

The Role of Information Technology on Entrepreneurship Education

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Abstract- *The integration of Information Technology (IT) in entrepreneurship education has revolutionized the way skills are acquired and developed. IT plays a vital role in enhancing entrepreneurship education and skills acquisition by providing access to digital tools, IT tools and platforms provide dynamic, flexible, and interactive learning environments that enhance creativity, innovation, and problem-solving abilities among aspiring entrepreneurs. Through e-learning platforms, digital simulations, virtual collaboration tools, and access to global information networks, learners are able to acquire entrepreneurial knowledge and practical competencies beyond traditional classroom settings. IT also facilitates experiential learning through business incubation software, online marketplaces, and digital financial tools that simulate real-world entrepreneurial practices. Furthermore, the integration of IT into entrepreneurship education fosters self-directed learning, adaptability, and digital literacy—skills that are increasingly critical in today's competitive business landscape. This paper highlights the role of IT as a catalyst in bridging the gap between theoretical knowledge and practical entrepreneurial skills, while underscoring its potential in nurturing innovation-driven enterprises and preparing individuals for sustainable socio-economic development*

Index Terms- *Entrepreneurship Education, Skills Acquisition, Digital Learning, Innovation*

I. INTRODUCTION

The advent of information Technology (IT) has revolutionized the way entrepreneurs operate, innovate, and grow their business globally. Information Technology has enabled entrepreneurs to access new markets, streamline business processes, and connect with customers and partners worldwide.

Additionally, IT has created new opportunities for entrepreneurs to acquire skills and knowledge that are essential for success in the digital age (.Gherbi., 2025)

This paper explores the effect of IT on entrepreneurs and skills acquisition. The study examines how IT has transformed the entrepreneurial landscape, enabling new business models, improving efficiency and productivity, and enhancing customer engagement. It also focuses on the skills that entrepreneurs need to acquire to succeed in the digital age, including digital literacy and online marketing.

The organization of this paper is as follows. The role of IT in enabling new business models and improving entrepreneurial productivity is to be the first part of discussion. The second will focus on examination on the skills that entrepreneurs need to acquire in order to succeed in this digital age. Conclusively, the chapter will discuss IT related challenges on entrepreneurship education and skills acquisition and how to overcome them.

The Role of IT in enabling new business model

The importance of Information technology on entrepreneurship education and skill acquisition cannot be overemphasized. Information Technology refers to the use of computer systems, software, networks and other digital technologies to store, retrieve, transmit, and manipulate data (Okonkwo, & Agwazi., 2023). It is very crucial in this digital age, enabling businesses, entrepreneurs, and government to efficiently and effectively operate globally. Information Technology plays an important role in enabling new business models by providing the necessary infrastructure and tools to drive innovation and growth. IT enables new business models in the following ways (Hisar et al., 2025)

- Digital platform.

A digital platform is a software-based environment that enables the creation, delivery and management of digital products, services and experiences. Digital platform facilitates the development of online stores and digital marketing strategies, allowing businesses to reach new customers and markets globally. It also enables businesses to embrace digital transformation, which is a key driver of business model innovation. This includes adopting technologies like cloud computing, artificial intelligence, and the Internet of Things to create new products, services, and customer experiences. It is vital to note that digital platform can be used to support a wide range of activities that enables entrepreneurs to do business at their comfort zones globally.

- Enhancing Operational Efficiency

Enhancing operational efficiency is crucial for entrepreneurs to stay competitive and achieve their business goals. Information Technology play a significant role in improving operational efficiency by enables businesses to leverage artificial intelligence and automation to streamline processes, improving efficiency, and reduce cost. IT automates routine tasks, freeing up human resources for more strategic initiatives and fostering innovation within the workforce. IT tools can also facilitate communication and collaboration among team members regardless of location or time zone. It can enable entrepreneurs to respond promptly to customers inquiries and provide better customers services. Examples of IT tools for operational efficiency includes: Project management tools, customers relationship management, accounting and invoicing software, and inventory management software.

- Data-Driven Decision Making

Data-driven decision making is an important aspect of business success in this modern age.

IT provides businesses with the ability to collect analyze and interpret large amount of data, enabling them to make informed decision and create personalized experience for customers. It is important to note that IT can provide real-time insight, enabling entrepreneurs to respond quickly to changing market conditions and can present data in a visual format, making it easier for decision-makers to understand and

interpret the data. Data-driven decision making is critical because it improves accuracy, increase efficiency, enhance customer experience and provide competitive advantage.

- IT-Enabled Business Models

IT-Enabled Business Models are revolutionizing the way companies operate and create values. By using digital technology, entrepreneurs can innovate, differentiate themselves, and stay ahead of the competition. There are different types of IT-Enabled Business Models. Some of them are ;

- I. Subscription-based models: IT enables businesses to offer products and services on a subscription basis, providing recurring revenue streams and building customer loyalty.
- II. Platform business models: IT facilitates the creation of platforms that connect buyers and sellers, enabling the exchange of goods, services, or information
- III. Freemium Models: IT provides basic services for free while changing for premium features, allowing businesses to attract a larger user base and convert some into paying customers.
- IV. Sharing Economic Models: Enable peer-to-peer sharing of assets and services, reducing cost and increasing efficiency.

IT is a powerful enabler of new business models, driving innovation, enhancing efficiency, and expanding market reach. By leveraging IT capabilities, businesses can adapt to the changing digital landscape, create unique value propositions, and achieve sustainable growth (Ekoh-Nweke, & Ikpeama., 2023)

IT Acquire Skills for Entrepreneurs in this Digital Age.

