



Impact of Artificial Intelligence on Small and Medium-Sized Businesses in California, United States

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Abstract

Artificial Intelligence (AI) is one of the nightmares in technological advancement that has ever happened in human history. It has influenced the way people carry out their business activities, especially the small and medium-sized businesses (SMB) in California, United States. The use of AI technology in business operations has allowed SMBs to increase their productivity, generate more income and effectively communicate with prospective consumers. The use of the application has given room for SMBs to operate within the ambit of States laws and regulations, indirectly involve in healthy competition, and increase their knowledge about the technology use of AI among others. The article examines the impact of AI on Small and Medium-sized businesses, the challenges encountered when using the application as well as the coping ways in overcoming the challenges. The article is descriptive in approach making use of secondary sources of data. It was discovered that AI had impacted the ways SMBs operate in California despite the challenges.

Keywords: AI influence, small business, artificial intelligence technology

Received 10 June, 2023; Revised 20 June, 2023; Accepted 23 June, 2023 © The author(s) 2023.

Published with open access at www.questjournals.org

I. Introduction

Artificial Intelligence (AI) is one of the technological advancements that have evolved in the history of mankind, more so, in recent years. It has become another reality that establishes the fact that many tasks and activities that seem difficult or nearly impossible for humans to perform, can be carried out by it easily. Artificial Intelligence is believed to be a machine model technology that can effortlessly improvise the capabilities of human intelligence (Frankenfield, 2023), by performing technical functions from simple ones to complex and advanced ones (Frankenfield, 2023; Harvard Business Review, 2023). Even though it is regarded as a branch of Computer Science that operates on smart machines that surpass human intelligence (Schroer, 2023), it has been employed in various ways to improve and enhance the growth and development of society.

AI, no doubt, is gaining more prominence and attracting more attention among many businesses, households, government institutions, organizations, industries, health institutions, and educational sectors among many other areas because of its usefulness and relevance. Artificial intelligence has been commended for its ability to speed up processes of data, efficiency in giving feedback to tasks, minimizing errors associated with human abilities, and resulting in generating productivity and positive outcome (Schroer, 2023; Kennfolks, 2023). In the advent of unexpected epidemics, pandemics, and natural occurrences among others that keep and restrict people from physically going about their business activities, AI has become the sought-after technological model for business owners to navigate these hurdles and reposition their businesses for productivity and wide coverage. This is why AI as a technology software is growing faster and gaining more acceptability among business owners and entrepreneurs (Harvard Business Review, 2023). While it is being used and employed in developed countries, developing countries too are not exempted from using the model as well. In a developed country such as the United States (US), AI has been technically used especially by small and medium-sized businesses to project their businesses and products to consumers and generate income.

The Small and Medium-Sized Business (SMB) is one of the viable business sectors in many countries that have not only generated income for the country but has given room for many people with low and minimal capital intensive to engage in their private business and trading without necessarily depending on the government for funding or finance. In the face of severe economic, and political challenges, and natural disasters among other occurrences, the SMB has stood to bridge the gap created by mega-industries in the easy provision of products to people and consumers (Hryshkevich, 2023). In the U.S., it was reported that 33.2 million were registered as small businesses with a percentage of 99.9 percent of businesses in the country (Main,

2022; Oberlo, 2023; U.S Chamber of Commerce, 2023). The small and medium-sized business has allowed consumers to communicate freely with business owners and place orders for products they so desire. In the US, California was reported to have recorded more people in small businesses with 4.2 million than any other State (Oberlo, 2023; U.S Chamber of Commerce, 2023). The increase that was witnessed in the formation of such businesses has accommodated many employees in California that comprised 47.9 percent (Oberlo, 2023) to be in employment. The growth in SMBs has therefore allowed business owners to relate with consumers through their online trading to overcome any form of barrier that might impede their businesses.

