How Digital Innovations Are Helping in Tackling Unemployment in Mai Idris Alooma Polytechnic Geidam, Yobe State.

Ibrahim Abba, Mohammed Shettima, Saleh Nadira Saleh, Hamisu Alhaji Ali

Department of Computer Science, Mai Idris Alooma Polytechnic Geidam, Yobe State

ibrahimabba@miapoly.edu.ng, habib.albe89@hotmail.com, salehnadiraamshi@gmail.com, hageidam@miapoly.edu.ng

Abstract

In order to provide the requisite skills, competence, understanding and prepare Nigerian graduates for self -reliance, Entrepreneurship

education is integrated into the Nigerian Educational System, thus contributing to the building of the natio n. This paper explore how digital technologies are helping in addressing the challenges of unemployment in Mai Idris Alooma Polytechnic, Geidam. With digital technologies, it identifies courses through which entrepreneurial skills could be acquired, discusses the provision of training facilities; and also examines how the Polytechnic group can use the dig ital resources. Nowadays the advancement of technology plays a critical role in improving the economy o f most countries, causing a rise in real GDP. If technological transformation stops, it will also stop develo pment. Entrepreneurial mechanism (including digitalization activities in concept of organisational manage ment, improvements within organizational strategies)

and operational activities, and digital start-up establishment), and its relevant ecosystem (which encompasses, among others, the influence that external infrastructure and institutions have on digital entrepreneurship development). The systematization of the existing literature is highly relevant for future research that aims to understand the interrelations between the transformation of entrepreneurial structures within innovation systems as well as the socioeconomic system in general. Such understanding requires further extended research in fields related to method, content, and theory.

Keywords: Digital tool, entrepreneurship, unemployment, information technology, digital entrepreneurship.

INTRODUCTION

The Key to the success of establishing a culture of entrepreneurship in Africa is education and training that depends on all stakeholders, the state, educators and learners. Apart from the educational impact and influence, the school is the place where most (holistic) profound impact can be brought about in the development of the youth (Njoroge and Gathungu, 2013). The essence of entrepreneurship education is to build in the students, entrepreneurship spirit and culture (Akpomi, 2009; Adejimola and Olufunmilayo, 2009). Entrepreneurship education recognized as one of the vital determinants that could influence students' career decisions (Kolvereid and Moen, 1997; Peterman and Kennedy, 2003). The inability of graduates to contribute meaningfully to economic development through self-employment informed the introduction of entrepreneurship education in schools.

In their separate opinions, academics have also a dvocated the need for higher institutions to incul cate entrepreneurial skills in their curriculum, en couraging student self-
reliance and thereby reducing the nation's unemp loyment rate. The need to incorporate entreprene urship programintegrated technology is that mos t workers and students are familiar with many di gital technologies, making it easy to disseminate knowledge from one computer to another. The need to introduce technology embedded with entrepreneurship program is because most of the staff and students are familiar with many digital tools thereby making it easy to disseminate information from one device to another. These will make them involve in E-commerce, E-banking, E-learning, E-library, online registration, online booking etc.

Consumers continue to connect with companies across online platforms in a more digitized envir onment. While this may be the case for big busi nesses, it may be especially true for small busine sses that otherwise may not have the scale or sco pe to connect with new or existing customers. Many small businesses have access to a variety of digital resources that enable them to increase usability, availability of information, and connec tion to customers.

Furthermore, To assess how these tools, improve business performance in small businesses. Researchers analyzed small businesses' use of digital tools in six categories:

- Business web presence, such as online directory listings, websites, and mobile apps
- Social media for customer engagement, sales, marketing, or other business purposes
- Data analytics to gain customer insights or inform business decisions
- E-commerce and online scheduling capabilities via their own websites or third-party platforms
- Online advertising, including ad banners on websites, social media advertising, and search engine marketing and optimization
- Internal productivity tools that improve internal business processes, such as cloud-based software, video conferencing, and corporate social networks.

Therefore, it is crucial to understand the whole mechanism of digital entrepreneurship with respect to its role within the innovation system, particularly its transformations and sustainable transitions. This includes, among others, changes in the communication and interaction patterns of involved innovation agents, opportunity assessment, and resource considerations as part of a comprehensive and sustainable innovation process. Consequently, the aim of the research was to derive a clear understanding of how digital entrepreneurship efforts are embedded within the innovation

system and coupled with its relevant subsystems; and determine future avenues for contributing sustainability implications of entrepreneurship and innovation research.

