



Navigating the Digital Landscape: Challenges and Opportunities for Online Businesses in the Upper East Region of Ghana

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

This paper delves into the transformative impact of technology on human activities, particularly the digitisation of major and basic tasks. The business landscape has not been immune to this revolution, with traditional methods giving way to digitalisation, commonly referred to as online or electronic business (e-business). Defined as any business activity conducted over the internet, e-business offers numerous benefits, such as global reach and geographical flexibility. However, it is not without its drawbacks, with online fraud undermining customer trust and infrastructure costs posing challenges. In the Upper East Region (UER) of Ghana, some entities have transitioned their

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operations entirely online, while others employ a click-and-mortar approach, operating both online and offline. This study employs a quantitative survey design, using an online questionnaire to investigate and understand the challenges and opportunities faced by online businesses in the UER. The research, based on a sample of fifty-two (52) businesses, identifies a lack of digital skills and high data costs as the primary challenges. Significantly, the study reveals untapped potential in the agricultural sector for online business in the UER. The findings not only outline these challenges and opportunities but also propose strategies to address the former and sustain the latter, offering valuable insights for businesses navigating the evolving digital landscape in the UER.

Keywords: Upper east region; online business; e-business; online business challenges; opportunities.

1. INTRODUCTION

In the contemporary era, technology has transcended geographical boundaries, permeating diverse systems and structures [1]. This infiltration has catalysed a profound transformation in virtually every facet of human pursuits, including the conventional modes of conducting business. The paradigm shift towards digitalisation has facilitated a substantial migration of business transactions to the online realm, enabling individuals, organisations, institutions, and governments to engage in e-commerce [2]. Electronic commerce encompasses the buying and selling of products or services over the internet by individuals or organisations. Other manifestations of online business include affiliate marketing, wherein individuals earn commissions by recommending products or services, blogging as a platform for sharing experiences and expertise, freelancing involving the provision of skills for remuneration, and online consulting, wherein expertise in a specific domain is shared for a consultation fee [3].

The pervasive influence of online business extends globally, encompassing regions such as the Upper East Region (UER) of Ghana. The advent of online business has reshaped the business landscape, offering advantages such as ubiquity, which allows products and services to be accessible from any location at any time; ease of setup, eliminating the need for physical spaces; and global reach, transcending national boundaries. While online business presents numerous benefits, it also harbours certain drawbacks, including concerns about client privacy exposure, online fraud risks leading to the theft of customer credit card details by cybercriminals, and vulnerability to cyber-attacks or internet fluctuations [4].

The escalating prominence of online business in the UER signifies a noteworthy development

warranting comprehensive investigation [5]. Despite the opportunities it presents, this phenomenon is not devoid of challenges. Issues such as limited access to digital skills, exorbitant costs of internet data usage, and customer distrust in online transactions due to fears of online fraud pose significant hurdles. This paper aims to scrutinise and comprehend the challenges faced by online businesses in the UER, identify and delineate the opportunities within the region, and proffer effective strategies for overcoming challenges and leveraging opportunities. The subsequent sections explore relevant literature, elucidate the research methodology, present and discuss the results, and conclude with recommendations.

2. LITERATURE REVIEW

The literature review delineates existing knowledge on online businesses, emphasising the challenges and opportunities encountered in various contexts. Previous studies have predominantly focused on the adoption of e-commerce within small and medium-sized enterprises (SMEs) in Ghana. Boateng et al. [6] investigated the state of e-commerce adoption in Ghanaian SMEs, revealing factors influencing the decision to embrace e-commerce and identifying challenges like high internet traffic and operational costs. Sarfo and Song [7] explored e-commerce adoption's potential for economic growth in Ghanaian SMEs, emphasising the role of point-of-sale (POS) machines in enhancing offline cashless trading. Boachie [8] underscored the importance of e-commerce for SMEs in Ghana, citing barriers related to financial, legal, and physical infrastructures. Kwadwo et al. [9] focused on barriers to e-commerce adoption in Ghana, highlighting financial constraints as a major impediment. Iddris [10] examined the low adoption of e-commerce solutions by SMEs in Ghana, identifying obstacles such as a lack of technical skills, security concerns, and high upfront costs.