The relationship and communication that usually transmit between business owners and consumers have been necessitated using artificial intelligence software that works on the online application machine. It means that the use of advanced technology such as AI applications by SMB owners, has allowed business owners to reach out to their customers without necessarily exposing them to bureaucratic arrangements or formalization processes associated with selling their products. In this case, AI has been an influence and impactful on how SMB owners go about their trade and commercial activities online (Kaput, 2022). AI, for instance, can be employed in generating income for SMBs, encouraging competitiveness among businesses, ensuring literacy of software use, and enhancing productivity by SMBs to consumers. Although AI has been viewed to be useful when properly used by SMBs in carrying out their economic activities, there are yet challenges faced by these business owners which they seek ways in overcoming them.

The Objective of the Study

The main objective of this article is to review the impact of artificial Intelligence on small and medium-sized businesses.

*To examine the challenges encountered by small businesses using AI tools.

* To also examine the ways of overcoming them to the benefit of society at large.

II. Literature Review

Artificial intelligence: What it portends to small and medium-sized businesses.

Artificial intelligence has inarguably been employed by many organizations and businesses all over the world. It has served to help small and medium-sized businesses in diverse ways. AI has advanced over the years with its complexity-coded applications that operate beyond human intelligence. AI no doubt has evolved in phases where the use of machine learning and deep learning (Schroer, 2023) are common specifications of its application.

In recent times, AI has developed to operate on application models such as Python, SQL, and Chatbot among others where data can be drawn and generated, as well as trends about occurrences can be checked. The various unimaginable functions performed by AI have improved the operations of many small businesses that even challenged the overbearing dominance of mega industries and organizations. It means that AI can be successfully used by growing and thriving businesses at any time, in any location, or any society.

Advancements in the use of AI such as Chatbots, smart assistants, snap chat filters, wearable, and many more applications have shown the leading way for businesses to launch and communicate their products to consumers with less stress (Schroer, 2023). It has become a viable and dependable application for small and medium-sized businesses to survive and succeed in their usual business transactions. AI for SMBs is beneficial in the sense that it helps them to employ a fewer number of employees in their business and guarantees them efficiency in running their business through online activities. It also allows SMBs to increase their productivity level through higher sales and customer patronage (Walters, 2023). AI provides SMBs with a sense of innovation and creativity in content imaging (Yadavi, 2023), and gives room for revenue generation (Schroer, 2023) through digital marketing to consumers (Moore, 2022). Also, AI enables the SMB to generate and analyze response rates from customers (Moore, 2022) and their attraction to the business site.

In the wake of global inflation, pandemics, and natural disasters, SMBs on many occasions have found AI as a last resort in ensuring that they can project their products and services to consumers. The traditional use of brick-and-mortar stores is gradually undertaken by the online use of AI.

AI: The Impact on Small and Medium-sized Businesses

Small and Medium-sized Businesses (SMB) have witnessed growth over the years in which the economy of the country has been positively affected as well. In California, the US, the registered number of small businesses has reached 4.2 million (Oberlo, 2023) which makes up 33.2 million registered businesses in the US (Oberlo, 2023). While small businesses are believed to be growing in number, it has also resulted in building more communication between business owners and consumers using generative-powered AI applications. Moore (2022) reported that 41 percent of consumers in the US preferred to use Chat support in processing products and services. Ariella (2023) revealed that 255.59 million people in the US patronize online commerce in 2020. This number of people indicated that business owners and consumers have severally

communicated through the powered AI generative online communication. Although the use of AI might be difficult to expatiate among SMBs in California, the various reports of e-commerce shopping in the US and the larger percentage of businesses found in the State indicated that SMBs have been influenced more in relating with customers using online or internet channel to purchase or order for products. AI's impact on SMBs can be viewed through some processes discussed below.

Pressure to launch business Online and digitalize payments.

