A new decade for social changes
Factors influencing the online buying behaviour of the consumer: A case study on students of Marien Ngouabi University

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Abstract. The Republic of Congo is gaining importance as a lucrative market for traders. Since the recent economic revolution, Congolese consumers have recently begun understanding the benefits of using the internet to shop. However, a growing number of internet users have not been reflected in online sales. Therefore, it is important to identify the factors that affect the Republic of Congo in its bid for online shoppers to find a way to promote their online shopping behaviour. The purpose of this study was to identify factors that affect the perception of Republic of Congo consumers about online shopping by investigating Congolese consumer perceptions about online shopping. The tested factors include pre-identified features (Market Motivation, Psychological, personal and social) and specific factors in Congo (Social, Cost, and brand) for this study. The findings suggest that cost and product brand are important factors that influence the consumer's behaviour when shopping online.

Keywords. Online buying, Consumer behaviour, The Republic of Congo

1. Introduction

Online shopping emanates from non-store-based shopping, which began in 1979 when Michael Aldrich established an electronic platform for selling products and services in the United Kingdom and soon gained popularity [1]. In 1980, the system was released as a business-to-business system that was sold in the United Kingdom, Ireland, and Spain. Consumer behaviour is defined as the psychological and physical actions of an individual, home, or other decision-making units related to end-users, including acquisition, production, use, and, in some cases, dispossessing of products and services [2]. The global market studies diversity among consumers, manufacturers, advertisers, retailers, advertising media, culture, and individual or psychological practices and behaviours. Despite the varied backgrounds, however, there are also many similarities.

Consumer behaviour research aims to provide psychological and technical tools so that the retailer can use them in marketing activities, both for-profit and non-profit. The study of
Consumer behaviour is very important for advertisers because it enables them to understand and predict consumer buying behaviour in the market [3]. For organisations to determine their commercial success, managers need to be aware of consumer behaviour. The relationship between consumer behaviour and marketing behaviour is emphasised because the success of marketing organisation actions depends on managers' perceptions of consumer behaviour since consumer-oriented behaviour is crucial in times of economic stress [4]. So marketing starts and ends with consumers. The consumer plays three different roles as the user, payer, and consumer, making understanding customer behaviour cumbersome. For example, researchers in [5] have highlighted the difficulty in predicting consumer behaviour. Completely, modern and professional marketing staff try to get to know consumers and their responses, analysing important aspects of their behaviour. Analysing consumer behaviour helps determine who consumers are, what consumers need, and how consumers use and respond to products. The internet has radically altered the conventional retailing process, which benefits both vendors and customers.

Several factors stimulate and demotivate consumers during the online purchasing process, influencing their purchasing intent. This research seeks to explore the following objectives:

1.1.1 Examine the importance of customer behaviour in marketing.
- Examine a variety of current research reviews on consumer behaviour management of advertising
- Using the data sample of students at the Marien Ngouabi University, the research seeks to factors influencing the consumer's online buying behaviour.

1.2 Consumer Decision-Making process

It is important to identify the consumer decision-making process to ascertain online consumer buying behaviour, both personally and collectively. The decision-making process analyses consumers' characteristics such as demographics and behavioural variables to determine what people want. Consumer behaviour research agrees to increase awareness and predictability that is important not only in the matter of purchases despite the constant buying and buying objectives [6]. The consumer decision-making process is divided into five stages: need recognition, information search, evaluation of alternatives, purchase, and post-purchase behaviour [7]. Figure 1 depicts the flow of five processes that customers take when purchasing a product or service.

![Figure 1. Five stages of the consumer decision-making process](image)

1.2.1 Need recognition
The consumer recognises a problem or a need at the outset of the decision-making process. The consumer detects a distinction between his current condition and the desired state, internal impulses, such as hunger, thirst, and so on.