Beyond the national scope, Nair [11] delved into the global impact of e-commerce, highlighting its role in business expansion, job creation, and transformation of goods distribution. Gáti and Markos-Kujbus [12] explored the impact of social media on marketing communication, emphasising its role in online strategy building and the need for companies to integrate social media tools into their marketing strategies.

Analysis and Identification of research gaps:

The thematic review of existing literature underscores the significance of understanding challenges and opportunities in online businesses. However, the reviewed studies primarily focus on e-commerce adoption in SMEs at a national or global level. There is a clear gap in research specifically investigating the challenges and opportunities unique to online businesses in the UER of Ghana. A more localised, sector-specific, and interdisciplinary approach is imperative to comprehensively understand the socio-economic and cultural factors influencing online businesses in this region. Additionally, the literature reviewed lacks an in-depth exploration of the role of government policies in promoting online businesses, necessitating further investigation into regional policies' influence on online business development [13].

3. METHODOLOGY

The research design adopted a descriptive survey approach, targeting business owners engaged in online or e-commerce activities in the Upper East Region (UER) of Ghana. The entire UER, which comprised fifteen districts and diverse business establishments, served as the study area. Stratified random sampling was employed to ensure representation across industry sectors, and a total of 52 respondents participated in the study through an online questionnaire. The UER, situated in northern Ghana, spanned 8842 square kilometres, bordered by Togo to the east, the Upper West region to the west, the Northeast region to the south, and Burkina Faso to the north. The region had a population of 1,301,226, with 74.6% residing in rural areas and a literacy rate of 48.1%. The economy of the region heavily relied on agriculture (Ghana Statistics, 2021; Selorm et al., 2022).

For population and sample selection, businesses operating within the UER were considered. Using a descriptive survey design, a stratified random

sampling method categorised businesses by industry sectors, ensuring a diverse representation in the sample. A total of 52 respondents were selected to maintain research feasibility and offer a reasonable representation of online businesses in the region.

Primary data was collected through an online questionnaire created using Google Forms. The questionnaire underwent verification processes to ensure correctness before deployment. The decision to use an online format was driven by its cost-effectiveness, efficiency, and the ability to reach a geographically dispersed sample. The questionnaire covered demographic information and inquiries about online business implementation, challenges, and opportunities. The study relied solely on data directly provided by respondents, who were business owners or individuals engaged in online business activities within the UER. No external data sources or databases were utilized.

The collected survey responses were downloaded from the Google Forms platform, cleaned, analysed, and visualised using the Python programming language. The Pandas library facilitated data manipulation and analysis, loading data into a Data Frame for processing. Matplotlib was employed for data visualization, generating charts for easy interpretation. The analysis focused on the objectives outlined in the introductory section.

Ethical practices were considered in the study. These included securing informed consent, maintaining participant confidentiality, and ensuring transparent data analysis. Participants were fully informed, and data was securely handled, with analysis conducted impartially. Rigorous ethical standards underpinned every aspect of the research, prioritising participant well-being and the integrity of quantitative findings in understanding the online business landscape of the region. This methodology ensured comprehensive data collection and analysis, providing valuable insights into the landscape of online businesses in the UER.

4. RESULTS AND DISCUSSION

Quantitative analysis of the collected data involved Python programming language and the pandas library for data manipulation and analysis. Matplotlib was used for data visualisation. This section presents the results

followed by analysis and discussion of challenges and opportunities faced by online businesses in the UER of Ghana.

4.1 Results

Fig. 1 – Fig. 13 present the results of the survey. Fig. 1 shows the gender distribution of the respondents, with 67.3% male and 32.7% female. This shows that more men responded to the questionnaire than women. The question about age had four options 15 – 25, 26- 40, 41 – 55, and 66 – 80.

Fig. 2 shows that more than 69% of the respondents fell between the ages of 26 and 40, while more than 30% of the respondents were in the 41 to 55 age range. The latter two groups (15–25 and 66–80) received no responses.

Fig. 3 shows that over 42% of the respondents are government employees of different kinds. Over 34% the respondents indicated to be self-employed, over 21% of the respondents are students. Over 1% of the respondents indicated they were employed.

