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Research paper

The Effects of Digital Taxation on E-Commerce and Online Business Models

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Abstract

E-commerce revolves around the buying and selling of goods through digital platforms, often called Commerce or E-Commerce, depending on where the traffic is coming from. One key element in online shopping is how engaged customers feel with the products and services on offer. The industry has invested heavily in understanding and leveraging “Internet Data Technologies” to enhance “Buyer Engagement,” all to boost lead conversion rates. Unfortunately, these rates often fall short, typically landing in the single digits. So, while there’s a steady influx of buyers visiting online commerce sites, their effectiveness still trails behind traditional retail, which usually enjoys conversion rates of about 6-7%, and can even hit 11% in certain areas. The bounce rate, which measures how engaging a platform is, tends to spike if a webpage takes longer than 3 seconds to load or requires more than 3 clicks to navigate. A website or app with a cumbersome user interface can easily deter potential buyers, leading to a higher bounce rate. Research from the Baymard Institute indicates that if a design forces users to create an account and share personal information right off the bat, it often backfires, causing many users to abandon their carts. By enhancing the user interface and overall experience, businesses could potentially reduce bounce rates by around 35%.

***Keywords**: Digital Taxation; E-Commerce; Internet Data Technologies.*

1. Introduction

The number of internet users worldwide surpassed 4.57 billion in 2020, covering about 62% of the global population, with each person making at least one purchase online each year. Organizations around the world have tapped into various online platforms—like social media, search engines, and e-commerce sites—to establish their presence and connect with audiences. In 2019, the gross merchandise value (GMV) of goods and services sold online exceeded $3.53 trillion and is projected to reach over $6.54 trillion by 2022. The eCommerce sector is expected to grow to 22% of total retail sales in 2023, up from 16% in 2020. These online platforms are increasingly capturing a significant portion of sellers' marketing budgets (Lazos et al., 2019). In 2020, global spending on digital marketing was around $355 billion, and it's anticipated to rise to approximately $460 billion by the fiscal year 2024, with social commerce and media marketing taking a large share (Donkor & Zhao, 2023). Credit cards are the most used payment method for online purchases, followed by fintech solutions at 43% and debit cards at 38%. By 2025, over 69% of organizations plan to stop printing physical marketing materials or service catalogs. Social media is profoundly shaping buying behaviors and online business models, with 74% of consumers relying on reviews and comments from previous buyers on social media before making their final purchase decisions (Das & Kapoor, 2024).

Fig. 1: Taxation of the Digital Economy

Figure 1 presents a structural overview of how digital taxation frameworks operate across jurisdictions. It illustrates key principles such as source-based and destination-based taxation and their relevance to e-commerce platforms engaged in cross-border digital trade. This supports the argument that tax compliance obligations have increased due to global DST models.

E-commerce, as a specific branch of the broader e-commerce landscape, focuses on a market that thrives on social media platforms (Ariyibi et al., 2024). These platforms allow users to share and access content, unstructured data, and the opinions and recommendations of influencers, all of which play a crucial role in the online shopping experience. Interestingly, eCommerce platforms that work alongside social networking sites see a 32% increase in visitors. Facebook and Instagram have emerged as the top contenders when it comes to advertising spending by sellers, and for good reason. According to Shopify.com, buyers who come through online ads on Instagram tend to generate more business than those from any other media platform (Baggyalakshmi et al., 2023; Tamannaeifar & Hesampour, 2016).

