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Factors Influencing Green Consumers' Online Purchasing of Biodegradable Products in Côte D'Ivoire

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Abstract: This study investigates the factors influencing the online purchasing of biodegradable products in Côte d'Ivoire. Data were collected online (WhatsApp) and examined using structural equation modeling (SEM). The results reveal that economic, political, technological, and social factors significantly influence the online buying of biodegradable products in Côte d'Ivoire. Specifically, the results show that the cost of adopting new technology and the green product price are the most influential, followed by government supports and subsidies. The findings hint at the importance of governments in West Africa investing in producing and selling green products through online portals.

Keywords: Green Consumer; Purchasing Behaviors; Online Purchasing; E-commerce.

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1. Introduction

Today public environmental awareness has become an integral part of business performance. Given the groundbreaking growth of e-commerce, more and more manufacturers have started to produce and offer eco-friendly products and deliver them through e-commerce platforms.

With the increased use of the Internet, and the development and expansion of information technology (IT), the utilization of e-commerce platforms (EP) for business organizations in both developed and developing countries has grown significantly over the past decades and turned into a popular distribution channel for many organizations. Manufacturers and e-commerce platforms understand that e-commerce is a new truth of doing business as it has the potential to connect customers with their preferences worldwide.

The COVID-19 global pandemic in 2020 has dramatically fueled and increased the use of e-commerce, as detailed in Bhatti et al. (2020); Jílková and Králová (2021). During this period, it is estimated that customers' entrance into the e-marketplace has increased by 18 percent. Statista Digital Market Outlook data shows China has the largest e-commerce market, with annual sales reaching $ 1.3 trillion in 2020. This figure will increase to roughly $ 2 trillion in the next three years. At the global level, e-commerce is expected to grow at an average of 47 percent in the next five years, which Van (2016); Zhang and Chen (2019) referred to as a new digital economy.

Several studies, such as those of Jian et al.(2020), Sun et al.(2021), and Chen et al.(2022), show that a fear of the COVID-19 pandemic has also induced a significant impact on green product behavioral intention. Ghosal et al. (2022) point out that COVID-19 has pushed consumers to buy more green products at online portals during and after the pandemic.

Given this new development in e-commerce, manufacturers and businesses have been pondering which green consumer behaviors accelerated by the pandemic will persist and deepen and which will recede. Accordingly, firms and enterprises have increased their participation in green innovation and thoroughly used the online sales channel. Pursuing green economic growth is becoming a strategic business opportunity for enterprises to cope with the environmental market requirements (Li, 2014). Therefore, clarifying the driving factors influencing green consumers' online buying behaviors is strategically important for manufacturers and businesses.

While the literature on green consumer behaviors is abundant, it is scarcely hard to find research on green consumer online purchasing behaviors, particularly in developing countries such as Côte d'Ivoire. Among those few research, Awuni et al. (2016) use the Theory of Planned Behavior (TPB) to investigate factors influencing green purchasing behaviors in Ghana. As of January 2023, Côte d'Ivoire is the third-largest GDP in West Africa. The country sets an excellent example in the consumption of green products, mainly products with environmentally friendly packaging. However, no research has investigated factors influencing green online purchasing behaviors in Côte d'Ivoire. To make up for this shortcoming, this study attempts to bridge the gap by investigating factors influencing green consumers purchasing in online markets in Côte d'Ivoire.

Specifically, this study identifies factors driving the growing sales of biodegradable packaging in online markets in Côte d'Ivoire. The study endeavors to answer the following research question: Which factors significantly influence buying biodegradable products in online markets in Côte d'Ivoire?

To address the above question, the study is structured as follows. Sections 2 and 3 present the theoretical framework, literature review, and hypotheses. Section 4 introduces the research methodology, followed by the data analysis and results in section 5. Finally, section 6 presents the conclusion and implications of the study.

