Impact of Digital Technology on Entrepreneurship in Amsterdam, Netherlands

Léon van den Candeló, Jetten Hul Seibert & Kirsten de Jong Gorp

ISSN: 2616-8464
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1*Roben van den Candelo, 2Jetten Hul Seibert & 3Kirsten de Jong Gorp
1*Postgraduate Student, University of Amsterdam
2&3Lecturers, University of Amsterdam
*Email of the corresponding author: robenvancandelo@gmail.com

How to cite this article: Candelo, L. V., Seibert, J. H., & Gorp, K. J. (2023). Impact of Digital Technology on Entrepreneurship in Amsterdam, Netherlands. Journal of Entrepreneurship & Project Management, 7(3), 10-20. https://doi.org/10.53819/81018102t5176

Abstract

Digital technology enables the creation, manipulation, and exchange of data in various forms, facilitating communication, automation, and the development of innovative solutions. Amsterdam has established itself as a global hub for tech events, conferences, and meetups, attracting entrepreneurs, investors, and thought leaders from around the world. These gatherings not only showcase Amsterdam's vibrant entrepreneurial scene but also provide opportunities for cross-pollination of ideas, partnerships, and international collaboration. The availability of a robust digital infrastructure, a supportive environment, and government initiatives have laid the foundation for entrepreneurial success. The study used the descriptive research design. The target population was 120 SMEs. The study did sampling of 90 respondents that were selected from the target population of 120 in Amsterdam, Netherlands. Questionnaires were used to collect the data. It was concluded that Amsterdam has witnessed a flourishing startup scene, driven by a favorable ecosystem that embraces digital technology. The availability of robust digital infrastructure, including high-speed internet connectivity and reliable technology systems, has provided entrepreneurs with the required tools and resources to launch and scale their ventures effectively. Employing digital technologies in entrepreneurial endeavors has implications that go well beyond using them as a method of achieving a goal. The study recommended that initiatives like incubators, co-working spaces, and industry-specific events should be encouraged to bring together entrepreneurs, investors, and industry experts. This would facilitate networking, idea exchange, and potential partnerships, leading to further growth and success for Amsterdam's entrepreneurial ecosystem. Offering incentives, grants, and funding programs specifically targeted at digital startups can attract more entrepreneurs to Amsterdam and encourage local talent to pursue entrepreneurial ventures.

Keywords: Digital Technology, Entrepreneurship, Netherlands

https://doi.org/10.53819/81018102t5176
1.0 Background of the Study

Digital technology refers to the use of electronic systems, devices, and platforms that employ binary code to process, store, transmit, and display information (Lyu & Liu, 2021). It comprises a wide range of technologies, including computers, smartphones, the internet, software applications, digital networks, and emerging technologies like artificial intelligence, blockchain, and virtual reality. Digital technology enables the creation, manipulation, and exchange of data in various forms, facilitating communication, automation, and the development of innovative solutions (Quach, Thaichon, Martin, Weaven & Palmatier, 2022). It has revolutionized industries, transformed business operations, and empowered individuals by enhancing connectivity, enabling digital services, and driving advancements in areas such as communication, commerce, entertainment, healthcare, and education.

Hofland-Mol (2022) noted that one of the key factors contributing to Amsterdam's entrepreneurial spirit is its strong culture of innovation and creativity. The city embraces diversity and encourages out-of-the-box thinking, which fosters an environment conducive to entrepreneurial growth. From tech startups to sustainable initiatives, Amsterdam provides ample opportunities for entrepreneurs to explore and develop groundbreaking ideas that address societal challenges and drive economic growth. Moreover, the city boasts a well-connected network of incubators, accelerators, and co-working spaces that provide valuable resources and mentorship to aspiring entrepreneurs (Jardim, 2021). These organizations, such as StartupAmsterdam, ACE Incubator, and Rockstart, offer access to funding, expertise, and networking opportunities, enabling startups to thrive and scale rapidly. The collaborative nature of these spaces also facilitates knowledge exchange, encourages collaboration, and fuels the entrepreneurial ecosystem. Amsterdam benefits from a strategic geographical location and excellent infrastructure, making it an ideal base for international business activities (van Waes, Farla & Raven, 2020). The city's well-connected airports, advanced digital infrastructure, and efficient transportation systems facilitate global connectivity, allowing entrepreneurs to reach international markets with ease. Amsterdam's favorable business climate, competitive tax policies, and supportive government initiatives further attract entrepreneurs and investors from around the world.