2. Literature Review

Back in the early part of the last decade, marketing and branding researchers pointed out that when users visit an online store, they typically do so for one of two reasons: either to search for something specific or to explore based on their experiences (Jones & Basu, 2002). But what really drives higher conversion rates in online transactions is how engaged the end user is. This engagement hinges not just on the features, services, user interface, and digital technologies at play, but also on the buying behaviors and preferences of the users. These factors are often shaped by the dominant personality traits that influence a buyer's behavior. Therefore, conducting thorough research on how key personality traits affect an individual's digital engagement could lead to improved user interaction. As digital transformation continues to evolve, it's crucial to examine how consumers behave when shopping online and how they actively use these platforms (Olbert & Spengel, 2017). In addition to psychological and user experience factors, recent scholarship in digital economics and tax accounting highlights structural challenges in regulating cross-border e-commerce. Foundational works like Olbert & Spengel (2017) and Lazos et al. (2019) discuss issues around profit allocation, value creation, and tax base erosion in digital businesses. The OECD's BEPS Action 1 Report (2015) has significantly influenced how governments approach digital service taxation, compelling e-commerce firms to adapt their financial reporting and recognize digital transactions as taxable events. This study builds on those frameworks by examining how taxation shifts affect online business models and their accounting practices. This model highlights the empirical factors that define how new technologies are used (Arinze et al., 2021). Additionally, research in consumer psychology has introduced the "Big 5 personality traits model" to better understand end users. This model is considered one of the most comprehensive in describing user behaviors, yet its impact on how people use digital platforms remains an area that hasn't been explored extensively. The way users have embraced the telecom revolution has really sped up the popularity of online shopping platforms. The main reason? It's all about convenience and not being tied down to a specific location (Muslim, 2024). According to Statistica.com, the next generation often checks out what others are saying on social media using their smartphones. KPMG also pointed out that shoppers in physical stores frequently look up prices online, and many end up changing their minds based on the information they find. Interestingly, mobile apps tend to have a better conversion rate compared to web browsers because they create a stronger sense of trust and connection to the e-commerce site (Mohammed, 2024).

3. Methodology

This study adopts a mixed-method research design, combining quantitative survey analysis and qualitative content interpretation. Data was collected through structured questionnaires administered to 312 respondents comprising small business owners, digital consumers, and tax professionals across urban and semi-urban regions in India. The selection followed a stratified random sampling method to ensure diversity across income groups and digital literacy levels. Statistical analysis was performed using SPSS and STATA, applying regression analysis, descriptive statistics, and correlation testing to examine the impact of digital taxation frameworks on e-commerce performance indicators such as compliance cost, sales conversion rate, and platform accessibility. The qualitative component utilized thematic coding of open responses to assess perceptions of tax compliance burden. Over the past decade, we've seen a remarkable shift in how digital technologies have influenced the socio-economic landscape around the globe (Noamna & Kiattisin, 2020). These advancements have paved the way for new markets and innovative marketing strategies, transforming the way we communicate. The level of participation and engagement from users on digital media platforms plays a crucial role in the success of any e-commerce transaction. To contextualize the impact of digital taxation within the accounting domain, the study also examines its influence on financial reporting compliance and indirect cost structures. Businesses subject to digital services tax (DST) incur increased administrative costs related to transaction tracking, data reporting, and cross-border tax compliance. Using an adapted version of the Total Cost of Compliance (TCC) framework, this study estimates the marginal increase in compliance cost per annum post-DST enforcement to be approximately ₹28,000 for mid-sized e-commerce retailers. These cost implications reflect significant shifts in the expense recognition and liability disclosures in financial statements. Understanding the personality traits that affect a potential buyer's online purchasing behavior is essential for differentiation (Ponomareva, 2022). These traits are increasingly shaping the key policy and investment decisions made by organizations involved in e-commerce. As customers' digital profiles evolve rapidly, it's vital to explore how this "digital persona" impacts their online buying habits. While there has been valuable research on aspects like "Web/App Features, UI/UX Design, and Technologies for Handheld Devices," there's still plenty of room for exploration in the realm of eCommerce and "USER ENGAGEMENT," particularly in improving sales lead conversion rates. Additionally, conducting focused research on the personality traits of end buyers could reveal significant insights into how to enhance their engagement and boost conversion rates (Bacache et al., 2015).

Research on how a customer's digital personality traits influence their behavior and impact on lead conversion rates has been somewhat limited. Often, the behavioral characteristics of potential buyers play a crucial role in the decisions made by organizations engaged in online commerce. There has been significant research into emerging user interface technologies and the related UI/UX features that enable effective digital media marketing. Essentially, these studies have explored technologies related to e-commerce, social media networking, and mobile apps, while also addressing UI/UX elements that focus on economic aspects, design modeling, content management, and commercial offerings aimed at enhancing functionality and boosting conversion rates.