LITERATURE REVIEW

Review of literature provides an up-to-date understanding of the subject and its significance in present times. Therefore, in order to understand the concept of entrepreneurship in the digital age, previous literature was reviewed and presented below in chronological order. Osterwalder (2002) outlined a concrete methodology and proposed some practical tools that shall foster entrepreneurship and enterprise development for the Internet era in developing countries. A class of knowledgeable entrepreneurs and business architects must be developed if developing countries want to bridge the digital divide. ICT stay useless tools without the know-how to use them. But by using the new communication channels for knowledge transfer it is far from inevitable that ICT will have a negative impact on developing economies. The bridging of the so-called digital divide is an important issue in today's development efforts of international and non-governmental organizations and developing countries. This does not only concern access to new information and communication technologies (ICT) such as the Internet, but also access to the know-how to use these technologies for economic development. Many of the recent international initiatives to narrow the digital divide stress the necessity to develop a knowledgeable class of e-entrepreneurs that are able to use ICT. Hull et al. (2006) presented a framework of digital entrepreneurship that included a typology of new digital ventures that encompassed three levels of digitization- mild, moderate and extreme, the characteristics of each type of new digital venture, and a discussion of how those characteristics shape the critical success factors of each type of venture. Specific issues addresses include digital or virtual products and services, digital or virtual workplaces and the effects of relying on computer mediated communication, the changing role of market orientation across the different types of new ventures, and the instant globalization effect. The more immediate contribution of this paper is that it introduced a new line of thinking about the internet and about digital ventures. Jackson (2009) explored the potential of digital entrepreneurship to create economic opportunities for unemployed and underemployed individuals living in low-income communities and the potential to improve the condition of the communities as well. The study reviewed current statistics on the digital divide and examined the dimensions of digital inequality that block entire sectors of society from a high quality of use of information technology. Community Technology Centers (CTCs) provide a physical place for low-income residents in rural and urban areas to access computers and receive training. While CTCs afford valuable opportunities to connect those off-line at home to the web, it remains necessary to increase personal ownership of computers to enable people to truly capitalize on the opportunities in our digital economy. Youth today across virtually all segments of society are far more oriented to the digital world, be it through the use of cell phones, computer games, and other common consumer goods ranging from cameras to cars, which are increasingly computerized. Davidson and Vaast (2010) suggested that entrepreneurship in the digital economy entails three distinct, yet interrelated, types of opportunities: business, knowledge and institutional. The knowledge intensive and ground-breaking nature of IT requires entrepreneurs to engage in each form of entrepreneurial practice to create sustainable ventures. The authors found that entrepreneurial practices in the digital economy are inherently socio material. Investigating these three forms of entrepreneurship together and the socio material practices through which they are enacted

provides a deeper understanding of the nature and dynamics of new venture discovery and exploitation. The authors illustrated these points with the example of an online dating service, eHarmony, and developed a model to highlight how socio material practices of business, knowledge, and institutional entrepreneurship are exhibited. Reuber and Fischer (2010) reviewed past research in international entrepreneurship, as well as the broader fields of entrepreneurship, international business, marketing, management and management information systems, to identify firm-level resources that are associated with the successful pursuit of international opportunities in internet-enabled markets. The authors presented a theoretically grounded review of the research that has been carried out on each resource. The review spanned 33 journals, representing five different business areas, during the period 2000– 2010. The authors identified three internet-related firm-level resources: online reputation, online technological capabilities, and online brand communities. Javalgi et al. (2012) contributes to the understanding of entrepreneurship in SMEs in emerging markets such as India. This aim is accomplished through the examination of companies that adopt the incremental decision-making methods proposed by Lindblom (1959). Advancements in internet technology are enabling Nigerian entrepreneurs to engage in entrepreneurial activities and innovations using new business models to achieve scale and scope as they begin to compete in a global marketplace. An understanding of how these Nigerian entrepreneurs are successfully growing and rapidly expanding their businesses is critical, not only from research perspective, but also from a practitioner view. Hair et al. (2013) explored the advantages and challenges that the networked world offers the Market-oriented digital entrepreneur. In particular, the authors examined the role of electronic community and communication and how successful digital entrepreneurs takes advantage of electronic community technologies to facilitate more effective communication with customers, partners, the digital organization, and in communicating the "product" of market orientation to the marketplace. This paper has shown the value of applying market orientation to entrepreneurial digital ventures and the potential for greater application of market orientation by the digital entrepreneur by the use of electronic communities and, more generally, CMC (Computer Mediated Communication). Domenico et al. (2014) used data from a qualitative study of 23 online home-based business entrepreneurs, and proposed the augmented concept of 'mental mobility' to encapsulate how they approach their business activities. In-depth inductive research studied into entrepreneurs' experiences of running home-based online businesses. Drawing on Howard P. Becker's early theorizing of mobility, together with Victor Turner's later notion of liminality, the authors conceptualized mental mobility as the process through which individuals navigate the liminal spaces between the physical and digital spheres of work and the overlapping home/workplace, enabling them to manipulate and partially reconcile the spatial, temporal and emotional tensions that are present in such work environments. Ziyae et al. (2014) investigated the effect of entrepreneurs' international experience, innovation capability, and market capability on the internationalization speed of EBSs (Electronic Businesses). The current study is considered as an empirical research and the research methodology is descriptive-correlative type. The data was collected from Small and Medium-Sized Enterprises (SMEs) whose activities are partially internet-based and have involved in the international business processes. A total of 135 SMEs in the textile cluster were classified as the internet-based businesses. To test the research hypotheses, the study used Structure Equation Modelling (SEM) and the collected data were subjected to correlational analysis and path