1.2.2 Information search
Information search is the phase in the consumer decision-making process when the consumer becomes interested in learning more. The customer may just be paying more attention or maybe actively seeking information. The strength of the drive determines the quantity of information sought, the amount of information initially sought, the accessibility with which new information may be found, the importance put on further information, and the satisfaction gained from the search.
1.2.3 Evaluation of alternatives

The phase of the consumer decision-making process in which the consumer evaluates various brands in the option set using information. [8] describes the concepts that aid in examining the consumer assessment process as follows: (a) Product characteristics - The customer views each product as a collection of product qualities. Every customer will assign a different value to different features and emphasise them differently. (b) Brand beliefs - The collection of beliefs customers have about a certain brand based on its characteristics. (c) Total product satisfaction - Consumer expectations for total product satisfaction vary depending on the level of certain qualities. (d) Evaluation technique - A consumer's sentiments concerning various brands are formed through an evaluation procedure.

1.2.4 Purchase

This is the phase in the consumer decision-making process when the customer purchases the product. In most cases, the consumer's purchasing choice will be to buy the most favoured brand, but two elements might influence the purchase intention and decision. The first element is other people's perceptions and buying choices. The unforeseen situational circumstances are the second element.

1.2.5 Post-purchase behaviour

Consumers take additional action after purchase depending on their contentment or discontent at this stage of the decision-making process. Satisfaction is determined by the expectations of the customer and the performance of the product performance. Research in [9] further discussed the important internal psychological processes for each stage of the decision-making process.

The remaining of this paper is structured as follows: Section 2 reviews some existing works of literature; Section 3 outlines the research design and methods; Section 4 consists of results and discussions, and the conclusion and future work is outlined in section 5.

2. Literature Review

Research in [10] has shown that product-related features do not exist as important factors that influence the purpose of the purchase. However, with food products, price-quality relationships are the most important factor. If consumers' perception of quality and price is in line with their expectations, they will be satisfied and seen with a high value of products. However, when consumers are not satisfied with the product, they see the risk negatively affecting their buying decision. Factors influencing customer behaviour were identified in the study as [11]: product quality, product features, product cost, product reputation, advertising, and prior information. The questionnaire was used as a data collection method, and a sample of 60 respondents was considered. This study was used as an opportunity to determine whether gender influenced behavioural purchases. Hypothesis testing was used as an analytical method, in which it was found that product quality, product characteristics, and cost value are the most common aspects of consumer purchasing behaviour. The findings also revealed that gender did not significantly impact their purchasing behaviour. Manufacturers can use the results of this research and translate them into better, more efficient products to stay competitive.

[12] in their research based on calculations approach, conduct related research where it aims to find relationships between variables. The mathematical tool used in this study was the SPSS, and the tests used were Multiple Regression Analysis and Evaluation of Integrity. The sample size is 350, and the target audience is people living in Malaysia from 18 years and older. The findings of this study suggest that hypothetical hypotheses are accepted. It concluded that perceived benefits and psychological factors such as security, privacy, and trust directly and significantly affect online shopping behaviour. In [13], the researchers selected Gotland and were reduced to students from the University of Gotland, the University restaurant and the Gotland public library, the sample size selected for this study was 100, and we used the simplest
among the four items selected for most research, an attractive and influential feature for online shoppers in Gotland is website design / features, following a second luxury with a significant impact and third savings. The results also showed that security is very important among internet shoppers in Gotland. The study also found other factors that influence online consumers, including low price, discount, feedback from previous customers, and product quality.[14], [15], [16], discuss the impact of advertisement, website design, psychological factors on consumer behaviour.

3. Research Design and Methods
3.1 Research Design
Qualitative research is an investigational study. It is utilised to figure out the reasons, opinions, and motivations behind it. It also gives information about the problem or aids in developing concepts or hypotheses for quantitative research. These methods are designed to answer inquiries about a phenomenon's "what," "how," or "why," rather than "how many" or "how much," which are answered by quantitative methods [17]. This study aims to discover "what" elements influence customer online buying behaviour, and a qualitative approach was adopted for that purpose.

3.2 Population and Sampling
In this research, non-probability (non-random) sampling was used. Non-probability sampling is a sort of sampling in which people from a group do not have equal chances of being chosen to participate [18]. It is used to demonstrate that particular features occur in the community. It can also be used by researchers who want to do a qualitative, exploratory, or pilot study. The survey was carried out at Marien Ngouabi University in Brazaville, Congo.

Marien Ngouabi University has a population of around 20000 students, according to the Poverty Reduction Strategy Paper (2012). It included students with degrees ranging from high school certificates to doctorates.