Digital technology has revolutionized the entrepreneurship landscape in Amsterdam, Netherlands, creating a dynamic and innovative ecosystem (Battisti, Agarwal & Brem, 2022). The city has witnessed the rise of numerous startups leveraging digital technologies to disrupt traditional industries and introduce new business models. This transformations are made available due to a robust digital infrastructure. Amsterdam boasts high-speed internet connectivity, reliable technology systems, and advanced digital platforms, enabling entrepreneurs to leverage emerging technologies like artificial intelligence, blockchain, and the Internet of Things (IoT) to create innovative products and services (Gavalas, 2020). Entrepreneurs in Amsterdam benefit from a supportive environment that fosters digital innovation. The city offers various resources and initiatives to nurture startups, including incubators, accelerators, and co-working spaces. These spaces not only provide entrepreneurs with affordable office space but also serve as hubs for collaboration, knowledge-sharing, and networking. Startups in Amsterdam have the opportunity to connect with like-minded individuals, industry experts, and investors, enabling them to tap into valuable insights, mentorship, and funding (Ghosh, 2021).

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The Dutch government plays a crucial role in supporting digital entrepreneurship (Purbasari, Muttaqin & Sari, 2021). It has implemented policies and initiatives to create an enabling environment for startups. This includes favorable tax regulations, funding programs, and grants specifically targeted at startups and innovation. The government's support is instrumental in facilitating access to capital and reducing barriers to entry for aspiring entrepreneurs. The effect of digital technology on entrepreneurship in Amsterdam extends beyond the local ecosystem (Soltanifar, Hughes & Göcke, 2021). The city has established itself as a global hub for tech events, conferences, and meetups, attracting entrepreneurs, investors, and thought leaders from around the world. These gatherings not only showcase Amsterdam's vibrant entrepreneurial scene but also provide opportunities for cross-pollination of ideas, partnerships, and international collaboration. Furthermore, digital technology has facilitated market expansion for Amsterdam-based startups. E-commerce platforms, social media marketing, and digital advertising have made it easier for entrepreneurs to reach a global customer base and scale their businesses rapidly (Brahma & Dutta, 2020). With digital tools and platforms, startups can employ data-driven strategies to analyze consumer behavior, personalize experiences, and optimize operations.

However, challenges remain in this digital entrepreneurial landscape. Access to digital infrastructure and resources may vary across different neighborhoods, potentially creating inequalities and limiting opportunities for entrepreneurs in certain areas (Schram, Friel, Freeman, Fisher, Baum & Harris, 2018). Bridging this digital divide and ensuring equal access to resources and connectivity is crucial for a thriving and inclusive entrepreneurial ecosystem. Digital technology has had a profound impact on entrepreneurship in Amsterdam, propelling the city to the forefront of innovation and startup activity. The availability of a robust digital infrastructure, a supportive environment, and government initiatives have laid the foundation for entrepreneurial success. As Amsterdam continues to embrace digital innovation and address challenges related to access, skills development, and inclusivity, it can further solidify its position as a global leader in digital entrepreneurship and continue to attract ambitious entrepreneurs eager to harness the power of technology to drive their ventures forward (Binci, Palozzi & Scafarto, 2022).

1.1 Statement of the Problem

The impact of digital technology on entrepreneurship in Amsterdam, Netherlands, presents both opportunities and challenges that need to be addressed. While digital technology has greatly contributed to the growth of startups and the overall entrepreneurial ecosystem, several key problems have emerged. Access to digital infrastructure and resources may not be evenly distributed across the city. While Amsterdam benefits from a robust digital infrastructure, it is important to make sure that all entrepreneurs, regardless of their location or background, have equal access to high-speed internet connectivity, technology tools, and resources. Disparities in access can hinder the growth and success of entrepreneurs in certain areas and limit the overall potential for digital entrepreneurship in the city. There is a need for continuous skills development and training to keep up with the rapidly evolving digital landscape. As technology advances, entrepreneurs should adapt and acquire new digital skills to stay competitive (Olsson & Bernhard, 2021). Ensuring that individuals have access to relevant training programs, workshops, and resources can help bridge the digital skills gap and equip entrepreneurs with the necessary knowledge to leverage digital technology effectively.

