Check It Out: Analyzing the Checkout Experience of Small Business E-commerce Websites

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Check It Out: Analyzing the Checkout Experience of

Small Business E-commerce Websites

An Undergraduate Honors Thesis

Presented to the Department of Strategic Communication

College of Communication

And

The Honors Program

of

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In Partial Fulfillment

of the Requirements for Graduation Honors

Janet Lovera

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Abstract

There is limited research available aimed at identifying specifically how a small business shopper may experience different pain points during checkout in comparison to well-known retail websites and the layout of their e-commerce websites. Enlightened by the Technology Adoption Model and the concept of consumer trust, the purpose of this research is to determine similar characteristics across small business e-commerce websites to identify common pain points for users, or simply what small businesses lack regarding common elements that ease the checkout experience for consumers. From these insights, elements within the checkout experience can be compared to the pain points of those of larger retail websites. With these comparisons, new recommendations can be made for smaller businesses on how to adjust checkout elements to create a smoother experience for shoppers. This research involved a content analysis on a variety of elements within a checkout experience to compare a sample of 50 small business e-commerce websites. The results showed that a majority of small business websites are not implementing recommended elements that will enhance the online checkout experience. Yet, small businesses need it the most to establish e-commerce credibility.

Keywords: E-commerce, Technology Adoption Model (TAM), User Experience, Small Business

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Introduction

The number of people engaging with businesses through online interactions has increased due to the growing importance of the internet over the last few years. In a technology-focused society, the ability for customers to be able to purchase products online is a business opportunity that continues to become more common. In 2022, U.S. e-commerce sales increased 7.7% from the previous year and were estimated at $1, 034.1 billion in total revenue (U.S. Department of Commerce, 2023). E-commerce websites allow for businesses to expand their customer base outside of those who are able to enter their physical locations and into other regions of the United States, without the need to create new physical stores (Tang et al., 2018; Renaud et al., 2019). This, in turn, allows for businesses to generate a larger sum of profit that they might have been otherwise unable to achieve.

With the growing importance of e-commerce websites for businesses, there has been an increase in research into what constitutes the idea of "best practices" for those looking to create a web experience for their customers, old and new (Salazar, 2018). Companies understand that the cart abandonment rate – the percentage of incomplete transactions over the total transaction attempts – impacts every business with an e-commerce experience for consumers. Currently, organizations such as The Nielsen Norman Group and the Bayard Institute have been at the forefront of the industry looking at what makes websites accessible for all users. Research has found that a series of factors could impact cart abandonment rates such as cost (Baymard Institute, 2016), website errors (Baymard Institute, 2016), and design (Auger, 2005; Schade, 2014). Though it should be noted that these leading organizations in user experience design focus primarily on conducting research on well-known company websites, such as Amazon, Levi's, and Adidas (Laudon et al,. 2007; Funk, 2009; Baymard Institute, 2016). While research

on large companies provides a baseline of data for reviewing other websites, especially those who may not have the resources to conduct user experience research through industry leaders, there is still a gap between research for larger businesses in comparison to smaller ones.

Despite this gap, there may be common obstacles that all retail businesses, regardless of size, must confront. One major issue is the complexity and confusion of the checkout process. With 68% of consumers abandoning their cart without completing the checkout process, a consistent trend showed that from that number, 17% of consumers did so because the checkout process was "too long/complicated" (Baymard Institute, 2019). Whether this statement remains true for small business websites is unknown due to a lack of specific research, but it can be inferred that the sentiment is similar due to the reality of e-commerce website structures and general issues consumers face when dealing with technology. In fact, this issue may be more prevalent with e-commerce websites of small businesses due to their lack of professional testing and shortage of talents (e.g., developers, designers) as compared to larger businesses (Thelwall, 2000).

Using the Technology Adoption Model (TAM) and the concept of consumer trust, this research will use a content analysis method to examine the checkout process for small online retail businesses. As a result, various features of the checkout experience, conceptualized into the factors of perceived usefulness, perceived ease of use, and trust, will be examined throughout the paper. The aim of this research is to identify and analyze characteristics unique to small businesses in the context of their e-commerce experience for retail customers. By doing so, there is an opportunity to gain a better understanding of potential reasons for cart abandonment on their websites.

Literature Review

E-commerce Experience

Research on e-commerce aims to understand how websites are leveraged for companies to generate greater profit. This approach takes into consideration marketing, brand identity, and the web experience for customers prior to the checkout process (Laudon et al., 2007; Funk, 2009). To have a successful e-commerce experience, businesses must meet a customer's needs while avoiding the use of over-complicated e-commerce systems. While past research may not focus exclusively on the checkout experience itself, this aspect of the e-commerce process is often acknowledged in the understanding of an e-commerce website structure in its entirety (Gutzman, 2001; Jackson et al., 2003). The importance of each step in the e-commerce process does not go unnoticed and the need for further research is evident, in particular for the checkout experience.

To the best of knowledge, the current field of research focused on the checkout experience in e-commerce has largely consisted of taking exemplary website checkout processes and using them as a baseline for recommendations (Laudon et al., 2007; Funk, 2009). Other research that focused on small to medium-sized businesses evaluated the visibility of these websites on search engines to understand the impact web presence has on these businesses (Thelwall, 2000), which highlights the importance of SEO for small businesses. Yet, it does not justify neglecting to enhance and fix the checkout experience for those who do land on these small business websites.

Online Checkout

Checkout in e-commerce refers to the process starting from putting products in the shopping cart until a transaction is complete (Rancea, 2021). Just as customers know to head to

the checkout counter at a physical store, online shoppers can expect a similar experience but with individual interpretations of what that looks like from different companies. Businesses choose to personalize their checkout experience in an attempt to provide the ideal customer service experience through the e-commerce channel.

