

Belizean Consumers and Entrepreneurs Online: Characteristics and Determinants

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Abstract

This study explores Belize's emerging online marketplace using 2024 World Bank Findex survey data. Characteristics and determinants of online buyers and sellers were examined through descriptive and multivariate analyses. Two research questions drive our study: 1) what are the characteristics of Belizean online buyers and sellers? And 2) what are the determinants of Belizean online buyers and sellers? Findings highlight demographic and financial factors, such as gender, education, and smartphone access, that shape e-commerce participation. Women, educated, and employed individuals are more likely to buy online, while increasing age negatively correlates with online engagement. Urban, educated, and higher-income individuals, especially women, are more likely to sell online, aided by digital familiarity. Past in-person mobile or card payment experience strongly predicts buyer and seller online activity. Limitations, future research, and policy implications are briefly explored.

Keywords: Online buying, online selling, Belize, World Bank Findex Survey

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Introduction

Around the world, the smartphone and its ubiquity have ushered in an era of increasing digital commerce. Buyers and sellers may readily find an online marketplace to fulfill their wants and needs. Recognized online residential and retail platforms such as Airbnb, Vrbo, Facebook Marketplace, Amazon, Temu, and Alibaba are popular and accessible in Belize. Due to limited market size, as in the case of Belize, some popular online markets are unavailable, such as Uber and Lyft. The number of online ecommerce users is expected to reach 157,000 Belizeans by 2027, or about one-third of the population (U.S. International Trade Administration (ITA), 2024).

In Belize, for example, many buyers and sellers engage daily via social media platforms such as Facebook, where e-commerce is done and, in some cases, it is tailored to even by locations, products, or services, etc. Examples of these groups include Belize Classified, Belize Marketplace, Belize Buy and Sell, Belize Buy and Sell-Real Estate or Vehicles, and Belize Buy and Sell (San Pedro). During the Summer of 2025, many Belizeans were able to purchase their children's school textbooks via these groups, where sellers post used and new books and buyers make arrangement for purchase, facilitated with online transfers of payments, after which delivery is finalized. In Belize, much e-commerce occurs using the Consumer to Consumer (C2C) and the Business to Consumer (B2C) business models. Online commercial activity has spilled over into the physical marketplace where retailers such as Mirab Co. Ltd and Pink Boutique now engage in B2C e-commerce to capture larger consumer markets in Belize.

As very little academic research has been undertaken regarding the online marketplace in Belize; as a result, this research offers a first step forward in exploring this phenomenon using a recent nationally representative survey on financial inclusion in Belize undertaken by the World Bank. Specifically, two research questions were explored related to the online Belizean marketplace: 1) what are the characteristics of Belizean online buyers and sellers? 2) what are the determinants of Belizean online buyers and sellers? Consequently, the main objective of this research was to identify the characteristics and determinants of online buyers and sellers in the Belizean marketplace. The remaining sections of this paper include a literature review, methodology, results, discussion, and conclusion.

Literature Review

Developing countries are home to over 80% of the world's population (Paul, 2025) and the increasing use of e-commerce is becoming ever more visible globally. The e-commerce path of growth in these countries is noteworthy, whereby some regions have experienced a double up of e-commerce consumers since the early 2020s (Hes, 2025). For example, Latin American consumers' engagement in e-commerce increased by a little more than one third in 2022, with an estimated market value of US\$85 billion (Hes, 2025). Additionally, within a period of three years, the digital economy of Southeast Asia doubled its mark of over US\$200 billion, while in African economies, participation in the digital marketplace has also increased (Hes, 2025). It is therefore imperative to note that e-commerce can be beneficial to developing countries by boosting economic activity and growth (Hendricks & Mwapwele, 2024). However, there are many influential factors that affect consumer's decisions to interact in digital marketplaces (Walean et al., 2025). Kotler & Armstrong (2018) stated that consumer decisions are influenced by personal, social, and psychological factors. Especially in the digital marketplace, these factors are considered very complex due to the dynamic nature of online shopping experiences.

As there is no academic literature that combines Belize and online commerce, the general literature was used for guidance on this topic. As to the characteristics associated with online shopping, Santos (2025) uses age, location, gender, income, and occupation to identify the characteristics of online food retailers in the Philippine capital of Manila. In a synthesis of 50 studies, Bao et al. (2025) revealed that important socio-economic determinants affecting e-commerce in developing countries include income, education, digital literacy, infrastructure, trust, and payment solutions. Hasyati (2017) revealed that demographic and socioeconomic characteristics can be determinants of whether Indonesians engage in e-commerce or not. Walean et al. (2025) also highlighted several studies, showing that trust is a major determinant of engaging in e-commerce. Handoyo (2024) revealed that despite the socio-economic status of consumers, trust

remains a universal determinant, highlighting that trust was a notable factor in shaping consumers' e-commerce decisions regardless of income levels. However, Bao et al. (2025) reported studies which revealed that consumers' confidence in engaging in online transactions differ when compared across different socio-economic groups, such that people who are older and who are from rural areas seem to possess less confidence in online transactions. Additionally, other studies underscored the fact that people who earn less and who are less educated have a lower probability of engagement in e-commerce (Bao et al., 2025). Less educated consumers have a higher propensity toward digital illiteracy, reducing their ability to engage in e-commerce. Also, due to a lack of ability to interact with tangible products, consumers find e-commerce riskier, thus affecting their confidence (Huang, 2025). Confidence is also impacted by the consumers' perception of availability of secure payment systems, clear policies, and positive customer experiences (Bao et al., 2025; Hendricks & Mwapwele, 2024).