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Another problem is the complex and evolving regulatory landscape. With digital entrepreneurship comes a range of legal and regulatory considerations, such as data protection, privacy, intellectual property, and cybersecurity. Entrepreneurs may face challenges in navigating these regulations, especially for innovative business models that push the boundaries of existing frameworks. Ensuring clarity, simplicity, and adaptability in the regulatory environment can provide entrepreneurs with the necessary guidance and support to operate within the digital realm. Fostering a diverse and inclusive entrepreneurial ecosystem remains a challenge. While Amsterdam celebrates diversity, it is important to address any existing barriers that may prevent underrepresented groups from fully participating in the digital entrepreneurship landscape. Promoting inclusivity, equal opportunities, and diversity initiatives can help unlock the untapped potential of talented individuals from diverse backgrounds and contribute to a more vibrant and innovative startup community.

2.0 Literature Review

Secundo, Gioconda, Del Vecchio, Gianluca, Margherita and Valentina (2021) reported that the digital revolution of entrepreneurship education has drawn a lot of criticism since the COVID-19 outbreak. In light of the foregoing, the aim of this research is to examine how digital technologies are affecting entrepreneurship education from the viewpoints of both technology and education. The first part of this study looked at current advancements in digital technology and how they may be used in academic entrepreneurship. Additionally, 349 publications were chosen and collected from the Scopus and Web of Science databases and were examined from a variety of angles in order to perform a systematic literature review. The findings showed that while there is an increasing tendency in the literature on digital entrepreneurship, more work has to be done in the future to investigate how these ideas may actually be put to use in modern society.

Rahman, Salamzadeh and Tabash (2022) conducted study to investigate how creativity and innovation affect Bangladeshi students' aspirations towards online entrepreneurship. Students from universities in Bangladesh took part in this study. A survey questionnaire was constructed based on constructs that had already been examined. The sample's participants were chosen via convenience sampling, a popular kind of non-probability sampling. 90 responses from the 110 students that participated in the survey from the public institution were considered complete, yielding an 82 percent response rate. The sample size is 90 as a result. While correlation and hypothesis tests were examined using SPSS version 25, internal consistency was evaluated by the use of Cronbach's alpha. The findings demonstrate that students' inclinations to engage in online entrepreneurship are positively and statistically significantly impacted by creativity and innovation. These two separate factors lead to empirical findings and reliable information in the existing body of knowledge by explaining 78% of the variance in intention to engage in online business.

According to Zhang, van Gorp and Kievit (2022), it is remarkable that so little is known about how digital technology influences a country's entrepreneurial activity, despite the fact that its importance has been recognised in the literature on entrepreneurship. Using the notion of the entrepreneurial ecosystem as a starting point, the research developed a conceptual model to explain the impact of digital technology on national entrepreneurship and the relationships between digital technology and other ecosystem components. We test these ideas using unbalanced panel data.

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from 99 countries for the years 2010-2020. According to the data, countries with a conducive culture, excellent institutions, supportive policies, readily available resources, and well-developed service industries have a higher rate of entrepreneurship output correlated with the level of digital technology. This research highlights the importance of digital technology and provides new understanding of the processes and interdependencies that shape national entrepreneurial ecosystems.

Seibert, Domhoff, Huter, Krick, Rothgang and Wolf-Ostermann (2020) discovered that numerous studies have shown that entrepreneurship is essential for both economic expansion and the decline in unemployment. Understanding every topic connected to business is key for being a successful entrepreneur. If they want to succeed in business and compete in the market, entrepreneurs must constantly monitor changes in consumer preferences and market conditions. To interact with customers and to raise the perceived worth of a product, it is occasionally required to employ some contemporary digital technologies and software. Today's world relies heavily on both domestic and foreign technology, thus incorporating these technologies into the organization is crucial. In this regard, digital entrepreneurship is essential in enabling an entrepreneur to carry out all tasks precisely and successfully. Every entrepreneur may raise the market worth of his or her product and build the firm both traditionally and technologically by adopting this method of using digital apps. Knowing how information and communication technology (ICT) may help individuals better their businesses is crucial since these skills are essential to the success of a digital firm. This study provides a thorough explanation of digital entrepreneurship. This can make it possible for everyone involved in business to learn about digital entrepreneurship.

