

Artificial Intelligence and Business Development in a Digital Economy

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ABSTRACT

This paper reviews Artificial Intelligence and Business Development in a Digital Economy. It is hinged on the technological determinism theory. Artificial intelligence (AI) is becoming increasingly central to the day-to-day digital world and a significant driver of transformation in the business environment. It is applied in healthcare, finance, e-commerce, transportation, and business within various functional areas and business functions. Entrepreneurs operate at a sophistication and automation previously exclusive to large corporations, ranging from personalized digital marketing to predictive customer service and algorithm pricing. It is currently transforming the competitive landscape and allowing smaller actors to differentiate themselves more effectively and scale more rapidly. The strategic integration of AI is notable in fintech, health-tech and smart manufacturing, and fraud detection in the financial sector. AI is highly scalable, resulting in phenomenal cost savings. Its consistency and rules-based programs allow enterprises to minimize their errors. AI longevity, coupled with continuous improvement and its ability to document processes, translates into business opportunities and real development.

Keywords: Artificial intelligence, Business, Business Development, Digital Economy.

INTRODUCTION

Over the years, artificial intelligence (AI) has emerged as a transformative force across industries, revolutionizing various aspects of business operations. One key area where AI is making a profound impact is business development. From

enhancing customers' insight to automating processes, AI is reshaping how organizations identify opportunities, engage customers and drive growth and development (Nikolaos & Kitsios, 2023). AI refers to developing intelligent machines capable of performing task that typically requires human intelligence. In the context of business development, AI technologies leverage advanced algorithms, machine learning and natural language processing to automate and augment processes, uncover insight, and make data-driven decisions (Rios-Campos et al., 2023).

AI plays a multifaceted role in business development, offering several advantages. It enables organizations to gather and analyze vast data, leading to improved decision-making and targeted strategies. AI-powered tools can automate repetitive tasks, freeing valuable time for business development professionals to focus on high-value activities. Furthermore, AI-driven customer insight enhanced lead generation, sales forecasting and customer relationship management, facilitating personalized and practical engagement (Ruiz-Real et al., 2021).

Theoretical Framework

This paper is hinged on the technological determinism theory. Technological determinism states that media technology shapes how we as individuals in a society think, feel, act and how our society operates as we move from one technological age to another (Tribal-Literate-Print-Electronic). The theory presumes that a society's technology drives the development of its social structure and cultural values. The term is believed to have been coined by Thorstein Veblen (1857-1929), an American Sociologist.

Early theorists, such as Marshall McLuhan (1962), averred that most interpretation of technological determinism share two general ideas namely: that the development of technology itself follows a predictable, traceable path largely beyond cultural or political influence, and that technology in turn has 'effects' on societies that are inherent, rather than socially conditioned or produced because that society organizes itself to support and further develop a technology once it has been introduced.

Croteau and Hoynes (2003) define technological determinism as the approach that identifies technology, or technological advances, as the central causal element in processes of social change. They further assert that as a technology is stabilized, its design tends to dictate users' behaviors, consequently determining human agency.

Fischer (1992), cited in Croteau and Hoynes (2003), characterized the most prominent forms of technological determinism as ‘billiard ball’ approaches, in which technology is seen as an external force introduced into a social situation, producing a series of ricochet effects. Elucidating on this, Postman (1992) notes that the ‘uses made of technology are largely determined by the structure of the technology itself, that its functions follow from its form’.

Overview of Artificial Intelligence

Jiang et al (2022) averred that as digital transformation accelerates, artificial intelligence is becoming one of the most influential forces influencing the global economy. Following this, Zhang and Lu (2021) contended that systematic changes have emerged in sectors such as finance, healthcare, manufacturing, logistics and marketing as a result of the rapid advancement of AI Technologies over the past decade, exceeding expectations.