Residence and retail density may also influence online shopping (Cui et al., 2024). Roos et al. (2024) argued that women and younger people are more likely to shop online as are urbanites and those with higher incomes and education. These selective demographic variables (e.g., gender, geographic location, income, age) are supported by a meta-analysis of online consumer behavior (Cummins et al., 2014). Cummins et al. (2014) also note research that compares shoppers and non-shoppers, sellers and non-sellers as important across studies. Hence, the use of demographics and the exploration of the determinants of online buying and selling are in line with previous research studies foundationally supporting our research questions.

Methodology

Data

The latest Global Findex survey undertaken by the World Bank was conducted in 141 economies totaling more than 140,000 responses. This is the fifth Global Findex survey with others completed in 2011, 2014, 2017, and 2021. The Findex survey is the most definitive source of information regarding the use of financial services. The World Bank included Belize in the latest survey cycle completed between August 26 and November 1, 2024. In Belize, 509 randomly selected respondents between the ages of 15 and 91 were interviewed face-to-face in either English or Spanish completing a close-ended questionnaire with about 200 questions covering standard demographics and a range of topics focused on the use of financial services over the previous 12 months. The World Bank employs weights to ensure and correct for a nationally representative sample (e.g., gender, residence, age, education, income, etc.), as is the case for Belize (Klapper et al., 2025). This secondary research forms the basis for this present study with the survey respondent level microdata available through the World Bank global Findex website (see <https://www.worldbank.org/en/publication/globalfindex>).

The available demographic information from the survey were utilized, including gender (female or male), age (in years), residence (urban or rural), education (focused on the highest level of educational achievement: primary schooling or less, secondary schooling, or tertiary level schooling), employment (employed or not employed), and household income (reported in income quintiles). Several facilitation mechanisms for online transactions are also included in our analyses. These include an account at a financial institution (yes or no), the possession of a smartphone (yes or no), the frequency use of the respondent's phone (daily or weekly), the use or not of a phone or a card to make in-store purchases, the receipt or not of domestic remittances and if received whether an account was used, and lastly the receipt or not of an international remittance payment.

Descriptive Statistics

Demographic descriptive statistics for the Findex survey administered in Belize are shared in Table 1. During the latter half of 2024, the survey asked a total of six questions focused on respondent disposition of gender, age, residence in a rural or urban area, education level, employment (working or not working), and household income group by income quintile (see column 1). Column 2 shows the makeup of all the respondents. Roughly half of the sample is split between men and women with an average age just below 40 years. Based upon the Findex definition of urban, just over four-fifths of respondents are categorized as rural (Belize City is the only community in Belize considered urban). The educational backgrounds of the

respondents reveal about 45% with a primary education or less, about 43% with a secondary education, and about 12% with a tertiary education. Most respondents are employed (65%) and live in households across approximately equal in number to the five income quintiles.

Table 1: Descriptive Statistics for All Respondents, Online Buyers, and Online Sellers

Variable	All	In the past 12 months...			
		have you personally used a mobile phone or computer to buy something online that was delivered to you?		have you used apps or websites to earn money, for example, by selling goods or services online?	
		Yes	No	Yes	No
Gender (%)					
Male	47.4	<i>24.2</i>	<i>75.8</i>	16.7	83.3
Female	52.6	<i>33.1</i>	<i>66.9</i>	19.9	80.1
Mean Age (std. dev.)	38.3 (17.2)	<i>32.5 (11.3)</i>	<i>40.3 (16.5)</i>	36.5 (16.5)	36.9 (16.1)
Residence (%)					
Urban	17.0	28.6	71.4	31.6	68.4
Rural	83.0	28.6	71.4	15.6	84.4
Education (%)					
Primary or Less	45.5	<i>13.1</i>	<i>86.9</i>	12.9	87.1
Secondary	42.8	<i>30.2</i>	<i>69.8</i>	21.5	78.5
Tertiary or More	11.7	<i>58.2</i>	<i>41.8</i>	24.1	75.9
Employed (%)					
Yes, In the Workforce	65.0	<i>33.0</i>	<i>67.0</i>	23.3	76.7
No, Out of the Workforce	35.0	<i>18.6</i>	<i>81.4</i>	8.2	91.8
Household Income (%)					
Quintile 1 (bottom)	20.0	27.3	72.7	12.3	87.7
Quintile 2	20.0	19.7	80.3	22.1	77.9
Quintile 3	19.8	30.8	69.2	19.4	80.6
Quintile 4	20.2	32.8	67.2	19.8	80.2
Quintile 5 (top)	20.0	32.9	67.1	17.0	83.0
All (%)	---	28.7	71.3	18.3	81.7
Number	509	93	233	84	372

Source: Authors' calculations from the FINDEX 2024 survey, weighted.

Note: Crosstabulations (Chi-Square) or comparison of means (ANOVA) with *italics* are significant at the $p \leq .10$.

