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Research Article

Social Commerce Approbation and Sustainability: An Empirical Evidence from Generation Z

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ABSTRACT

The United Nations and the African Union have expressed its intention to harness the capabilities of social commerce (s-commerce) as a means to promote trade in accordance with Sustainable Development Agenda. S-commerce sustainability is linked to attainment of Ten out of the Seventeen Sustainable Development Goals. Despite its relevance very little studies have been conducted on s-commerce Approbation and sustainability with a focus on generation z in lower-middle income country context. It is against this backdrop that the current paper aims do develop a baseline structural model to encourage the Approbation and sustainability of s-commerce from the perspective of generation z by extending Technology Organization Environment (TOE) with Social Capital Theory, and Technology Acceptance Model (TAM). The paper utilizes quantitative research approach, explanatory design, and a survey - based questionnaire. Our hypotheses have been tested using Smart Partial Least Square (Smart-PLS) version 3.8.9 and Structural Equation Modelling (SEM) techniques. Our indicative results have showed that the dimensions of TOE (Technological, Organizational, and Environmental), dimensions of TAM (Perceived Ease of Use, and Perceived Usefulness), and social trust significantly affect s-commerce Approbation. Moreover, the s-commerce Approbation mediates the relationship between its determinants and sustainability performance of small business. These results have implications on policymakers, practitioners, and academicians in fostering the creation of respectable employment opportunities, facilitating productive endeavors, nurturing entrepreneurial spirit, fostering innovation, and cultivating creativity, all in the pursuit of business sustainability. Again, the newly built model could be used to encourage the Approbation and sustainability of s-commerce from the perspective of generation z in lower middle countries where such studies largely remain fuzzy.

Keywords: Social Commerce and Small Business, Sustainability, TOE Model, Generation Z, Social Capital Theory.

INTRODUCTION

Based on a recent report conducted by Statista (Hamid et al., 2016; Tugba, 2020), it was found that social commerce sales in the United States amounted to US$22 billion. This figure subsequently increased to US$29.3 billion and is projected to further rise to US$84.2 billion by the year 2024. According to a poll conducted by Duong (2020), the global number of active social media users exceeded 3.6 billion in 2020 and is projected to reach 4.41 billion by 2025. Social commerce provides a multitude of advantages for businesses, including enhanced customer interaction, streamlined electronic payment processes, heightened convenience, and increased website traffic. The defining characteristic of social commerce is the incorporation of a social element into the purchase experience. Buyers have the ability to engage in interactions and share their experiences within their social network, enabling them to make fast purchases irrespective of geographical constraints (Ozturk et al., 2016; Moslehpour et al., 2018; McLachlan and

Gurr, 2022; Stanley, 2022). Social commerce is undergoing tremendous development, significantly enhancing the online purchasing experience for customers and offering a seamless e-commerce experience via the use of social platforms. Small businesses (SBs) have a significant role in promoting economic competitiveness, contributing to employment, and fostering entrepreneurial advancements. The World Bank reports that small businesses constitute 90% of enterprises globally and account for around 50% of the global workforce (Abdullah et al., 2016; Bank, 2021).

Small businesses play a crucial role in the economic development and socio-cultural advancement of both emerging and established nations. They serve as the fundamental components of a country's economy and serve as the key catalysts for driving growth in Gross Domestic Product (Abdullah et al., 2016; Hamid et al., 2016; Chen and Aklikokou, 2019; Bank, 2021). In the context of Ghana, small companies play a significant role in the country's gross domestic product (GDP), accounting for around 60% of its overall value. Furthermore, a substantial proportion of Ghanaian enterprises, almost 90%, are comprised of small firms, which in turn employ a substantial portion of the country's population, approximately 70%. These statistics are supported by the Ghana Statistical Service (2021) and Appiah et al. (2022). Despite the positive contributions made by SBs, they encounter several problems that often result in the premature cessation of operations for many enterprises. One of the primary issues faced by SBs pertains to the deficiency of digital and digital media resources for reaching out to prospective customers. E-commerce has the potential for worldwide market expansion, reduced trade barriers, enhanced cost-efficiency, increased accessibility, and serves as an advantageous platform for small enterprises to begin operations under adverse circumstances like as the Covid-19 pandemic.

The integration of E-commerce elements with social media, often referred to as social commerce, has been shown to significantly enhance corporate efficiency. The emergence of social commerce has increasingly positioned itself as a crucial platform for enterprises to source products, facilitating their ability to establish connections with consumers and get a competitive edge (UNDP, 2021, 2020; Majumder et al., 2022). So far, there has been a scarcity of empirical research dedicated to examining the sustainability of small businesses. The present research investigates the many elements that influence the Approbation of social commerce by small and medium-sized enterprises. The domain of digital commerce and e-commerce holds significant potential for promoting the establishment of reputable employment prospects, facilitating fruitful undertakings, nurturing entrepreneurial drive, fostering innovation, and cultivating creativity, all with the aim of pursuing sustainable business practices (Gibreel et al., 2018; Esmaeili and Hashemi, 2019).

This paper aims do develop a baseline structural model to encourage the Approbation and sustainability of s-commerce from the perspective of generation z by extending the Technology Organization Environment Model with Social Capital Theory, and Technology Acceptance Model in order to address 10 out of the 17 SDGs. Research on consumer acceptability of technology use poses significant challenges, particularly in the context of embracing novel concepts like social commerce. Therefore, establishing trust among customers is the primary determinant of a successful implementation strategy Malik et al., 2021; for social commerce. Numerous scholars (Fahmi et al., 2019; Pan et al., 2021; Jackle et al., 2022; Toshkov et al., 2022) emphasize that trust plays a crucial role in shaping customers' inclination to engage in online purchasing activities. In addition to trust, several features, including security, safety, privacy, and reputation, play a significant role in promoting the Approbation and use of social commerce. Given the absence of empirical evidence on the role of trust as a crucial determinant of social commerce acceptability, it is imperative for scholars to conduct thorough investigations into its influence on customer acceptance and use of social commerce platforms. This is particularly crucial in distinct business contexts, such as the pastry industry (Abdullah et al., 2016; Hamid et al., 2016; Chen and Aklikokou, 2019; Malik et al., 2021; Majumder et al., 2022).

Among other contributions, this paper argues that despite the relevance of s-commerce, very little studies have been conducted on its Approbation and sustainability with a focus on lower-middle income country context. Another unique contribution of this paper is the fact that this paper focuses on specific target demographic cohort (generation z), which encompasses individuals born between the years 1997 and 2012. Moreover, the current study has developed a baseline structural model to encourage the Approbation and sustainability of s-commerce from the perspective of generation z by extending TOE, with Social Capital Theory, and TAM. In addition, it is important to analyze the mediating influence of s-commerce Approbation on the relationship between its drivers and the sustainability performance. These results have implications on policymakers, practitioners, and academicians in fostering the creation of respectable employment opportunities, facilitating productive endeavors, nurturing entrepreneurial

spirit, fostering innovation, and cultivating creativity, all in the pursuit of business sustainability. Again, the newly built model could be used to encourage the Approbation and sustainability of s-commerce from the perspective of generation z in lower middle countries where such studies largely remain fuzzy. Specifically, the above gaps would be guided by addressing the following research questions:

- *RO1: What are the determinants of s-commerce Approbation from the perspective of generation z?*
- *RO2: What is the mediating role of s-commerce Approbation on the relationship between its determinants and sustainability of Small business from the perspective of generation z?*

The rest of the paper has been structured as followed: The section two presents the literature review, this is followed by the methodology in section three, the section four presents the results, the section five presents the discussion, the section six presents conclusions, implications and future research.

LITERATURE REVIEW

The main underpinning theory for this paper is TOE framework was first introduced by Tornatzky et al. (1990) as a comprehensive model for understanding the factors that influence the behavioural intentions and execution of innovation inside organizations. One notable advantage of this behaviour model is its ability to consider the influence of many factors, both internal and external, on the decision-making process of adopting a certain behaviour in this paper s-commerce Approbation. These factors are categorized into three contextual groups: technology, organization, and environment. The TOE model is complemented by the TAM. This model proposes that the acceptance of a technology and innovation by prospective users is influenced by two key factors: Perceived usefulness and perceived ease of use (Davis,1989). Also, social trust is another variable adopted from social capital theory. The idea of social capital is primarily grounded on the concepts of trust, norms, and informal networks, positing that social relationships possess inherent value as valuable resources. Social capital is a comprehensive concept that encompasses various dimensions. Moreover, social capital plays a significant role in contributing to both economic and social development (Smith, 2007). Therefore, the paper argues that in addition to TOE model, perceived usefulness, perceived ease of use, and social trust are determinants of s-commerce Approbation as illustrated in the Figure 1.