AI has influenced and impacted the way SMBs operate and transact their business beyond a physical display of products or renting a store to sell their products. AI technology advancement has pressured SMBs to launch their businesses online and digitalize how payments are made on every purchase done by consumers. The growing demand of consumers to communicate with SMBs through an online medium has left business owners with no other option but to integrate the new AI technology into their business for growth, productivity, and expansion. That was why it was easy for consumers to relate and communicate with business ventures that had already launched their business online and make purchases as reported by Ariella (2023) that in the US, more than 255 million people shop online in 2020. And the number has been growing in subsequent years. In this case, many SMBs have been influenced into accepting and working with the new AI use technology. Yaqub (2023) revealed that in the U.S., about 30.57 million businesses were active on social media to market their products and interact with customers. Main (2022) added that in the U.S, small businesses have increased the number of overall jobs over the years.

Checkmating businesses to comply with State laws and regulations.

Making use of AI in operating their businesses, SMBs are certified to operate within the State's laws and regulations (Uzialko,2023) in relating and communicating with consumers. AI technology can access and retrieve consumers' information and data, SMBs are therefore placed under certain restrictions on how they should filter customers' information and data. Laws and regulations already put in place are meant to safeguard the consumers which the business owners must comply with. SMB by the enacted laws and regulations cannot use AI tech beyond the stipulated accessibility granted by the State. The use of AI by many SMBs in California made them know and be educated about what the States law says about them. In addition, the SMBs while making use of AI, are positioned to align with government orders, carry out their business effectively, and minimally filter some information that will only benefit and not harm the consumers in the long run.

AI enables businesses to involve in healthy competition.

The impact of AI on SMBs has enabled them to participate in healthy competition directly or indirectly. AI makes them produce rightly by quality and quantity, communicates effectively with consumers, and places reasonable prices on products for consumers. Indeed, for SMBs, making use of AI entails every related business owner comparing its product's prices and promotional offers with others while placing them for sales to the consumers. Most times, SMBs are involved in competition which they do not envisage at the beginning. While businesses have grown in California, competition among the viable SMBs who operate their businesses and products online has pushed for more businesses to emerge.

AI users in businesses generate taxes for the Government.

California is known as one of the States in the US with high-paying taxes. The creation and establishment of many SMBs have not only generated an increase in revenue for the State and country, but it has also mandated that SMBs pay more tax to the government (Uzialko, 2023) as they experience an increase in sales over time. SMBs are expected to comply with the state's regulated body by paying their taxes because of customers' increasing demand for their products which are done through online or e-commerce channels.

The Importance of Quality to the Customers and the business owners

SMBs making use of AI, are expected to produce good and quality products, as well as always provide commendable services to consumers. Quality products and good services give a reason for consumers to patronize the same products over time because of the satisfaction derived from consuming such products. Consumers that prioritize online purchases do want their satisfaction met with the purchase they get. SMBs in this case, are left with no other option than to produce quality products to maintain their customers and make efforts to increase the customers-base where they too can increase their revenue. Indeed, by making use of AI applications by SMB owners', they are positioned to take the production of quality products seriously to avoid criticism and rejection by consumers that may negatively affect their business gradually.

AI Usage: The Challenges to Small and Medium-sized Businesses

AI, for several reasons, has been known to be beneficial to SMBs and other mega-industries in the country when applied in their operations. However, the usage of the technology has created some lingering challenges for SMBs in certain ways. Some SMBs are liable to face poor internet signal strength and connectivity to grant them easy access and usage of AI applications on their mobile devices. It is quite possible for many SMBs who operate on general and public usage of internet connectivity and browsing because of the structure and nature of their businesses, unlike the mega-industries and businesses that can afford and operate customized internet accessibility and connectivity.

Also, SMBs are most times threatened by finance or funds (Hryshkevich, 2023) to source and continually run on AI-generated technology on their devices to boost their businesses. Small businesses that intend to continually run on AI, are expected to finance their internet data always so that their consumers are well intimated about new or existing products. There is always a need for them to update their products and place adequate information about their businesses online so that they are not viewed as ineffective business ventures. And to achieve this feat demands active operations of SMBs on the internet and data usage.