The remaining columns in Table 1 focus on online buyers and sellers in Belize and their corresponding demographics (though with some respondents not providing further details of their buying [$n=326$ ($93+233$)] and selling [$n=456$ ($84+372$)] online activities). These columns are separated by the acts of buying or not online and selling or not online over the past 12 months. Starting with online buyers emphasizing those who engage in buying, women are more likely to buy online compared to men. Roughly one-quarter of men and one-third of women report buying online. This difference is statistically significant and is highlighted in the table with *italics*. Younger Belizeans are more likely to purchase online than those who do not; this result is also statistically significant. Just over one-quarter, regardless of residence, engage in buying online. With higher levels of education and employment comes a significantly greater propensity of buying online. Among household income levels, it is the second quintile group closest to the bottom income group that is less likely to buy online (about 20% of respondents) whereas the other income groups are more closely grouped (around 30%).

Fewer than one-fifth of Belizeans have earned money selling online and there is no statistical difference between men and women or by age. Urban respondents, in contrast to rural residents, are significantly

more likely to engage in selling online and about one-third of urban respondents do so. More educated and working respondents are also significantly more likely to be online sellers though the rates of online selling are below one-quarter of the respondents. Lastly, there is no significant difference associated with household income quintile. The descriptive statistics explored and reported in Table 1 addresses our first research question as to the characteristics of Belizean online buyers and sellers.

Our second research question considers the determinants associated with Belizean online buyers and sellers. As the act of buying and selling online is a dichotomous one, either one buys or not online and one either sells online or not. These two acts serve as our dependent variables in separate analyses, one focused on buyers and the other focused on sellers. Binomial logistic regression handles dichotomous choices well, is a robust multivariate statistical tool with few assumption requirements (Pampel, 2000), and is useful in predicting the odds or likelihood of group membership. Group membership may be influenced by a set of independent variables; in the following analyses, both demographic characteristics and facilitation mechanisms were considered to help predict respondent group membership.

The Findex survey provides several questions that focus on the facilitation mechanism of online buying and selling. These questions include respondent access to formal financial institutions, phones (mobile phones and smartphones), phone use, payment instruments via a phone or card, the receipt or payments of domestic remittances, and the receipt of international remittances from friends or family members abroad (see Table 2). Two-thirds of respondents have an account at a financial institution. All respondents had access to a phone via family, friends or community members. Most respondents owned a phone (86.4%) and most of the phones are smartphones (92.7%) that are regularly used daily (92.7%). Less common is the use of the phone or a card to pay for in-store purchases where slightly less than one-third of respondents reported doing so in the prior year to the survey. Almost one-half of respondents (44.5%) received or made remittance payments within Belize, generally split using and not using an account. Roughly one-quarter of respondents received international remittance payments (24.3%).

Table 2: Facilitation Mechanisms for Online Buyers and Online Sellers

Variable	Value
Has an Account at a Financial Institution (%)	
Yes	67.3
No	32.7
Has a Smartphone (%)	
Yes	92.7
No	7.3
Mobile Phone Use Frequency (%)	
Daily	92.7
Weekly	7.2
Less than Once a Month	0.1
Used a Mobile Phone or a Card to Pay for an In-Store Purchase	
Yes	30.2
No	69.8
Made or received a domestic remittance payment (%)	
Yes - Using an Account	23.9
Yes - Not Using an Account	20.6
No	55.5
Received an international remittance payment (%)	
Yes	24.3
No	75.7
Number	509

Source: Authors' calculations from the FINDEX 2024 survey, weighted.

Results

The logistic regression results are presented in two models, model 1 considers only demographic variables and model 2 considers both the demographic variables and the facilitation mechanisms. This is due to the number of missing data involved in model 2 where our results are more suggestive than conclusive.

Belizean Online Buyers

Model 1

The model 1 binomial logistic regression for Belizean online buyers with delivery at home is reported in Table 3A. The significant variables (in bold) include gender, age, and income and are reported as follows. Men are 49.9% less likely to buy online as compared to women.² For each additional year of a respondent's age, the odds of buying online is reduced by 2.6%. Respondents with a secondary education are 1465.5% more likely to buy online and respondents with a tertiary education are 5.989 times more likely to buy online as compared to or in reference to respondents with a primary education or less. Lastly, respondents who are employed are 91.2% more likely to buy online than respondents who are not working.

The binomial logistic regression diagnostics are all acceptable and appear at the bottom of Table 3A. The model is significant with a Nagelkerke R² of .231. The model predicts reasonably well at 76.2% (or 1.3 times better than chance) and predicts non-online buyers exceptionally well (92.7%).

Table 3A: Binomial Logistic Regression for Belizean Online Buyers with Home Delivery (Yes, Buy Online=1)

MODEL 1 Variable	B	S.E.	Wald	Exp(β)
Constant	-1.026	.604	2.886	.358*
Demographics				
Gender (women = 1)	-.691	.292	5.593	.501[†]
Mean Age (in years)	-.026	.011	6.135	.974[†]
Residence (rural = 1)	.039	.364	.011	1.039
Education			22.968[‡]	
Primary or Less	Reference	Reference	Reference	Reference
Secondary	.902	.350	6.662	2.465*
Tertiary or More	1.944	.406	22.889	6.989[‡]
Employed (yes in the workforce = 1)	.648	.347	3.491	1.912*
Household Income			.593	
Quintile 1 (bottom)	Reference	Reference	Reference	Reference
Quintile 2	-.330	.481	.471	.719
Quintile 3	-.005	.451	.000	.995
Quintile 4	.397	.443	.804	1.487
Quintile 5 (top)	.114	.443	.066	1.120
Diagnostics				
-2 Log Likelihood				333.373[‡]
Cox and Snell R ² Nagelkerke R ²				.161 .231
Hit Ratio (% Correct): Yes (buy online) No (do not buy online) Overall				35.1 92.7 76.2
N				326

