.B. and M.S.; resources, S.A. and O.B.; data curation, S.A., O.B., I.B. and M.S.; writing—original draft preparation, S.A., O.B., I.B. and M.S.; writing—review and editing, S.A., I.B. and M.S.; supervision, S.A.; project administration, S.A. and M.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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