The term Artificial Intelligence lacks a universally accepted definition, but a plethora of definitions exist. These definitions have been put forward by scholars and information and communication technology (ICT) organizations. For example, Palanivelu and Vasanthi (2020, p. 392), while defining it from the technical perspective, said “it is an integration process between cloud computing, network devices, robots, computers and digital content production, and in various business processes, systems and daily life operations”.

IBM (n.d) defined Artificial Intelligence (AI) as the technology that enables computers and machines to simulate human learning, comprehension, problem solving, decision making, creativity and autonomy. Applications and devices equipped with AI can see and identify objects. They can learn from new information and experience. They can make detailed recommendations to users and experts. IBM (n.d) further submitted that applications and devices equipped with AI can act independently, replacing the need for human intelligence or intervention (a classic example being a self-driving car).

Coursera (n.d) described Artificial Intelligence (AI) as the theory and development of computer systems capable of performing tasks that historically required human intelligence, such as recognizing speech, making decisions and identifying patterns. AI is an umbrella term that encompasses a wide variety of technologies, including machine learning, deep learning and natural language processing (NLP). Although the term is commonly used to describe a range of different technologies in use today, Coursera (n.d) noted that many disagree on

whether these actually constitute artificial intelligence. According to Coursera, instead, some argue that much of the technology used in the real world today actually constitutes highly advanced machine learning that is simply a first step towards true artificial intelligence or “general artificial intelligence (GAI).

Despite the many philosophical disagreements over whether ‘true’ intelligence actually exists when most people use the term AI today, they are referring to a suite of machine learning-powered technologies, such as ChatGPT or Computer vision, that enable machines to perform tasks that previously only humans could do, like generating written content, steering a car, or analyzing data.

The concept of AI can also be seen as the ability of computer systems to perform tasks that normally require human intelligence, such as learning, problem-solving and decision-making. AI achieves this by using algorithms, a vast amount of data and computing power to stimulate human cognitive functions like perception, language understanding and reasoning. This allows machines to learn from experience, adapt to new information and make data-driven decisions to solve complex problems without constant human intervention.

Core Principles of Artificial Intelligence

- *Simulating Human Intelligence*: AI seeks to replicate or augment human intelligence by enabling machines to reason, learn and act in a human-like way.
- *Learning from data*: AI systems are trained on large datasets to identify patterns, which they then use to make predictions or decisions.
- *Problem-solving*: AI uses algorithms and computational power to solve problems that are often complex and time-consuming for humans.
- *Automation*: AI can automate tasks, from simple repetitive actions to complex processes like self-driving cars or fraud detection.

Artificial intelligence is applicable in the following areas:

- *Healthcare*: AI is used to analyze medical images and help in diagnosis.
- *Finance*: AI powers systems that detect fraudulent activity and manage investments.
- *E-Commerce*: It provides personalized recommendations for products.
- *Transportation*: Self-driving cars rely on AI for navigation and decision-making.

- **Virtual Assistants:** AI enables virtual assistants like Siri or Google Assistant to understand and respond to voice commands.

Artificial Intelligence Benefits and Dangers.

AI has a wide range of applications with the potential to transform how people work and live. While many of these transformations are exciting, like self-driving cars, virtual assistants or wearable devices in the healthcare industry, they also pose many challenges. It is a complicated picture that often summons competing images: utopian for some, a dystopia for others. The reality is likely to be much more complex. Here are a few of the possible benefits and dangers AI may pose.

Potential Benefits	Potential Dangers
Greater accuracy for certain repeatable tasks, such as assembling vehicles or computers	Job loss due to increased automation
Decreased operational costs due to the greater efficiency of machines	Potential for bias or discrimination as a result of the data set on which the AI is trained
Increased personalization within digital services and products	Possible cyber security concerns
Improved decision-making in certain situations	Lack of transparency over how decisions are arrived at, resulting in less than optimal solutions.
Ability to quickly generate new content, such as text or images	Potential to create misinformation, as well as inadvertently violate laws and regulations.

