Factors Affecting Online Shopping Behavior  
(Case study on Palestinian students)

Abdanasser N. N. Daana
Marketing Lecturer, Palestine Polytechnic University
Ph.D. Candidate, Cyprus International University
Email: nasserdana@ppu.edu

Rawya Nazmi Da'na
Lecture at Palestine Polytechnic University
p6695@ppu.edu.ps

ABSTRACT

This research aims to investigate the factors affecting consumers' online shopping behaviors. The main variables tested are brand recognition, web-interface design and demographics. This study was conducted as a case study on students of the college of administrative sciences and information system at Palestine Polytechnic University; a sample of 178 students were surveyed online in order to test the hypothesis from a population of a total of 1000 students of the college, using a random sampling method. In this research, an order quantitative approach was applied to do the correlation analysis. The measures of analysis were Cronbach’s Alpha Reliability test, Pearson’s Correlation Matrix and Linear Regression Analysis. The main finding of the research is that there is a significant impact that brand recognition has on a consumer’s online shopping behavior, as well as the significant impact of the web-interface design and consumer age. The study has also found that gender, specializations, and family income have no significant impact on the consumer online shopping behavior. The finding of this research should be considered by companies that operate online to better fine-tune their marketing decisions, whereas many other variables that are also influencing consumers’ online shopping should be investigated by future research.

Keywords: Online shopping, Brand Recognition, Web Interface Design, Purchase Decision.
Introduction

A large part of e-commerce is the phenomenon of online shopping, and it has grown around the world of commerce rapidly. According to the Arab International Economic Newspaper, the world’s e-commerce transactions volume in 2019 was approaching 28 trillion Dollars (Muqadi, 2019). In the past few years, detailed studies have been conducted on consumers’ online purchase decisions. The main objective of these studies was to pinpoint the factors that influenced consumers’ decision to shop online or not. A study conducted by (Vasic, 2019) on online shopping shows that in the last decade, an explosive growth has occurred in online shopping because it represents a more economic and convenient purchasing approach compared to traditional offline shopping. This study also showed several reasons why consumers prefer to shop online; as an example, people can buy anything at any time, the consumer can stumble on the same product at even lower prices by comparing different websites simultaneously, they can avoid discomfort when communicating facially with the retailer, and they want to avoid traffic jams that can occur on the way to the store. Also, they are able to compare products, prices, and have wider ranges of product opportunities for product selection. Online shopping provides convenience, speed, and more satisfaction to modern consumers. In addition, retaining online consumers has attracted a lot of attention, since it serves as a means of gaining a competitive advantage. Customers feeling satisfied with an online retailer tend to purchase again. These concepts are important for both online and traditional offline shopping, so it is important to understand factors that lead to customer satisfaction while shopping online (Vasic, 2019).

Another study presents the fact that these dramatic technological enhancements, during the last decades, have stimulated businesses like traditional shops and retailers into the adoption of online shopping. The Internet rapidly developed into a global platform for e-commerce transactions (Delafrooz, Paim & Khatibi, 2011). A study conducted by (Nabot, Garaj & Balachandran, 2018) showed that easy access and low internet subscription prices attracted more customers to shop online. Findings of (Vazquez & Xu, 2009) show that the increase of smartphone numbers and other internet-enabled devices along with their applications and services make it easier for consumers to use the internet services. All these factors derive from the huge growth of online shopping, and as a result, increased the level of competition in e-commerce (Vazquez & Xu, 2009). With online shopping, customers do not need to go to stores to buy goods anymore, since online shopping provides an opportunity for different businesses to reach customers directly through the globe (Akroush, 2015).
Recently, Palestine witnessed a rapid growth in the number of internet users, which has been providing the e-market with bright prospects. A survey from the Palestinian Central Bureau of Statistics revealed that 48.3% of Palestinian families have access to the internet (The Palestinian Central Bureau of Statistics, 2016). Another study for the MAS Institute in Palestine revealed that the growth rate in e-commerce between 2018-2019 was about 40%. About 63% of these e-commerce purchases are clothes, shoes, and accessories, 21% of them are cosmetics, 20% are household goods, 10% are computer equipment, and the rest are for other purchases. The institution noticed that this sector has become an important growth factor as it is a promising sector, especially in light of the trend towards the digital world (Palestine Economy Portal, 2020).