Fig. 4 displays the location distribution of respondents. Over 26% respondents were from Navrongo, over 23% respondents were from Tongo, over 11% of the respondents were from Paga, and over 9% of the respondents were from Zorko. These are the locations that host majority of the respondents.

In terms of online business adoption, majority of the respondents who either owns a business or works for a business have adopted one kind of online business or the other as shown in Fig 5.

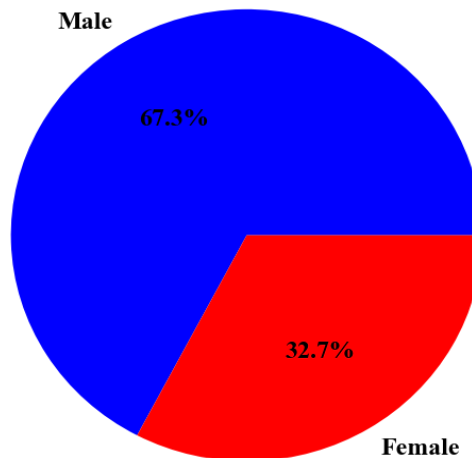


Fig. 1. Gender distribution

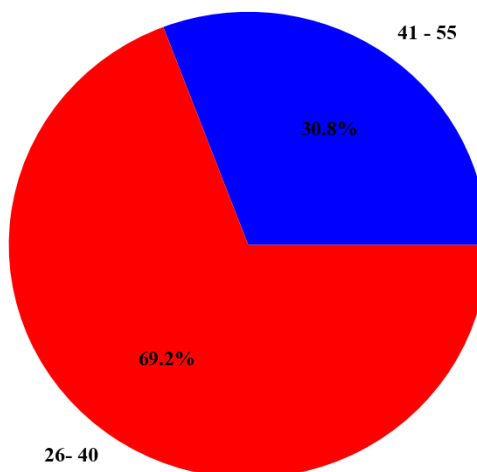


Fig. 2. Age distribution

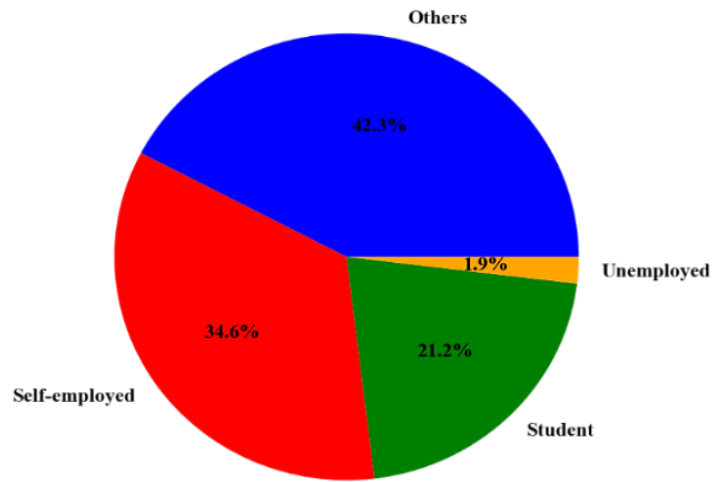


Fig. 3. Employment status

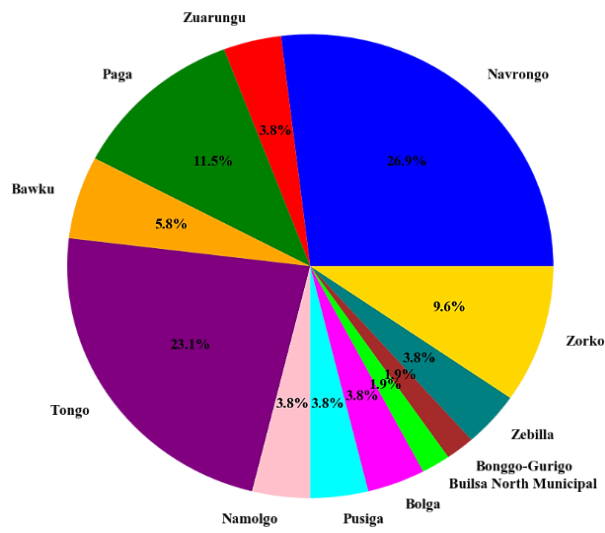


Fig. 4. Location

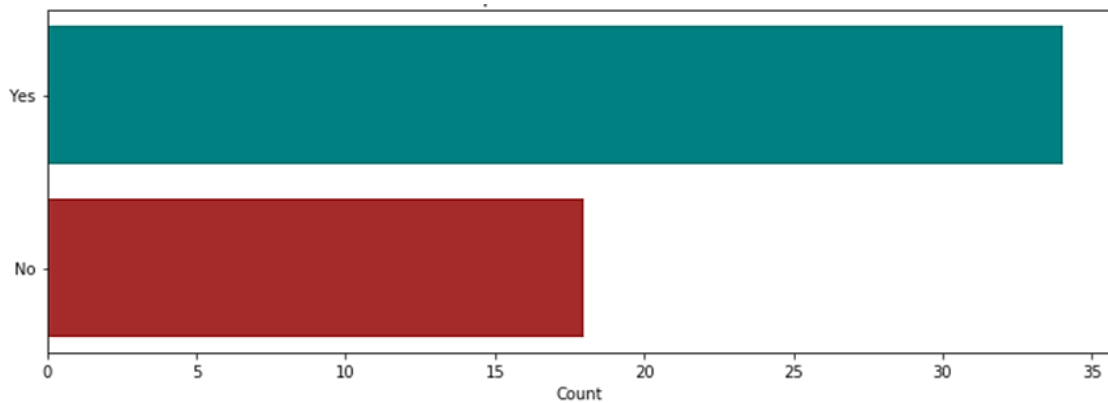


Fig. 5. Online business adoption

Fig. 6 shows that Over 21% of the respondents who did not adopt online business indicated that Lack of digital skills is the major reason for not adopting online business. Next is High data cost with over 19% of the responses, competition from established online business which has over 14%, is one of the reasons for not adopting online businesses.

Fig. 7 shows that out of the respondents who adopted online business, over 38% are still new in the online business while over 32% have been involved in online business of any kind for over 10 months. Over 17% indicated that they have been involved with online business between 8 to 10 months. In summary, majority of the respondents, 61.5% have been involved in online business.

Fig. 8 shows that majority of the respondents who adopted online business are into digital agency which has 20% of the responses, followed by digital product that has over 18% and e-commerce stores with over 17%. Also freelancing, online advertising, affiliate marketing had 12% 13% and 9% respectively.

The respondents who adopted the online business were asked to indicate the main challenges they face. Fig. 9 shows that lack of digital skill has the highest score of 28.23%. followed by high data costs 26.61%, and limited internet access 21.77%. The respondents who adopted the online business were also asked to select or indicate the perceived or known impact of the limitations on businesses.