Notes:

- i. PPC Proportional Chance Criterion (PPC) = $a^2 + (1-a)^2$. A good model predicts 1.25 times the PPC.
 - a. Online Buyers: $(.715)^2 + (1-.715)^2 = 0.592$; 1.25 times = 0.740;

² This is calculated as $|1-\text{Exp}(\beta)|$. For example, the calculation for gender where women is the reference category is computed as $|1-0.501|$ or 0.49.9 or 49.9%.

- b. The model predicts .762, slightly more than 1.25 times chance.
 ii. ^ Represents significance at the *P≤0.10; †P≤0.05; and ‡P≤0.01 levels.
 Source: Authors' calculations from the FINDEX 2024 survey, weighted.

Model 2

The model 2 binomial logistic regression for Belizean online buyers with delivery at home is reported in Table 3B. The significant variables (in bold) among demographic and facilitation mechanism variables are gender, education, and in-store purchases using a mobile phone or card. Men are 49.4% less likely to buy online in reference to women. Respondents with higher levels of education are more likely to buy online. Respondents with a secondary education are 90.4% more likely and respondents with a tertiary education are 4.179 times more likely to buy online than the reference group of respondents with a primary education or less. Respondents who have made an in-store purchase with a mobile phone or card are 69.7% more likely to buy online compared to respondents who have not made an in-store purchase with a mobile phone or card. In model 2, two demographic variables drop out, these are age and employment.

The binomial logistic regression diagnostics are all acceptable and appear at the bottom of Table 3B. The model is significant with a Nagelkerke R² of .325. The model predicts reasonably well at 75.1% (or 1.3 times better than chance) and predicts non-online buyers exceptionally well (89.1%).

Table 3B: Binomial Logistic Regression for Belizean Online Buyers with Home Delivery (Yes, Buy Online=1)

MODEL 2 Variable	β	S.E.	Wald	Exp(β)
Constant	-.144	.738	.038	.866
Demographics				
Gender (women = 1)	-.682	.321	4.501	.506[†]
Mean Age (in years)	-.018	.012	2.275	.982
Residence (rural = 1)	.009	.437	.000	1.009
Education			13.891[‡]	
Primary or Less	Reference	Reference	Reference	Reference
Secondary	.644	.389	2.738	1.904[*]
Tertiary or More	1.645	.447	13.528	5.179[‡]
Employed (yes in the workforce = 1)	.485	.384	1.597	1.624
Household Income			.574	
Quintile 1 (bottom)	Reference	Reference	Reference	Reference
Quintile 2	-.079	.539	.021	.924
Quintile 3	.193	.509	.143	1.213
Quintile 4	.114	.513	.049	1.120
Quintile 5 (top)	-.094	.500	.036	.910
Facilitation Mechanisms				
Has an Account at a Financial Institution (yes=1)	-18.508	27192.525	.000	.000
Has a Smartphone (yes = 1)	-1.194	.907	1.733	.303
Mobile Phone Use Frequency (daily = 1)	-2.294	2.036	1.269	.101
Used a Mobile Phone or a Card to Pay for an In-Store Purchase (no = 1)	-1.195	.335	12.762	.303[‡]
Made or received a domestic remittance payment			1.321	
Yes - Using an Account	.420	.376	1.246	1.522
Yes - Not Using an Account	.073	.449	.027	1.076
No	Reference	Reference	Reference	Reference
Received an international remittance payment (no=0)	-.374	.391	.915	.688

Diagnostics				
-2 Log Likelihood				285.706[‡]
Cox and Snell R ² Nagelkerke R ²				.229 .325
Hit Ratio (% Correct): Yes (buy online) No (do not buy online) Overall				42.3 89.1 75.1
N				297

Notes:

- i. PPC Proportional Chance Criterion (PPC) = $a^2 + (1-a)^2$. A good model predicts 1.25 times the PPC.
 - a. Online Buyers: $(.700)^2 + (1-.700)^2 = 0.580$; 1.25 times = 0.725; model predicts .751, slightly more than 1.25 times chance.
- ii. ^ Represents significance at the * $P \leq 0.10$; $^{\dagger}P \leq 0.05$; and $^{\ddagger}P \leq 0.01$ levels.

Source: Authors' calculations from the FINDEX 2024 survey, weighted.

Belizean Online Sellers

Model 1

The model 1 binomial logistic regression for Belizeans who earn income selling online is reported in Table 4A. The significant variables (in bold) include gender, residence, education, and employment and are reported as follows. Men are 47.4% less likely to earn income selling online than women. Urbanites are 102.2% more likely to earn income by selling online than rural respondents. Higher levels of education increase the odds of earning income online. As compared to the reference group, respondents with a secondary education and respondents with a tertiary education are 101.6% and 118.2%, respectively, more likely to earn income selling online than respondents with a primary education or less. Lastly, employed respondents are 3.23 times more likely to earn income by selling online than respondents who are not employed.