Cart abandonment rates may not directly reflect the full state of the checkout process, and while improving select elements of the checkout process does not guarantee that users will complete purchases (Renaud et al., 2019), both can serve as indications of potential issues that an e-commerce website should consider addressing. Furthermore, conversion rates based on purchases do not equate a success rate or diminish the profitability of an e-commerce website (Funk, 2009; Renaud et al., 2019), but they do show the website's ability to gain the trust of customers and motivate purchases. The value of creating significant opportunities for customer loyalty on an e-commerce website is not disregarded (Renaud et al., 2019), but rather it should be considered its own part of the process of creating an overall successful e-commerce experience for customers.

While creating customer loyalty is an important aspect to consider, along with various other web-focused practices for e-commerce websites, it does not substitute creating an effective checkout experience. Instead, it should be considered equally as crucial and regarded as another aspect of the e-commerce experience to focus on mending. The overall design of the interface of a website has the highest impact on user satisfaction for its trustworthiness (Palvia, 2009). Interface elements are seen as trust qualifiers, and as discussed earlier, a lack of trust prevents consumers from engaging with the checkout process at all (Reigelsberger et al., 2001; Palvia, 2009). Therefore, while creating customer loyalty is necessary, it does not replace the need to focus on the checkout experience elements that consumers are actively engaging with.

Examining the checkout experience of websites is not a new practice. As mentioned before, there are various organizations that now dedicate their time to testing and conducting research that contributes to ideas surrounding user experience. The difference then lies in what approaches are taken to validate previously established recommendations and uncover new ones for businesses. This research serves to narrow down that audience to focus on recommendations and trends for small businesses specifically. In order to understand the factors that affect potential customers' perception of a checkout experience, the technology acceptance model (TAM, Davis et al., 1989; Qin et al., 2008) will be used to examine what causes potential customers to engage with the checkout process on e-commerce websites. Trust will also be considered as a key factor that supplements TAM to further analyze the checkout process adopted by these e-commerce websites.

TAM Theory

The technology acceptance model (Davis et al., 1989) served originally as a framework for predicting how likely people were to use an information system in the workforce. TAM theory takes two main variables into consideration: perceived usefulness (PU) and perceived ease of use (PEOU). Both variables work together to determine the likelihood of a user adopting a technological system (Qiu et al., 2008; Fayad et al., 2015). Perceived usefulness encompasses the belief a person has about using a specific technological system to determine if it will be useful with their performance of an action (Fayad et al., 2015). Prior research (Fayad et al., 2015) shows a strong direct influence between PU and a user's intent to use a new technological system. Meanwhile, perceived ease of use involves recognizing how easy an action and function is created to provide a benefit to the user (Sentosa et al., 2012). While researchers (Davis et al.,

1989) argued that PEOU works with PU to influence intended use, other research using TAM found PEOU affected intended use directly depending on the situation (Qin et al., 2008).

Although TAM has been used to understand technology adoption in the workplace, researchers have applied this framework to the e-commerce context and verified the importance of considering PU and PEOU in this setting (Qin et al., 2008). However, it is essential to note the difference between the two contexts. Unlike professional IT systems, e-commerce systems are structured with a unique audience in mind that is diverse in intention and technical skillset. An e-commerce system is also not an information system that users are forced to engage with and learn about because of work. Online shoppers may have the option of physically shopping in store or resort to another brand instead (Qui et al., 2008).

Prior TAM research has proposed that there is a link between usage behavior and intention in the context of e-commerce shopping. Fayad (2015) laid out five elements that an online shopping experience can give users to ensure satisfaction with their digital interactions with a website, which included: convenience, product offerings, product information, site design, and financial security. These elements work together to form basic guidelines that businesses should consider when creating e-commerce websites. Not only that, but Fayad found that PU is a strong indicator of intention to use versus PEOU in this setting. Another study (Qin et al., 2008) found that, TAM has seen limited presence in examining the checkout experiences on e-commerce websites, which will be addressed in the current study. In the context of checkout on e-commerce sites, PU is applied as a consumer belief that the checkout system will provide useful functions and help with their purchasing needs. PEOU is applied as a consumer belief that the checkout system will be straightforward and easy to use (Pavlou, 2003).

For this research, the variables proposed by TAM will be used to understand the elements of the e-commerce checkout experiences of small businesses. This includes identifying a variety of design and message elements related to consumer perceptions (PU and PEO) during the checkout process, with the goal of understanding why and how these elements may facilitate or impede customers through the process. These features will be analyzed, based on design standards and recommendations within the industry. The study results will bring valuable implications for the designing checkout processes specifically for small businesses.

Using TAM as a theoretical framework is an important aspect of this research, but it should also be acknowledged that there are other psychological factors that play into how customers perceive an e-commerce checkout experience, such as consumer trust. The next section will introduce the concept of trust and illustrate on its relationship with TAM concepts.

Trust

Trust in e-commerce refers to believing that one party will be behave in a socially responsible way that fulfills the trusting party's expectations without taking advantage of the vulnerability of the trusting party (Pavlou, 2003). The concept of trust is comprised of three key parts: competence, integrity, and benevolence (Palvia, 2009; Tam et al., 2019). Competence refers to how a seller upholds promises made to customers. Integrity refers to how consistently, reliably, and honestly the seller acts toward customers. Benevolence refers to how a seller acts in the best interest of the customers (Tam et al., 2019). If a potential customer believes that a website vendor upholds these key elements, trust is established and influences a customer's intention to engage with the e-commerce system.

Consumers interacting with e-commerce websites are taking risks that are not issues when shopping in-person. As is the nature of e-commerce, online transactions occur across large

geographical distances, and thus consumers cannot see the immediate outcome or reward of making a purchase. Consumers also worry that businesses will not follow through with their end of the transaction, and they fear they will have given personal information to an unreliable source (Pavlou, 2003). Providing personal information, in general, has been a big cause of why consumers hesitate to buy online (Reigelsberger, 2001; Pavlou, 2003; Kim et al., 2009). There is a greater sense of risk that consumers face when deciding to shop online, considering the aforementioned factors.