An entrepreneur needs to acquire a range of IT skills to thrive in today's digital landscape. This will help the entrepreneur stay competitive and innovative in today's digital age. Specific IT skills an entrepreneur should develop are (Maulida, et al., 2024)

- I. Digital Literacy:

Digital literacy is a fundamental skill for entrepreneurs in today's digital age. It encompasses a broad

understanding of how digital tools and technologies work, enabling effective utilization for business operation, it also refers to the ability to effectively use digital technologies such as computers, smartphones, and software to access, evaluate, and create information. Digital literacy empowers you to use online platforms, engage customers, and launch innovations.

II. Cloud Computing:

Cloud computing is a crucial digital skill for entrepreneurship because it provides scalable, flexible, and cost-effective IT infrastructure, enabling startups to compete with larger businesses. It allows entrepreneurs to access computing power, storage, and software applications over the internet, without the need for significant upfront investment in physical hardware. This agility is vital for rapid innovation, quick testing of new ideas, and efficient scaling as business needs evolve. For entrepreneurs to effectively engage in cloud computing there is need to have a basic knowledge on some of the cloud computing skills. Cloud computing skills for entrepreneurs includes.

- Cloud infrastructure management. Understanding how to manage cloud infrastructure, including servers, storage and networks
- Cloud security. Knowledge of cloud security best practices, including data encryption, access control and compliance
- Cloud based application development. Ability to develop and deploy applications in the cloud.
- Cloud migration. Understanding how to migrate existing application and data to the cloud.

The following are way on how cloud computing empowers entrepreneurs.

Reduced Costs and Increased Efficiency:

- Cloud computing eliminates the need for large capital expenditures on hardware, software licenses, and IT staff.
- Entrepreneurs pay only for the resources they use, allowing for more efficient resource allocation and cost management.

- This is particularly beneficial for startups with limited budgets
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Scalability and Flexibility:

- Cloud platforms allow businesses to easily scale their IT infrastructure up or down based on demand.
- This flexibility is essential for handling seasonal fluctuations, new product launches, or unexpected growth spurts.
- Entrepreneurs can quickly adapt to changing market conditions without the limitations of physical infrastructure

Enhanced Collaboration and Remote Access:

- Cloud-based tools enable seamless collaboration among team members, regardless of their location.
- Data and applications are accessible from anywhere with an internet connection, facilitating remote work and global operations.
- This fosters a more agile and responsive business environment

Faster Innovation and Time to Market:

- Cloud computing provides access to cutting-edge technologies like AI and data analytics, allowing entrepreneurs to innovate faster.
- Rapid prototyping and testing of new ideas are facilitated, accelerating the product development cycle.
- This gives businesses a competitive edge by enabling them to bring products and services to market more quickly.

Access to Advanced Technologies:

- Cloud platforms offer access to powerful tools and services that were previously available only to large enterprises.
- This includes advanced analytics, machine learning, and big data processing capabilities. Entrepreneurs can leverage these technologies to gain insights into customer behavior, optimize operations, and develop innovative solutions.

Improved Data Security and Disaster Recovery:

- Cloud providers invest heavily in security infrastructure and offer robust data protection measures.
- In the event of a disaster, cloud-based data backups ensure business continuity and minimize downtime.
- This level of security and reliability is crucial for maintaining customer trust and protecting sensitive information

IT Related Challenges on Entrepreneurship Education and Skills Acquisition

According to Nebolisa (2024), specific IT-related challenges in entrepreneurship education:

Digital Infrastructure Deficiencies:

Many educational institutions, particularly in developing countries, lack the necessary digital infrastructure to support robust online learning platforms and access to relevant resources. This includes unreliable internet access, outdated hardware, and limited access to software and online tools.

Lack of Qualified Instructors:

There's a shortage of instructors with the expertise to effectively integrate technology into entrepreneurship education. This includes a lack of training on how to utilize digital tools for teaching, mentoring, and assessing students.

Curriculum Content Gaps:

Entrepreneurship education often lags behind the rapid advancements in technology. Curricula may not adequately cover topics like e-commerce, digital marketing, data analytics, and cybersecurity, which are critical for modern entrepreneurs.

Digital Literacy Skills Gap:

Students may lack the foundational digital literacy skills necessary to fully engage with technology-enhanced learning experiences. This can include basic computer skills, online research abilities, and an understanding of how to use various software and platforms.

Accessibility and Equity Issues:

The cost of technology and access to reliable internet can create barriers for students from disadvantaged backgrounds, exacerbating existing inequalities. This limits their ability to participate fully in online learning and benefit from digital resources.

Assessment Challenges:

Traditional assessment methods may not be suitable for evaluating digital skills and innovative solutions developed using technology. Developing new assessment tools that accurately reflect students' technological capabilities is crucial.

Adapting to Rapid Technological Change:

The fast pace of technological change requires continuous updates to curriculum and teaching methods. Institutions must adapt quickly to ensure that students are learning the most relevant skills and knowledge.

CONCLUSION

Information Technology has emerged as a transformative force in entrepreneurship education and skills acquisition, reshaping how learners access knowledge, develop competencies, and engage in innovative practices. By integrating digital tools such as e-learning platforms, simulations, virtual collaboration spaces, and artificial intelligence, IT enhances creativity, critical thinking, and problem-solving—skills essential for navigating today's dynamic business environment. Beyond providing flexibility and access to global resources, IT bridges the gap between theory and practice by simulating real-world entrepreneurial experiences and fostering experiential learning. Its role in promoting self-directed learning and digital literacy further equips learners to adapt to technological disruptions and seize emerging opportunities. Ultimately, the integration of IT into entrepreneurship education not only empowers individuals with practical entrepreneurial skills but also contributes to sustainable economic growth, job creation, and innovation-driven development in the wider society.

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