The binomial logistic regression diagnostics are all acceptable and appear at the bottom of Table 4A. The model is significant with a Nagelkerke R² of .138. The model predicts at a rate of 82.6% (or 1.2 times better than chance) and predicts non-online sellers exceptionally well (99.4%).

Table 4A: Binomial Logistic Regression for Belizean Online Sellers (Yes, Sell Online=1)

Model 1 Variable	β	S.E.	Wald	Exp(β)
Constant	-3.441	.613	31.501	.032[‡]
Demographics				
Gender (women = 1)	-.643	.273	5.550	.526[†]
Mean Age (in years)	.008	.009	.833	1.008
Residence (rural = 1)	.789	.301	6.887	2.202[‡]
Education			6.186[†]	
Primary or Less	Reference	Reference	Reference	Reference
Secondary	.701	.306	5.231	2.016[†]
Tertiary or More	.780	.405	3.707	2.182*
Employed (yes in the workforce = 1)	1.442	.358	16.250	4.230[‡]
Household Income			3.607	
Quintile 1 (bottom)	Reference	Reference	Reference	Reference
Quintile 2	.612	.441	1.925	1.845
Quintile 3	.147	.452	.106	1.158
Quintile 4	.324	.455	.505	1.382
Quintile 5 (top)	-.042	.465	.008	.959
Diagnostics				
-2 Log Likelihood				394.412[‡]

Cox and Snell R ² Nagelkerke R ²	.085 .138
Hit Ratio (% Correct): Yes (earned \$ online) No (did not earn \$ online) Overall	8.2 99.4 82.6
N	452

Notes:

- i. PPC Proportional Chance Criterion (PPC) = $a^2 + (1-a)^2$. A good model predicts 1.25 times the PPC.
 - a. Online Sellers: $(.821)^2 + (1-.821)^2 = 0.706$; 1.25 times = 0.883; model predicts .826, slightly less than 1.25 times chance.
- ii. ^ Represents significance at the * $P \leq 0.10$; + $P \leq 0.05$; and ‡ $P \leq 0.01$ levels.

Source: Authors' calculations from the FINDEX 2024 survey, weighted.

Model 2

The model 2 binomial logistic regression for Belizeans earning income selling online is reported in Table 4B. The significant variables (in bold) among demographic and facilitation mechanism variables are gender, education, employment, household income, and in-store purchases using a mobile phone or card. Men are 59.6% less likely to earn income selling online than women. Respondents with a secondary level of education are 2.381 times more likely to earn money online than those with a primary or less education (e.g., the reference group). Respondents living in a household at the second lowest income quintile are 2.263 times more likely to earn money online than the lowest income quintile who serve as the reference group. Respondents who have made an in-store purchase with a mobile phone or card are 54.0% more likely to earn income by selling online compared to respondents who have not made an in-store purchase with a mobile phone or card. In model 2, two demographic variables drop out, these are residence and tertiary education.

The binomial logistic regression diagnostics are all acceptable and appear at the bottom of Table 4B. The model is significant with a Nagelkerke R² of .270. The model predicts at a rate of 82.5% (or 1.2 times better than chance) and predicts non-online sellers exceptionally well (97.3%).

Table 4B: Binomial Logistic Regression for Belizean Online Sellers (Yes, Sell Online=1)

Model 2 Variable	β	S.E.	Wald	Exp(β)
Constant	-2.366	.910	6.763	.094[‡]
Demographics				
Gender (women = 1)	-.905	.358	6.395	.404[†]
Mean Age (in years)	-.003	.014	.052	.997
Residence (rural = 1)	.698	.440	2.522	2.010
Education			7.860[†]	
Primary or Less	Reference	Reference	Reference	Reference
Secondary	1.218	.438	7.722	3.381[‡]
Tertiary or More	.737	.535	1.898	2.089
Employed (yes in the workforce = 1)	1.301	.454	8.223	3.672[‡]
Household Income			13.256[*]	
Quintile 1 (bottom)	Reference	Reference	Reference	Reference
Quintile 2	1.183	.561	4.444	3.263[†]
Quintile 3	.339	.567	.359	1.404
Quintile 4	-.459	.609	.569	.632
Quintile 5 (top)	-.423	.585	.522	.655
Facilitation Mechanisms				
Has an Account at a Financial Institution (yes=1)	-18.443	26887.257	.000	.000
Has a Smartphone (yes = 1)	.967	.817	1.398	2.629
Mobile Phone Use Frequency (daily = 1)	-2.647	1.988	1.772	.071

Used a Mobile Phone or a Card to Pay for an In-Store Purchase (no = 1)	-.776	.385	4.054	.460[†]
Made or received a domestic remittance payment			.272	
Yes - Using an Account	.215	.413	.270	1.240
Yes - Not Using an Account	.078	.495	.025	1.081
No	Reference	Reference	Reference	Reference
Received an international remittance payment (no=0)	-.086	.417	.043	.917
Diagnostics				
-2 Log Likelihood				250.100[‡]
Cox and Snell R ² Nagelkerke R ²				.177 .270
Hit Ratio (% Correct): Yes (earned \$ online) No (did not earn \$ online) Overall				31.2 97.3 82.5
N				284

Notes:

iii. PPC Proportional Chance Criterion (PPC) = $a^2 + (1-a)^2$. A good model predicts 1.25 times the PPC.

a. Online Sellers: $(.789)^2 + (1-.789)^2 = 0.670$; 1.25 times = 0.837; model predicts .825, slightly less than 1.25 times chance.

iv. ^ Represents significance at the * $P \leq 0.10$; $†P \leq 0.05$; and $‡P \leq 0.01$ levels.