To mitigate this hesitation, trust becomes an element that fosters a consumer's confidence in the online process (Kim et al., 2009). Trust is used to increase consumers' confidence in what they cannot see, and it is a key to persuading consumers to engage in the checkout process of an e-commerce website experience (Kim et al., 2009; Tam et al., 2019). A majority of hesitation comes from two main risks that shoppers take into consideration when interacting with online e-commerce systems. The first risk is that customers are wary of the potential loss of money (Pavlou, 2003; Kim et al., 2009; Sriram et al., 2018). If a customer does not trust a website, they are unlikely to be comfortable with providing financial information to these e-commerce vendors. In a comparable way, customers also face the risk of a loss of privacy by providing personal information to web vendors (Pavlou, 2003; Kim et al., 2009). If a customer sees potential signs of risk, they are less likely to attempt a purchase online. When trust is established, customers are more inclined to overlook both perceived risks that are associated with online transactions (Riegelsberger et al., 2001; Pavlou, 2003). Trust is such an integral part of the checkout process due to the influence it has on the actions that a potential customer may take when interacting with an e-commerce system.

Including the element of trust while applying TAM to a technological system is not a new concept (Pavlou, 2003; Kim et al., 2009; Palvia, 2009). Rather, it is a natural progression as trust is seen as the element that fosters customers to cope with perceived risks in online shopping. Past research that has used PU, PEOU, and trust found that all three affected a consumer's attitude towards a technological system, and it directly affected intent to use the system (Pavlou, 2003; Palvia, 2009). Trust will be strongly associated with the perception of PU, as trust was found to be a determinant of PU (Pavlou, 2003). PU can also be described as perception of useful elements that promotes the trust of a system. This is not to say that trust cannot be applied to PEOU either, since it has been linked to PU together (Pavlou, 2003; Palvia, 2009). Instead, trust will be applied broadly to PEOU as an influence on how variables in e-commerce systems in this research are both easy to use and build trust through their ease.

From the synthesis of these articles and past research, this current research looks to contribute to the discussion surrounding the checkout experience of small businesses, which is still a relatively new area of research. Understanding that there is a gap in the research for small businesses furthers the need to evaluate their checkout experience specifically. A series of checkout elements and messages will be examined under the conceptual framework of TAM and trust that motivate customers to overcome the perceived risk of purchasing on small business websites.

Research Questions

This study will investigate the checkout process of small e-commerce websites and focus on the two aspects of user experience (PU and PEOU). Specifically for PU, the variables used to describe features that may affect perceived usefulness of the system in meeting the consumers' needs listed and described in the methods section. These variables used invoke trust in the online vendor and persuade the customer that the website is credible.

RQ1: What are the features related to perceived usefulness (PU) during the checkout process of small businesses' e-commerce websites?

For PEOU, the researcher will look at variables that are associated with perceived easiness of going through the purchasing stages. A list of these variables is described further in the methods section. These variables are used to make the checkout experience easier for customers to use when attempting to complete a transaction.

RQ2: What are the features related to perceived ease of use (PEOU) during the checkout process of small businesses' e-commerce websites?

This research will also seek to answer two additional questions. First, the potential differences between small businesses who have a single physical store versus those who have multiple ones. If a small business has multiple locations, it can be reasoned that they have the ability and need to expand their business. With that potential increase in revenue, there could be a financial difference between them and other small businesses who only have one physical store. It is important to understand the differences because it may reveal the realistic expectations for what features a small business can offer online for customers. This creates an opportunity to reveal if there is a direct correlation between the number of physical store locations a business

has and the amount of checkout features found throughout their checkout process (Pavlou, 2003; Palvia, 2009).

RQ3: Does having multiple physical stores versus a single store influence the checkout features?

Moreover, the differences between an accordion layout and separate-pages layout for small businesses. An accordion layout refers to a checkout process on a single page with one side of the page having each checkout step stacked while the other side is a continuous review sidebar (see Appendix B). Some accordion styles will have each step collapsed and it is revealed once a customer completes the previous section. A separate-pages layout is when each step of the checkout process has an individual page that a customer fills out to go to the next step (see Appendix C). Due to the unique formatting of each layout style, there is the potential that a number of features make sense to have on one versus the other. It is important to find the differences to better understand how to use and enhance each style effectively for customers.

RQ4: Does the checkout process layout affect other checkout features?

Method

For this research, the checkout experiences of small businesses were examined through a content analysis. The purpose of a content analysis is to aid in the identification of emerging themes or concepts related to the communication of a certain topic (Bengtsson, 2016). In this case, a content analysis will be conducted to identify if and how small businesses are communicating with customers through the structure of their checkout experience.

Sample

To randomly select small businesses across the U.S., a stratified sampling procedure is conducted by 1) randomly sampling zip codes, and 2) randomly selecting qualified small businesses within the zip code areas. A zip code generator was randomly selected 15 states within all different main regions of the U.S.. These zip codes were then entered in the search bar in Yelp.com, an online portal providing a directory of local businesses, to obtain a list of small businesses. For each zip code, the researcher went through to Page 3 to screen the local businesses to be potentially selected for the final sample. The original sample included 75 businesses and later condensed to 50, due to time constraints.

Checking the qualifications of small businesses occurred by reviewing relevant webpages (e.g., "About" or "About Us") for ownership information; only those clearly self-identified as a "small business" qualified for the sample. International businesses with consumers outside of the U.S., or businesses associated with or partnered with a larger well-known retail store, were excluded from the sample. This ensured that the sample included only small businesses that are selling products exclusively on their own e-commerce website to domestic consumers.