analysis. The results revealed that the speed of foreign market entry by EBSs is positively affected by entrepreneurs' international experience, business innovation capability, and marketing capability.

Welsum (2016) studied how the digital technologies offer tremendous growth opportunities but require entrepreneurs to fully unlock their economic potential as the basis of new businesses or an enabler of the transformation of already established firms. Enabling digital entrepreneurs in developing countries is especially important as this allows for the creation of new markets, the exploitation of existing markets and integration into global value chains. Infrastructure, skills, financial inclusion and market access appear to be the enabling factors policy makers in these countries should focus on, at least initially. Ensuring affordable, reliable, safe and high-speed access to the technology—including at scale in the cloud—is in place is critical in removing barriers to digital entrepreneurial success.

TERMS RELATED TO ENTREPRENEURSHIP IN THE DIGITAL AGE AS GIVEN BY HULL ET AL. IN 2007

DIGITAL ENTREPRENEURSHIP

Digital entrepreneurship may be defined as entrepreneurship in which some or all of the entrepreneurial venture takes place digitally instead of in more traditional formats. Products, distribution, the workplace- any of these and more could take digital form in an entrepreneurial venture.

DIGITAL WORKPLACE: The reach of the Internet allows digital entrepreneurs to take advantage of potential employees and partnerships all over the globe without forcing anyone to relocate. Global virtual teams can offer considerable benefits to the digital entrepreneur, making it easy to locate and hire talent, harnessing cultural diversity, improving resource utilization and increasing flexibility and responsiveness.

DIGITAL PRODUCT: Having a digital product provides advantages beyond the ease of manufacturing, storing, and shipping. The product can be modified easily, to the point where incremental innovation can be done seamlessly and even radical changes can be made without seriously disrupting the process by which the product is marketed, produced and sold.

DIGITAL SERVICE: Offering services in the digital realm is a big business. From a technical standpoint, it may amount to nothing more than toggling a few bits. To the customer, however, the service may be much more, and considerable profits can be made when the cost of the service is minimal and the value to the customer is high.

DIGITAL MARKETPLACE: The internet makes available huge assortment of products and services to everyone on the planet with an internet connection. For digital products like music or software, the distribution of a product becomes instantaneous and free. With the introduction of a website, any venture instantly goes global.