Wang, Cai and Wang (2022) conducted study using exploratory sequential mixed techniques to analyze the effects of digitalization technology transition on rural entrepreneurship and explain its mitigating actions. Analysis of entrepreneurial behavior patterns was done with less ambiguity using the policy acceptance model technique. Semi-structured interviews and questionnaires along with ethnographic observations were used to gather the data. The findings demonstrated that rural entrepreneurship is being transformed by digital technology in a variety of innovative ways. These include the development of local economies, fair employment opportunities, and family businesses. But if inequality and apprehension about conventional markets grow, additional Sustainable Development Goals (SDG) may become more difficult to achieve. The social solidarity economic transformation business model anchored on the potential of local humanist knowledge might help to reduce this imbalance and the danger of uncertainty. As a result, this study may have ramifications for social and institutional policies as well as scientific knowledge. Additionally, it might contribute to the body of knowledge on novel institutional and social entrepreneurial innovation theories connected to the Kontratief Schumpeter wave.

Jafari-Sadeghi, Garcia-Perez, Candelo and Couturier (2021) found that recently the broader influence of digital technology on entrepreneurship started to appear in entrepreneurship literature. This position necessitates reexamining entrepreneurship theory and theory on digital technologies, while also raising the question of where to locate crucial intersections that would enable the integration of the two fields. This study provides an answer to that query by first examining and then dissecting the fundamental elements of digital entrepreneurship and its operating principles. The findings demonstrate that digital entrepreneurship impacts earlier conceptualizations of artifacts and of its mode of operation by employing a wider repertory of architectural

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arrangements. It also incorporates entrepreneurial agency and digital technology. It suggests that employing digital technologies in entrepreneurial endeavors has implications that go well beyond using them as a method of achieving a goal.

3.0 Research Methodology

The research used the descriptive research design. The target population was 120 SMEs. The study did sampling of 90 participants that were selected from the target population of 120 in Amsterdam, Netherlands. Questionnaires were used to collect the data.

4.0 Research Findings and Discussion

4.1 Correlation Analysis

The results in Table 1 describe the correlation analysis

<table>
<thead>
<tr>
<th></th>
<th>Entrepreneurship</th>
<th>Digital Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurship</td>
<td>Pearson Correlation 1.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td>Digital technology</td>
<td>Pearson Correlation .299 **</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The correlation results from Table 1 indicate that the digital technology was positively and significantly related with entrepreneurship (r=.299, p=.000). This concurs with Seibert, Domhoff, Huter, Krick, Rothgang and Wolf-Ostermann (2020) who argued that digital entrepreneurship is essential in enabling an entrepreneur to carry out all tasks precisely and successfully. Digital technology has revolutionized the entrepreneurship landscape in Amsterdam, Netherlands, creating a dynamic and innovative ecosystem. Every entrepreneur may raise the market worth of his or her product and build the firm both traditionally and technologically by adopting this method of using digital apps. As technology advances, entrepreneurs should adapt and acquire new digital skills to stay competitive. The effect of digital technology on entrepreneurship in Amsterdam extends beyond the local ecosystem since the city has established itself as a global hub for tech events, conferences, and meetups, attracting entrepreneurs, investors, and thought leaders from around the world.

4.2 Regression Analysis

This section includes the model fitness, analysis of variance and regression of coefficient. The results in Table 2 indicate the model fitness
Table 2: Model Fitness

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.299a</td>
<td>0.266</td>
<td>0.203</td>
<td>0.0000876</td>
</tr>
</tbody>
</table>

The results from Table 2 indicate that digital technology was found to be satisfactory in explaining the entrepreneurship in SMEs in Amsterdam. This was supported by the coefficient of determination, the R square of 0.266. It implies that digital technology explain 26.6% of the variations in the entrepreneurship of SMEs in Amsterdam, Netherlands. Digital technology has revolutionized the entrepreneurship landscape in Amsterdam, Netherlands, creating a dynamic and innovative ecosystem. Digital technology has had a profound impact on entrepreneurship in Amsterdam, propelling the city to the forefront of innovation and start-up activity.

Table 3: Analysis of Variance

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>7.98</td>
<td>1</td>
<td>7.98</td>
<td>90.68</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>10.56</td>
<td>120</td>
<td>0.088</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>18.54</td>
<td>119</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The result in Table 3 shows that the overall model was statistically significant. The results reveal that entrepreneurship is a good predictor in explaining the digital technology among the SMEs in Amsterdam, Netherlands. This was supported by an F statistic of 90.68 and the reported p-value of 0.000 which was less than the conventional probability significance level of 0.05. Every entrepreneur may raise the market worth of his or her product and build the firm both traditionally and technologically by adopting this method of using digital apps. Knowing how information and communication technology (ICT) may help individuals better their businesses is crucial since these skills are essential to the success of a digital firm.