To ensure that the small businesses included in the sample had e-commerce processes, the businesses had to meet three criteria to qualify. The first inclusion criteria specified retail

businesses; businesses for other services (beauty shop, hair salon, etc.) were not used. The

second criteria included that the small business needed to have an online presence in the form of

a website; those without an online storefront were not retained. The last criteria included the

ability for customers to shop and order products online. Based on these three criteria, a final

sample of seventy-five businesses (and their respective e-commerce websites) were gained.

Coding Scheme and Coding Sheet

A coding sheet produced included a list of common elements related to online businesses

and checkout process. Dividing the coding sheet into three main sections of interest for testing:

general business and website information, the checkout process elements, and the checkout

process layout elements. The original coding sheet underwent revision after preliminary testing

on five small business websites to make sure the comprehensiveness of the coding scheme.

Two coders trained on five example websites using the final coding sheet (see Appendix

A), to assess the coding sheet and ensure consistency in understanding. This also assures test

replicability for future researchers. Any disagreement between the coders was addressed in the

training by defining website-specific vocabulary unknown to the second coder. The two coders

then independently completed official coding of the 50 websites, which took two weeks. To keep

consistency without jeopardizing personal information from the coders, generators were used to

imitate legitimate information needed to continue in the checkout process. This included

TempMail for an email address, Fake Number for a phone number, Fake.CreditCard for credit

card information, and Fakexy for a shipping address. During this process, five websites exhibited

an error that prohibited the checkout process and were excluded from the final sample results.

Once coding finished, the results were evaluated for agreement. The intercoder reliability

(Cohen's Kappa) ranged from 0.64 to 1 for the variables, showing high reliability levels between

the results gathered by both coders. For analyzation, the main researcher used their gathered coding results.

Variables

The following variables with their definitions were used to consider the four research questions. To note, not all variables were used in the analysis. A complete list of variables can be found in Appendix A.

Research Question 1

(Save_Item): Whether the cart page had a button to save an item.

(Cart_Subtotal): Whether the cart page displayed the order subtotal.

(Checkout_Express): Whether the checkout process had an express checkout option.

(Free_Shipping): Whether the shipping form shows free shipping as an option.

(Store_Pickup): Whether the shipping form shows store pickup as an option.

(Shipping_Options): Whether the shipping form had multiple shipping options.

(Secure_Card): Whether the billing form had a statement about being a secure system.

(Third_Party): Whether the billing form provided third party payment options.

(Pay_Later): Whether the billing form provided pay later payment options.

Research Question 2

(Error_Items): Whether an item could not be added and was unable to be coded.

(Card_Typo): Whether the billing form showed customers if the card number had a typo.

(Edit_Review): Whether a customer could edit the review step.

(Checkout_Bar): Whether the checkout process had a checkout bar throughout.

(Required_Fields): Whether the checkout process showed which fields were required.

Research Question 3

(Checkout_Layout): Whether the checkout layout was an accordion or separate pages.

(Locations): Whether a small business has multiple store locations or only one.

(Checkout_Cart): Whether the checkout process contained a cart step.

(Checkout_Register): Whether the checkout process contained a registration step.

(Save_Item): Whether the cart page had a button to save an item.

(Checkout_Review): Whether the checkout process contained a review step.

(Review_Layout): Whether the review layout was a separate page or sidebar.

(Free_Shipping): Whether the shipping form shows free shipping as an option.

(Store_Pickup): Whether the shipping form shows store pickup as an option.

(Create_Account): Whether the review page offered the ability to create an account.

Research Question 4

(Checkout_Layout): Whether the checkout layout was an accordion or separate pages.

(Checkout_Register): Whether the checkout process contained a registration step.

(Card_Number): Whether the billing form autoformatted card numbers into sections.

(Shipping_Summary): Whether the review page had a shipping information summary.

(Billing_Summary): Whether the review page had a billing information summary.

(Edit_Section): Whether a customer could edit a specific section of review step.

(Checkout_Steps): How many steps were in the checkout process.

Findings

There are two main insights used to characterize the data: descriptive statistics and inferential statistics. Descriptive statistics reflected general patterns of a range of key variables in the sample and were used for the first two research questions. Inferential statistics, more specifically Chi-square analyses, identified the relationships between a number of variables in response to the last two research questions.