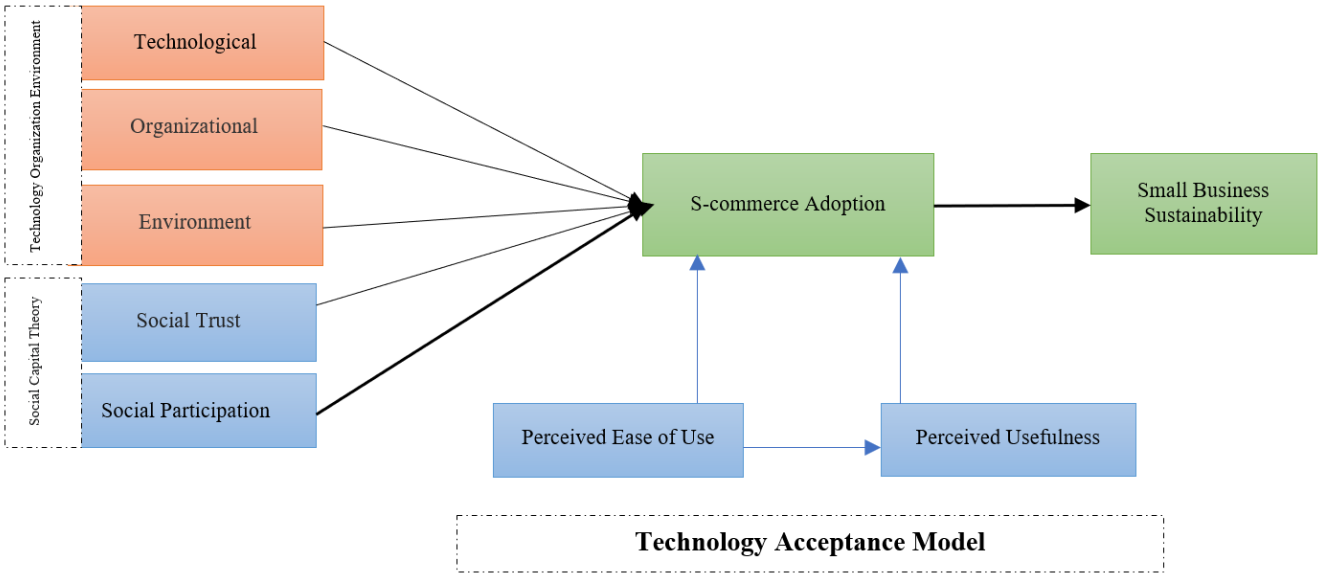

Figure 1: Research Framework

Technology as determinant of S-commerce Approbation

The Approbation of s-commerce is influenced by technology, as shown by the TOE model (Jia et al., 2017; Chen et al., 2019; Malik et al., 2021). The word technology encompasses several attributes inherent to the technology, including its usability, usefulness, complexity, and compatibility with existing systems. Technologies that are relevant to the organization, including both internal and external aspects, are classified as technical. Technology encompasses

both physical instruments and systematic methods. Collins et al. (1988) assert that the technological context covers crucial technologies inside a corporation, including both those now used internally and those accessible in the market but not yet utilized. One of the factors that affects the Approbation of novel technical breakthroughs is technology itself (Baker, 2012; Sila, 2013). The technical framework contains the crucial internal and external technologies used by the organization, which includes its existing internal procedures and equipment, as well as the available external technologies (Oliveira and Martins, 2011). The perceptions of adopters about technical qualities are often known as the technological context. The concept of technology context refers to the internal elements that were taken into account before the implementation of technologies (Lin, 2014). According to Namisiko et al. (2014), the technological context has many critical components, including compatibility, complexity (including usability and learning curve), expectation, performance, and reliability. From the ongoing discussions technological considerations such as usability, usefulness, complexity, and compatibility with existing systems will drive s-commerce Approbation. The study hypothesizes as follow:

H1: Technological factors significantly and positively relate to S-commerce Approbation

Organization as determinant of S-commerce Approbation

The TOE model posits that organizational characteristics have a direct impact on s-commerce, as shown by studies conducted by Leung et al. (2015), Awa et al. (2017), and Malik et al. (2021). The concept of organization refers to the internal context in which technology is used, including factors such as the dimensions of the enterprise, its available resources, cultural attributes, and structural framework. The word organizational pertains to the characteristics and resources of a corporation, including factors such as its scale, degree of formalization and centralization, managerial framework, human capital, amount of surplus assets, and interrelationships among employees. The organizational environment encompasses several aspects of a corporation, including its characteristics and assets. These elements may include staff connection structures, internal communication protocols, firm size, and the number of spare resources (Galbraith, 1973; Tushman & Nadler, 1986). The concept of organization context refers to the identification and examination of several factors that influence an organization, including its size, degree of formalization, level of centralization, complexity of management structure, communication channels, and decision-making processes (Angeles, 2014). The organizational environment encompasses several descriptive features of an organization, including its size, scope, management structure, and available organizational resources. The concept of organizational context" encompasses several elements and resources inside a corporation, including its dimensions, degree of formalization and centralization, managerial framework, human capital, level of available resources, and interrelationships among employees (Li et al., 2010). The concept of organizational context encompasses several elements and resources inside a corporation, such as its degree of formalization, managerial framework, human capital, and interrelationships among employees (Bradford et al., 2014). The organizational environment is the term used to describe the extent to which corporate culture is open to embracing an innovative culture (de Brentani and Kleinschmidt, 2004). From the ongoing it is very clear that organizational factors such as huma resources, leadership, communication protocols, firm size, span of controls are connected to e-commerce Approbation. The study therefore hypothesizes as follow:

H2: Organizational factors significantly and positively relate to S-commerce Approbation

Environment as determinant of S-commerce Approbation

The Approbation of s-commerce is influenced by environmental factors, as shown by the TOE model (Awa et al., 2017; Jia et al., 2017; Chen et al., 2019; Malik et al., 2021). The word environment refers to the external context in which a company conducts its activities. This encompasses several factors such as market conditions, legal obligations, and social and cultural norms. The environmental context encompasses several factors such as the macroeconomic backdrop, regulatory environment, industry size and composition, and competitive landscape (Tornatzky and Fleisher, 1990). The environmental context encompasses several factors, including the industry's structure, the presence or absence of technology service providers, and the regulatory landscape (Mansfield, 1968; Mansfield et al., 1977). The environmental context encompasses several factors such as the macroeconomic backdrop, regulatory environment, industry size and structure, and company rivals (Schmitt et al., 2007). The act of removing barriers to external influences is a component of the environmental context, which refers to the state of being receptive to external factors (Chesbrough, 2003; Fontana, Geuna, & Matt, 2006). The environmental context of an organization is comprised of the many environmental elements that surround it. These features include several

factors associated with stakeholders that might potentially impact an organization's performance, decision-making processes, and overall structure. The stakeholders included in this study comprise of many entities such as supporters, suppliers, customers, the government, society, and competitive forces (Alshaikh et al., 2021). Drawing on the above presentation, the study proposes that:

H3: Environmental factors significantly and positively relate to S-commerce Approbation

Social trust as determinant of S-commerce Approbation

Previous studies have shown that social trust has a significant role in the Approbation of s-commerce (Alalwan et al., 2019; Fahmi et al., 2019; Pan et al., 2021; Jackle et al., 2022; Toshkov et al., 2022). The concept of mutual trust is a fundamental aspect of interpersonal relationships. It refers to the belief and confidence that individuals have in each other Social trust is the term used to describe the extent of people' belief in the moral integrity or reliability of their fellow citizens. Putnam (1993) posits that a significant level of social trust might potentially reduce transaction costs, promote the functioning of democratic governance, mitigate instances of corruption, and enhance overall quality of life. The phenomenon whereby individuals have confidence in the compliance of unfamiliar individuals with societal norms is sometimes referred to as social trust. Social trust refers to the cognitive disposition whereby individuals have a conviction in the inherent moral character and benevolence of their fellow human beings. Social trust refers to the level of confidence individuals have in the honesty, integrity, and reliability of others. Social trust is often recognized as a foundational component that fosters cohesion within society and facilitates cooperation among people. Schilke et al. (2021) define trust as the willingness of an individual or entity (the trustor) to make oneself vulnerable to another individual or entity (the trustee), with the belief that the trustee would prioritize the best interests of the trustor. According to the research conducted by Has and Deseran (1981), trust is influenced by an individual's perception of their own trustworthiness. Social trust refers to the capacity to place confidence in others, even those who are unfamiliar, without expecting immediate reciprocation or trust in return (Putnam, 2000; Whiteley, 2000). Joseph and Shirley (2015) define social trust as the subjective evaluation individuals make of others based on their personal encounters, including those within their immediate social network, such as friends, neighbors, coworkers, and other acquaintances. Huang and Deng (2012) suggest that social trust refers to individuals' confidence in the inherent benevolence of unfamiliar individuals or the prevailing majority within a given community. Based on the narrations herein, the study hypothesizes that:

H4: Social trust significantly and positively relate to S-commerce Approbation

Perceived ease of use as determinant of S-commerce Approbation

The scholarly papers (Abdullah et al., 2016; Hamid et al., 2016; Ozturk et al., 2016; Moslehpour et al., 2018; Chen and Aklikokou, 2019; Malik et al., 2021; Majumder et al., 2022) posit that Perceived Ease of Use (PEU) exhibits a significant association with the Approbation of s-commerce when seen through the lens of the Technology Acceptance Model (TAM). Perceived ease of use refers to the extent to which an individual perceives the use of a certain technology to be easy. The propensity of a person to adopt a technology is positively correlated with their evaluation of the technology's usability. Perceived ease of use, as defined by Davis (1989), refers to the extent to which a user perceives the use of a certain technology to be easy. The effect of perceived ease of use on e-commerce is significant when individuals visit a website for informative reasons (Gefen and Straub, 2000). The study conducted by Moon and Kim (2001) found that individuals' intentions to use the Internet for work-related tasks were influenced by their perception of its utility, which was indicative of their judgment of response effectiveness. This discovery underscores the need of adopting a proactive approach that prioritizes duties and accountabilities. According to Mathieson (1991), the incorporation of control over resources might be seen as a factor influencing the perceived ease of use. According to Mahajan (2010), the concept refers to the degree to which individuals have difficulties in understanding and using the innovation. Huang et al. (2022) conducted a study to examine the associations between potential antecedents and students' perceived ease of using the Internet for educational purposes within the context of higher education in China. The authors argued that the variable of PEU was shown to be notably impacted by computer self-efficacy, perceived pleasure, and students' impression of external control. Based on the narrations herein, the study hypothesizes that:

H5: Perceived ease of Use significantly and positively relate to S-commerce Approbation

H6: Perceived ease of Use significantly and positively relate to perceived usefulness