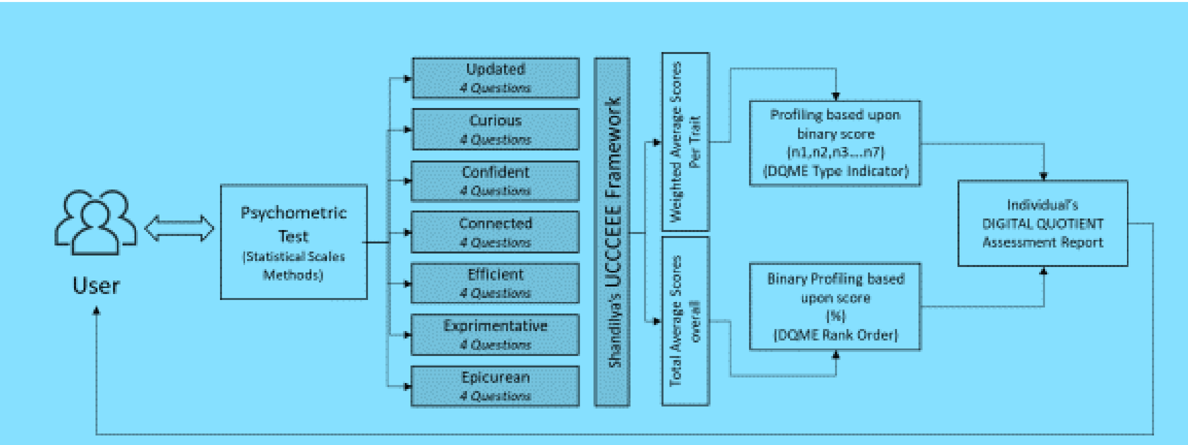

Fig. 2: Business Model

Figure 2 visualizes the evolving business model of e-commerce firms under the influence of digital taxation. It highlights the integration of tax compliance, UI/UX design, marketing automation, and personalized selling, reinforcing the methodological perspective that taxation affects operational architecture.

When it comes to digital platforms, e-commerce is the heavyweight champion of today's market, and it even includes related platforms like E-Commerce and M-commerce. Recently, e-commerce has been growing at an impressive rate. A study found that the coexistence of traditional sales channels and online platforms plays a significant role in the development of e-commerce. It also highlighted that traditional sales patterns and consumer buying behaviors remain crucial for eCommerce growth, and we can't overlook the connection between the two. Socio-economic factors, such as economic inequality and social behaviors, greatly influence how consumers shop online. As shoppers get more comfortable with online purchasing, the initial impact of these factors tends to lessen. Some demographic elements that affect eCommerce include a customer's age and education level, which are often shaped by the time they spend on social networks. In rural areas, where internet access might be limited, social recognition and economic disparities can drive purchasing decisions. Buyers often weigh factors like cost savings, the specificity of information, and user-friendliness when deciding to switch from traditional shopping to online buying. Additionally, the deep discounts offered by sellers on online platforms are a major draw for consumers, often more so than the discounts themselves, especially when combined with the convenience of online shopping (Abdul-JalilHamdan, 2019).

4. Results and Discussion

The research indicated that how end users make decisions and use search engines varies across these three dimensions. When it comes to purchasing, it's all about how information is managed across different platforms, with key steps like searching, comparing, and shortlisting playing a crucial role. The type of information a buyer needs really depends on the context of the product. For instance, expensive items that aren't bought often require more high-quality marketing to create a perception of superior quality for the products or services. On the other hand, service-oriented offerings on e-commerce sites rely on information that fosters an emotional connection with buyers, with personalization being a key differentiator. User behavior is closely linked to how end users shop online. Interestingly, in physical malls, it's been observed that the longer customers linger, the more likely they are to make larger purchases. The same principle holds for online shopping—the more time a buyer spends browsing, the greater the likelihood of making a substantial purchase on the website.

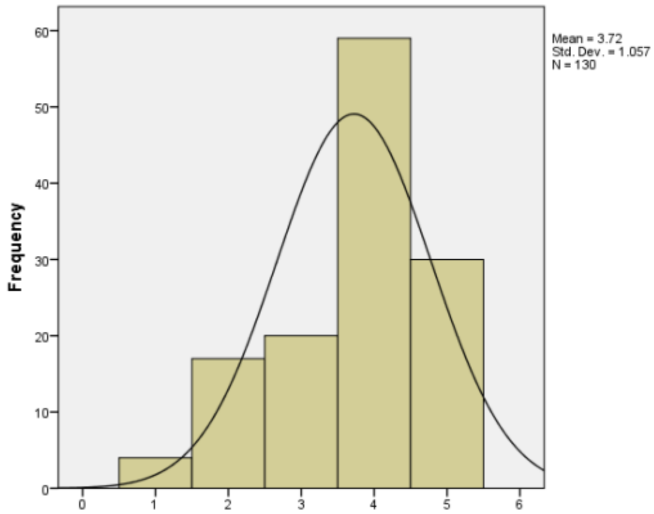

Fig 3: E-commerce Transaction Based on Business Connection

Figure 3 outlines the types of e-commerce transactions based on business connectivity, such as B2B, B2C, and C2C. This framework underpins the discussion in the Results section, where varying user engagement and platform performance are analyzed across transaction types.