Descriptive Statistics

As mentioned in the Method, variables used in this research were classified as reflecting perceived ease of use (PEOU) or perceived usefulness (PU) within the checkout experience.
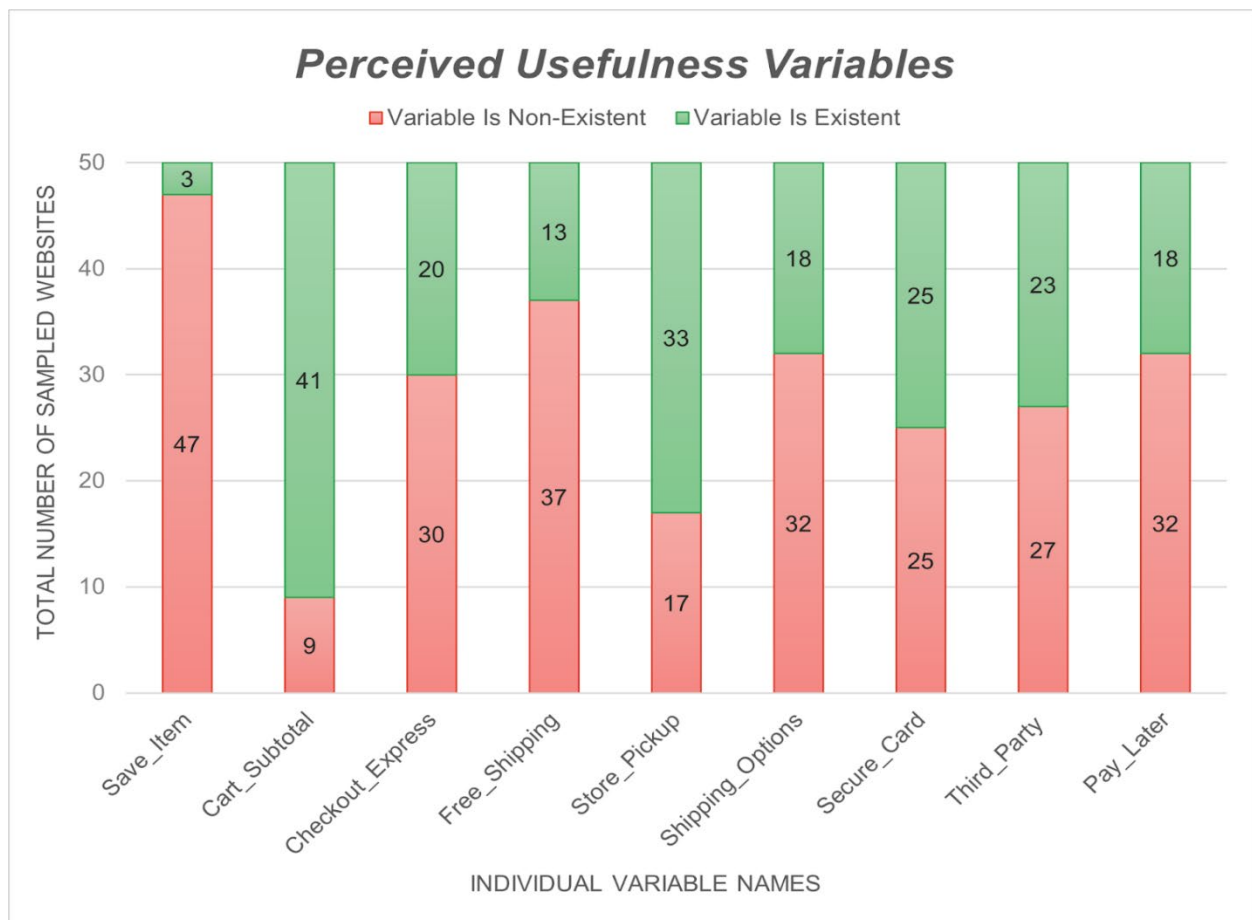
Figure 1. PU Variables

RQ1 asks what features related to perceived usefulness (PU) during the checkout process are present in small businesses' e-commerce websites. In the second graph, less than half of the websites implemented the nine PU variables that pertained to usefulness and aimed at providing a sense of security during the checkout process. The variable "Cart Subtotal" had the highest occurrence rate across the sample, meanwhile "Save Item" had the lowest occurrence rate. The variables relating to payment options had average occurrence rates, with those including: "Secure Card," "Third Party," and "Pay Later." Variables (including "Free Shipping" and "Shipping Options") relating to shipping options saw more of a divide, with "Store Pickup" existing on more than half the sampled websites.
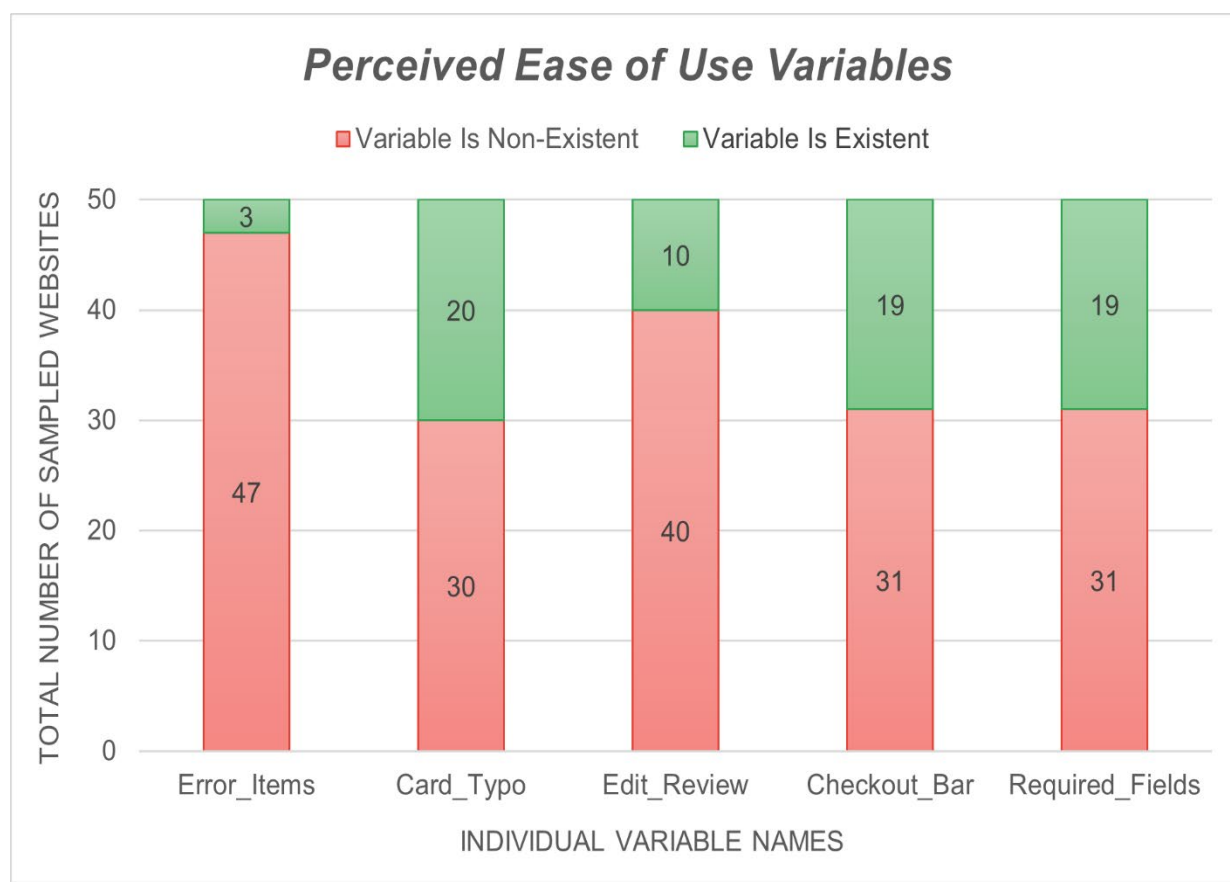