Source: Authors' calculations from the FINDEX 2024 survey, weighted.

Discussion

Focusing on Belizean online buyers, the results of model 1 and 2 showed that men are less likely to engage in e-commerce activities than women, and consumers who are more educated and who are employed are more likely to buy online. These results support much of the literature in that it concurs that engaging in e-commerce is affected by socioeconomic factors of consumers. Given that women normally must juggle different roles in the family and/or at work, and fulfilling their expected social role of shopping, doing it online allows for flexibility, thereby becoming more convenient and saves time than visiting a physical store. Specifically, these results are in line with Bao et al. (2025) which concluded that less educated people and people who earn less are less likely to engage in online business activity. Due to certain scams that occur in the country and that Belizeans are aware of when doing online business, less educated individuals who earn less would prefer to safeguard their income and reduce the perceived risk, thereby being less likely to engage in e-commerce, while higher income individuals would normally have more disposable income and are better able to withstand financial losses, making them more likely to do e-commerce.

In the case of purchasing online, lack of digital education due to possessing little education can be a hurdle in doing successful e-commerce because less educated buyers might not be able to navigate the online platforms and properly utilize information technology to do so. As it relates to employed individuals, they would normally have limited time to shop in stores due to work obligations; as a result, they would be more likely to engage in e-commerce due to its convenience, time, and effort saving. The results of model 1 also show that age has an inverse relationship with individuals' propensity to engage in e-commerce, concurring with many other consumer research studies (Tutar, 2024; Rybaczewska, 2022; Imran et al., 2021; Hasyati, 2017). The reality in Belize is that older persons are normally less tech savvy; as a result, as age increases, their online involvement doing business decreases due to demands of keeping up with technology, which is normally more of an interest among younger individuals (Hasyati, 2017). Model 2 results revealed that consumers who have made an in-store purchase with a mobile phone or card are more likely to engage in e-commerce. This could be due to the fact that since consumers already have experience in using technology for in store purchases, it becomes more comfortable and familiar for them in using digital methods; therefore, the transitioning to doing business online, would not be a big issue for them because regardless

of being in a physical store or online, the digital methods that they are accustomed to, remains, thereby reducing trust issues when engaging in e-commerce.

Focusing on Belizean online sellers, the results of model 1 revealed that employed individuals are more likely to earn income by selling online than respondents who are not employed. Though the notion is that unemployed people who are more dire in need of money and have less income would be expected to have a higher participation rate in creating business opportunities online since it is relatively cheaper and it allows for a quicker increase in customer base than establishing physical stores, this seems to not be the case in Belize, though when traditional jobs are not forthcoming, normally unemployed individuals often resort to e-commerce. This was evident in Belize during the Covid 19 pandemic, when many individuals lost their jobs, forcing them to become “overnight” entrepreneurs online, especially when social distancing and lockdowns were enforced. Based on model 1 finding however, it suggests that the unemployed would resort to becoming online sellers in extreme circumstances. This finding is unique given that most of the literature such as studies from Elshaiekh et al. (2023), Asian Development Bank (2021), Hänninen et al. (2023), Al Abri et al. (2023) and Chen et al. (2023) indicated otherwise in that unemployed individuals were more involved in the creation of online business opportunities. Nevertheless, model 1 results support the reality that employed people would have greater capital to invest in the purchase of stock of goods and invest in marketing activities.

In Belize, many still depend on traditional jobs rather than gravitate towards being an entrepreneur; this could be due to lack of knowledge and skills needed by an entrepreneur and the short term orientation nature of Belizeans (Avila & Pisani, 2022), thereby expecting immediate gratification rather than having a long term vision; as a result, the e-commerce opportunities could be missed by unemployed people, of which employed people take advantage of, thereby increasing their probability to engage in online sales than unemployed people. Additional results from model 1 show that urbanites are more likely to earn income by selling online than rural respondents. It is a fact that doing e-commerce requires significant and reliable technological infrastructure. In Belize, while the 2022 census data reported that 90.9% of individuals possess mobile devices and 71.3% of households have internet access (Statistical Institute of Belize (SIB), 2022; Ku, 2024), the digital divide still exists particularly in the undeveloped areas, and rural communities where approximately 60% of households reside (SIB, 2022) and that lack coverage and rely on expensive, slower satellite connections (ITA, 2024), which could negatively affect the ability for individuals living in these rural areas to do e-commerce, thereby resulting in urbanites having a greater probability to do online business.