Source: www.coursera.org

Concept of Business Development

Business development entails tasks and processes to develop and implement growth opportunities within and between business organizations (Houterman et al., 2014). It is a subset of the fields of business, commerce and organizational theory. Business development is the creation of long-term value for an organization from customers, markets and relationships (Pollack, 2018). Business development can be taken to mean any activity by either a small or large organization, non-profit or for-profit enterprise, which serves the purpose of developing the business in some way. In addition, business development activities can be done internally or externally by a business development consultant. External business development can be facilitated through planning systems, which are put in place by governments to help small

businesses. Additionally, reputation building has also proven to help facilitate business development.

It is conceptualized as or related to discrete projects, specific modes of growth and organizational units, activities and practices. Sorenson (2012) integrates these different perspectives from chairmen and managing directors, senior business developers and venture capitalists from successful high-tech firms worldwide, which is adopted in the Palgrave Encyclopedia of strategic management:

Business development is defined as the tasks and processes concerning the analytical preparation of potential growth opportunities and the support and monitoring of the implementation of growth opportunities, but does not include decisions on strategy and implementation of growth opportunities (Teece & Augier, 2015).

Business development is also viewed as the process of identifying and capitalizing on new growth opportunities to create long-term value for an organization through customers, markets and relationships. It involves activities like forming strategic partnerships, developing new products or services, and expanding into new markets to increase revenue and profitability. Ultimately, business development aims to position an organization for sustainable success by overseeing strategic planning, market analysis and relationship management.

The Key Aspects of Business Development

1. *Strategic Growth*: Business development professionals identify new opportunities by analyzing market trends, customer needs, and the competitive landscape.
2. *Relationship Building*: It involves nurturing and building strong relationships with new and existing customers, partners and stakeholders to foster long-term value.
3. *Value Creation*: The focus is on creating long-term value, which can be achieved by increasing revenue, lowering costs, and improving overall profitability.
4. *Cross-functional Integration*: Business development acts as a link between various departments like sales, marketing and product management to ensure all functions work together to achieve growth objectives.
5. *Strategic Planning*: It includes developing and implementing strategies to achieve business goals, which can be outlined in a business development plan.

6. *New Ventures*: This can involve developing new products, services, or business areas to expand the organization's operations and market reach.

Business Development and Ethics

Facilitated Development

Business development is affected by external factors. Planning systems are set in place to regulate businesses. In many cases, ruling agencies deem the necessary for business survival (Ploegmakers et al, 2017). There is a section of business that is dedicated to facilitating ethical business development in developing countries. In the early 2000s, business ethics was dedicated to helping businesses in need that are in these countries. However, owing to the strong backlash from critics, they have changed their focus to helping businesses that are going to help the most people develop. These policies have improved the quality of life of the people. However, this facilitation changes the norms and, in turn, harms some groups. To enforce the new policies ethically, business ethicists have created a cost-benefit analysis, emphasising necessities.

These concerns have become so great that business ethicists have created a new department called development ethics. Now, instead of simply helping developing businesses, international business developers have begun ensuring that organizations keep basic human rights in mind. This especially applies to countries where the laws are not so strict and allow for abuse to take place. These development policies now have to follow the criteria that Penz created, consisting of insecurity, empowerment, rights, equity, integrity and cultural freedom (Poruthiyil, 2013). The idea of providing people with human rights to facilitate business development can be seen through the rapid development of China in the last few decades. The policies that were implemented in the last couple of decades coincide with these developments. In the 1980s, government policies facilitated the rise in literacy rate and education. The following decade, healthcare coverage increased significantly. This development was not originally seen as monetary capital. With more workers able to bring skill and maximum effort to their workplace, companies were able to develop extremely rapidly (Enderle 2010).

Reputation Building

With companies becoming more and more conscious of ethical practices, closely watching themselves to avoid scrutiny, a company's reputation has become a

great concern. Ethical business practices are closely tied to reputation, which makes it essential to follow ethical guidelines if a company is looking to build its reputation.