2. Theoretical Considerations

2.1 The Technology-Organization-Environment Framework (TOE)

The theory posits that the technology, organization, and external task environment are mutually influential, which helps the firm improve its innovation decision-making. Following, many empirical studies investigate the feasibility of the TOE framework. The TOE has been used for research in adopting cloud computing and governance by Borgman et al. (2013). In contrast, Awa and Ojiabo (2016) used it to explain small and medium-sized enterprises' adoption of enterprise resource planning. Other prominent studies that used the TOE framework to describe the adoption of IT include Cruz-Jesus et al. (2019); Gangwar et al. (2014).

The TOE is highly applicable to adopting and developing green innovation in e-commerce. It helps identify some of the important factors influencing the online sales of green products, particularly in developing countries where the concept still has a way to take shape. This study theoretically postulates that political, economic, social, and technological factors influence green consumer online purchasing behaviors. Thus, "Environment "in TOE can be seen as political, economic, social, and technological factors.

2.2 Theory of Reasoned Action (TRA)

The TRA postulates that a person's behavior can be predicted by their intention and attitude, and some subjective norms influence that intention. Thus, the TRA proposes four components: belief, attitudes, subjective norms, and intention.

Belief is a component used to describe that a person's behavior has a consequence. For example, in our study, if a consumer thinks shopping online would save time, that person believes in e-commerce. Attitudes are a function of belief and are the positive or negative evaluation of a particular behavior. For instance, if a consumer thinks that shopping online would result in getting green products of low quality, this consumer will have a negative behavior toward e-commerce. But if that consumer feels that shopping online will save time and result in good-quality green products, then the consumer will likely have a positive attitude toward e-commerce. Subjective norms can be described as the influence a person's environment has on him and leading him to perform some behavior. This could be, for example, a consumer who at first has a negative attitude toward buying online green products but who, with time, decides to shop online because the people surrounding him always buy online. The intention is a function of attitudes and subjective norms and describes how likely someone thinks they are ready to perform a specific behavior.

Several empirical research has used the TRA to predict the behaviors of consumers regarding adopting e-commerce. This investigation follows some of the leading studies using the TRA to justify the green purchasing behaviors of consumers, particularly in developing countries. Studies focusing on developing countries are those of Fawz and Salam (2015), Grandón et al. (2011), and Yousafzai et al. (2010).

Consumer behaviors are described in this study as a social factor. At the same time, subjective norms are depicted as economic factors influencing the consumer behaviors, such as transaction costs and the country's GNP.

3. Literature Review and Hypotheses Development

As consumers become more sensitive to the environmental impact of their shopping decisions, manufacturers and businesses promptly respond to their customers' growing demand for eco-friendly products. Grocers, retailers, and consumer packaged goods companies, particularly those in e-commerce, are now massively investing in eco-friendly innovations in products, packaging, and production, which Li et al.(2023) believe would have a critical impact on improving industrial green innovation efficiency.

Encouraged by growing eco-anxiety concerns, a new demographic of green consumers has emerged, demanding greater transparency about the products they purchase, particularly for online shopping. This new demographic of green consumers are willing to pay a premium for these sustainable or eco-friendly products, which studies such as those of Kim et al. (2022), and Jian et al.(2020) also corroborate.

All over the world, business leaders and analysts have been pondering which of the consumer behaviors accelerated by the pandemic will persist and deepen and which will recede. For instance, Sun et al. (2021) found that the COVID-19 pandemic positively affects green consumer behaviors due to fear, anxiety, and powerlessness. Following the same reasoning, many other studies have confirmed the positive effect of the COVID-19 pandemic on green consumer behaviors. Chen et al. (2022) point out that not just the fear of the pandemic positively affects green product behavioral intention, but green product literacy and orientation, and the social influence, significantly affect green consumer behaviors.

While it is undeniable that the COVID-19 pandemic contributes to a positive attitude toward green consumer behaviors, other important determinants also explain the spike in the popularity of eco-friendly products. Government supports and regulations, such as the ban on plastic bags, play an important role in fostering green consumer behaviors (Khan et al., 2020).