Adequate knowledge and technical use of AI technology may be a challenge to some SMBs who desire to launch their products online and constantly make them functional. Although there are learning opportunities for new users of AI, there are gaps in the learning and technical knowledge about the application for some SMBs. Some SMBs prefer to quickly concentrate on their business modules for that period than for them to dedicate some time to surfing the internet or interacting with consumers online on e-commerce transactions.

There is also the challenge of keeping up with consumers' orders in the cart when unforetold inflation sets in afterward. AI applications have made it possible for consumers to place an order for products and place some orders in the shopping carts section for a later date. SMBs who are not proficient in AI technology usage may find it difficult to settle transactions because of sudden changes in market prices that either go up or come down. Lack of time (Hryshkevich, 2023) is also a challenge to some SMBs using applications. Some business owners are quick to do and embark on selling their products and most times do not give room to access information or feedback from consumers who like to communicate online. The use of AI by SMBs means that simple application.

Overcoming Challenges: A way for Small and Medium-sized businesses to handle AI technology.

Despite the challenges that stare glaringly in the face of SMBs, efforts have been made by SMBs to surmount them by employing certain strategies and coping ways. SMBs are believed to employ the services of skillful personnel and staff to handle some activities such as the online and e-commerce transactions that address customers complaints, and inquiries. Although it sometimes takes a while to get qualified employees

(Hershkovitz, 2023) to carry out such duty owing to the payment structure, SMBs who have resolved to launch their business online, still employ a few employees. Applying such methods by SMBs can help them to focus on other areas. The strategy of devising other means to stay always connected by having another medium of connectivity to reach out to their customers is another way of surmounting the challenge of getting used to AI technology. So, when mobile connections fail, the other internet accessibility can be readily used by SMBs to transact their business online. Since AI applications have different models SMBs can use, Walters (2023) believed that SMBs can make use of simpler AI applications than using complex application code.

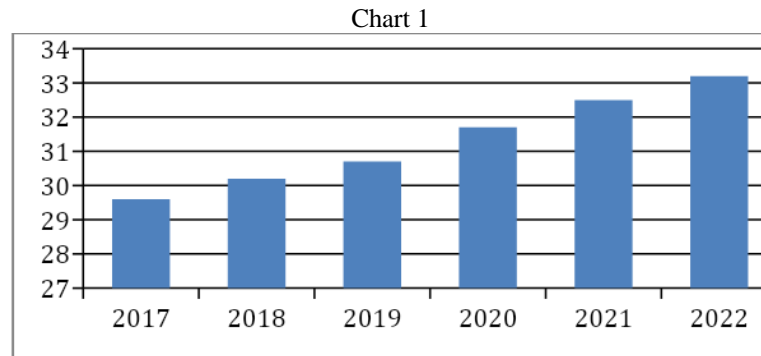
III. Methodology

The article was theoretical and descriptive in approach. Information and data that were used for review were based on the secondary source of data collected through academic journals, online statistics, publications, books, documents, web-searches, and blogs. The search for relevant discourse in the article focused on small and medium-sized businesses, Artificial Intelligence, the challenges of AI, and the impact of AI on businesses. The study focused on small and medium-sized businesses in California, U.S. Data from secondary sources were presented using descriptive statistics such as charts for analysis which were discussed based on the information retrieved.

Ethical Approval

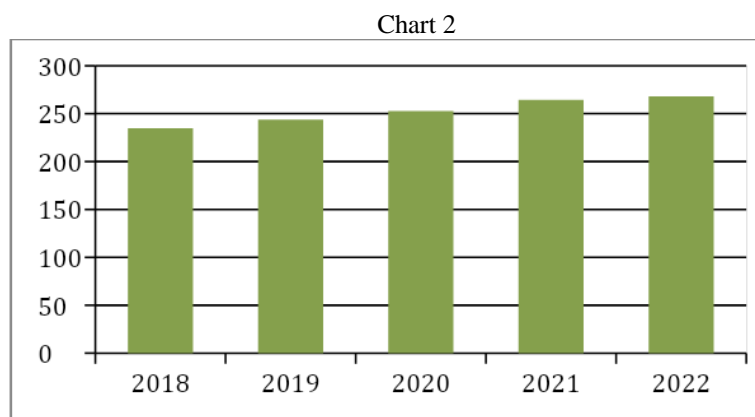
This article was based on a secondary source of data which did not require respondents consent or effort to seek approval from any research committee. In that way, no funding was required to that effect.