Figure 2. PEOU Variables

RQ2 asks what features related to perceived ease of use (PEOU) during the checkout process are present in small businesses' e-commerce websites. Looking at Figure 2, fewer than half of the websites sampled implemented each of the five individual PEOU variables related to helping users move through the checkout process easily. The variable "Card Typo," that showed users when a user input a card number incorrectly, was the most present on the small business websites. Variables closely related to layout practices were also frequently shown, including both the presence of a checkout progress bar (Checkout_Bar) and marking required fields (Required_Fields). The variable "Error Items" – the number of websites that did not allow for coders to begin the checkout process due to an inability to add an item to the cart – was least incorporated in the sampled website among the five features.

In summary, although these features are recommended by the industry, most of the websites sampled did not implement them. Small business websites seemed to be more focused on having only the necessary elements to get customers through the checkout process quickly versus having a checkout experience that customers expect. Inconsistencies appeared across the sampled websites and their checkout processes.

Inferential Statistics

The third research question asked whether having multiple stores versus a single store would influence checkout features. Such features analyzed included the "save item" feature, "checkout express" feature, "shipping options" feature, "third party payment" feature, and "pay later" feature. Though not all these variables were significant.

Locations * Save_Item Crosstabulation

Count

		Save Item		Total
		0 No	1 Yes	
Locations	0 No	32	1	33
	1 Yes	7	2	9
Total		39	3	42

Table 1

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.927^a	1	0.048		
a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .64.					
b. Computed only for a 2x2 table					

Table 2

Results of a chi-square analysis revealed significant differences among small businesses with multiple locations versus one in whether they had a "save item" feature, $\chi^2(1) = 3.93$, $p <$ .048. 32 small businesses with only one location did not have the "save item" feature, while one did. Most small businesses only have one location ($n = 33$), while nine of them have multiple locations. Among small businesses without the "save item" feature, they were less likely to have multiple locations. On the contrary, small businesses with the "save item" feature seemed more likely to have multiple locations. This shows that having multiple locations increases the chances of having a "save item" feature on the website. No meaningful results were spotted for other features.

The fourth research question queried whether websites with an accordion layout would also differ from the ones with separate-page layout in terms of other aspects of the checkout

process: checkout progress bar, "edit review page" feature, "checkout express" feature, the review layout, and number of checkout steps in the process.

Checkout_Layout * Checkout_Bar Crosstabulation

Count

		Checkout Bar		Total
		0 No	1 Yes	
Checkout_Layout	0 Accordion	21	5	26
	1 Separate Pages	5	14	19
Total		26	19	45

Table 3

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	13.343^a	1	0		
a. 0 cells (0%) have expected count less than 5. The minimum expected count is 8.02.					
b. Computed only for a 2x2 table					

Table 4

Results of a chi-square analysis revealed a significant difference among small businesses layouts in whether they had a "checkout progress bar" feature, $\chi^2 (1) = 13.34, p < .001$. 21 small businesses with an accordion layout did not have the "checkout progress bar" feature, while five did. Five small businesses with separate pages as the layout did not have the "checkout progress bar" feature, while 14 did. This shows that small business websites that have a checkout

experience with multiple pages increases the chances of having a "checkout progress bar" feature

on the website.

Checkout_Layout * Edit_Review Crosstabulation

Count

		Edit Review		Total
		0 No	1 Yes	
Checkout_Layout	0 Accordion	23	2	25
	1 Separate Pages	11	8	19
Total		34	10	44

Table 5

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.150^a	1	0.007		
a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.32.					
b. Computed only for a 2x2 table					

Table 6

Results of a chi-square analysis also revealed significant differences among small

businesses layouts in whether they had an "edit review page" feature, $\chi^2(1) = 7.15, p < .007$. 23

small businesses with an accordion layout did not have the "edit review page" feature, while two

did. 11 small businesses with separate pages as the layout did not have the "edit review page"

feature, while eight did. This shows that small business websites that have an "edit review page"

feature were also more likely to use the separate-page layout than the accordion layout, whereas

those websites without the "edit review page" feature were more likely to adopt the accordion

layout.

Discussion

In this study, we sought to further understand the online checkout experience of small business websites. A content analysis identified a range of design features and messaging strategies during the checkout process of e-commerce websites for local small businesses. The study aims to examine if there are differences between small retail businesses and larger competitors in these aspects and elements within checkout experiences. The results collected throughout this research study largely illustrated such differences: small business e-commerce websites still have a long way to go in improving their checkout experience, based on the recommended practices in the industry.

As proposed by TAM, technological systems need to have variables associated with both perceived ease of use (PEOU) and perceived usefulness (PU). Results showed that small business checkout experiences are inclined to include more ease-of-use variables than those that promote usefulness. While a focus on easy-to-use characteristics allows users to go through the checkout easier, promoting a smoother experience for customers of all technological experiences, the variables related to perceived usefulness should not be overlooked either.