Several studies show the link between government regulations, government subsidies, and green consumer behaviors. The results of these studies show that positive associations exist between the variables (Yang et al., 2023; Yuan et al., 2021). Based on these findings, this study posits:

H1: *Political factors positively and significantly influence green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

H1a: *Government supports, such as subsidies, positively and significantly influence green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

H1b: *Government regulations positively and significantly influence green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

The economic literature also proves that economic factors positively affect online green consumer purchasing behaviors (Carrete et al., 2012; Zhao et al., 2014). These factors include the costs of the adoption of new technology for manufacturers. Indeed, a higher price of acquiring new technology would probably result in higher offering prices for green products, thereby affecting green consumer online purchasing behaviors. The income level is also positively associated with green consumer behaviors (Junaedi, 2012). Finally, it is determined that price sensitivity is high for green consumer behaviors with low-income levels (Biswas and Roy, 2015).

With the above discussion, this study hypothesizes:

H2: *Economic factors significantly influence green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

H2a: *The cost of adoption of new technology significantly influences green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

H2b: *The income level significantly influences green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

H2c: *Green product price significantly influences green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

Several pieces of literature (Lin and Hsu, 2015) suggest that social norms, such as personal self-concepts, personal outcome expectations, and social sanction, significantly influence green consumer purchasing behaviors. The social sanction could be well apprehended by some cultural norms, which Nair and Little (2016) indicate highly influence green consumption. Peattie (2010) also suggests that green consumption is context-dependent, a process strongly influenced by consumer values, norms, and habits. Although these factors show that green consumption is strongly context-dependent, other personal factors, such as consumer preference and satisfaction, undeniably can encourage consumers to engage in green consumption behavior. Several studies reveal that green consumer satisfaction and preference positively affect green consumers' loyalty (Chang & Fong, 2010; ÇavuĢoğlu et al., 2020; Asgharian et al., 2012). Based on the above discussion, this study hypothesizes the following:

H3: *Social factors significantly influence green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

H3a: *Cultural environments significantly influence green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

H3b: *Green consumer preference significantly influences green consumers' loyalty.*

H3c: *Green consumer satisfaction significantly influences green consumers' loyalty.*

Although many studies highlight the importance of technology in consumer habits, limited studies have shown the link between technological factors and green consumer behaviors. Of these little studies, Paro et al. (2021) show that technology readiness positively influences green consumer behaviors, especially for older people, who generally have more difficulties in using IT than younger people. Given that technological and digital infrastructure influence consumer behaviors, manufacturers and businesses of eco-friendly products now incorporate the concept in the supply chain and fintech in online shopping. For instance, Khan et al. (2021) and Zhang & Liu (2021) found that green supply chain management promotes green consumption intention in Pakistan and China, respectively. With the above discussion, this study posits the following:

H4: *Technological factors significantly influence green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

H4a: *Green consumer IT abilities significantly influence green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

H4b: *The supply chain facilities significantly influence green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

H4c: *E-payment significantly influences green consumers' online purchasing of biodegradable products in Côte d'Ivoire.*

Based on the above analysis, a framework of green consumer behaviors in Côte d'Ivoire is developed and shown in Figure 1.