Perceived usefulness as determinant of S-commerce Approbation

Based on the Technology Acceptance Model (TAM), this research posits that Perceived Usefulness (PU) is significantly associated with the Approbation of Social Commerce (S-commerce). Perceived efficacy refers to the extent to which a person believes that using a particular technology will result in positive outcomes. As demonstrated by Robey (1979), the operationalization of perceived utility was derived from empirical data supporting the impact of system performance expectation on system utilization. Perceived efficacy is the degree to which an individual believes that utilizing a particular system will enhance their work performance. When the primary reason for visiting a website is to make a purchase, the perceived usefulness of the website gains significance. Bandura (1982) defines perceived utility as an individual's subjective evaluation of the extent to which the use of a particular technology improves their performance. The concept of perceived utility refers to the subjective probability as perceived by prospective users, indicating the likelihood that the use of a particular technology would improve the performance of individuals or teams within an organizational context (Malik & Annuar, 2021). According to Xia et al. (2019), the concept of perceived utility is a determinant of continuous use because it influences people's behaviour in multiple situations. According to Denny et al. (2021), the variable of perceived utility must be evaluated or measured using five distinct dimensions: increased productivity, individual benefits, efficacy, accelerated transactions, and activity effectiveness. In a study conducted by Mou et al. (2017), the researchers examined the influence of consumer beliefs, specifically perceived utility (PU), on consumer intentions and behaviours pertaining to e-services. The research centred on both the initial and advanced phases of e-service utilization. The results indicated that perceived efficacy and trust play important roles in consumer Approbation of online health services, both during the initial and subsequent phases of use. Consumers' actual use experiences influence their evaluations of utility and substantiation of their original hypotheses. Based on the narrations herein, the study hypothesizes that:

H7: Perceived Usefulness significantly and positively relate to s-commerce Approbation

Social commerce Approbation as a determinant of Small Business Sustainability

The significance of social commerce in the sustainability of small enterprises is generally acknowledged, as shown by recent research publications (Hajli et al., 2017; Li, 2017; Gibreel et al., 2018; Han et al., 2018; Esmaeili and Hashemi, 2019) and grounded on the concept of social capital. This burgeoning domain of electronic commerce leverages digital media and social networks to facilitate transactions between enterprises and customers. LaFleur (2023) encompasses a range of activities within the realm of product analysis, including research, assessments, reviews, sharing, recommendations, transactions, and loyalty programs. Social media platforms are used within the realm of social commerce for the purpose of promoting and vending various products and services. The whole transaction procedure conducted on social media platforms such as Facebook, Instagram, and the X platform (formerly known as Twitter) is often known as social commerce (Dollarhide, 2022). Social commerce, a subset of electronic commerce (ecommerce), encompasses the act of engaging in shopping activities on social media platforms. The whole process, spanning from doing product research to completing the checkout process, takes place inside the realm of social media platforms (McLachlan & Gurr, 2022; Stanley, 2022). Social commerce refers to the act of directly selling products and services to clients via social networking platforms. Social commerce, a subset of electronic commerce, leverages user-generated content and various online platforms, such as social media and online media, to enable social interactions and enhance the process of buying and selling products and services (Lam et al., 2019). In a study done by Sheikh et al. (2019), the researchers investigated the influence of social commerce conceptions, social support, and relationship quality on individuals' inclinations to engage in social commerce. The aforementioned intents serve as the motivating factors that motivate individuals to use social networking platforms for the purpose of engaging in social commerce. The results of the study illustrate the impact of virtual communities, ratings and reviews, recommendations, and referrals on consumer empowerment and their subsequent intents in the realm of social commerce. The presence of social support did not provide a positive impact on the overall quality of the interaction experienced on the social networking platform. Based on the narrations herein, the study hypothesizes that:

H8: S-commerce Approbation significantly and positively relate to small businesses sustainability

H9: S-commerce Approbation significantly mediates the relationship between its determinants and SBs sustainability

RESEARCH METHODOLOGY

The focus of the Study (Generation Z)

Generation Z, sometimes referred to as Gen Z, comprises individuals born between 1997 and 2012. This cohort is characterized by their status as digital natives, having grown up in an age heavily shaped by the internet, mobile devices, and online networks (Seemiller & Grace, 2017; Miller, 2018; Fitri Ayunu, 2019). Generation Z, the most recent cohort, emerged around the late 1990s and is characterized by their accelerated pace of life, mostly attributable to advancements in technology. The individuals belonging to Generation Z are significantly altering patterns of consumer behaviour. The emergence of these novel elements pertaining to brand loyalty presents a fresh set of challenges for marketers, necessitating a comprehensive reevaluation of their strategies in order to effectively adapt (Dupont, 2015; Grow & Yang, 2018; Francis & Hoefel, 2018; Ismail et al., 2021). Generation Z embodies the emerging challenges and opportunities associated with the continuous evolution of factors influencing the attainment of brand loyalty. The emergence of new trends, digital habits, and buying behaviours has facilitated the influence of Generation Z on the global arena, a trend that is expected to further intensify in the future. Francis and Hoefel (2018) assert that individuals belonging to Generation Z express a desire for the availability of an omnichannel experience. According to Asare (2019), those who have grown up with digital technology anticipate its integration into other aspects of their lives, including the shopping experience. This expectation stems from their familiarity with and reliance on digital tools, which provide advantages such as enhanced efficiency, convenience, and utility. As to the findings of Patel (2017), individuals belonging to Generation Z often use social media platforms for educational objectives, seeing influencers as pedagogues, pioneers of social movements, and exemplars.

Research Philosophy and Approach

This study has embraced the positivist conception of social reality. Hence, the paper asserts the standpoint that observation and the senses, including measurement, are the only dependable means of acquiring true knowledge. The involvement of the researcher in this study is limited to the collection of data and the provision of an impartial assessment. Positivists use the hypothetico-deductive approach to verify a priori ideas, which are often stated in numerical form. This technique enables them to deduce functional connections between outcomes (dependent variables) and causal and explanatory factors (independent variables) (Ponterotto, 2005). The research methodology used in this study is characterized by a quantitative approach, since the primary objective is to collect numerical data that will be analyzed using mathematical approaches, particularly those involving statistical analysis. The study used an explanatory research approach to investigate the causal relationships between variables and their effects. Numerical data were utilized to analyze the factors that impact the Approbation of s-commerce among individuals belonging to Generation Z. For instance, what degree of modification in the independent variables is required to have an impact on the Approbation of s-commerce.

Instruments and Data Collection

In accordance with social capital theory, the survey instrument used in this study included social trust as an additional component to the TOE and TAM measures. The technical, organizational, and environmental components of the TOE Model were modified and implemented, while the perceived utility and perceived ease of use from the TAM Model were included. Additionally, the social trust aspect of the social capital theory was embraced. Several assessments were conducted to support and validate the suitability of the survey questions used in our measuring approach. The survey form consisted of two distinct sections. In the first phase, information pertaining to the respondents' use of social commerce and the sustainability practices of small businesses was collected. The second section of the survey was dedicated to collecting demographic data. Upon conducting a thorough examination of the survey, a group of three esteemed senior academics and three lecturers provided their valuable insights to validate the precision and reliability of the survey questions. The questionnaire questions were enhanced in order to enhance their validity, based on the acquired information. Each question in the study included both beginning and ending points on a five-point Likert scale, with 1 representing severe disagreement and 5 representing strong agreement. In order to gather the necessary data for this inquiry, an online survey was used, using Google Form as the platform. Participants were intentionally recruited using informal communication channels such as word-of-mouth and social media platforms. A summary of the survey is accessible.

Population and sample size

The study sample included individuals who were born in Ghana throughout the period spanning from 1997 to 2012. The survey for the cross-sectional study was conducted over the period of January to March in the year 2023. The participants were informed of their entitlements, including safeguards against harm, the voluntary nature of their involvement, and the freedom to withdraw from the study at any point. The participants were informed about the strict measures in place to ensure the confidentiality and anonymity of the data gathering process, so guaranteeing that the identity of any participant could not be determined. A total of 551 inquiries were received via the use of the online survey platform. The rationale for excluding 171 participants from the study was their age being below the designated target range of 18 to 26 years. Out of the total number of surveys administered, a subset of thirty (30) questionnaires remained incomplete. Consequently, deliberation was extended to include the last 350 qualifying applications.

Common method bias

The presence of systematic variance in measurements is a contributing factor to the common method variation seen in many methodological approaches. Self-reported surveys are susceptible to common method bias. Appropriate measures were implemented both before to and subsequent to the data collecting process in order to reduce the potential influence of common procedural bias. In order to mitigate the potential influence of common method bias, the survey questionnaire had reverse-coded items. To ensure the accuracy and reliability of the data, separate anchors were used for each variable, as suggested by Nederhof (1985). The executives were informed of their option to discontinue their participation in the survey at any given point. The methods used to address common method bias included Harmon's single factor test and the correlation marker variable approach, as outlined by Podsakoff et al. (2003). Harmon's single factor test was subjected to factor analysis without rotation to validate its efficacy. The study yielded nine components, with the highest proportion of variance attributed to a single factor being 35%. Based on the correlation marker technique proposed by Lindell and Whitney (2001), it was shown that a market variable, which exhibited no associations with other factors, had a low degree of correlation with all other variables. After careful analysis, we have reached the determination that our study is unlikely to be influenced by common method bias.

Non-response bias

The researchers used the methodologies proposed by Armstrong and Overton (1977) to mitigate the issue of nonresponse bias. The first step was dividing the sample into two distinct groups, categorized according to eight study parameters, namely the highest and lowest quartiles. Based on the results obtained from paired t-tests, it was seen that there were no statistically significant differences observed between the groups in relation to the metrics under investigation. In the context of conducting a paired t-test, the identification of nonrespondents was accomplished by using the last quartile. Hence, it can be concluded that the presence of nonresponse bias is unlikely in the context of this study.

Data Analyses

The investigation used the partial least squares structural equation modelling (PLS-SEM) approach. Partial Least Squares Structural Equation Modelling (PLS-SEM) is a suitable method for doing exploratory research when dealing with a complex model and a restricted sample size. This is due to the fact that PLS-SEM imposes less constraints on the distribution of data, allowing for more flexibility in analyzing the data. The first focus of our investigation was on the validity and reliability of the model. The Heterotrait-Monotrait ratio of correlations (HTMT) criterion was used as a means to assess discriminant validity. The results indicated that all item loadings above the required threshold value as suggested by Nunnally (1978), when the cross loadings were used to assess the reliability of the items, as discussed by Hair et al. (2017). The enhancement of the reliability and validity of these constructs was achieved by the exclusion of items with low loading values. The assumptions were tested using the Smarts PLS 3.8.9 software tool (Ringle et al., 2015).