Results showed that small business websites are not using enough elements within their checkout experience that ensures the safety of the customer during checkout. With less than half of the sampled websites using one of the nine PU variables targeted in this research, it is a trend that is not easily overlooked. Especially as PU variables are features that are responsible for building trust between customers and the online vendor. Small businesses are already lacking the credibility that larger brands automatically have when customers interact with their websites. A checkout experience focusing on ease of use is essential but having elements that instill trust, and usefulness, in the small business is even more so. It is not enough to simply have the necessary

elements to get a customer through the checkout experience. A customer can easily abandon their cart if they feel the website itself is untrustworthy in any way. All three elements must be present to establish a credibility that surpasses the obstacles that arise for a small business, especially one that does not have the platform a larger retailer does.

In addition, inferential statistics were also conducted to identify co-occurrence of key variables, and statistically significant results were found on a few variables. First, small businesses with only one location were more likely to not include a "save item" feature, which we can interpret is a result of single-location businesses not having enough traffic to warrant needing that feature. Now while it was significant, it should also be noted that the "save item" is probably not a feature these small businesses currently need. It is also not a characteristic that will drastically improve ease or usefulness of these checkout experiences. Therefore, while it may be insightful data, it is not going to impact small businesses in a way that serves to promote e-commerce shopping. However, this is not the case for multiple-location businesses. Especially those who have a larger customer base where this feature will be useful to frequent customers. Instead, a small business should understand their customer base first before deciding to invest time in features, such as "save item," that may not serve as a great a purpose. These features have a place on the checkout experiences of small businesses, but it depends on which ones overall.

Second, the two variables related to the layout of the website, the "checkout progress bar" and "edit review" features, both promote ease of use for the customers. The checkout progress bar was more likely to be shown within checkout experiences that had separate pages. This can be interpreted as the result of the accordion layout being formatted in a way that has customers input all their information while on one page. But it is a recommended practice to consistently

have a checkout progress bar, regardless of layout format. Even though there may not be a need to explicitly state which step the customer is on, it is seen as a courtesy to the customer and allows them to quickly calculate how much time and effort is left to complete the purchase. It takes the guessing out of how long the process will be which makes the checkout experience easier for customers to navigate.

Finally, turning to the "edit review" ability, it was surprising to see that it was more common for layouts with separate pages than the accordion layout. In the separate-page layout, the review section is already going to have the ability to edit, although there is the benefit of being able to edit all in one place. An accordion is similar in having everything stated in one place, but throughout the entire process. It is not surprising that e-commerce checkout experiences with an accordion layout did not all come with the ability to do so. There is no real need for those small businesses to enable editing of the review, if customers are already able to do that on the same page. Instead, small businesses should provide smaller editing abilities to the review section, regardless of layout. This could prove helpful for situations where the total price ends up being too much for the customer to burden. Or if a customer has overlooked an error throughout the checkout process. This update to the review section would provide the final form of trust that customers need to feel secure in their purchase.

Limitations and Further Research

All research studies have limitations that open up future research possibilities. The first limitation within the study is due to the limited resources for an undergraduate research project, one of the two coders was the researcher, which may have induced researcher biases. However, exploratory research questions proposed in this research did not specify anticipated findings, which may help prevent strong preexisting postulations brought in by the researcher in coding.

The second limitation is that this research did not include features on the checkout confirmation page shown after actual payment. Checkout confirmation is an essential part of the checkout experience, but due to limited funding, the confirmation page was not evaluated. Future researchers could take a deeper look at the checkout experience while including confirmation page elements and variables. A third limitation in this research is that the stratified sampling method has the potential to be biased due to the pool of data gathered. Although the sample accounted for every region in the U.S., there are still characteristic nuances between each region that may not be represented due to the specific states that the sample ultimately consisted of.

While this study takes a first step in examining checkout experience on small business websites, more research is needed to better understand user interactions with these sites. Further research on this topic can be conducted through user experience interviews to verify user perceptions and attitudes about different features and characteristics in relation the checkout experience with small online businesses. Direct user testing may offer its own unique insights regarding users' pain points on small business websites, as well as verifying concepts in TAM in this context from a behavioral standpoint.

Conclusion

While there is a growing need for businesses to have a streamlined and secure checkout process, small businesses are less likely to have an existing e-commerce experience that emphasizes these elements. Instead, there seems to be a focus on providing the least number of options in all aspects of the checkout experience rather than ensuring that options add to the sense of security and easiness users have while checking out.

In an attempt for small businesses to make the checkout experience shorter, these same businesses are valuing time over trust. But to overcome the obstacles, such as lack of established credibility, small businesses should focus on creating a checkout experience that emphasizes trust between customers and online vendors. Creating that sense of trustworthiness ensures that customers are not abandoning their cart midway through the checkout experience. Instead, customers will be left with a sense of security that mirrors what they feel when they do online shopping with larger retailers. Such trust, in turn, could be enhanced through feelings of perceived usefulness of the website and ease of using it.

While there is not a single e-commerce checkout format for all businesses to mimic, there are features that research has proven will create that sense of trust for customers on small business websites. A checkout bar will ensure transparency of the length of the checkout experience. Allowing customers to edit directly on the review page ensures customers are aware of their purchasing information prior to completing the transaction, lessening perceived risks. And when it comes to being protective of financial information online, having both a card security statement and card typo authenticator are elements that show customers the website is credible and responsible with a customer's sensitive information.

This research has proven that these elements are essential characteristics that small business websites are not currently implementing. As they are industry standards, it is easy to dismiss these elements as simply being recommended. But instead, it is even more crucial for small businesses to invest in these features to establish their e-commerce websites as credible for any customer to use. While all e-commerce websites may need these elements, the research also revealed that small businesses have extra hurdles to overcome to ensure that customers value their checkout experience as much as those from larger retailers.