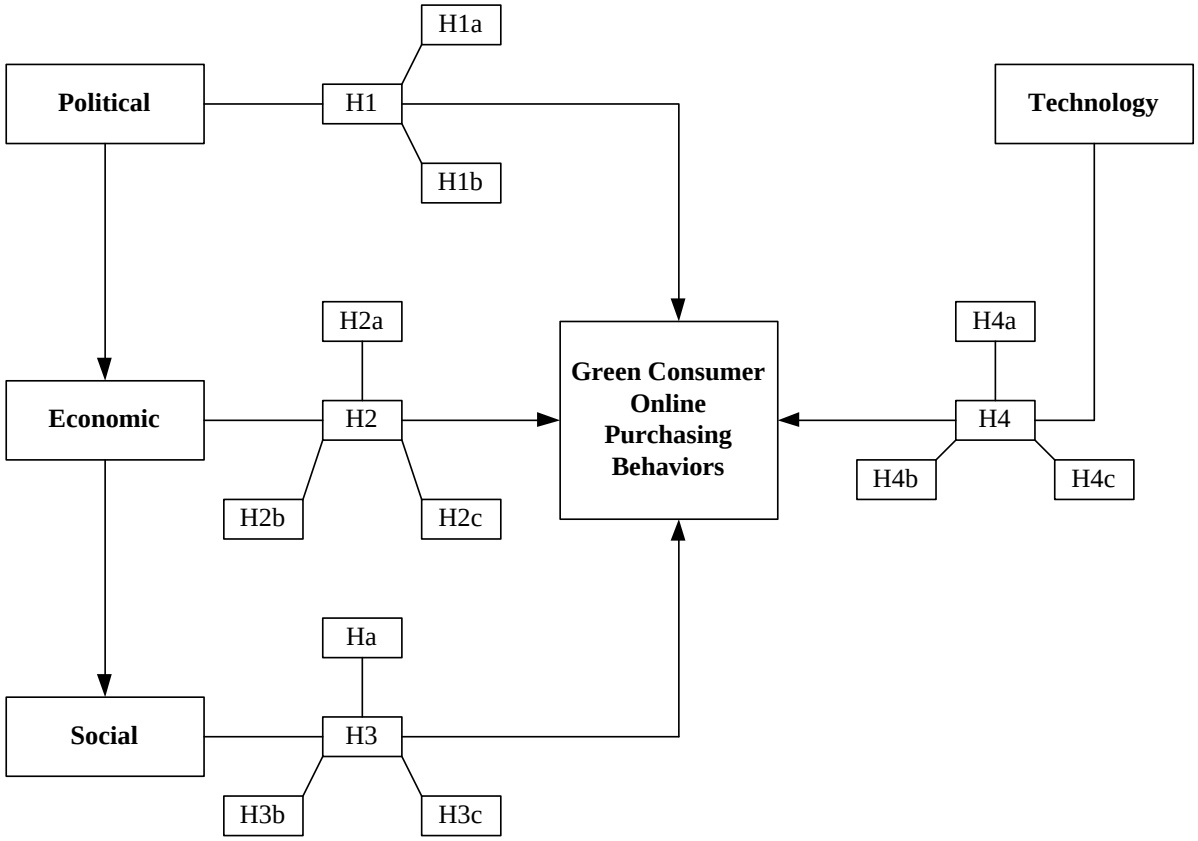

Figure 1. Study framework

4. Materials and Methods

The samples of this study mainly come from questionnaires collected from the popular online social media WhatsApp in Côte d'Ivoire. 343 samples were collected, and 306 valid samples were finally recovered after eliminating the invalid ones. The respondents cover people regardless of age, sex, profession, city, or social status. Women accounted for 43.1 % of the samples, and male respondents accounted for 56.9 %. More than two-thirds of the respondents (93.5%) were between 22 and 36 years old. More than two-thirds of the respondents (62.4%) had a bachelor's degree. The questionnaire consists of two parts. The first part consists of collecting the consumers' information statistics. The second part consists of managing the respondents' answers. Regarding sample filtering and screening, as this study deals with online purchasing of biodegradable products in Côte d'Ivoire, the respondents need to have experience using IT devices. Therefore, at the beginning of the questionnaire, two single-choice filter items are set: Have you ever bought biodegradable products? Have you ever considered purchasing those products online? Table 1 shows the measurement items used in this study.

Following this, the study performs structural equation modeling analysis on the data. In this regard, Smart-PLS is used to understand factors influencing green consumers' online purchasing of biodegradable products in Côte D'Ivoire.