RESULTS AND DISCUSSIONS

Descriptive Statistics and Variance Inflation Factor (VIF)

Table 1 shows the results on data distribution, multicollinearity and normality test. Means and standard deviations, a measure of distribution of data was measured. From the results, the mean scores ranged from 3.620 to 3.89 and

the standard deviation scores ranged from 0.988 to 1.204 implying that there was a significant degree of variations among the participants. VIF values was used to assess the multicollinearity problem. From Tables 1, the VIF scores ranged between 1.238 to 4.723 which is below the minimum acceptable value of 5 (Hair et al., 2017). This means that there is no multicollinearity problem (VIF < 5). To check the normality of the distribution, skewness and kurtosis was assessed. The results showed that the skewness and kurtosis ranged from -1.041 to 0.611 and -0.569 to 0.846 respectively. This means that the distribution does not violate the normality assumption. Hence, the distribution is normal.

Table 1: Descriptive Statistics and Variance Inflation Factor (VIF)

		MEAN	STANDARD DEVIATION	VIF	EXCESS KURTOSIS	SKEWNESS
ENVIRONMENTAL FACTOR	EF1	3.732	1.201	2.659	-.123	-.827
	EF2	3.834	1.063	2.791	.139	-.804
	EF3	3.760	1.016	1.811	-.002	-.663
	ORGF1	3.725	1.097	1.488	-.246	-.709
	ORGF2	3.728	1.099	1.238	-.254	-.709
	ORGF3	3.853	1.065	1.698	.381	-.898
PERCEIVED EASE OF USE	PEOU1	3.856	1.064	2.727	.404	-.909
	PEOU2	3.748	1.083	3.665	.036	-.789
	PEOU3	3.815	1.059	3.740	.449	-.904
PERCEIVED USEFULNESS	PU1	3.895	.988	1.970	.428	-.806
	PU2	3.760	1.065	3.849	.004	-.753
	PU3	3.757	1.066	3.255	.277	-.855
	PU4	3.815	1.053	2.596	.846	-1.041
SMALL BUSINESS SUSTAINABILITY	SBS1	3.620	1.180	3.265	-.569	-.611
	SBS2	3.773	1.149	2.481	-.171	-.768
	SBS3	3.636	1.175	3.070	-.381	-.661
	SBS4	3.751	1.200	2.332	-.121	-.837
S-COMMERCE APPROBATION	SCA1	3.716	1.090	3.352	-.164	-.711
	SCA2	3.863	1.080	4.723	.617	-1.008
	SCA3	3.904	.994	4.292	.394	-.807
	SCA4	3.764	1.067	4.154	-.006	-.753
	SCA5	3.799	1.055	3.269	.439	-.886
SOCIAL TRUST	ST1	3.732	1.084	2.632	.102	-.828
	ST2	3.859	1.066	2.012	.395	-.909
	ST3	3.684	1.163	2.422	-.237	-.756
	ST4	3.808	1.002	2.336	.399	-.774
TECHNOLOGICAL FACTOR	TF1	3.834	1.066	3.546	.774	-1.033
	TF2	3.703	1.204	2.097	-.330	-.716
	TF3	3.665	1.164	2.294	-.297	-.702
	TF4	3.808	1.002	4.152	.399	-.774

Measurement Model Discriminant and Convergent Validity

Inferring from Table 2 the measurement model was evaluated using construct validity. Both high convergent and discriminant validity must be observed to achieve high construct validity. specifically, CR, CA and the factor loading were used in the study to evaluate the acceptability of the convergent validity. As showed in the results, CR values ranged from 0.889 to 0.916 and CA values ranged from 0.911 to 0.947, which more than the 0.7 minimum accepted value. Moreover, all the factor loading scores as showed in Figure 2 were higher than 0.70. Furthermore, the factor loadings from Table 4 far exceeds the minimum accepted value of 0.7. The results present the model to have a high convergent validity. The AVEs and cross loadings were used to evaluate the acceptability of the discriminant validity. The AVE values ranged from 0.782 to 0.856 which ids higher than the accepted 0.50 value. As showed in table 2, the AVEs scores were square rooted. Comparing the results with the correlational coefficients of the inter-constructs and revealed that the squared values were higher than the coefficients of the inter-constructs correlation suggesting a high acceptable discriminant validity (Hair et al. 2019). The Heterotrait-Monotrait Ratio (HTMT) as indicated in Table 3 were examined for robustness check. The values ranged from .538 to .844 which validate the minimum recommended (0.85) (Henseler et al., 2015)

Table 2: Discriminant and convergent validity with Fornell and Larcker (1981) Approach

	CA	*CR*	*AVE*	*EF*	*OF*	*PEU*	*PU*	*S-cA*	*SBS*	*TF*	*ST*
EF	.863	.916	.785	**.886**							
ORGF	.904	.941	.842	.805	**.917**						
PEOU	.916	.947	.856	.820	.873	**.925**					
PUS	.901	.931	.772	.717	.888	.943	**.879**				
SCA	.923	.942	.765	.650	.922	.963	.980	**.875**			
SBS	.907	.935	.782	.824	.756	.786	.798	.801	**.884**		
TF	.870	.911	.782	.819	.848	.875	.919	.819	.820	**.849**	
ST	.885	.921	.782	.714	.820	.907	.929	.733	.873	.809	**.862**

Note: EF=Environmental Factors; OF=Organizational Factor; PES=Perceived Ease of Use; PU=Perceived Usefulness; S-cA=S-commerce Approbation; SBS=Small Business Sustainability; TF=Technological Factor; ST=Social Trust; PEOU = Perceived Ease of Use

Table 3: Heterotrait-Monotrait Ratio (HTMT) Using Henseler et al. (2015) Criteria

	EF	**OF**	**PES**	**PU**	**S-CA**	**SBS**	**TF**	**ST**
EF								
ORGF	.606							
PEOU	.677	.633						
PU	.538	.779	.834					
SCA	.763	.505	.646	.773				
SBS	.732	.832	.761	.682	.644			
TF	.613	.650	.672	.731	.720	.624		
ST	.738	.721	.797	.734	.722	.780	.623	

Note: EF=Environmental Factors; OF=Organizational Factor; PES=Perceived Ease of Use; PU=Perceived Usefulness; SCA=S-commerce Approbation; SBS=Small Business Sustainability; TF=Technological Factor; ST=Social Trust; PEOU = Perceived Ease of Use

Table 4: Cross Loadings

	EF	***OF***	***PEU***	***PU***	***SCA***	***SBS***	***TF***	***ST***
EF1	**.894**	.742	.771	.764	.803	.826	.741	.834
EF2	**.907**	.873	.728	.763	.838	.653	.755	.789
EF3	**.857**	.760	.811	.903	.878	.715	.834	.806
ORGF1	.783	**.954**	.738	.800	.813	.671	.780	.833
ORGF2	.779	**.953**	.740	.801	.812	.667	.777	.834
ORGF3	.883	**.841**	.904	.830	.896	.728	.766	.854
PEOU1	.881	.842	**.907**	.832	.897	.726	.764	.853
PEOU2	.804	.788	**.935**	.918	.910	.730	.803	.806
PEOU3	.731	.796	**.934**	.867	.867	.726	.863	.861
PU1	.919	.836	.794	**.826**	.871	.698	.791	.845
PU2	.799	.791	.914	**.920**	.909	.713	.804	.797
PU3	.770	.715	.736	**.884**	.803	.683	.763	.769
PU4	.737	.773	.858	**.882**	.855	.709	.869	.852
SBS1	.706	.734	.651	.699	.687	**.903**	.727	.822
SBS2	.788	.665	.700	.660	.718	**.875**	.698	.757
SBS3	.745	.630	.735	.784	.742	**.899**	.732	.754
SBS4	.673	.647	.690	.676	.684	**.860**	.743	.756
SCA1	.832	.805	.744	.840	**.850**	.660	.789	.740
SCA2	.877	.811	.830	.838	**.879**	.703	.773	.841
SCA3	.904	.836	.790	.824	**.864**	.690	.782	.832
SCA4	.795	.789	.911	.918	**.906**	.707	.799	.789
SCA5	.750	.793	.930	.865	**.874**	.741	.873	.874
ST1	.741	.840	.709	.823	.768	.705	.762	**.874**
ST2	.878	.844	.907	.832	.893	.724	.762	**.851**
ST3	.730	.728	.685	.697	.699	.888	.693	**.855**
ST4	.782	.752	.797	.833	.831	.713	.905	**.869**
TF1	.730	.777	.858	.883	.854	.707	**.867**	.844
TF2	.783	.709	.649	.663	.715	.701	**.799**	.708
TF3	.693	.630	.643	.722	.704	.665	**.821**	.644
TF4	.782	.752	.797	.833	.831	.713	**.905**	.869

Note: EF=Environmental Factors; OF=Organizational Factor; PES=Perceived Ease of Use; PU=Perceived Usefulness; S-cA=S-commerce Approbation; SBS=Small Business Sustainability; TF=Technological Factor; ST=Social Trust