MODEL FOR DIGITAL ENTREPRENEURSHIP

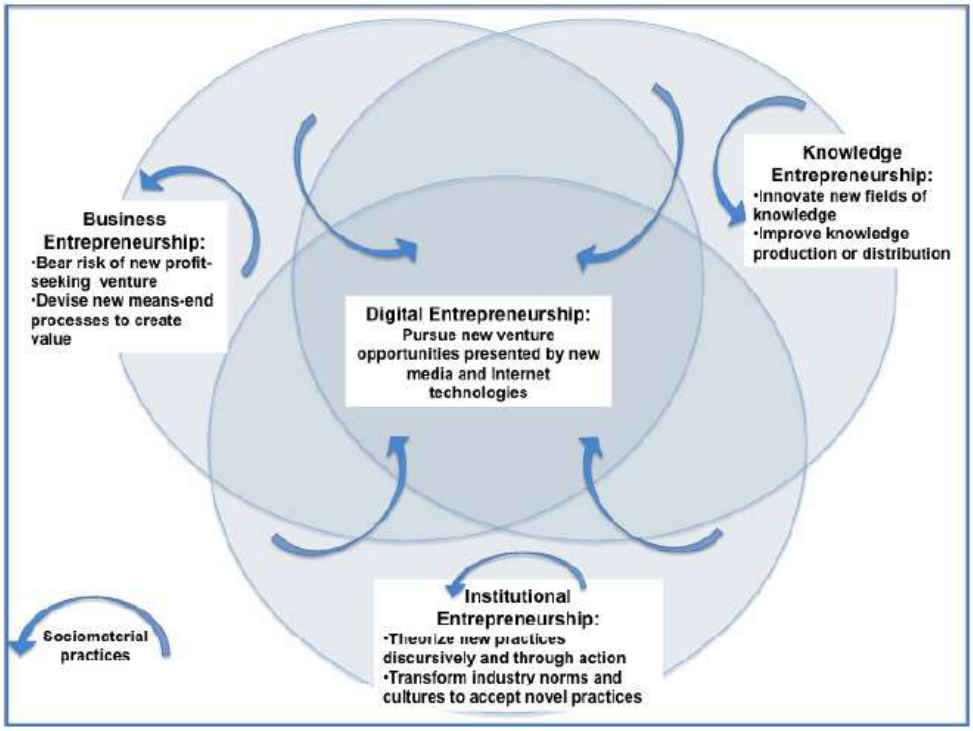

Figure 1: Analytic model for digital entrepreneurship

Source: "Digital Entrepreneurship and Its Socio material Enactment" by Davidson and Vaast, 2010, p. 8

Digital entrepreneurship may be better understood by examining the three types of entrepreneurial opportunities i.e. business, knowledge, institutional (Davidson and Vaast, 2010: 8).

TIPS FOR SUCCESSFUL ENTREPRENEURSHIP IN THE DIGITAL AGE

1. Take advantage of the resources a co-working space provides

A lack of office space often prohibits people from starting a business. Co-working spaces solve this problem while giving you a place where you can easily collaborate. This is changing the pace that businesses are created and how quickly businesses iterate because they have access to great resources.

2. Use free services to monetize your business

Entrepreneurs should promote their businesses through one of the many free services that have recently cropped up. Now there are platforms for every entrepreneur to get out there and be successful without hiring a salesman and a team to build their website. Sites that help anyone monetize or sell their skills online (like TaskRabbit and ModCloth) are examples of these new platforms.

3. Use crowd funding to keep your equity

These aspiring entrepreneurs can also benefit from crowd funding, a platform that gives your product a global stage and lets the world be your funder. It is pointed out that crowd funding can help with later investment because it lets you keep your equity and stay in control. An entrepreneur has a harder time scaling his business and getting investors if he has given away his equity.

4. Invest in the global mobile market

As mobile devices continue to become smarter and more personable, they are also becoming more affordable. According to reports,

67 percent of Google Play revenue is coming from outside the U.S. Statistics like this support the belief that entrepreneurs need to consider a global market.

5. Recognize innovation can come from anywhere

To boost innovation, create a forum for open, honest and respectful communication where employees can voice their opinions. It's important to allow anyone in your company to have direct access to the people making the big decisions. Hire great people and give them the chance to innovate. This will help them guide a business.

6. Be a data-driven entrepreneur

Making data driven decisions is key to helping the business grow. Taking advantage of the available data and using it to find out what works best. Small data-driven changes can have a huge impact on the success of a business. Feelings don't matter the same way as data. It is recommended to use services like Google Analytics for traffic statistics and Google AdWords to help improve SEO and hone in on your target market.

7. Make product advocates part of your team

Understand who the advocates are and use them to engage with community. Once these influencers are found, one should work hard to keep them engaged. If someone loves a product they will be productive for the venture, making the product a part of their life and sharing it with their friends.

CONCLUSION

Advances in information technology (IT) have meant that, for many, work is an activity rather than a place (Felstead et al., 2002). People no longer need to be bound by physical spaces in order fulfils their work commitments. Digital entrepreneurship is similar to traditional entrepreneurship in the sense that "digital ventures aim at generating a financial profit and are directly inscribed into the economic realm, such as creation of a new company or commercialization of an innovation" (Davidson & Vaast, 2010: 2). Besides this there are vast differences in the way a traditional or a digital firm operates. Digital ventures have greater market opportunities due to greater connectivity. Market orientation is critical for all businesses regardless of their structure or orientation; entrepreneurial or non-entrepreneurial and digital or non-digital. Entrepreneurs need to focus of various aspects which give them an advantage over the traditional formats. Therefore, the present study deals with the general idea regarding entrepreneurship in the digital age. For this some of the previous literature was reviewed to understand what has been done in this field till date. Next some terms and a model related to entrepreneurship in digital age have been given which examines the three types of entrepreneurial opportunities i.e. business, knowledge, institutional.