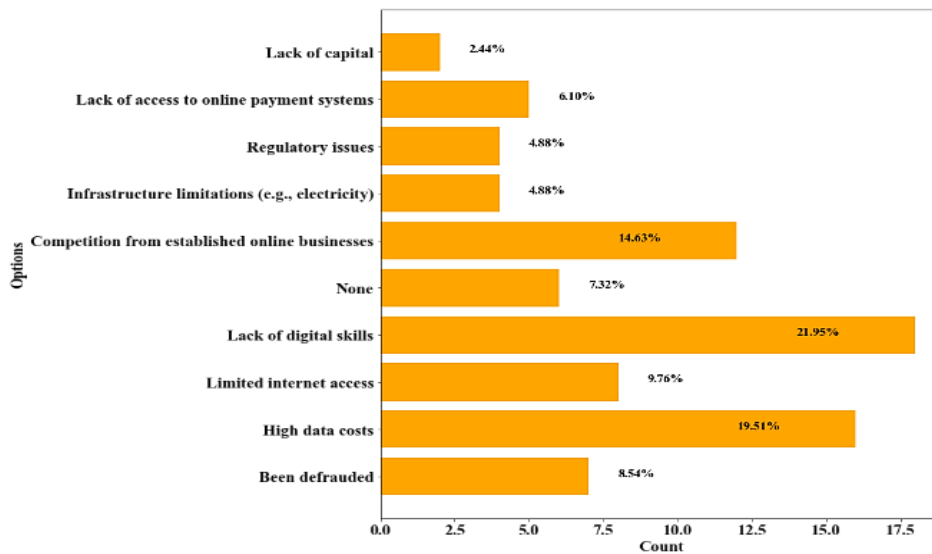


Fig. 6. Reasons for adopting online business

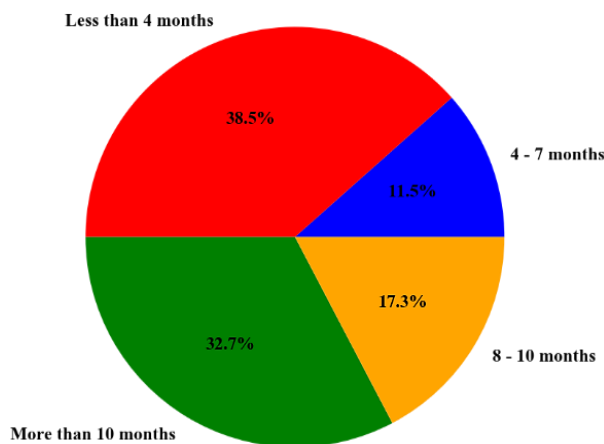


Fig. 7. Duration of online business

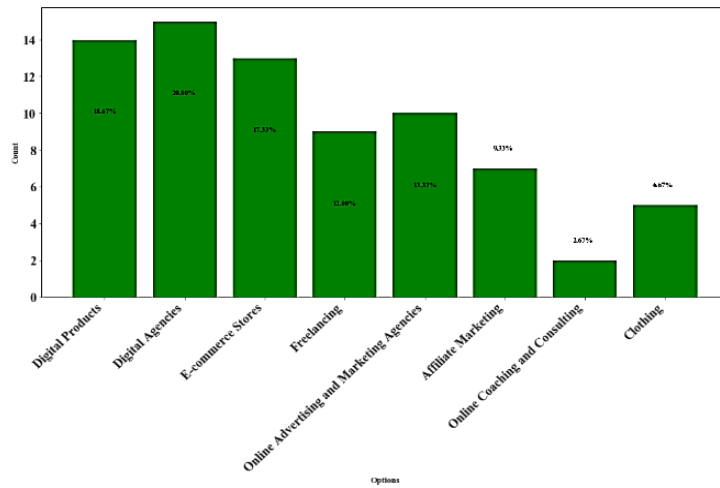


Fig. 8. Types of online business

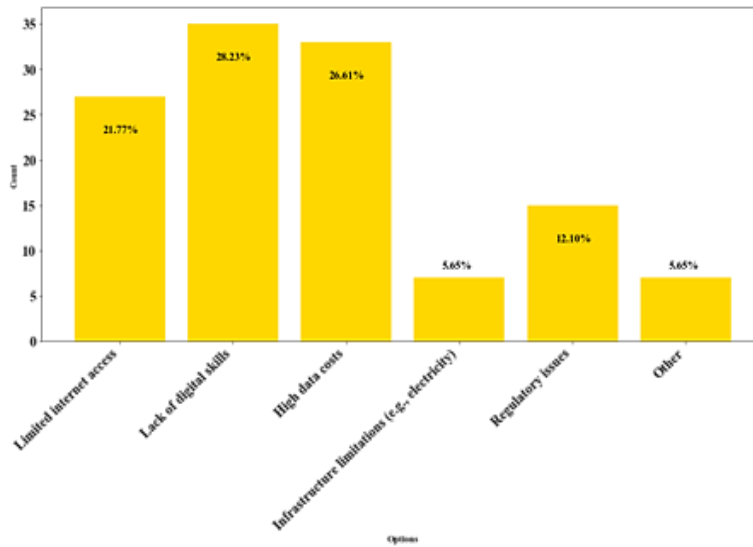


Fig. 9. Main challenges of online business

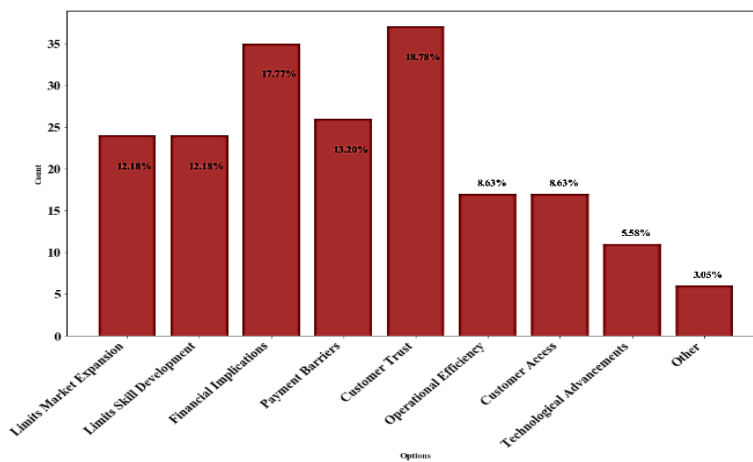


Fig. 10. Impact of challenges on business

Fig. 10 shows that customer trust is most impacted with 18.78%, followed by financial implication 17.77%, limited market expansion and limits skill development had 12.18% respectively.

The respondents were again asked to indicate the opportunities on online business in UER. Majority of the respondents indicated that there is much opportunity in the agribusiness with over 19%, followed by online education and training 15.79%, digital marketing services and e-commerce with 14.35% respectively as shown in Fig. 11.