This paper argues that even shopping is still in the early stages in Palestine, but online shopping is seen as an attractive business opportunity for a number of retail stores. This research will study the factors affecting consumer online shopping decisions in Palestine to help marketers to easily understand these factors and develop their businesses. Explanatory research was done by the researcher to investigate the extent to which online retail stores in Palestine are interested in and concerned about having better and deeper understanding of the consumer’s behaviors online and factors affecting their purchasing decisions online. The result of that study has shown that there is a high interest in understanding key factors influencing consumer decisions while shopping online.

The main objective of this research is to study the factors influencing consumers in online shopping of online consumer in Palestine, by achieving the following objectives:

1-To determine whether brand recognition affects consumer online shopping purchase decisions in Palestine.

2-To determine whether web interface design affects consumer online shopping purchase decisions in Palestine.

3-To determine whether consumer demographic characteristics affect consumer online shopping purchase decisions in Palestine.

The current paper aims to answer the following questions

1-What is the influence of brand recognition on consumer online shopping purchase decisions in Palestine?

2-What is the web influence of web Interface design on consumer online shopping purchase decisions in Palestine?
3-What is the influence of consumer demographics characteristics on consumer online shopping purchase decisions in Palestine?

Therefore; the researcher has developed the following hypothesis based on the proposed model

1- \( H_1 \): There are no differences in online consumer purchase decisions due to student specialization.

2- \( H_2 \): There are no differences in online shopping purchase decisions due to student family level.

3- \( H_3 \): Web interface design has a positive influence on online consumer purchase decisions.

4- \( H_4 \): Consumer's age negatively influences online consumer purchase decisions.

5- \( H_5 \): Brand recognition has a positive influence on online consumer purchase decisions.

6- \( H_6 \): There are no differences in online shopping purchase decisions due to consumer Gender.

**Research Framework**

This study adapted the above researchers' theories that found a significant direct relationship between the Independent variables (Web interface Design, Brand Recognition, Consumer Demography) and the dependent variable (consumer online shopping purchase Decision) and built the Hypothesis that describes these relations and the conceptual Model.
Background and Literature review

This section includes the theoretical framework and literature review, research variables are explained according to the previous studies and the relationship between variables are also discussed according to the literature.

Online Shopping

Shopping is identified as the process of exchanging products or services between businesses and customers. Online shopping is known to be the medium that facilitates direct exchange between consumers and retailers over the internet. Through e-shops, shoppers can directly buy goods or services from different electronic websites or from any organization having a presence on the web. Websites display several types of products, and services also provide several payment methods that allow the consumer to choose among them. The purchasing process is convenient, also faster, and cheaper compared with the traditional way. The purchasing process can also be done by using any devices that have internet accessibility like smartphones, laptops, tablets (Singh&Rana,2018).
Although the online shopping phenomena spread in a rapid manner in developed countries, Nobat et al., (2018) in his papers explained (Nuseir,Al-Masri& Gharaaibrh,2010) his viewpoint that online shopping progress in developing countries still slow due to many factors like infrastructure (information technology hardware, internet access) moreover, the developing countries differ from developed countries in the cultural obstacle.

E-commerce offers consumers several benefits, it has expanded the geographic reach, because consumers can purchase any kind of goods and services needed at any time and anywhere in the world. Buyer’s time for searching is reduced, also they can make a better decision (Jusoh&Liang,2012). Moreover, the availability of information about the products and services on the buyer’s website, allows them to compare the characteristics and prices with other alternatives and finally get the desired ones (Nabot et al.,2018).

According to (Nabot et al.,2018), convenience during shopping online, which is considered one of the key factors in motivating customers to shop online, relates to ease of use in terms of the web interface and another purchasing process (starting from ordering products or services, paying and finally delivering them).