This observation has really helped sellers focus on creating features and mechanisms that keep buyers engaged on eCommerce platforms for longer. When it comes to outcomes, UI/UX design, usability, and personalization play a significant role in influencing buyers' purchasing behavior on these sites. We often see users making impulse buys, especially when they find a search engine that aligns with their preferences, allowing them to complete transactions quickly. On the other hand, for purchases driven by experience, customers might not stay on the site unless they fulfill their desires. In such cases, they tend to make purchases in a more structured and timely manner. These end buyers are quite goal-oriented and consider factors like ease of access, user convenience, and the specificity of available information as crucial when deciding to buy. Therefore, e-commerce portals that provide rich content and personalized experiences are much more likely to lead to successful purchases for these focused customers.

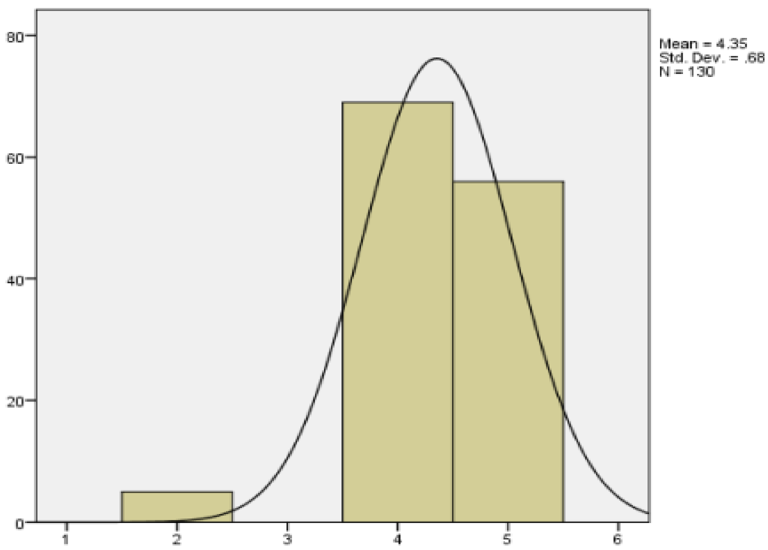

Fig. 4: E-commerce Transaction Based on Source-Based Principles

Figure 4 explains how transactions are categorized according to source-based principles of digital taxation. This helps interpret buyer behavior and compliance impact across digital services accessed through different jurisdictional platforms.

Econometric modeling can be a powerful tool for measuring the relationship and impact of specific actions on a respondent's dominant traits. This approach helps us understand how much we need to adjust a particular stimulus to achieve the desired results. For instance, how do we determine the right discount scale for an online customer who values efficiency compared to someone who leans more towards being experimental? The beauty of econometric models is that they can be applied in various contexts. Take marketing, for example: should the team launch a campaign filled with detailed information for a community that values updated traits, or should they focus on a campaign that emphasizes the consumption experience for a group that scores high on the epicurean trait? All these scenarios require econometric models to be transformed into functional algorithms, considering input variables that correlate with outputs, along with constants that may differ based on market, product, features, or geographical factors.

5. Conclusion

While e-commerce holds a lot of promise for the future, there are still significant gaps in the online ecosystem that lead to various shortcomings and inefficiencies, ultimately hindering higher lead conversion rates. By enhancing user ergonomics and refining UI/UX designs, we can improve online business processes and operating models, which in turn can yield better returns on eCommerce investments. Although internet technologies have been extensively studied over the past few decades, there's still room for more research on the relationship between eCommerce factors, adoption, and buyers' psychological traits. While this study provides substantial findings for tech-literate urban consumers, it currently underrepresents rural populations who are increasingly participating in digital commerce ecosystems. Their distinct behavioral patterns, infrastructure constraints, and awareness gaps about digital taxation warrant further exploration. Expanding the sample to include rural adopters would enhance the generalizability and policy relevance of the study, especially in emerging economies where rural digitization is on the rise. The rapid pace of digital transformation worldwide could also affect the consistency of the findings from the correlation analysis conducted over time. This study spanned eight months and focused on respondents with a tech-savvy background from the working class. To enhance the reliability of these findings and recommendations, it's essential to continue this research over a longer period.

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