The respondents were asked to indicate sector or niches which they believed the potentials have not been tapped. Fig. 12 reveals that most of the respondents suggested that the agricultural sector is largely untapped with 29.93%. This is followed by Health care, education, tourism which had 19.73%, 19.73%, and 19.05% respectively.

Fig. 13 shows respondents' choices regarding government and stakeholder's intervention. To improve internet infrastructure had 23.68%, followed by reduction in data cost 21.05% and provide digital skills training 18.42%.

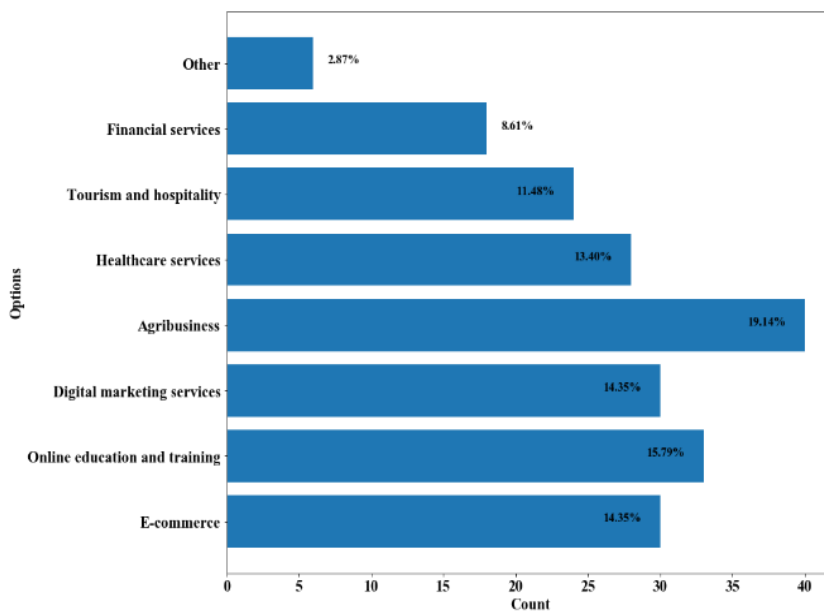


Fig. 11. Opportunities in online business

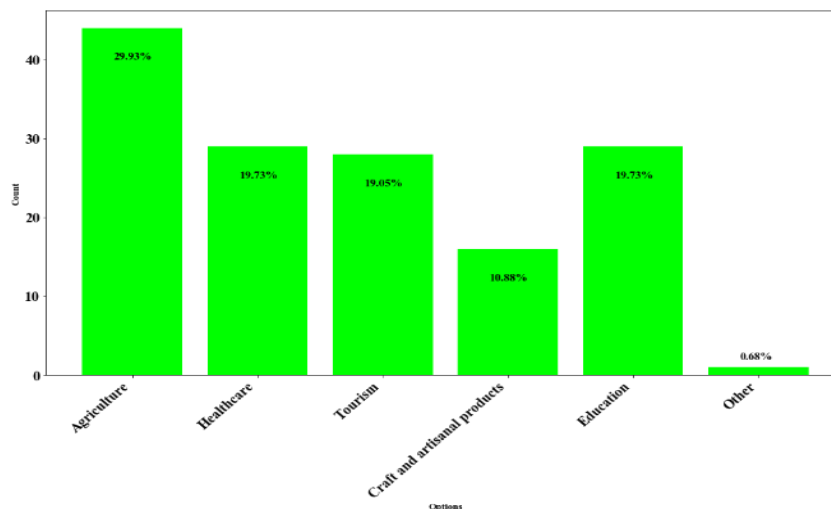


Fig. 12. Untapped sectors in online



Fig. 13. Government and stakeholder's intervention.