**Brand Recognition**

Several studies have identified brands. The American Marketing Association figures out that a brand can be a name, a term, sometimes a symbol or it can be any feature that can distinguish the seller’s goods or services from other sellers. (Yasin,Cabanillas,Porcu & Kayef,2020). According to (Yasin et al.,2020) brand is important for retailers to differentiate their products and services and help consumers to choose certain brands over other competitors. (Yasin et al.,2020) also says that marketing professionals still do not come to a universally accepted definition, so in their paper, they present several researchers’ definitions. Beginning with (Ming & Rasiah,2011) the researchers see the brand as the way in which a seller can distinguish his products and services from another seller. Kotler and Keller (2016) agree that branding provides “products and services with the power of a brand”.

Brand recognition is a part of brand awareness and does not require the buyer to recall the name; it only concentrates if the customer can recognize it when it appears at the point of sale. Brand recognition is defined as the ability of the consumer to recognize the brand and differentiate it from others through its distinctive logo, tagline, and audio (Gupta,2020).

Online branding can be defined as using the internet to position the brand in the marketplace (Yasin et al.,2020). A good brand brings several benefits to business like gaining recognition, building trust, getting financial values, getting more customers, and motivating staff (Ford,2016).
The importance of brand recognition lies in the fact that consumer confidence increases with companies and products having a brand. It was found that every time a consumer buys a product or a service, he/she thinks about the brand. Brand recall is to retrieve the brand from the memory of a customer for a given product category. (Cha & Seo, 2019). The results of (Cha & Seo, 2019) found that there were significant correlations between brand recognition and purchase decision. As a result, the researcher recommends the marketing manager should pay more attention to emotional marketing and the main elements affecting brand recognition.

Another study by (Aghekyan-Simonian, et al., 2012) relies on (Keller, 1993, p3) states the definition of brand recognition as “perceptions about a brand as reflected by the brand associations held in consumer memory.” The results of this study show that the favorability of product brand image will positively influence online purchase intentions for apparel products, other researchers like (Del Rio et al., 2001; Keller, 2003) explained that the favorable brand image will positively affect the product and its attributes, accordingly; customers would be more attracted to shop online from well recognized brands.

In this study, the researcher examines brand recognition's influence on online consumer purchase decisions due to its importance and influence on purchase decisions as shown in the previous studies results. Also the researcher will check and see how the results will match previous studies and compare these results with those studies.

Web Interface design

According to (Ashraf, Faisal, Jabbar & Habib, 2019) several companies around the world develop an e-commerce website to help promote their online businesses and provide good services to their customers. Through these websites, consumers are able to interact with online retailers. Since online stores have no direct dealing or contact between buyer and seller, the retailer depends on these websites to be able to communicate successfully with consumers. Researchers also stated that a huge number of websites are created to help consumers and retailers to shop online, consumers would rather shop from websites that are simple to use, friendly, and interactive.

In their paper, (Ashraf et al., 2019) identified interface design as “visual design elements like aesthetics, balance, space, and uniformity that improve the appearance and feel of the website”. Design aesthetics concerned with the beauty of design like the design colors, types of fonts used, and also the graphics of the website besides; they consider color and typography as important elements that play a remarkable role in determining the buyer’s satisfaction, and that a well-organized website has a positive impact on users and their absence will negatively affect consumer purchase decision and satisfaction. The web design artifacts are the characteristics or features of the website. The website contains different designs to attract the consumer and
make it accessible, interactive, useful, and friendly. Several researches in online shopping shows that website design interface is a significant factor because it influences the buyer’s beliefs and behavioral intention.

They also focused on several website design factors like visual, interactive, content, and navigation designs, due to their significant effect on consumer satisfaction and purchase decisions. They concluded that website design has a positive influence on consumer attitudes toward online shopping websites. In addition, it improves consumers’ intention to buy from these e-shops. Moreover, the better utilization of all these design factors can lead to additional successful online business.