Interpretation and Analysis



Number of small businesses in the US (Millions)
Source: Oberlo (2023)

It was reported that in the US, the number of small businesses in 2017 stood at 29.7 million. There was an increase in subsequent years despite unexpected occurrences such as Covid-19 in 2020. In 2018, small businesses increased to 30.2 million. In 2019, it increased to 30.7 million, while in 2020 it was 31.7 million registered businesses. The year 2021 had 32.5 million registered small businesses and in the year 2022, it was recorded to have 33.2 million. The reported number for each year showed that small businesses irrespective of the challenges that surfaced, were able to function with new registration numbers of small businesses. Surprisingly, the State of California has the highest number of registered small businesses in the years recorded as affirmed by Oberlo (2023). While the small businesses were growing, the use of social media also grew among them as revealed in Yaqub (2023) that made the consumers shop online as reported by Statista (2023) and Ariella (2023). And while online or e-commerce were being used to access information, they were mostly generated by AI powered technology in the form of Chatbots, generated content images and online payment options. The chart implies that AI technology use was vital among small and medium-sized businesses in projecting their products Moreso where many consumers were able to relate and purchase their products through a digitalized technology device. In the presented report, the formation and establishment of small businesses in the U.S signify that there was a development in the processes taken by SMBs to survive and comprehend the common practice, laws, and regulations of the State.

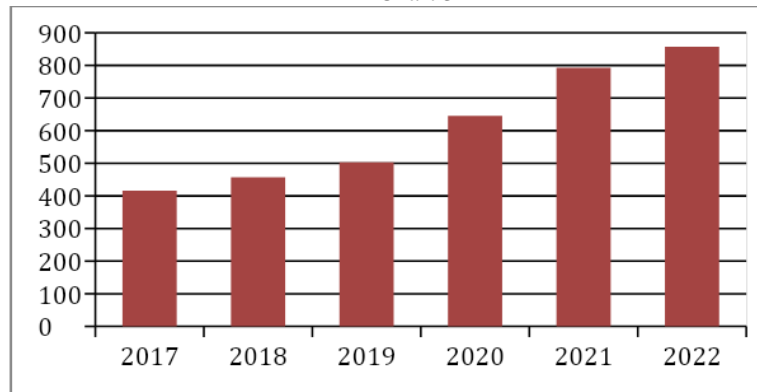


Number of e-commerce users in US (millions)
Source: Statista Research Department (2023)

The above presentation showed that there was a significant increase in the number of users who patronized e-commerce within the year covered, 2018 to 2022. In the year 2018, it was reported that the number of users with e-commerce stood at 234.82 million while in the year 2019, the number of e-commerce users stood at 243.64 million. In the year 2020, records showed that 252.67 million people used e-commerce and in the year 2021, there was an increase in e-commerce users with 264.53 million. The year 2022 saw the chart slightly moved to 268.2 million users in e-commerce. As these figures are analyzed, it showed that SMBs effort in relating with consumers through online trade has necessitated the growing increase in people using e-commerce and as well gave the small businesses to constitute 99.9 percent of businesses in the U.S (U.S Chamber of

Commerce, 2023). In accessing e-commerce applications, AI-generated technology cannot be distanced from operationalization of e-commerce being accessed by many users in the U.S with California being one of top users. By and large, interacting with AI generated technology online has not only increased the number of e-commerce users but has also served as a generated revenue to the country as submitted in Statistics (2023).