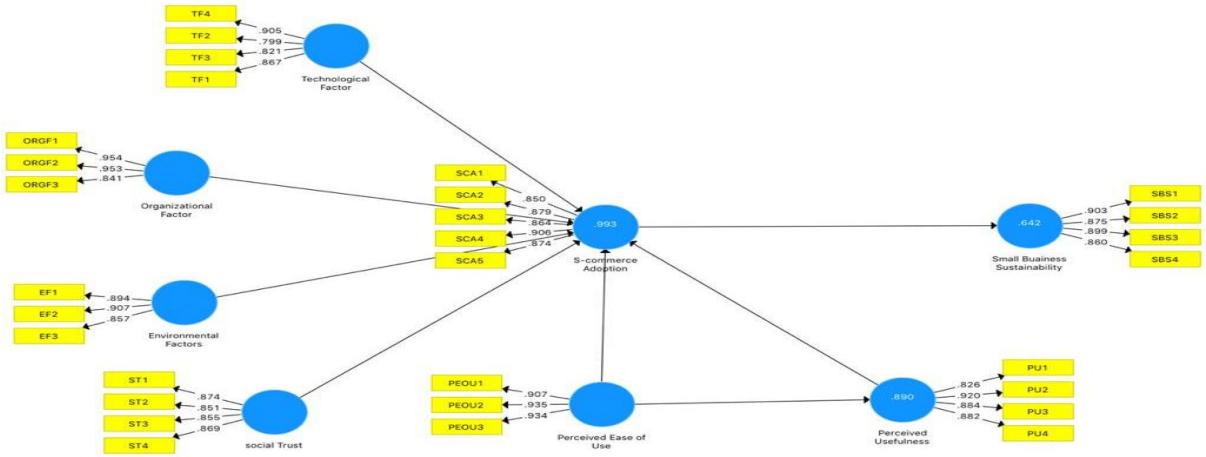

Figure 2: Factor Loadings

Structural Model

From 5, EF (B = 0.288, T-value = 13.483) significantly affect SCA, ORCF(B = 0.146, T-value = 4.533) significantly affect SCA, PEOU(B = 0.943, T-value = 78.559) significantly affect PU, PEOU (B = 0.332, T-value = 14.863) significantly affect SCA, PU (B = 0.374, T-value = 9.769) significantly affect SCA, SCA(B = 0.801, T-value = 23.637) significantly affect SBS, TF (B = 0.061, T-value = 2.970) insignificantly SCA, ST(B = -1.67, T-value = 4.830) significantly SCA, SCA(B = 0.229, T-value = 12.036) significantly mediates EF and SBS, PU (B = 0.353, T-value =9.951) significantly mediates PEOU and SCA, SCA (B = -.134, T-value = 4.831) significantly mediates ST and SBS, SCA (B = 0.117, T-value=4.498) significantly mediates ORGF and SBS , SCA (B = 0.300, T-value=8.615) significantly mediates PU and SBS, PU and SCA(B = 0.283, T-value=8.720) significantly mediates PEOU and SBS, SCA (B = 0.266, T-values = 13.338) significantly mediates PEOU and SBS, SCA (B = 0.049, T-value = 2.963) significantly mediates TF and SBS.

Table 5: Path Coefficients and Hypotheses

Hypothesized Path	*Original Sample (O)*	*Sample Mean (M)*	*Standard Deviation*	*T Statistics (|O/STDEV|)*	*Hypotheses confirmation*
			Direct Effects		
EF -> SCA	.286	.285	.021	13.483	Supported
ORGF -> SCA	.146	.147	.032	4.533	Supported
PEOU -> PU	.943	.944	.012	78.559	Supported
PEOU -> SCA	.332	.336	.022	14.863	Supported
PU -> SCA	.374	.373	.038	9.769	Supported
SCA -> SBS	.801	.803	.034	23.637	Supported
TF -> SCA	.061	.059	.020	2.970	Supported
ST -> SCA	-.167	-.167	.035	4.830	Supported
			Indirect (Mediating) Effects		
EF -> SCA -> SBS	.229	.228	.019	12.036	Supported
PEOU -> PU -> SCA	.353	.352	.035	9.951	Supported
ST -> SCA -> SBS	-.134	-.134	.028	4.831	Supported
ORGF -> SCA -> SBS	.117	.118	.026	4.498	Supported

Hypothesized Path	*Original Sample (O)*	*Sample Mean (M)*	*Standard Deviation*	*T Statistics (|O/STDEV|)*	*Hypotheses confirmation*
PU -> SCA -> SBS	.300	.299	.035	8.615	Supported
PEOU -> PU -> SCA -> SBS	.283	.283	.032	8.720	Supported
PEOU -> SCA -> SBS	.266	.270	.020	13.338	Supported
TF -> SCA -> SBS	.049	.047	.016	2.963	Supported

Note: EF=Environmental Factors; OF=Organizational Factor; PES=Perceived Ease of Use; PU=Perceived Usefulness; S-cA=S-commerce Approbation; SBS=Small Business Sustainability; TF=Technological Factor; ST=Social Trust

Construct Crossvalidated Redundancy (Q^2) and R2

After the provision of adequate results to justify the acceptability of the construct validity (measurement model). The function of the structural model is to assess the model predictive power and to examine the path coefficients and the hypotheses testing using the T-values. The predictive power of the model ranged from 0.829 to 0.941 suggesting that technological factor, organizational factor, environmental factor and social trust explains 99.3% variance in S-commerce Approbation. S-commerce Approbation explain 66.2% variance in Small Business Approbation Construct. Cross-validated Redundancy analysis has been performed to assess the predictive relevance of the model presented in Table 6. The Q^2 values ranged from 0.497 to 0.748 which is greater than zero suggesting that the model has high predictive relevance. Figure 3 present the path coefficients and t-values.

Table 6: Construct Crossvalidated Redundancy

	SSO	*SSE*	*Q^2 (=1-SSE/SSO)*	*R^2 (Adj. R^2)*
Environmental Factors	939.000	939.000		
Organizational Factor	939.000	939.000		
Perceived Ease of Use	939.000	939.000		
Perceived Usefulness	1252.000	403.727	.678	.890 (.890)
S-commerce Approbation	1565.000	393.665	.748	.993 (.993)
Small Business Sustainability	1252.000	630.154	.497	.642 (.641)
Technological Factor	1252.000	1252.000		
social Trust	1252.000	1252.000		

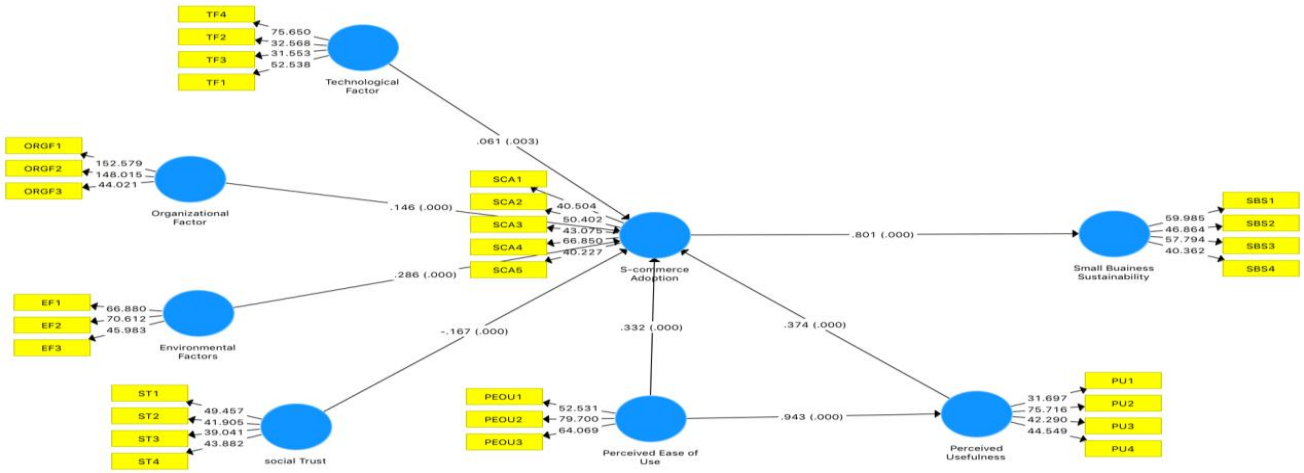

Figure 3: Path Coefficients and T-values

DISCUSSIONS

The results have revealed that organizational, technological, environmental, perceived ease of use and perceived usefulness are significant determinants of s-commerce Approbation which are consistent with the TAM and TOE model. Per contra, social trust has significant but negative effect on s-commerce Approbation. This could be attributed to the skeptics' attitude of most Ghanaians due to the grooming electronic mobile fraud in the country (Smith, 2007; Tornatzky et al.,1990). These results are consistent with most existing technological usage and social trust and solidarity theories the main underpinning theory for this paper is TOE framework was first introduced by Tornatzky et al. (1990) as a comprehensive model for understanding the factors that influence the behavioural intentions and execution of innovation inside organizations. One notable advantage of this behaviour model is its ability to consider the influence of many factors, both internal and external, on the decision-making process of adopting a certain behaviour in this paper s-commerce Approbation. This model proposes that the acceptance of a technology and innovation by prospective users is influenced by two key factors: Perceived usefulness and perceived ease of use (Davis,1989). Moreover, social capital plays a significant role in contributing to both economic and social development (Smith, 2007). Therefore, the paper argues that in addition to TOE model, perceived usefulness, perceived ease of use, and social trust are determinants of s-commerce Approbation.

The results have showed that S-commerce Approbation has significant and positive impact on sustainability of Small business from the perspective of generation Z. Prior studies (Malik et al., 2021; Huang et al., 2022) argued that electronic commerce has tendency to drive business sustainability. The significance of social commerce in the sustainability of small enterprises is generally acknowledged, as shown by recent research publications (Hajli et al., 2017; Li, 2017; Gibreel et al., 2018; Han et al., 2018; Esmaeili and Hashemi, 2019) and grounded on the concept of social capital. This burgeoning domain of electronic commerce leverages digital media and social networks to facilitate transactions between enterprises and customers. LaFleur (2023) encompasses a range of activities within the realm of product analysis, including research, assessments, reviews, sharing, recommendations, transactions, and loyalty programs. Social media platforms are used within the realm of social commerce for the purpose of promoting and vending various products and services. The whole transaction procedure conducted on social media platforms such as Facebook, Instagram, and the X platform (formerly known as Twitter) is often known as social commerce (Dollarhide, 2022). Social commerce, a subset of electronic commerce (ecommerce), encompasses the act of engaging in shopping activities on social media platforms. The whole process, spanning from doing product research to completing the checkout process, takes place inside the realm of social media platforms (McLachlan & Gurr, 2022; Stanley, 2022).