In fact, businesses that develop quickly and successfully have tendencies to show honesty, impartiality and service to all of their stakeholders. In order for a company to be considered “ethical”, it must cater to the needs of the customer, keeping their best interest in mind. This will influence customers to make repeated purchases and lead to more profit. In order for a company to build a strong reputation with their supplies, it is crucial for them to focus on impartial business interactions and developing long relationships.

These relationships can lead to mutually-beneficial business deals for both the company and its supplier. With the employees, they must take their interests into consideration and facilitate team work as opposed to rigorous competition. This ensures that the company will keep their most loyal and dedicated employees for as long as possible. Funding for further development can rise when a company is able to develop strong relationship with each stakeholder individually and ethically. This is based on the concept of reciprocation, which states how in order for social change to take place between groups of people, trust must be built between them through mutually beneficial actions.

Digital Economy.

The digital economy is a blend of digital computing and economy and is an umbrella term that describes how traditional brick-and-mortar economic activities (production, distribution, trade) are being transformed by the internet and worldwide web technologies (Bukht & Heeks 2017, Brekke & Alsindi 2021). It has also been defined more broadly as the way digital technologies are transforming work, organizations and the economy. The digital economy is backed by the spread of information and communication technologies (ICT) across all business sectors to enhance productivity. A phenomenon referred to as the Internet of Things (IoT) is increasingly prevalent, as consumer products are embedded with digital services and devices (Carlsson 2004).

According to the World Economic Forum, 70% of the global economy will be made up of digital technology over the next 10 years (from 2020 onwards). This was a trend accelerated by the Covid-19 pandemic and the tendency to go online (European Investment Bank 2023). The future of work, especially since the Covid-19 pandemic, had also contributed to the digital economy (Deloitte MALTA, n.d.).

More people are now working online and with the increase in online activity that contributes to the global economy, companies that support the systems of the internet are more profitable (Peitz & Waldfogel, 2012).

Digital transformation of the economy alters conventional nations about how businesses are structured, how consumers obtain goods and services, and how states need to adapt to new regulatory challenges. The digital economy has the potential to shape economic interactions between states, businesses and individuals profoundly (Weymouth, 2023). The emergence of the digital economy has prompted new debates over privacy rights, competition and taxation with calls for national and transnational regulations of the digital economy (Weymouth, 2023). OECD (2020) in its definition of digital economy categorized it into three different approaches namely:

- *Bottom-up Approach*: Characterizing industries and firms output or production processes to decide whether they should be included in the digital economy.
- *Top-down or trend-based approach*: First identifying the key trends driving the digital transformation and then analyzing the extent to which these are reflected in the real economy.
- *Flexible or Tiered approach*: Breaking the digital economy into core and non-core components and thereby finding a compromise between adaptability and the need to arrive at some common ground on the meaning of the term.

Bottom-up definition defines the Digital economy as the aggregate of a specific indicator for a set of industries identified as actors in the Digital economy. Whether an industry is considered an actor depends on the nature of the products (narrow) or the proportion of digital inputs used in production processes (broad). Hence, from a bottom-up and narrow perspective, the Digital Economy is “all industries or activities that directly participate in producing or are crucially reliant on digital inputs”. While this definition is adept at measuring the impact of digitalization on economic growth, it only focuses on the nature of output and offers an incomplete view of the Digital Economy’s development (DECD 2020). In the bottom-up and broad perspective. The digital economy is “all industries using digital inputs as part of their production process” examples of digital inputs include digital infrastructure, equipment, and software but can include digital skills (G20DET, 2016).

Town-Down Definition

Top-down definition identifies broad trend at a play in the digital transformation and define the digital economy as the result of their combine impact on value creation. These include such spillover as changes in labour market demand and regulations, platform economy, sustainability, and equality (Oxford Economics 2016; World Bank, 2016). On like the bottom-up definition, the top-down definition has units of analysis extending beyond firms, industries, and sectors to includes individuals, communities, and societies, while the latter definition is more inclusive, the IMF notes that it is subjective, qualitative, and open-ended, thus limiting meaningful comparative analysis (IMF, 2018).