Table 1: Measurement items

Variable	Denomination	Measurement items
Political factors	POL1	I believe government supports, such as subsidies, influence my online purchasing of biodegradable products
	POL2	I believe government regulations influence my online purchasing of biodegradable products
Economic factors	ECO 1	I feel like there is a relationship between the costs of adoption of new technology for producing biodegradable products and my online purchasing of these products
	ECO 2	Depending on my income level, I would consider purchasing biodegradable products online
	ECO 3	Depending on the price of the products, I would consider purchasing biodegradable products online
Social factors	SOC 1	I think my cultural environment influences my online buying of biodegradable products
	SOC 2	I would consider purchasing biodegradable products online if they fit my preference
	SOC 3	I would consider purchasing biodegradable products online if they satisfy my requirements
Technological factors	TECH 1	For me, easily using IT devices such as computers and cell phones is important for buying biodegradable products online.
	TECH 2	I would consider buying biodegradable products online if I can be satisfied with the delivery service
	TECH 3	For me, easily using an e-payment service is important when buying biodegradable products online

5. Results

5.1 Demographics

Table 2: Demographics

Variables	Frequency	Percentage (%)
Gender		
Male	174	56.9
Female	132	43.1
Age		
Under 21	16	5.2
22-26	233	76.1
27-31	36	11.8
32-36	17	5.6
Over 37	4	1.3
Education		
Primary	9	2.9
Secondary	24	7.8
High School	31	10.1
Bachelor	191	64.7
Master	51	16.7
Occupation		
Student	260	85
Self-employed	18	5.9
Government	10	3.3

Private company	18	5.9
Monthly Income		
Less than $500	281	91.8
501-$1000	19	6.2
1000-$2000	6	2

The results from Table 2 depict that most of the respondents are educated, with 64.7% having at least a Bachelor's degree. In addition, 91.8% have a monthly income of less than $500. These results imply that the respondents are well educated to understand the questionnaire to provide the needed answers. The income level of most respondents is also critical in investigating the research question. Indeed a respondent with a monthly income of less than $500 is more likely to buy indispensable goods than biodegradable products. But if this respondent declares his intention to buy biodegradable products, he positively behaves toward green consumption.

5.2 Reliability analysis

Table 3: Reliability analysis

Variable	Item	Factor loading	CR	AVE
Political factors	POL1	.804	0.887	0.663
	POL2	.783		
Economic factors	ECO1	.850	0.898	0.639
	ECO2	.749		
	ECO3	.837		
Social factors	SOC1	.858	0.871	0.628
	SOC2	.706		
	SOC3	.785		
Technological factors	TECH1	.834	0.885	0.720
	TECH2	.815		
	TECH3	.894		
Purchasing behaviors	PUBE1	.847	0.931	0.692
	PUBE2	.848		
	PUBE3	.730		
	PUBE4	.816		

Following Hair et al. (2010), this study adopts a factor loading of 0.6 cutoffs, a composite (CR) of at least 0.7, and an extracted average variance (AVE) of at least 0.5. Based on this, the results from Table 3 exhibit that the loadings of all items are higher than 0.6. The results also reveal that the CR findings for all variables are above 0.7, whereas AVE findings exceed 0.6. As a result, political, economic, social, and technological factors influence green consumers' online purchasing of biodegradable products in Côte d'Ivoire.

5.3 Hypotheses testing

Table 4: Hypotheses testing

Hypothesis	Path	Estimate	Standard error	t-statistic	Result
H1	POL→PUBE	0.194***	0.043	11.681	Supported
H2	ECO→PUBE	0.123**	0.046	2.791	Supported
H3	SOC →PUBE	0.145**	0.042	3.987	Supported
H4	TECH→ PUBE	0.401***	0.0328	11.989	Supported
	Control variables				
	Education	0.102	0.044	2.567	Significant
	Income	0.114	0.043	3.325	Significant
	Occupation	-0.062	0.071	-0.067	Insignificant