The results have found that s-commerce Approbation significantly mediates the relationship between its determinants and sustainability of Small business from the perspective of generation Z which is very consistent with previous related studies (Huang et al., 2022; Majumder et al. 2022). With the increasing demand, a multitude of social media platforms emerged, facilitating entrepreneurs' accessibility via the notion of social commerce, afterwards establishing it as the predominant method for online company promotion. The advent of social commerce has had a transformative impact on the corporate environment, leading to significant beneficial changes. In addition to inducing operational transformations inside businesses, social commerce also elicits alterations in consumer behaviour via the medium of online purchasing encounters. Furthermore, social commerce facilitates immediate customer transactions via the use of internet platforms. Additionally, customers have the ability to conveniently access and purchase items and services that may not be readily accessible inside their specific geographical regions, regardless of the time. The utilization of social commerce has presented a commercial prospect for small-scale businesses operating from home, as contrasted with conventional retail websites found on the internet (Awa et al., 2017; Jia et al., 2017; Chen et al., 2019; Malik et al., 2021). In recent times, businesses have increasingly used social media platforms as a means to directly promote and sell their products and services to their target audience. The growing use of integrated internet marketing communications platforms serves as empirical support for this claim. Recent research findings provide support for the notion that the use of online platforms is a very expedient method for entrepreneurs to enhance the growth and success of their businesses.

CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

Conclusion

Technological usage plays increasingly significant role in busines sustainability. This paper was conducted to develop a baseline structural model to encourage the Approbation and sustainability of s-commerce from the perspective of generation z by extending TOE with Social Capital Theory, and TAM. The results have revealed that organizational, technological, environmental, perceived ease of use and perceived usefulness are significant determinants of s-commerce Approbation which are consistent with the TAM and TOE model. Per contra, social trust has significant but negative effect on s-commerce Approbation. The results have showed that S-commerce Approbation has significant and positive impact on sustainability of Small business from the perspective of generation Z. The results have found that s-commerce Approbation significantly mediates the relationship between its determinants and sustainability of Small business from the perspective of generation Z. In conclusion, the paper has developed an investment model to enhance sustainability of small businesses through S-commerce Approbation and social trust by extending TOE Model with TAM and Social Capital theory with a focus on generation Z. The study has established that organizational, technological, environmental, perceived ease of use and perceived usefulness exert positive influence on s-commerce Approbation, but lack of social trust still exerts negative effect on full scale Approbation of s-commerce in Ghana. These results support existing technological theories.

Theoretical and Practical Implications

Theoretical Implications: The study has developed an investment model to enhance sustainability of small businesses through S-commerce Approbation and social trust by extending TOE Model with TAM and Social Capital theory with a focus on generation Z which provides robust predictability in s-commerce Approbation. Again, the newly built model could be used to encourage the Approbation and sustainability of s-commerce from the perspective of generation z in lower middle countries where such studies largely remain fuzzy. The paper has revealed that the dimensions of TOE (Technological, Organizational, and Environmental), dimensions of TAM (Perceived Ease of Use, and Perceived Usefulness), and social trust significantly affect s-commerce Approbation. Moreover, the s-commerce Approbation mediates the relationship between its determinants and sustainability performance of small business.

Practical implications: These results have implications on policymakers, practitioners, and academicians in fostering the creation of respectable employment opportunities, facilitating productive endeavors, nurturing entrepreneurial spirit, fostering innovation, and cultivating creativity, all in the pursuit of business sustainability. The study has revealed the determinants of s-commerce Approbation from the perspective of generation Z. These include; organizational, technological, environmental, perceived ease of use and perceived usefulness. These could be used to develop s-commerce investment strategies to enhance small business sustainability. The study has implication of the realisation of 10 out of the 17 SDGs. These include: SDGs no poverty, zero hunger, good health and wellbeing, quality education, gender equality, partnership amongst others. These results have implications and sustainable production and consumption and social sustainability within the context of Zoomers. Maintaining sustainability and continuity inside a firm may be a challenging endeavour, particularly in the face of a multitude of rivals operating within the market. Maintaining dynamic company practices is a significant challenge, prompting businesses to actively seek novel approaches for enhancing sales and engaging with their client base.

Limitations and Future Studies

The current study has number of limitations including the research approach, contextual and geographical scopes. Based on these limitations the study has suggested that future studies should consider using mixed method research approach (e.g., quantitative and qualitative methods). This approach complements each other when used in collaboration, as the weakness of one approach is automatically offset by the other. Contextually, this paper was conducted to develop a baseline structural model to encourage the Approbation and sustainability of s-commerce from the perspective of generation z by extending TOE with Social Capital Theory, and TAM. It is suggested that future studies should consider adopting other emerging technological and innovational theories to explain s-commerce Approbation and its sustainability in developing countries context. Future studies should consider replicating this paper in different geographical countries.

REFERENCES

[1] Abdullah, F., Ward, R., and Ahmed, E. (2016). Investigating the influence of the most commonly used external variables of TAM on students' Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) of e-portfolios. Computers in Human Behavior, 63, 75–90. doi:10.1016/j.chb.2016.05.014

[2] Alalwan, A. A., Algharabat, R. S., Baabdullah, A. M., Rana, N. P., Raman, R., Dwivedi, R., and Aljafari, A. (2019). Examining the impact of social commerce dimensions on customers' value cocreation: The mediating effect of social trust. Journal of Consumer Behaviour, 18(6), 431–446. doi:10.1002/cb.1782

[3] Alshaikh, K., Maasher, S., Bayazed, A., Saleem, F., Badri, S., and Fakieh, B. (2021). Impact of COVID-19 on the Educational Process in Saudi Arabia: A Technology–Organization–Environment Framework. Sustainability, 13(13), 7103. doi:10.3390/su13137103

[4] Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research, 14*(3), 396–402. https://doi.org/10.2307/3150783

[5] Angeles, R.(2014).'Using the technology-organization-environment framework for analyzing Nike's "Considered Index" green initiative, a decision support systemdriven system', Journal of Management and Sustainability 4(1), 96. https://doi. org/10.5539/jms.v4n1p96

[6] Appiah, M. K. Sedegah, D. D. AyisiAddo, K. A. and Gyening, E. K. (2022) Modeling the influence of industry forces on intention to invest in renewable energy resources with the moderating effect of sustainable competitive strategy. *Cogent Engineering*, 9:1, 2138101, DOI: 10.1080/23311916.2022.2138101

[7] Appiah, M.K., Akolaa, R.A., & Ayisi-Addo, A.K. (2022). Modeling the impact of macroenvironmental forces on investment in Renewable Energy Technologies in Ghana: The moderating role of Entrepreneurship orientation dimensions. *Cogent Economics & Finance*, 10, 1. https://doi.org/10.1080/23322039.2022. 2071387

[8] Asare, J.G. (2019). Dear Businesses: Generation Z Does Not Want To Hear "Please Hold". Forbes, [Online] November 11. Available via: https://www.forbes.com/sites/janicegassam/2019/11/11/dear-businesses-generation-z-do es-not-want-to-hear-please-hold/?sh=117c99ba6b46 [Retrieved April 14, 2022].

[9] Awa, H.O., Ukoha, O. and Igwe, S.R. (2017)."Revisiting technology-organization-environment (T-O-E) theory for enriched applicability", The Bottom Line. 30 (01). 2-22. https://doi.org/10.1108/BL-12-2016-0044

[10] Baker, J. (2012). The technology–organization–environment framework. Information systems theory, pp. 231–245, Springer, New York, NY

[11] Bandura, A. (1982). Self-Efficacy Mechanism in Human Agency. American Psychologist, 37, 122-147.http://dx.doi.org/10.1037/0003-066X.37.2.122

[12] Bradford, M., Earp, J. B., and Grabski, S. (2014). Centralized end-to-end identity and access management and ERP systems: A multi-case analysis using the Technology Organization Environment framework. International Journal of Accounting Information Systems, 15(2), 149–165. doi:10.1016/j.accinf.2014.01.003

[13] Chen, L., and Aklikokou, A. K. (2019). Determinants of E-government Approbation: Testing the Mediating Effects of Perceived Usefulness and Perceived Ease of Use. International Journal of Public Administration, 1–16. doi:10.1080/01900692.2019.1660989

[14] Chen, Y., Yin, Y., Browne, G.J. and Li, D. (2019)."Approbation of building information modeling in Chinese construction industry: The technology-organization-environment framework", Engineering, Construction and Architectural Management. 26(9)1878-1898. https://doi.org/10.1108/ECAM-11-2017-0246

[15] Cheng, J. W., and Mitomo, H. (2017). The underlying factors of the perceived usefulness of using smart wearable devices for disaster applications. Telematics and Informatics, 34(2), 528–539. doi:10.1016/j.tele.2016.09.010

[16] Chesbrough, H. (2003). The era of open innovation. Sloan Management Review, 44(3), 35–41

[17] Coleman, J. S. (1988) "Social Capital in the Creation of Human Capital". American Journal of Sociology Supplementary 94: 95–120

[18] Collins, P. D., Hage, J., and Hull, F. M. (1988). Organizational and technological predictors of change in automaticity. Academy of Management Journal, 31(3), 512–543

[19] Davis, F. D. (1989). "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology," MIS Quarterly (13:3), pp. 318-339

[20] de Brentani, U., & Kleinschmidt, E. (2004). Corporate culture and commitment: Impact on performance of international new product development programs. Journal of Product Innovation Management, 21(5), 309–333.