Table 4: Regression of Coefficient

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>0.165</td>
<td>0.008</td>
<td></td>
<td>20.63</td>
</tr>
<tr>
<td>Digital technology</td>
<td>0.325</td>
<td>0.102</td>
<td>0.645</td>
<td></td>
</tr>
</tbody>
</table>

Based on the results presented in Table 4, it was noted that digital technology was positively and significantly related to entrepreneurship (β=0.325, p=0.009). This was supported by a calculated t-statistic of 3.186 that is larger than the critical t-statistic of 1.96. The findings infers that when

https://doi.org/10.53819/81018102t5176
digital technology improves by one unit, the entrepreneurship of SMEs in Amsterdam, Netherlands will increase by 0.325 units while other factors that influence the entrepreneurship remain unchanged. Jafari-Sadeghi, Garcia-Perez, Candelo and Couturier (2021) articulated that employing digital technologies in entrepreneurial endeavors has implications that go well beyond using them as a method of achieving a goal. E-commerce platforms, social media marketing, and digital advertising have made it easier for entrepreneurs to reach a global customer base and scale their businesses rapidly. Access to digital infrastructure and resources may vary across different neighborhoods, potentially creating inequalities and limiting opportunities for entrepreneurs in certain areas. Entrepreneurs in Amsterdam benefit from a supportive environment that fosters digital innovation. The city also offers various resources and initiatives to nurture startups, including incubators, accelerators, and co-working spaces.

5.0 Conclusion

In conclusion, the impact of digital technology on entrepreneurship in Amsterdam, Netherlands, has been profound and transformative. The city has witnessed a flourishing startup scene, driven by a favorable ecosystem that embraces digital technology. Amsterdam has become a magnet for innovative startups, attracting ambitious entrepreneurs from around the world. The availability of robust digital infrastructure, including high-speed internet connectivity and reliable technology systems, has provided entrepreneurs with the required tools and resources to launch and scale their ventures effectively. Moreover, the Dutch government has demonstrated its commitment to fostering entrepreneurship by implementing supportive initiatives, such as funding programs, tax incentives, and incubation centers. These measures have created a conducive environment for startups to thrive and have significantly contributed to Amsterdam's reputation as a leading hub for digital entrepreneurship. With a vibrant ecosystem, access to capital, and a culture of innovation, Amsterdam continues to be a hotspot for aspiring entrepreneurs looking to leverage digital technology and make their mark in the business world. E-commerce platforms, social media marketing, and digital advertising have made it easier for entrepreneurs to reach a global customer base and scale their businesses rapidly. Moreover, digital entrepreneurship comes a range of legal and regulatory considerations, such as data protection, privacy, intellectual property, and cybersecurity. Entrepreneurs may face challenges in navigating these regulations, especially for innovative business models that push the boundaries of existing frameworks.

6.0 Recommendations

Fostering collaboration and knowledge-sharing among startups and established companies can fuel innovation. Initiatives like incubators, co-working spaces, and industry-specific events should be encouraged to bring together entrepreneurs, investors, and industry experts. This would facilitate networking, idea exchange, and potential partnerships, leading to further growth and success for Amsterdam's entrepreneurial ecosystem. Investing in digital skills development is crucial. Ensuring that individuals have the necessary digital literacy and technical skills will enable them to fully leverage the potential of digital technology in their entrepreneurial endeavors. Collaborations with educational institutions, coding boot camps, and online learning platforms can help equip aspiring entrepreneurs with the relevant digital skills needed to succeed in a technology-driven business landscape.

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Furthermore, continued support from the government and policymakers is essential. Streamlining regulations and reducing bureaucratic hurdles can facilitate business formation and growth. Offering incentives, grants, and funding programs specifically targeted at digital startups can attract more entrepreneurs to Amsterdam and encourage local talent to pursue entrepreneurial ventures. Building upon the existing digital infrastructure should be a priority. Ensuring high-speed and reliable internet connectivity across the city, as well as investing in emerging technologies like 5G, can provide entrepreneurs with the necessary technological backbone for their businesses. Collaboration between public and private sectors in expanding and upgrading digital infrastructure can create an environment conducive to digital entrepreneurship. Lastly, promoting diversity and inclusion within the entrepreneurial ecosystem is crucial. Embracing diverse perspectives, experiences, and backgrounds can foster creativity, innovation, and a broader range of ideas. Efforts should be made to provide equal opportunities for underrepresented groups, promote inclusivity in startup communities, and support initiatives that encourage diversity in entrepreneurship.

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https://doi.org/10.53819/81018102t5176