Note (s). *p< 0.10, **p<0.05, ***p<0.001

6. Conclusion and Implications

This study investigates the factors influencing green consumers' online purchasing of biodegradable products in Côte d'Ivoire. The study finds that political, economic, social, and technological factors are important in explaining the online buying of biodegradable products in this West African country. Globally, and based on the study's findings, economic factors are the most important in explaining the online buying of biodegradable products in Côte d'Ivoire. Political factors come in second place in explaining the green consumer online purchasing behaviors in Côte d'Ivoire. Technological factors are the third items that green consumers look at when buying biodegradable products in Côte d'Ivoire. Finally, social factors are the last variable that green consumers consider when purchasing biodegradable products in Côte d'Ivoire. These findings hint at the importance of manufacturing and offering biodegradable products, which take into consideration the economic, political, and social factors in Côte d'Ivoire. The results could be extended to other West African countries such as Nigeria, Ghana, Senegal, Niger, Benin, Mali, etc.

At the political level, the respondent pointed out that government support is the most influential factor compared to government regulations. The implication is that policymakers in Côte d'Ivoire should emphasize helping SMEs adopt green products by facilitating the administrative process that comes with it.

At the economic level, Table 3 shows that the cost of producing green products and their prices on the market are the most influential factors that explain green consumer online purchasing behavior in Côte d'Ivoire. Even though income level is important, it is not as significant as the costs of production and the prices of green products, which somehow shows the desire for consumers to buy green products in Côte d'Ivoire regardless of their income level. The implication of such is that governments should subsidize the costs of producing green products and the prices of these products on the market.

At the technological level, the payment method (e-payment) is the most important factor influencing the online buying of biodegradable products in Côte d'Ivoire. It is followed by IT abilities, which the consumers judge as the second important technological factor influencing their online purchasing of biodegradable products. In China, the tremendous success of the e-market lies partly in the efficacy and efficiency of the supply chain, which offers consumers many choices and services. On the contrary, although the supply chain facilities significantly influence the online purchasing of biodegradable products in Côte d'Ivoire, the results from this study reveal that the supply chain is the third most

important technological factor influencing green consumer behaviors in these two countries. The implication is that e-commerce leaders, manufacturers, and financial technology developers should cooperate in designing an easy-operating e-payment method.

At the social level, the results show that the cultural environment is the foremost important social factor influencing the online buying of biodegradable products in Côte d'Ivoire. Consumers' satisfaction is the second most important factor influencing green consumers' online purchasing behaviors in Côte d'Ivoire. These findings imply that green products should be manufactured and proposed in a way familiar to green consumers. Also, green products should be designed so that the consumer will be more satisfied at a similar price to non-green products.

REFERENCES

[1] Awa, H. O., & Ojiabo, O. U. (2016). A model of adoption determinants of ERP within TOE framework. *Information Technology & People*. https://doi.org/10.1108/ITP-03-2015-0068

[2] Awuni, J. A., Du, J., & Yiranbon, E. (2016). Factors influencing green purchasing behaviors: some insights from Tamale, Ghana. British Journal of Economics, Management & Trade, 14(4), 1-12. 10.9734/BJEMT/2016/27676

[3] Asgharian, R., Salehi, M., Saleki, Z. S., Hojabri, R., & Nikkheslat, M. (2012). Green product quality, green customer satisfaction, and green customer loyalty. International Journal of Research in Management & Technology, 2(5), 499-503.

[4] Bhatti, A., Akram, H., Basit, H. M., Khan, A. U., Raza, S. M., & Naqvi, M. B. (2020). E-commerce trends during COVID-19 pandemic. International Journal of Future Generation Communication and Networking, 13(2), 1449-1452.

[5] Borgman, H. P., Bahli, B., Heier, H., & Schewski, F. (2013, January). Cloudrise: exploring cloud computing adoption and governance with the TOE framework. Available at: 10.1109/HICSS.2013.132

[6] Biswas, A., & Roy, M. (2015). Green products: an exploratory study on the consumer behaviour in emerging economies of the East. Journal of cleaner production, 87, 463-468.