The website design quality is defined as its quality measured in regards to the navigational system and the appearance of the website as (Wilson, Keni & Tan, 2019) concluded from (Cyr, Kindra & Dash, 2008; Zhou, Lu & Wang, 2009; Wilson et al., 2019). In the e-shopping industry, website design quality has a major role in determining the firm’s success, that’s not only because of the significant role website plays in establishing satisfaction for the consumer but also the website is used as a communication tool that links between seller and consumer. (Wilson et al., 2019).

In their research, Wilson et al., (2019) mentioned several studies concerning web interface. A study conducted by (Eroglu, Machleit, & Davis, 2003) shows that a well-designed web has a key role in the formation of the image of e-shops, and if the image gives a good impression in the consumer’s mind that leads to satisfaction. Another study that appeared in Wilson et al., (2019) conducted by (Ha and Im, 2012) revealed that the design elements of the website like color and music have an important effect on the buyer’s level of satisfaction and pleasure.

The results of (Wilson et, al., 2019) found web design quality positively affects the repurchase intention and also has a positive effect on consumer satisfaction. Based on these results, website design plays a significant role in determining customer repurchase intention. It also plays a major role in developing customer’s loyalty. Thus, in this paper, the researcher will study the effect of this factor in online consumer purchase decisions and compare results with previous studies.

**Consumer Demographic Characteristics**

Many various demographic factors such as age, gender, education level, income, occupation, and others can have an impact on the customer’s purchase decision in online shopping according to several studies. A study conducted by (Singh & Rana, 2018) found that demographic factors like age, gender and income have no influence on consumer purchase decisions on online
shopping but the educational qualification, material status has a significant impact on it. An analysis of social and demographic characteristics done by (Skarzauskiene, Baubonienė & Glaveckaite, 2018) found that, significantly more often, women indicate that online shopping is determined by the lower price of goods or services. More results showed that people in the age 25-34 often use e-shops to get lower prices and also a wide range of products, while the other hand age group between 18-34 years old use electronic shops for a variety of goods available.

In their survey, Ahmed & Sathish (2015) explained that consumers of young ages of less than 25 years, were found to be more interested in using technology as commissioned (Wood, 2002). Online shopping decreases with the increase of buyer’s age (Joines, Scherer & Scheufele, 2003) since old people felt more uncomfortable adopting this modern online shopping technology (Steenkamp, Hofstede & Wedel, 1999; Venkataraman & Price, 1990).

According to Ahmed & Sathish (2015), there was no gender difference among old Taiwanese online shoppers. In a study by Lian & Yen, (2014). The same result was found among New Zealand online shoppers in a study of (Davis, Lang & San Diego, 2014) that appeared in the same Survey. Education is an important factor for online purchases, several studies mentioned in the survey like (Gong, Stump & Maddox, 2013; Kim & Kim, 2004; Zhou, Dai & Zhang, 2007) found that Educated consumers prefer online shopping and do regular purchases online. Income is another demographic factor explained in the Survey, a study by (Gong et al., 2013) appeared in a survey (Ahmed & Sathish, 2015) which found that consumers with high income tend to shop more online compared with consumers of lower-income because consumers with high income can purchase a computer, and access to the internet to shop online. All these demographic factors will be examined deeply in this paper and results will be compared with previous studies to discover their effect on online consumer purchase decisions.

Methodology

In this Section, the researcher displays the research methodology that include study population, study sample and data analysis.

Population of Study

Study population represents all students in the College of Administrative Sciences and Informatics from Palestine Polytechnic University in the second semester 2022- 2023 that contains 921 students distributed in five specializations. The majority of students studied Multimedia (32.90), 22.04% of them studied Business Administration, while only 8.25% studied Information System (see Table1).
Table (1): respondent’s specialization distribution of compared to the general population