Chart 3



Revenue of the e-commerce Industry in the US (billion dollars)

Source: Statista Research Department (2023)

In the above chart, it was discovered that indirectly AI generated technology must have influenced the flow of generated revenue to the country at large when used by people through e-commerce. AI usage has impacted businesses in the US, with California being the leading State where small businesses were recorded to have occupied most of the registered business. E-commerce is common among business-oriented transactions which makes SMBs a key factor user of the application. In the year 2017, the total revenue accrued to the country was 416.15 billion dollars through e-commerce. There was a gradual increase in the revenue accrued in the country by using e-commerce. The subsequent years accrued revenue in dollars witnessed in the U.S seen 2018 stood at 457.17 billion, 2019 with 503.28 billion, 2020 stood at 645.78 billion, 2021 had 792.54 billion, and 2022 stood at 856.77 billion.

The progressive increase in the revenue through e-commerce can be associated with an increased number of SMBs who choose online transactions to relate with consumers and reveal their products. The use of AI technology can also be associated with the easy ways by which online transactions could be made. It then becomes an avenue that benefits the SMBs and even the consumers. The revenue generated in the country through e-commerce was a clear indication that SMBs, though still faced with challenges, had positive interactions selling their products through the medium.

IV. Discussions and Conclusions

AI technology for many reasons has impacted the ways SMBs transact and relate with their consumers over time. Internet connectivity and digitalization have allowed many SMBs to grow in the U.S. with California State taking the lead. It was reported that California has the highest number of registered small businesses in the U.S. (U.S Chamber of Commerce, 2023). Oberlo(2023) revealed that in the year examined, 2017 through 2022, there was an upward increase in the number of registered businesses in the U.S. Among these numbers, it was revealed that small businesses had 99.9 percent, which ordinarily means every business in the country began as a small and medium-sized business in which California has the highest number. Weatherford (2022) affirmed that there were more new businesses in California in the year 2021 than the previous years. This of course agreed with the fact that the establishment and creation of businesses, especially the small businesses, were anchored on the possibility of these businesses to engage in e-commerce and online trading.

And, the growing number of these businesses must have been initiated by the usefulness of online and e-commerce in transacting and projecting products to consumers. In addition, small and medium-sized businesses start-up takes minimal capital to invest and by using AI technology gives them the privilege to give their businesses wide publicity. The SMBs for these reasons were able to launch their products and interact with consumers through e-commerce and online business. SMBs through online business were able to relate more with consumers and launch their products beyond their locality. In another presentation, it was shown that users of e-commerce progressively increased in number from 2018 through 2022. Indeed, making use of e-commerce and online trading are largely generated by AI technology which made many businesses record high revenue in e-commerce as witnessed in the U.S in 2017 through 2022 as revealed in the report. The impact of AI has also allowed the SMBs to acquire the needed skills about its application. By doing so, many new registered SMBs must have considered using the online and e-commerce channel to establish their products and businesses even

when they were not financially balanced like the mega-industries who can rent or secure big stores for their trade. The healthy competitiveness of SMBs were indirectly initiated by AI technology which allowed knowledgeable SMBs about AI to easily reach out to consumers for positive sales and revenue. The newly formed SMBs that saw the improvement made by the existing SMBs have an option to introduce a strategy that will make it relevant or remain ineffective in its line of business. AI generated technology has impacted on the SMBs through the increase in e-commerce experienced in the country as well as the accrued revenue the country generated over time. Although there are lingering challenges that SMBs face in California such as government regulations, finance, time, and tax among others, the State have witnessed growing numbers of businesses that are registered in the area, and country at large. AI being a powered technology has enabled SMBs to operate their businesses through its applications and other models such as chatbots.

Generally, AI technology has become a developing application that has helped to enhance and improve how SMBs effectively transact their business and yield better income when properly used over a period. Although AI technology use to some SMBs is so challenging, they have been able to devise measures in overcoming them and using the same technology to their advantage on many occasions. Using AI, the relevant stakeholders and importantly the government can assist the business owners on the new technology AI, can be used to improve their business and for the growth of the State in the long run.

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