[7] Carrete, L., Castaño, R., Felix, R., Centeno, E., & González, E. (2012). Green consumer behavior in an emerging economy: confusion, credibility, and compatibility. Journal of consumer marketing, 29(7), 470-481. https://doi.org/10.1108/07363761211274983

[8] ÇavuȘoğlu, S., Demirağ, B., Jusuf, E., & Gunardi, A. (2020). The effect of attitudes toward green behaviors on green image, green customer satisfaction and green customer loyalty. GeoJournal of Tourism and Geosites, 33(4), 1513-1519. 10.30892/gtg.334spl10-601

[9] Chang, N. J., & Fong, C. M. (2010). Green product quality, green corporate image, green customer satisfaction, and green customer loyalty. African journal of business management, 4(13), 2836.

[10] Chen, X., Rahman, M. K., Rana, M., Gazi, M., Issa, A., Rahaman, M., & Nawi, N. C. (2022). Predicting consumer green product purchase attitudes and behavioral intention during COVID-19 pandemic. Frontiers in Psychology, 12, 6352. https://doi.org/10.3389/fpsyg.2021.760051

[11] Cruz-Jesus, F., Pinheiro, A., & Oliveira, T. (2019). Understanding CRM adoption stages: empirical analysis building on the TOE framework. Computers in Industry, 109, 1-13. 10.1016/j.compind.2019.03.007

[12] Fawzy, S. F., & Salam, E. M. A. (2015). M-Commerce adoption in Egypt: An extension to theory of reasoned action. The Business & Management Review, 6(1), 123.

[13] Gangwar, H., Date, H., & Raoot, A. D. (2014). Review on IT adoption: insights from recent technologies. Journal of Enterprise Information Management. 10.1108/JEIM-08-2012-0047

[14] Ghosal, I., Prasad, B., & Gupta, B. (2022). Restructuring the green consumerism through e-commerce portals: a behavioural congruence during post-covid-19. In Future of Work and Business in Covid-19 Era: Proceedings of IMC-2021 (pp. 89-99). Singapore: Springer Nature Singapore.

[15] Grandón, E. E., Nasco, S. A., & Mykytyn Jr, P. P. (2011). Comparing theories to explain e-commerce adoption. *Journal of Business Research*, *64*(3), 292-298. https://doi.org/10.1016/j.jbusres.2009.11.015

[16] Hair Jr, J. F., Black, W. C., Babin, B. J., & Andersen, R. E. (2010). *Multivariate data analysis* (7th ed). Upper Saddle River, NJ: Pearson Prentice Hall.

[17] Jian, Y., Yu, I. Y., Yang, M. X., & Zeng, K. J. (2020). The impacts of fear and uncertainty of COVID-19 on environmental concerns, brand trust, and behavioral intentions toward green hotels. Sustainability, 12(20), 8688. 10.3390/su12208688

[18] Jílková, P., & Králová, P. (2021). Digital consumer behaviour and ecommerce trends during the COVID-19 crisis. International Advances in Economic Research, 27(1), 83-85. https://doi.org/10.1007/s11294-021-09817-4

[19] Junaedi, S. (2012, September). The role of income level in green consumer behavior: Multigroup structural equation model analysis. In International Conference on Business and Management (pp. 6-7). Jakarta Indonesia: Conference held in Phuket-Thailand, CAAL International Education Organizer, Training and Consulting.