Models 1 and 2 results further revealed that higher levels of education increase the odds of earning income online. To be effective online sellers, educated individuals have a greater opportunity to possess the requisite level of information technology knowledge and skills to navigate online platforms and market their product or services effectively, which would make them more at ease operating in an online environment. Models 1 and 2 also revealed that men are less likely to earn income selling online than women. It can be said that the more responsibilities a woman have such as childcare responsibilities, etc., traditional jobs become less favoured and flexible arrangements are preferred, which online selling offers, allowing women to balance their responsibilities while still earning money. Additionally, as in Belize, many of the online marketplaces are dominated by females selling beauty products and/or services, used and new clothes, shoes, fashion accessories, food and household items, etc, increasing their likelihood of earning more income as compared to men who have little interest in selling these products/services, thereby reducing the probability of men earning income by selling online. In Belize, men are mostly engaged in online selling for low online demand products such as vehicles, equipment, electronics, etc., that also have lower turnover rates. However, it can be argued that though the inventory turnover ratio for the items men sell may be small, the income could surpass what women earn due to higher value of these products.

Online selling also requires for sellers to build relationships with customers, through different marketing efforts, communicating with and responding to customers, of which women inherently have an advantage over men. Model 2 results show that individuals with higher income levels are more likely to earn money via e-commerce. A study done in Latin America and the Caribbean by Hilbert & Gomez (2020) and another

from Van Deursen et al. (2022) found a similar result, which could explain that due to positive correlations that normally exists between education and income, individuals with the former would also be better positioned with the knowledge and skills to navigate online platforms to earn money. Model 2 also revealed that individuals who have made an in-store purchase with a mobile phone or card are more likely to earn income by selling online compared to respondents who have not made an in-store purchase with a mobile phone or card. This could be that as a buyer, these individuals have already established certain requirements to operate in a digital world, such as a bank account, Digiwallet, a smart phone, etc., and they experience how the digital systems work, thereby reducing uncertainty and trust issues, making it easier psychologically to adopt and adapt to online selling platforms. This underscores that psychological factors (Kotler & Armstrong, 2018) such as trust play a vital role in individuals' decisions to engage in the digital marketplace (Walean et al., 2025; Handoyo, 2024).

Synthesizing the results of models 1 and 2 for both Belizean online sellers and buyers, it is noted that women have a higher likelihood to be online buyers and/or sellers and that well educated individuals who are employed are more likely to engage in e-commerce as buyers and/or sellers. Individuals with past experiences of purchasing in stores using digital payments have a higher propensity of becoming online sellers.

Limitations and Further Research

Given that this paper utilized secondary data, the main limitation is that the researcher had no control over the quality of data obtained and questions asked. Therefore, the researcher must have confidence in the integrity of the data based on the research design and methodology of the actual study that was conducted in Belize. Ultimately, the results provided in this paper are as good as the data obtained from the primary source which the researchers believe was well executed by the World Bank.

Time is money; so, the quicker a country adapts to technology, the faster it can develop (Hasyati, 2017) because technology assists with efficiency. Technology is advancing at a fast rate, and countries must be able to embrace it and adapt to it. Consequently, further research is recommended to investigate other determinants apart from the socioeconomic ones, that can affect individuals' ability, perceptions, and willingness to utilize e-commerce in business (e.g., trust, confidence) and in using electronic systems to be more competitive and efficient (e.g., institutions, payment infrastructure).

Conclusion

In summary, the results of this study concur with much of the consumers and entrepreneurs' behaviours literature by revealing that socio-economic determinants and characteristics such as age, income, education, residence and gender do play a role in determining individuals' involvement in online buying and selling. In the case of Belize, with majority of individuals living in the rural areas (SIB, 2022), the Government of Belize may want to close the digital divide gap to help to facilitate e-commerce in rural areas, particularly by creating online sellers which would in turn increase economic growth and reduce poverty levels. Implementing activities such as the Digital Connect to enhance digital inclusion (Government of Belize Press Office, 2024) in some rural areas, is a good start to help bridge the digital divide and provide internet availability for education, e-governance and e-commerce. Ultimately, based on the results of this paper, to augment the e-commerce market in Belize, several demographic and socioeconomic characteristics and determinants must not be ignored.

References

- Al Abri, R., Al Abri, A., & Keshwani, S. (2023). An empirical analysis of factors motivating unemployed individuals to engage in digital entrepreneurship in Oman: Focus on technological infrastructure. *Sustainability*, 15(17), Article 12953.
<https://doi.org/10.3390/su151712953>
- Asian Development Bank. (2021). *More Filipino women into online selling but male sellers earn more, study finds*. Philippine Institute for Development Studies.
<https://www.pids.gov.ph/details/more-filipino-women-into-online-selling-but-male-sellers-earn-more-study-finds>
- Avila, D., & Pisani, M. (2022). Navigating national cultures within the conduct of international business in Belize, Central America. *Revista Economía y Administración*, 13(1), 9–50.
- Bao, M., Latif, S., Bao, D., Latif, Z., & Lu, J. (2025). Overcoming e-commerce barriers in developing markets: A review of data-driven strategies for sustainable growth. *Sustainable Futures*, 10, Article 101408. <https://doi.org/10.1016/j.sftr.2025.101408>
- Chen, J., Hann, I., & Roberts, J. (2023). Unemployment and online labor: Evidence from microtasking. *MIS Quarterly*, 47(2), 771–806.
<https://misq.umn.edu/misq/article/47/2/771/2209/Unemployment-and-Online-Labor-Evidence-from>
- Cui, X., Ting, Z., & Yubo, C. (2024). Where you live matters: The impact of offline density retail on mobile shopping app usage. *Journal of Retailing*, 100(1), 41–55.
<https://doi.org/10.1016/j.jretai.2024.01.002>