<table>
<thead>
<tr>
<th>Specialization</th>
<th>Sample Count</th>
<th>Sample Percentage (%)</th>
<th>Population Count</th>
<th>Population Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration</td>
<td>36</td>
<td>20.45</td>
<td>203</td>
<td>22.04</td>
</tr>
<tr>
<td>E-marketing</td>
<td>30</td>
<td>17.05</td>
<td>170</td>
<td>18.46</td>
</tr>
<tr>
<td>Information System</td>
<td>15</td>
<td>8.52</td>
<td>76</td>
<td>8.25</td>
</tr>
<tr>
<td>Multimedia</td>
<td>63</td>
<td>35.80</td>
<td>303</td>
<td>32.90</td>
</tr>
<tr>
<td>Accounting</td>
<td>32</td>
<td>18.18</td>
<td>169</td>
<td>18.35</td>
</tr>
</tbody>
</table>

Sample of Study

To test the hypothesis mentioned above, a survey was conducted in the College of Administrative Sciences and Informatics from 25 to 28 April 2022. Cross-sectional data were collected through distributed an online questionnaire by e-class for all students. The sample size used in the analysis was 176 students. The survey was conducted based on stratified sampling to student specialization. Table 2 represents the sample characteristic.

Table 2: sample characteristics

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>56</td>
<td>68.2</td>
</tr>
<tr>
<td>Female</td>
<td>120</td>
<td>31.8</td>
</tr>
<tr>
<td><strong>Family income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 1800 NIS</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>1800-3000 NIS</td>
<td>37</td>
<td>23.4</td>
</tr>
<tr>
<td>3001-5000 NIS</td>
<td>53</td>
<td>33.5</td>
</tr>
<tr>
<td>More than 5000 NIS</td>
<td>66</td>
<td>41.8</td>
</tr>
<tr>
<td><strong>Educational level in years</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Measure

The questionnaire was divided into two parts: the first part contains demographic data asked of the participants (age, level of education by year, specialization, gender, family income). Second part contains an item that used to measure three construct online purchasing decisions, web interface design, brand recognition Likert five-point scale ranging from strongly agree “5” to strongly disagree “1” will be used to collect a quick response.

Reliability and Validity

The internal reliabilities and construct validity of the scales were assessed through Cronbach’s $\alpha$ coefficient (CA) and Exploratory Factor Analysis (CFA) respectively, according to the result in Table 3, the CA value for construct were found to range from 0.691 to 0.772, which indicates a good internal consistency among construct (Hair et al., 2010). Furthermore, the outer loading of all items were between 0.597 and 0.778, which indicates all items are acceptable and the validity is ensured, so the mean over the corresponding item was calculated and used in further analysis.

Table 3: constructs structure reliability and validity result

<table>
<thead>
<tr>
<th>Items</th>
<th>Outer loading</th>
<th>CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Interface design</td>
<td></td>
<td>0.749</td>
</tr>
</tbody>
</table>

| First year | 41 | 23.3 |
| Second year | 51 | 29.0 |
| Third year | 56 | 31.8 |
| Fourth year | 28 | 15.9 |

<table>
<thead>
<tr>
<th>Specialization</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration</td>
<td>5</td>
</tr>
<tr>
<td>E-marketing</td>
<td>104</td>
</tr>
<tr>
<td>Information System</td>
<td>13</td>
</tr>
<tr>
<td>Multimedia</td>
<td>29</td>
</tr>
<tr>
<td>Accounting</td>
<td>25</td>
</tr>
<tr>
<td>Section</td>
<td>Statement</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>While browsing the purchase site</td>
<td>I pay attention to the format of fonts and colors</td>
</tr>
<tr>
<td></td>
<td>Website aesthetic encourages me to stay more on the website</td>
</tr>
<tr>
<td></td>
<td>The arrangements of the contents and visual elements makes it easier for me to deal with the website.</td>
</tr>
<tr>
<td></td>
<td>I consider the interface design an indicator in evaluating the website</td>
</tr>
<tr>
<td></td>
<td>Visually convenient web design allows me to navigate and read more contents</td>
</tr>
<tr>
<td>Brand Recognition</td>
<td>I prefer to buy from the brands that I already know</td>
</tr>
<tr>
<td></td>
<td>I feel more secure when buying from the brand the I purchased in the past</td>
</tr>
<tr>
<td></td>
<td>I tend to avoid selecting brands that I'm not familiar with.</td>
</tr>
<tr>
<td></td>
<td>I prefer to select brands that I already use or consume</td>
</tr>
<tr>
<td></td>
<td>I don't take the risk of buying unknown brands.</td>
</tr>
<tr>
<td></td>
<td>I feel safe in selecting brands that have a positive image</td>
</tr>
<tr>
<td>Online Purchase decision</td>
<td>The Internet provides me with a useful information about products and services</td>
</tr>
<tr>
<td></td>
<td>I use the internet to check the different prices</td>
</tr>
<tr>
<td></td>
<td>I use the internet to compare between different product choices</td>
</tr>
<tr>
<td></td>
<td>I use the internet to better evaluate the product features</td>
</tr>
<tr>
<td></td>
<td>I use the internet to buy products</td>
</tr>
<tr>
<td></td>
<td>After making a purchase decision, I use the internet to ensure that I made the right choice</td>
</tr>
</tbody>
</table>
Data analysis