[20] Khan, M. S., Saengon, P., Alganad, A. M. N., Chongcharoen, D., & Farrukh, M. (2020). Consumer green behaviour: An approach towards environmental sustainability. Sustainable Development, 28(5), 1168-1180. **https://doi.org/10.1002/sd.2066**

[21] Khan, M. I., Khalid, S., Zaman, U., José, A. E., & Ferreira, P. (2021). Green Paradox in Emerging Tourism Supply Chains: Achieving Green Consumption Behavior through Strategic Green Marketing Orientation, Brand Social Responsibility, and Green Image. International Journal of Environmental Research and Public Health, 18(18), 9626. **https://doi.org/10.3390/ijerph18189626**

[22] Kim, H. M., Joo, K., & Hwang, J. (2022). Are Customers Willing to Pay More for Eco-Friendly Edible Insect Restaurants? Focusing on the Internal Environmental Locus of Control. Sustainability, 14(16), 10075. Available at: **https://doi.org/10.3390/su141610075**

[23] Li, G., Li, X., & Huo, L. (2023). Digital economy, spatial spillover, and industrial green innovation efficiency: Empirical evidence from China. Heliyon, e12875. https://doi.org/10.1016/j.heliyon.2023.e12875

[24] Li Y. (2014). Environmental innovation practices and performance: Moderating effect of resource commitment. *Journal of Cleaner Production*, 66, 450–458. https://doi.org/10.1016/j.jclepro.2013.11.04

[25] Lin, H. Y., & Hsu, M. H. (2015). Using social cognitive theory to investigate green consumer behavior. Business Strategy and the Environment, 24(5), 326-343. **https://doi.org/10.1002/bse.1820**

[26] Nair, S. R., & Little, V. J. (2016). Context, culture, and green consumption: a new framework. Journal of international consumer marketing, 28(3), 169-184. **https://doi.org/10.1080/08961530.2016.1165025**

[27] Paro, C. E., da Silva, H. M. R., Spers, E. E., Jugend, D., & Hamza, K. M. (2021). The technology effect, green consumption, and age in propensity to collaborative consumption. Cleaner and Responsible Consumption, 2, 100008. https://doi.org/10.1016/j.clrc.2021.100008

[28] Peattie, K. (2010). Green consumption: behavior and norms. Annual review of environment and resources, 35, 195-228. https://doi.org/10.1146/annurev-environ-032609-094328

[29] Sun, X., Su, W., Guo, X., & Tian, Z. (2021). The impact of awe induced by COVID-19 pandemic on green consumption behavior in China. International Journal of Environmental Research and Public Health, 18(2), 543. 10.3390/ijerph18020543

[30] Van Ark, B. (2016). The productivity paradox of the new digital economy. International Productivity Monitor, (31), 3.

[31] Yang, M., Chen, H., Long, R., & Yang, J. (2023). How does government regulation shape residents' green consumption behavior? A multi-agent simulation considering environmental values and social interaction. Journal of Environmental Management, 331, 117231. https://doi.org/10.1016/j.jenvman.2023.117231

[32] Yousafzai, S. Y., Foxall, G. R., & Pallister, J. G. (2010). Explaining internet banking behavior: theory of reasoned action, theory of planned behavior, or technology acceptance model? *Journal of applied social psychology*, *40*(5), 1172-1202. **https://doi.org/10.1111/j.1559-1816.2010.00615.x**

[33] Yuan, P., Dong, X., Xu, J., & Lin, X. (2021). How Government Regulations and Consumer Behavior Influence Manufacturers' Product Green Degree Decision-Making: An Agent-Based Model. Wireless Communications and Mobile Computing, 2021, 1-18. https://doi.org/10.1155/2021/5582140

[34] Zhang, M. L., & Chen, M. S. (2019). China's digital economy: Opportunities and risks. International Monetary Fund.

[35] Zhang, X., & Liu, S. (2021). Action mechanism and model of cross-border e-commerce green supply chain based on customer behavior. Mathematical Problems in Engineering, 2021, 1-11. 10.1155/2021/6670308

[36] Zhao, H. H., Gao, Q., Wu, Y. P., Wang, Y., & Zhu, X. D. (2014). What affects green consumer behavior in China? A case study from Qingdao. Journal of Cleaner Production, 63, 143-151. Available at: https://doi.org/10.1016/j.jclepro.2013.05.021