- Cummins, S., Peltier, J. W., Schilbrowsky, J. A., & Nill, A. (2014). Consumer behavior in the online context. *Journal of Research in Interactive Marketing*, 8(3), 169–202.
<https://doi.org/10.1108/JRIM-04-2014-0019>
- Elshaiekh, N. E., Al-Hijji, K., Shehata, A., & Alrashdi, S. M. A. (2023). An empirical analysis of factors motivating unemployed individuals to engage in digital entrepreneurship in Oman: Focus on technological infrastructure. *Sustainability*, 15(17), Article 12953.
<https://doi.org/10.3390/su151712953>
- Government of Belize Press Office. (2024, August 20). *Establishment of Belize's network of digital connect centers under the digital inclusion program* [Status update]. Facebook.
<https://www.facebook.com/GOBPressOffice/posts/press-releaseestablishment-of-belizes-network-of-digital-connect-centers-under-t/821082943547054/>
- Handoyo, S. (2024). Purchasing in the digital age: A meta-analytical perspective on trust, risk, security, and e-WOM in e-commerce. *Heliyon*, 10(8), Article e29530.
<https://doi.org/10.1016/j.heliyon.2024.e29530>
- Hänninen, R., Jauhiainen, S., & Tervonen, M. (2023). Digital inequality and online access to the labor market. *Social Inclusion*, 11(2), 146–159. <https://doi.org/10.17645/si.v11i2.7017>
- Hasyiyati, A. N. (2017). *Demographic and socioeconomic characteristics of e-commerce users in Indonesia* (ADBI Working Paper No. 776). Asian Development Bank Institute.

- Hendricks, S., & Mwapwele, S. D. (2024). A systematic literature review on the factors influencing e-commerce adoption in developing countries. *Data and Information Management*, 8(1), Article 100045. <https://doi.org/10.1016/j.dim.2023.100045>
- Hes, T. (2025, May 22). *The rise of e-commerce in developing countries*. DevelopmentAid. <https://www.developmentaid.org/news-stream/post/195574/e-commerce-in-developing-countries>
- Hilbert, M., & Gómez, P. (2020). Digital inequality: ICT access, use, and outcomes in Latin America and the Caribbean. *Telecommunications Policy*, 44(3), Article 101939. <https://doi.org/10.1016/j.telpol.2019.101939>
- Huang, H. (2025). The study of factors influencing e-commerce consumers' purchasing decisions. *Advances in Economics, Management and Political Sciences*, 161, 34–44.
- Imran, M., Nor, K. M., & Ahmad, N. (2021). Factors influencing online shopping intention among Malaysian consumers: The moderating role of age and gender. *Journal of Asian Finance, Economics and Business*, 8(6), 823–831. <https://doi.org/10.13106/jafeb.2021.vol8.no6.0823>
- Klapper, L., Singer, D., Starita, L., & Norris, A. (2025). *The Global Findex Database 2025: Connectivity and financial inclusion in the digital economy*. World Bank.
- Kotler, P., & Armstrong, G. (2018). *Principles of marketing* (17th ed.). Pearson.

Ku, K. (2024, April 8). SIB reveals results of 2022 population and housing census. *Amandala*.

<https://amandala.com.bz/news/sib-reveals-results-of-2022-population-and-housing-census/>

Pampel, F. C. (2000). *Logistic regression: A primer*. SAGE Publications.

<https://doi.org/10.4135/9781412984805>

Paul, C. N. (2025). The problem of poverty in developing countries: Essence, criteria for distribution and ways to overcome it. *Journal of Regional and International Competitiveness*, 6(1), 19–27.

Roos, J., Magnus, J., & Bjerkeli, P. (2024). Who are the online medication shoppers? A market segmentation of the Swedish welfare state. *Journal of Theoretical and Applied Electronic Commerce Research*, 19(1), 526–537. <https://doi.org/10.3390/jtaer19010028>

Rybaczewska, M. (2022). Ageing consumers and e-commerce activities. *Ageing & Society*, 42(10), 2283–2305. <https://doi.org/10.1017/S0144686X21000183>

Santos, E. A. (2025). Business performance of small-scale online sellers in Manila: A proposed marketing strategies. *Journal of Business and Management Studies*, 7(4), 36–87.

Statistical Institute of Belize. (2022). *2022 population and housing census: Census key findings launch*. <https://sib.org.bz/wp-content/uploads/CensusLaunch2022.pdf>

Tutar, F. (2024). An investigation of gender differences in e-commerce shopping behaviour: Frequency and age relationships. *SAGE Open*, 14(2), 1–14.

<https://doi.org/10.1177/21582440241287630>

U.S. International Trade Administration. (2024). *Belize country commercial guide: eCommerce*.

<https://www.trade.gov/country-commercial-guides/belize-ec>

Van Deursen, A., Helsper, E., & Eynon, R. (2022). Inequalities in digital economic outcomes: A systematic review. *Information, Communication & Society*, 25(4), 550–572.

<https://doi.org/10.1080/1369118X.2020.1811366>

Walean, R. M. P., Mandagi, D. W., & Indrajit, R. E. (2025). The interplay of social media marketing, brand trust, customer satisfaction, and loyalty. *Jurnal Akuntansi, Keuangan, dan Manajemen*, 6(4), 881–897.