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Appendix A. Complete Small Business Checkout Coding Sheet

Website ID: _____

Multiple store locations: ____ No (0) ____ Yes (1)

Gender of owner: ____ Male (0) ____ Female (1) ____ Other (2) ____ Cannot tell (3)

Unable to code website:

1. Due to website crash: ____ No (0) ____ Yes (1)
2. Due to issue adding item to cart: ____ No (0) ____ Yes (1)
3. Due to other error on website: ____ No (0) ____ Yes (1)

Checkout Process

1. Product Selection
   a. Notification of item added: ____ No (0) ____ Yes (1)
   b. Transfers user to cart page: ____ No (0) -> *Continue* ____ Yes (1) -> *go to Item #2*
   c. Mini cart pops up: ____ No (0) ____ Yes (1)
   d. Mini cart stays on page: ____ No (0) ____ Yes (1)
   e. Buttons Present: ____ Checkout (0) ____ View Cart (1) ____ Both (2)
2. Shopping Cart
   a. Does the checkout process include a cart page/section? ____ No (0) ____ Yes (1)
   b. What product information is available?
      i. Product Photo: ____ No (0) ____ Yes (1)
      ii. Product Name: ____ No (0) ____ Yes (1)
      iii. Product Quantity: ____ No (0) ____ Yes (1)
      iv. Product Price: ____ No (0) ____ Yes (1)
   c. What product editing options are available?
      i. Remove Item: ____ No (0) ____ Yes (1)
      ii. Save Item: ____ No (0) ____ Yes (1)
      iii. Change Item Quantity: ____ No (0) ____ Yes (1)
   d. Displays coupons/promotions on a banner at top of the page? ____ No (0) ____ Yes (1)
   e. Shows payment options: ____ No (0) ____ Yes (1)
   f. Displays purchase subtotal: ____ No (0) ____ Yes (1)
   g. Has "Checkout" button: ____ No (0) ____ Yes (1)
   h. Has "Continue Shopping" button: ____ No (0) ____ Yes (1)
   i. Has area to input coupon or gift card codes? ____ No (0) ____ Yes (1)
3. Sign-In/Register Account
   a. Does checkout process include a sign-in or register account page/section? ____ No (0) -> *go to Item #4* ____ Yes (1) -> Continue
   b. Is registration required to continue checkout process? ____ No (0) ____ Yes (1)

      c.   Are payment options shown on the page? ____ No (0) ____ Yes (1)

4. Shipping

      a.   Express checkout option available: ____ No (0) ____ Yes (1)

      b.   Separates shipping information from contact information: ____ No (0) ____ Yes (1)

      c.   Shipping information form:

          i.   Name: ____ Single joint cell (0) ____ Two separate cells (1)

          ii. Has "Address 2" cell: ____ No (0) ____ Yes (1)

          iii. Has "Company Address" cell: ____ No (0) ____ Yes (1)

      d.   Comment section for shipping address given: ____ No (0) ____ Yes (1)

      e.   Has area to input coupon or gift card codes? ____ No (0) ____ Yes (1)

      f.   Free shipping available? ___ No (0) ___ Yes (1)

      g.   Store pick-up option offered? ___ No (0) ___ Yes (1)

      h.   Shipping options present: ____ No (0) -> *go to Item #5* ____ Yes (1) -> Continue

      i.   Details provided for each shipping option:

          i.   Name: ____ No (0) ____ Yes (1)

          ii. Price: ____ No (0) ____ Yes (1)

          iii. Timeframe of delivery: ____ No (0) ____ Yes (1)

5. Billing

      a.   Is there option to make billing address the same as shipping address?
          ____ No (0) ____ Yes (1)

      b.   Card payment methods shown in this section/page? ____ No (0) ____ Yes (1)

      c.   Statement about securing your credit card information mentioned at all?
          ____ No (0) ____ Yes (1)

      d.   Alerts you if card number contains a typo? ____ No (0) ____ Yes (1)

      e.   Autoformatted spaces in the "Credit Card Number" field? ____ No (0) ____ Yes (1)

      f.   Formats card's expiration date field as "MM / YY": ____ No (0) ____ Yes (1)

      g.   Third-party payment offered? ____ No (0) ____ Yes (1)

      h.   Pay Later options offered? ____ No (0) ____ Yes (1)

      i.   Calculated new total cost before review page/section? ____ No (0) ____ Yes (1)

6. Review Order

      a.   Does checkout process include review page/section? ____ No (0) ____ Yes (1)

      b.   Order review layout: ____ Page (0) ____ Sidebar (1)

      c.   What product information is displayed?

          i.   Picture: ____ No (0) ____ Yes (1)

          ii. Quantity: ____ No (0) ____ Yes (1)

          iii. Price: ____ No (0) ____ Yes (1)

      d.   What price information is displayed?

          i.   Subtotal: ____ No (0) ____ Yes (1)

          ii. Shipping: ____ No (0) ____ Yes (1)

          iii. Estimated taxes: ____ No (0) ____ Yes (1)

  iv. Total: _____ No (0) _____ Yes (1)
 e. Allows you to edit directly on review page/section? _____ No (0) _____ Yes (1)
 f. Shipping information summary shown? _____ No (0) _____ Yes (1)
 g. Billing information summary shown? _____ No (0) _____ Yes (1)
 h. Has separate "Edit" ability for each section of the review? _____ No (0) _____Yes (1)
 i. Has area to input coupon or gift card codes? _____ No (0) _____ Yes (1)
 j. Offered ability to create an account to save information in the future when reviewing the order? _____ No (0) _____Yes (1)

Checkout Process Layout

1. Checkout layout: _____ Accordion (0) _____ Separate Pages (1)
2. Checkout progress bar present: _____ No (0) _____ Yes (1)
3. Number of checkout process steps: _____
4. Return Policy shown (at least once) throughout process: _____ No (0) _____ Yes (1)
5. Marked required and optional fields? _____ No (0) _____ Yes (1)

Appendix B. Sample Accordion Checkout Layout

Appendix C. Sample Separate Pages Checkout Layout