[21] Denny, I.P., Siti, A., and Rofiaty, R.(2021).The effect of perceived usefulness, perceived ease of use, and social influence on the use of mobile banking through the mediation of attitude toward use
[22] Dollarhide, M.(2022). Social Commerce: Definition, Tactics, and Examples. https://www.investopedia.com/terms/s/social-commerce.asp
[23] Duong, C. T. P. (2020). Social media. A literature review. *Journal of Media Research,*
[24] Dupont, S. (2015). Move over Millennials, here comes Generation Z: Understanding the 'New Realists' who are building the future. Public Relations Tactics, 22(5), 19.
[25] Esmaeili, L., and Hashemi G. S.A. (2019) .A systematic review on social commerce, Journal of Strategic Marketing, 27:4, 317-355, DOI: 10.1080/0965254X.2017.1408672
[26] Fahmi, M., Panjaitan, N.A., and Habibie, I. (2019). Does your neighborhood protect you from being depressed? A study on social trust and depression in Indonesia. *BMC Public Health* **19**, 1371 (2019). https://doi.org/10.1186/s12889-019-7657-5
[27] Fitri Ayunu, R. (2019). The online shopping habits and e-loyalty of gen z as natives in the digital era. Journal of Indonesian economy and business, 34(2), 166-182.
[28] Fonseka, K.; Jaharadak, A.A.; and Raman, M. (2022). Impact of E-commerce Approbation on business performance of SMEs in Sri Lanka; moderating role of artificial intelligence. *Int. J. Soc. Econ.* 2022, 49, 1518–1531
[29] Fontana, R. Geuna, A. and Matt, M. (2006). Factors affecting university-industry R&D projects: The importance of searching, screening and signaling. *Research Policy,* 35(2), 309-323
[30] Francis, T., & Hoefel, F. (2018). True Gen': Generation Z and its implications for companies. McKinsey & Company. http://www.drthomaswu.com/uicmpaccsmac/Gen%20Z.pdf [Retrieved March 31, 2022]
[31] Galbraith, J. (1973). Designing complex organizations. Reading, MA: Addison-Wesley
[32] Gibreel, O., AlOtaibi, D. A., and Altmann, J. (2018). Social commerce development in emerging markets. Electronic Commerce Research and Applications, 27, 152–162. doi:10.1016/j.elerap.2017.12.008
[33] Hair, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M. (2017) A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). 2nd Edition, Sage Publications Inc., Thousand Oaks, CA.
[34] Hair J, Hult GTM, Ringle C, Sarstedt M 2014 A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (Los Angeles: SAGE Publications, Incorporated
[35] Hair, J.F., Risher, J.J., Sarstedt, M. and Ringle, C.M. (2019) When to Use and How to Report the Results of PLS-SEM. European Business Review, 31, 2-24. https://doi.org/10.1108/EBR-11-2018-0203
[36] Hajli, N., Sims, J., Zadeh, A. H., and Richard, M.-O. (2017). A social commerce investigation of the role of trust in a social networking site on purchase intentions. Journal of Business Research, 71, 133–141. doi:10.1016/j.jbusres.2016.10.004
[37] Hamid, A. A., Razak, F. Z. A., Bakar, A. A., and Abdullah, W. S. W. (2016). The Effects of Perceived Usefulness and Perceived Ease of Use on Continuance Intention to Use E-Government. Procedia Economics and Finance, 35, 644–649. doi:10.1016/s2212-5671(16)00079-4
[38] Han, H., Xu, H., and Chen, H. (2018). Social commerce: A systematic review and data synthesis. Electronic Commerce Research and Applications, 30, 38–50. doi:10.1016/j.elerap.2018.05.005
[39] Haas, D. F., & Deseran, F. A. (1981). Trust and symbolic exchange. *Social Psychology Quarterly, 44*(1), 3–13. https://doi.org/10.2307/3033857
[40] Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A New Criterion for Assessing Discriminant Validity in Variance-Based Structural Equation Modeling. *Journal of the Academy of Marketing Science*, 43, 115-135. https://doi.org/10.1007/s11747-014-0403-8
[41] Huang J, Deng YH (2012) Higher education and social trust: a study based on Chinese and British survey data. Soc Sci China 33(11):98–111
[42] Huang, F., Teo, T., and Scherer, R. (2022) Investigating the antecedents of university students' perceived ease of using the Internet for learning, Interactive Learning Environments, 30:6, 1060-1076, DOI: 10.1080/10494820.2019.1710540
[43] International Labour Office (ILO) (2006). "Social Security for All: Investing in Global Social and Economic Development," Social Security Department, Discussion Paper 16. Geneva: ILO
[44] Ismail, A.R., Nguyen, B., Chen, J., Melewar, T.C., & Mohamad, B. (2021). Brand engagement in self-concept (BESC), value consciousness and brand loyalty: a study of generation Z consumers in Malaysia. Young consumers, 22(1), 112-130.

[45] Jackle, S., Trudinger, E., Hildebrandt, A., and Wagschal, U. (2022).A Matter of Trust: How Political and Social Trust Relate to the Acceptance of Covid-19 Policies in Germany, German Politics, DOI: 10.1080/09644 008.2021.2021510
[46] Jacobs, J. (1961) The Life and Death of Great American Cities. New York: Random House
[47] Jia, Q., Guo, Y., and Barnes, S. J. (2017). Enterprise 2.0 post-Approbation: Extending the information system continuance model based on the technology-Organization-environment framework. Computers in Human Behavior, 67, 95–105. doi:10.1016/j.chb.2016.10.022
[48] Joseph AB, Shirley H (2015) Predicting social trust with binary logistic regression. Res High Educ J 27:1–6
[49] LaFleur, G.(2023). What is social commerce?. https://www.techtarget.com/searchcustomerexperience/ definition/social-commerce
[50] Lam, Hugo K.S.; Yeung, Andy C.L.; Lo, Chris K.Y.; and Cheng, T.C.E. (2019). "Should Firms Invest in Social Commerce? An Integrative Perspective". Information & Management. 56 (8): 103164. doi:10.1016/j.im.2019. 04.007. hdl:10397/89937
[51] Leung, D., Lo, A., Fong, L. H. N., and Law, R. (2015) .Applying the Technology-Organization-Environment framework to explore ICT initial and continued Approbation: An exploratory study of an independent hotel in Hong Kong, Tourism Recreation Research, 40:3, 391-406, DOI: 10.1080/02508281.2015.1090152
[52] Li, C.-Y. (2017). How social commerce constructs influence customers' social shopping intention? An empirical study of a social commerce website. Technological Forecasting and Social Change. doi:10.1016/j.techfore. 2017.11.026
[53] Li, J., Wang, Y.-F., Zhang, Z.-M., and Chu, C.-H. (2010). Investigating acceptance of RFID in Chinese firms: The technology-organization-environment framework. 2010 IEEE International Conference on RFID-Technology and Applications. doi:10.1109/rfid-ta.2010.5529927
[54] Lin, H.-F. (2014). Understanding the determinants of electronic supply chain management system Approbation: Using the technology–organization–environment framework. Technological Forecasting and Social Change, 86, 80–92. doi:10.1016/j.techfore.2013.09.001
[55] Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology, 86*(1), 114–121. https://doi.org/10.1037/0021-9010.86.1.114
[56] Mahajan, R.P. (2010) Critical Incident Reporting and Learning. British Journal of Anaesthesia, 105, 69-75. http://dx.doi.org/10.1093/bja/aeq133
[57] Majumder, M.S., Gupta, S.D., and Paul, J.(2022). Perceived usefulness of online customer reviews: A review mining approach using machine learning & exploratory data analysis. Journal of Business Research.150,147-164. https://doi.org/10.1016/j.jbusres.2022.06.012.
[58] Malik S, Chadhar M, Vatanasakdakul S, and Chetty M.(2021). Factors Affecting the Organizational Approbation of Blockchain Technology: Extending the Technology–Organization–Environment (TOE) Framework in the Australian Context. Sustainability. 2021; 13(16):9404. https://doi.org/10.3390/su13169404
[59] Malik, A.N., and Annuar, S.N.(2021).The effect of perceived usefulness, perceived ease of use, reward, and perceived risk toward e-wallet usage intention Eur. Stud. Bus. Econ., 17 (2021), pp. 115-130
[60] Mansfield, E. (1968) Industrial Research and Technological Innovation: An Econometric Analysis. Norton, New York.
[61] Mansfield, E., Rapoport, J., Romeo, A., Villani, E., Wagner, S., and Husic, F. (1977). The production and applicaiton of new industrial technology. New York: Norton
[62] Mathieson, K. (1991) Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behavior. Information Systems Research, 2, 173-191. http://dx.doi.org/10.1287/isre.2.3.173
[63] McLachlan, S., and Gurr, A.(2022). What is Social Commerce and Why Should Your Brand Care?. https://blog.hootsuite.com/social-commerce/
[64] Miller, J. (2018). 10 things you need to know about Gen Z. HR Magazine, 63(7), 50-56. Retrieved from ProQuest Research Library
[65] Moon, J., and Kim, Y.(2001). "Extending the TAM for a World-Wide-Web Context," Information and Management (38:4), pp. 217-230
[66] Moslehpour M, Pham VK, Wong W-K, and Bilgiçli, I.(2018). e-Purchase Intention of Taiwanese Consumers: Sustainable Mediation of Perceived Usefulness and Perceived Ease of Use. Sustainability. 2018; 10(1):234. https://doi.org/10.3390/su10010234

[67] Mou, J., Shin, D.H., and Cohen, J. (2017). Understanding trust and perceived usefulness in the consumer acceptance of an e-service: a longitudinal investigation, Behaviour & Information Technology, 36:2, 125-139, DOI: 10.1080/0144929X.2016.1203024

[68] Namisiko, P.; Munialo, C.; and Nyongesa, S. (2014). Towards an optimization framework for e-learning in developing countries: A case of private universities in Kenya. *J. Comput. Sci. Inf. Technol.* 2014, 2, 131–148

[69] Nunnally, J.C. (1978) Psychometric theory. 2nd Edition, McGraw-Hill, New York.