4.2 Discussion

The observed higher response rate from males suggests a potential gender disparity in online business engagement within the region. This finding resonates with the outcomes of a prior study [6], underscoring the influential role of gender in the adoption of e-commerce. A more in-depth exploration of this gender gap in the local online business landscape could yield valuable insights for policymakers and stakeholders. Notably, the majority of respondents falling within the 26-40 age group indicates active participation in online business during prime years. This age distribution aligns with established literature [6], emphasising the significance of age in digital entrepreneurship and reflecting the global trend of younger entrepreneurs engaging in online ventures.

The substantial number of respondents involved in online businesses indicates a burgeoning interest in digital entrepreneurship within the region. Key barriers such as "Lack of digital skills" and "High data costs" echo challenges identified in previous studies [9], reflecting the hurdles faced by small and medium enterprises in Ghana when adopting e-commerce practices. Addressing these challenges is imperative for fostering sustainable online business growth in the UER of Ghana, emphasising the need for interventions that enhance digital literacy and reduce the cost barriers associated with internet usage.

The varying durations of online business engagement among respondents underscore the

evolving nature of digital entrepreneurship in the UER, aligning with findings from a previous study [9]. This variability indicates a gradual adoption process, mirroring the challenges faced by small and medium enterprises in Ghana due to financial barriers and technical issues.

The impact on "Customer trust" signals a need for trust-building measures, while the financial implications underscore the necessity for cost-effective strategies. These consequences align with observations made by Gáti and Markos-Kujbus [12] regarding the influence of challenges on marketing communication and business performance. Implementing trust-building measures and adopting cost-effective strategies are crucial for mitigating these impacts and promoting sustainable online business growth.

Perceived opportunities for online businesses in the region include Agribusiness, online education, digital marketing, and e-commerce. The agricultural sector is perceived as largely untapped, offering significant potential for growth. Additionally, healthcare, education, and tourism sectors present promising opportunities for online business expansion. Respondents prioritise improving internet infrastructure, reducing data costs, and providing digital skills training as essential interventions to facilitate online business growth.

5. CONCLUSION AND RECOMMENDATION

This section summarise the main findings and gives recommendations for addressing the identified challenges.

5.1 Conclusion

In conclusion, this study affirms the significant presence of online business in the region. However, substantial barriers, notably the lack of digital skills and high data costs, hinder the full adoption and realisation of online business opportunities. The findings highlight the agricultural sector as having untapped potential for online business growth, along with promising prospects in healthcare, education, and tourism.

5.2 Recommendation

Addressing the identified challenges requires concerted efforts from government, individuals, and stakeholders. Key recommendations include:

- 1. Digital Skills Training:** Collaboration among relevant stakeholders to provide accessible and affordable digital skills training programs, empowering individuals and businesses with essential digital competencies.
- 2. Infrastructure Development:** Collaborative efforts to improve internet infrastructure in the region, reducing connectivity issues and lowering data costs.
- 3. Agribusiness Support:** Encouraging investment and innovation in the agricultural sector by providing incentives, financial support, and digital platforms to connect farmers with markets and customers.
- 4. Tourism and Healthcare Initiatives:** Exploring initiatives that leverage online business models to promote tourism and healthcare services, capitalising on the region's unique offerings.

In summary, this study underscores the challenges and opportunities of online businesses in the UER of Ghana. It reveals untapped sectors with vast potential for online business and critical barriers hindering adoption. Implementation of the recommended interventions can unlock the region's digital entrepreneurship potential, driving economic development and creating a more inclusive online business ecosystem.

CONSENT

As per international standards or university standards, respondents' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standards or university standards written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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