Flexible Definition

To reconcile the bottom-up and top-down definitions of the digital economy, Buwt and Heeks (2017) stated that the digital economy consists of all sectors making extensive use of digital technologies (i.e., their extensive dependence on digital technologies) as opposed to sectors making intensive use of digital technologies (i.e., simply employing digital technologies to increase productivity). Under the definition, the digital economy is stratified into three nested tiers:

- **Core:** Comprising the digital sector and associated core technologies. Examples include hardware manufacturing, software and it consulting, information services, and telecommunication (UNCTA, 2019)
- **Narrow Scope:** The digital economic comprising digital services and the platform-based economy (UNCTAD, 2019)
- **Broad Scope:** The digitalization economy comprising digitalized sector such as e-Business, e-commerce, advanced manufacturing, precision-agriculture, algorithmic economy, sharing, and gig economy. These digitalized sectors phenomenologically give rise to the fourth industrial revolution (UNCTAD, 2019)

The digital economy can therefore be viewed as the economic activity that results from billions of online connections between people, businesses, devices, and data, driven by the use of information and communication technologies (ICT) like the internet, mobile devices, and data analysis. It encompasses a wide range of activities, from online shopping and digital banking to the transformation of traditional industries through technologies like AI, IoT, and blockchain. While some define it narrowly as the ICT sector itself, others take a broader view, including any economic activity enabled or transformed by digital tools.

Key Components and Characteristics of the Digital Economy

- **Core Technology:** Relies on foundational digital infrastructure, including the internet, mobile technology, big data and cloud computing.
- **Innovations:** Driven by disruptive innovations such as artificial intelligence (AI), the internet of things (IoT), virtual reality, and blockchain.
- **Economic Impact:** It is transforming traditional industries and has become a significant global economic force, increasing competitiveness and promoting growth.
- **E-commerce:** A major component, involving the buying and selling of goods and services online.
- **Service-based Economy:** Facilitates many service-based businesses like ride-sharing (Über) and accommodation sharing (Airbnb).

Role of AI in Business Development

The role of Artificial Intelligence in Business Development cannot be overemphasized. AI plays a key role in business development by boosting efficiency through automation, enhancing decision making with data analysis, improving customer experiences with personalization, and enabling innovation and predictive capabilities. This leads to better strategies, increased productivity, and a competitive edge. The core roles of AI in business development are as follows:

Automating Tasks and Increasing Efficiency: AI automates repetitive, time - consuming tasks, allowing business development professionals to focus on strategic, high-value activities. This includes streamlining workflows and reducing manual labour.

Enhancing Data Analysis and Decision-Making: AI can analyze vast datasets to identify patterns and trends that may not be apparent to humans. This provides real-time insights into customer behavior, market trends, and sales performance, leading to more informed and proactive decisions.

Improving Customer Experience: AI enables personalized customer interactions through data analysis of customer preferences and behaviours. This includes using chatbots for 24/7 support and tailoring marketing campaigns to individual needs, which can improve satisfaction and loyalty.

Driving Innovation and New Opportunities: By analyzing market data, AI helps businesses anticipate future needs and identify new opportunities or potential areas for growth. It acts as a catalyst for innovation by helping to develop cutting-edge solutions and new products.

Improving Sales and Lead Generation: AI can provide deeper customer insights and optimize sales forecasts. It helps in creating more effective marketing campaigns by analyzing how customers engage with different approaches, allowing for adjustments to be made in real-time;

CONCLUSION

Artificial intelligence is revolutionizing business development, offering immense potential for organization to enhance decision-making, automate processes, and deliver personalized experiences. The implications and future of AI in business development are vast and promising. Embracing responsible AI practices, prioritizing ethical considerations, and fostering a collaborative environment between AI and human professionals will be crucial for organizations to harness the full potential of AI and thrive in the rapidly evolving business landscape. By embracing AI as a Strategic tool, organizations can stay ahead of the competition, drive growth, and create lasting customer value.

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