[70] Nederhof, A. (1985) Methods of Coping with Social Desirability Bias: A Review. *European Journal of Social Psychology*, 15, 263-280. http://dx.doi.org/10.1002/ejsp.2420150303

[71] OECD (2001).The Well-Being of Nations: The Role of Human and Social Capital. Paris: Office of Economic Cooperation and Development (OECD)

[72] Oliveira, T., and M.F. Martins.(2011).“Literature Review of Information Technology Approbation Models at Firm Level,” The Electronic Journal Information Systems Evaluation, Vol. 14, No. 1:110-121, 2011

[73] Ozturk, A. B., Bilgihan, A., Nusair, K., and Okumus, F. (2016). What keeps the mobile hotel booking users loyal? Investigating the roles of self-efficacy, compatibility, perceived ease of use, and perceived convenience. International Journal of Information Management, 36(6), 1350–1359. doi:10.1016/j.ijinfomgt.2016.04.005

[74] Pan, Z., Liu, L., and Bai, S. (2021).Can the social trust promote corporate green innovation? Evidence from China. *Environ Sci Pollut Res* **28**, 52157–52173 (2021). https://doi.org/10.1007/s11356-021-14293-8

[75] Patel, D. (2017). 5 Differences Between Marketing To Millennials Vs. Gen Z. Retrieved December 31, 2020, from https://www.forbes.com/

[76] Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

[77] Ponterotto JG. (2005) Qualitative research in counseling psychology: A primer on research paradigms and philosophy of science. J Coun Psych. 52:126–136

[78] Putnam, R. (1993) Making Democracy Work: Civic Traditions in Modern Italy. Princeton, NJ: Princeton University Press

[79] Putnam, R. D. (2000). Bowling alone: the collapse and revival of American community. New York: Simon and Schuster

[80] Ringle, C.M. and Sarstedt, M. (2016), "Gain more insight from your PLS-SEM results: The importance-performance map analysis", *Industrial Management & Data Systems*, Vol. 116 No. 9, pp. 1865-1886. https://doi.org/10.1108/IMDS-10-2015-0449

[81] Robey, D. (1979). User Attitudes and Management Information System Use. Academy of Management Journal, 22(3), 527–538. doi:10.2307/255742

[82] Saunders, M., Lewis, P. and Thornhill, A. (2007) Research Methods for Business Students. 4th Edition, Financial Times Prentice Hall, Edinburgh Gate, Harlow.

[83] Scherer, R., Siddiq, F., and Teo, T. (2015). Becoming more specific: Measuring and modeling teachers’ perceived usefulness of ICT in the context of teaching and learning. Computers & Education, 88, 202–214. doi:10.1016/j.compedu.2015.05.005

[84] Schilke, Oliver; Reimann, Martin; Cook, and Karen S. (2021). "Trust in Social Relations". Annual Review of Sociology. 47 (1): 239–259. doi:10.1146/annurev-soc-082120-082850. ISSN 0360-0572. S2CID 231685149.

[85] Schmitt, P., Thiesse, F., and Fleisch, E., (2007).Approbation and diffusion of RFID technology in the automotive industry. 15th European Conference on Information Systems, Switzerland, 2007

[86] Seemiller, C., & Grace, M. (2017). Generation Z: Educating and engaging the next generation of students. About Campus: Enriching the Student Learning Experience, 22(3), 21-26. doi:10.1002/abc.21293

[87] Sheikh, Z., Yezheng, L., Islam, T., Hameed, Z. and Khan, I.U. (2019). "Impact of social commerce constructs and social support on social commerce intentions", Information Technology & People. 32 (1) 68-93. https://doi.org/10.1108/ITP-04-2018-0195

[88] Sila, I.(2013). “Factors Affecting the Approbation of B2B E-commerce Technologies,” Electronic Commerce Research, Vol. 13, No. 2:199-236, 2013

[89] Singh, K. (2007) Quantitative Social Research Methods. SAGE, New Delhi. https://doi.org/10.4135/9789351507741

[90] Smith, M. K. (2007). Social capital, the encyclopedia of informal education”. Available at: www.infed.org/biblio/social_capital.htm

[91] Stanley, H.(2022). What is Social Commerce? Definition and Guide. https://www.shopify.com/enterprise/social-commerce-trends
[92] Statista. (2021). U.S population by generation 2019 https://www.statista.com/statistics/797321/us-population-by-generation/
[93] Tajudeen, F.P.; Jaafar, N.I.; and Ainin, S.(2018). Understanding the impact of social media usage among organizations. *Inf. Manag*. **2018**, *55*, 308–321
[94] Tornatzky, L.G., and Fleischer, M.(1990). The Processes of Technological Innovation. Lexington Books, Lexington, Massachusetts, 1990.
[95] Tornatzky, L.G.M.; Tchell, F.; and Alok, K.C.(1990).The Process of Technological Innovation; Lexington Books; The Free Press: Cochranton, PA, USA, 1990.
[96] Toshkov, D., Carroll, B., and Yesilkagit, K. (2022) Government capacity, societal trust or party preferences: what accounts for the variety of national policy responses to the COVID-19 pandemic in Europe?, Journal of European Public Policy, 29:7, 1009-1028, DOI: 10.1080/13501763.2021.1928270
[97] Tugba S (2020) U.S. Social Commerce Revenue 2019–2024.
[98] Tushman, M. and Nadler, D. (1986) Organizing for Innovation. *California Management Review*, 28, 74-92. http://dx.doi.org/10.2307/41165203
[99] United Nations (2000). Enhancing Social Protection and Reducing Vulnerability in a Globalizing World. Report of the Secretary General to the Thirty-Ninth Session E/CN.5/2001/2. Washington, DC: United Nations Economic and Social Council
[100] Whiteley, F. P. (2000). Economic growth and social capital. *Political Studies,* 48(3), 443-466
[101] World Bank (2007) "Social Capital for Development". Available at: http://www1.worldbank.org/prem/poverty/scapital/.
[102] Xia, D., Zhang, M., Yu, Q., and Tu, Y.(2019).Developing a framework to identify barriers of green technology Approbation for enterprises Resour. Conserv. Recycl. (2019), pp. 99-110

Construct Reliability and Validity

	Cronbach's Alpha	**rho_A**	**Composite Reliability**	**Average Variance Extracted (AVE)**
EF	**.863**	**.864**	**.916**	**.785**
ORGF	**.904**	**.904**	**.941**	**.842**
PEOU	**.916**	**.917**	**.947**	**.856**
PU	**.901**	**.905**	**.931**	**.772**
SCA	**.923**	**.924**	**.942**	**.765**
SBS	**.907**	**.908**	**.935**	**.782**
TF	**.870**	**.878**	**.911**	**.782**
ST	**.885**	**.891**	**.921**	**.782**

Outer VIF Values

	VIF
EF1	**2.659**
EF2	**2.791**
EF3	**1.811**
ORGF1	**126.488**
ORGF2	**126.238**

	VIF
ORGF3	**1.698**
PEOU1	**2.727**
PEOU2	3.665
PEOU3	3.740
PU1	**1.970**
PU2	3.849
PU3	3.255
PU4	**2.596**
SBS1	3.265
SBS2	**2.481**
SBS3	3.070
SBS4	**2.332**
SCA1	3.352
SCA2	4.723
SCA3	4.292
SCA4	**5.154**
SCA5	3.269
ST1	**2.632**
ST2	**2.012**
ST3	**2.422**
ST4	**2.336**
TF1	3.546
TF2	**2.097**
TF3	**2.294**
TF4	4.152

Cross Loadings

	EF	ORGF	PEOU	PU	SCA	SBS	TF	ST
EF1	.894	.742	.771	.764	.803	.826	.741	.834
EF2	.907	.873	.728	.763	.838	.653	.755	.789
EF3	.857	.760	.811	.903	.878	.715	.834	.806
ORGF1	.783	.954	.738	.800	.813	.671	.780	.833
ORGF2	.779	.953	.740	.801	.812	.667	.777	.834
ORGF3	.883	.841	.904	.830	.896	.728	.766	.854
PEOU1	.881	.842	.907	.832	.897	.726	.764	.853

	EF	ORGF	PEOU	PU	SCA	SBS	TF	ST
PEOU2	.804	.788	.935	.918	.910	.730	.803	.806
PEOU3	.731	.796	.934	.867	.867	.726	.863	.861
PU1	.919	.836	.794	.826	.871	.698	.791	.845
PU2	.799	.791	.914	.920	.909	.713	.804	.797
PU3	.770	.715	.736	.884	.803	.683	.763	.769
PU4	.737	.773	.858	.882	.855	.709	.869	.852
SBS1	.706	.734	.651	.699	.687	.903	.727	.822
SBS2	.788	.665	.700	.660	.718	.875	.698	.757
SBS3	.745	.630	.735	.784	.742	.899	.732	.754
SBS4	.673	.647	.690	.676	.684	.860	.743	.756
SCA1	.832	.805	.744	.840	.850	.660	.789	.740
SCA2	.877	.811	.830	.838	.879	.703	.773	.841
SCA3	.904	.836	.790	.824	.864	.690	.782	.832
SCA4	.795	.789	.911	.918	.906	.707	.799	.789
SCA5	.750	.793	.930	.865	.874	.741	.873	.874
ST1	.741	.840	.709	.823	.768	.705	.762	.874
ST2	.878	.844	.907	.832	.893	.724	.762	.851
ST3	.730	.728	.685	.697	.699	.888	.693	.855
ST4	.782	.752	.797	.833	.831	.713	.905	.869
TF1	.730	.777	.858	.883	.854	.707	.867	.844
TF2	.783	.709	.649	.663	.715	.701	.799	.708
TF3	.693	.630	.643	.722	.704	.665	.821	.644
TF4	.782	.752	.797	.833	.831	.713	.905	.869

Model_Fit Summary

	Saturated Model	Estimated Model
SRMR	.104	.110
d_ULS	5.041	5.657
d_G	n/a	n/a
Chi-Square	infinite	infinite
NFI	n/a	n/a