To answer the research hypotheses One Way Analysis of Variance (ANOVA) was used to study the differences due to specialization and family monthly income, and Multiple Linear Regression was estimated with the specification:

\[ COS_i = \beta_0 + \beta_1 WD_i + \beta_2 BR_i + \beta_3 Age_i + \beta_4 Gender_i + u_i \]

Where the variables in regression model are defined as follows: \( COS_i \) is Consumer Online Shopping, \( WD_i \) is web interface design, \( BR_i \) is brand recognition, \( Gender_i \) takes 1 if the student is male and 0 female. While \( u \) represents the stochastic disturbance term and \( i \) is the \( i^{th} \) observation.

Results and conclusions

Respondents’ intention to take an online purchasing decision was high (Mean=3.8, SD=0.57). Respondents said they are interested in buying a product that has a brand (Mean=3.8, SD=0.49). Similarly, they are interested in web interface design (Mean=4.23, SD=0.52). One Way Analysis of Variance clarifies no statistically difference of students online purchasing decision due to specialization and family income (P-value=0.922, p-value=0.249 respectively), that not support hypothesis \( H_1 \) and \( H_2 \).

To test the research hypothesis (\( H_3 \) to \( H_6 \)), multiple linear regression was used and the result indicates. Result indicates a significant positive impact of web interface design on students' online purchasing decisions, that supported \( H_3 \), the more interesting web interface design a student is, the more intention to take an online purchasing decision (B=0.260, p<0.01). In addition, there is an impact of brand recognition on students' online purchasing decisions, which supported \( H_4 \), that means the more interested in brand recognition a student is, the more they intend to take an online purchasing decision (B=0.303, p<0.01). The result indicates a significant positive impact of student age on students' online purchasing decision (B=0.078, p<0.01), which supported \( H_5 \). Finally, no relationship was found between gender and online purchasing decisions. According to the result, the independent variables in the regression model explains 13.8% of the variation in students' online purchasing decisions.

Table 4: regression result

<table>
<thead>
<tr>
<th>Independent variable: OPD</th>
<th>Parameter estimate</th>
<th>Stander error</th>
<th>T-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WD</td>
<td>0.210**</td>
<td>0.090</td>
<td>2.893</td>
</tr>
<tr>
<td>BR</td>
<td>0.262**</td>
<td>0.085</td>
<td>3.577</td>
</tr>
</tbody>
</table>
Result indicates the following outcomes:

- There is a significant positive impact of web interface design on students' online purchasing decisions.
- There is a significant positive impact of brand recognition design on students' online purchasing decisions.
- There is a significant positive impact of student's age design on students' online purchasing decisions.
- There is no significant impact of a student's gender, family income and specialization on students' online purchasing decisions.

The selected sample only represented students at one college of Palestine Polytechnic University. Therefore, the researcher recommends future studies to be conducted to investigate the influence of other variables not included in this research on a larger sample.

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