Lastly, the authors have given certain tips for successful entrepreneurship in the digital age. This will be beneficial not only to new and upcoming entrepreneurs but also for those looking to transform their businesses.

REFERENCES

Alton, L. (2014). Entrepreneurship in the digital age – What you need to know. Project Eve. http://www.projecteve.com/entrepreneurship-in-the-digital-age-what-you-need-to-know/

Bhaduri, A. (2015). The entrepreneur mindset in the digital age. http://www.abhijitbhaduri.com/index.php/2015/02/entrepreneur-mindset-digital-age/

Davidson, E., & Vaast, E. (2010). Digital entrepreneurship and its sociomaterial enactment. Proceedings of the 43rd Hawaii International Conference on System Sciences, 1–10. https://doi.org/10.1109/HICSS.2010.303

Di Domenico, M., Daniel, E., & Nunan, D. (2014). 'Mental mobility' in the digital age: Entrepreneurs and the online home-based business. New Technology, Work and Employment, 29(3), 266–281. https://doi.org/10.1111/ntwe.12033

Felstead, A., Jewson, N., Phizacklea, A., & Walters, S. (2002). The option to work at home: Another privilege for the favoured few? New Technology, Work and Employment, 17(3), 204–223. https://doi.org/10.1111/1468-005X.00105

Hair, N., Wetsch, L. R., Hull, C. E., Perotti, V., & Hung, Y. T. C. (2012). Market orientation in digital entrepreneurship: Advantages and challenges in a Web 2.0 networked world. International Journal of Innovation and Technology Management, 9(6), 1250045. https://doi.org/10.1142/S0219877012500450

Hull, C., Hung, Y. T., & Hair, N. (2006). Digital entrepreneurship. EDGE.

Hull, C. E., Hung, Y. T., Hair, N., Perotti, V., & DeMartino, R. (2007). Taking advantage of digital opportunities: A typology of digital entrepreneurship. International Journal of Networking and Virtual Organisations, 4(3), 290–303. https://doi.org/10.1504/IJNVO.2007.013685

Jackson, J. T. (2009). Capitalizing on digital entrepreneurship for low-income residents and communities. West Virginia Law Review, 112, 187.

Javalgi, R. R. G., Todd, P. R., Johnston, W. J., & Granot, E. (2012). Entrepreneurship, muddling through, and Indian Internet-enabled SMEs. Journal of Business Research, 65(6), 740–744. https://doi.org/10.1016/j.jbusres.2010.08.008

Jones, R., Alford, P., & Wolfenden, S. (2015). Entrepreneurial marketing in the digital age: A study of the SME tourism industry. (Conference paper or journal title missing—complete citation needed)

Kearns, M. B., Taylor, J. B., & Hull, C. E. (2005). The six facets model: Technology management in the effective implementation of change. International Journal of Innovation and Technology Management, 2(1), 77–100. https://doi.org/10.1142/S0219877005000415

Kende, M. (2015). ICTs for inclusive growth: E-entrepreneurship on the open internet. In The Global Information Technology Report 2015 (pp. 49–57). World Economic Forum. http://www3.weforum.org/docs/WEF_GITR_2015.pdf

Lindblom, C. E. (1959). The science of muddling through. Public Administration Review, 19(2), 79–88. https://doi.org/10.2307/973677

Mohan, M. (2016). Entrepreneurship, innovation in the digital era: Excellence by technology. TMIMT International Journal, Special Issue.

Ngoasong, M. Z. (2015). Digital entrepreneurship in emerging economies: The role of ICTs and local context. Journal of Small Business and Enterprise Development, 22(3), 590–610. https://doi.org/10.1108/JSBED-05-2015-0060

Osterwalder, A. (2002). Entrepreneurship and enterprise development through a formal e-business model framework. Business Information Technology Management BITWORLD, Guayaquil, Ecuador.

Reuber, A. R., & Fischer, E. (2011). International entrepreneurship in internet-enabled markets.

Journal of Business Venturing, 26(6), 660–679. https://doi.org/10.1016/j.jbusvent.2011.05.002

van Welsum, D. (2016). Enabling digital entrepreneurs. OECD Digital Economy Papers, No. 255. https://doi.org/10.1787/5jlwqvhg3l31-en

Ziyae, B., Sajadi, S. M., & Mobaraki, M. H. (2014). The deployment and internationalization speed of e-business in the digital entrepreneurship era. Journal of Global Entrepreneurship Research, 4(1), 1–11. https://doi.org/10.1186/s40497-014-0001-5