3.3 Data Collection
Psychological, Personal, Social, and Marketing Stimuli are the key aspects chosen based on truth and information. Other factors were addressed in subsequent questions based on the amount of agreement among responders. As a result, the data collection technique that was used was administering an online questionnaire because:

- It is a less expensive method of data collection.
- It allows for anonymity, which may lead to more honest respondents.
- It does not require a research assistant, and
- It eliminates bias due to different ways of phrasing questions with different respondents.

However, this method used for data collection cannot be applied with illiterate respondents, which is why university students were chosen. Only primary data will be used to meet the research objectives due to the nature of the research and the lack of secondary data.

4. Results and Discussions
4.1 Descriptive Analysis
In this research, a basic percentage and rating method was applied. A sample of 91 respondents was considered with demographic variables, gender, age and educational qualification, as shown in Table 1 with accompanying pie charts in Figures 2, 3 and 4.

Table 1. Demographic variables for the population sample

<table>
<thead>
<tr>
<th>Demographic variable</th>
<th>Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>55</td>
</tr>
<tr>
<td>Age</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>----------------</td>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>Less than 20</td>
<td>34</td>
<td>37</td>
</tr>
<tr>
<td>20-25</td>
<td>30</td>
<td>33</td>
</tr>
<tr>
<td>26-30</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>more than 30</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education qualification</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Diploma</td>
<td>21</td>
<td>23</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>46</td>
<td>51</td>
</tr>
<tr>
<td>Master Degree</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>PhD</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Figure 2. Respondents according to gender

Figure 3. Respondents according to age

Figure 4. Respondents according to educational qualification
According to the literature, this research considered marketing stimuli, personal, psychological, and social factors as the theoretical factors that influence online consumer behaviour [19].

4.2.1 Marketing stimuli

[19]'s original model contained typical marketing mix influences on customer decision-making. Several follow-up studies were conducted to determine the impact of marketing stimuli on online customer purchasing behaviour. A fundamental factor of online buying is the ease of transaction and availability of a wide range of products.

4.2.2 Personal factors

Occupation, financial position, and motivation are all personal factors. A person who is inspired is ready to take action. The items and services purchased are influenced by a person’s work and economic position.

4.2.3 Social factors

Consumer culture, subculture, and socioeconomic class are all social factors. Consumer culture refers to a collection of fundamental attitudes, desires, and behaviours instilled in a person by their family and other relevant organisations. Smaller sub-cultures exist inside each culture. Nationalities, regions, racial groups, and geographic regions are all examples of subcultures. Family, duties and status, and age and lifecycle stage are the sub-factors for the social factor. Family members heavily influence consumer behaviour. The roles and influences of the wife, husband, and children are of importance to marketers. Because people’s purchasing styles fluctuate over time, age and life cycle stage have an impact on buyer behaviour [4].

4.2.4 Psychological factors

Perception, attitude, and brand are all psychological factors. Consumers choose, organise, and interpret information to construct a meaningful image of the world through perception. Consumer perceptions are divided into three categories: perceived price, perceived quality, perceived value, and perceived risk.

Administering questionnaires to respondents based on which factors influence their behaviour to buy an online product gives personal factors leading with 71 responses representing 78%, followed by psychological, social and marketing stimuli representing 8%,8% and 6%, respectively, as shown in figure 5. Based on the same demographic variables, the respondents were asked questions to rate their level of agreement with proposed factors, namely: social, cost and brand. The respondents were asked:

- Does the society culture influence your online buying behaviour?
- Does the cost of the product influence your online buying behaviour?
- Does the brand of product influence my online buying behaviour?

Based on ratings: strongly agree, agree, neutral, disagree and strongly disagree, 25 consumers strongly agree that the cost of the product influences their online buying behaviour, whiles 21 and 5 consumers strongly agree that the brand of the product and society culture influence their online buying behaviour. As shown in figure 6, cost recorded the lowest strongly disagree rate of 7, whiles brand, and Social factors recorded 10 strongly disagree each respectively. However, brand leads at the agreed rate of 32, cost with 31 and social of 37. Table 2 shows the results of the ratings of proposed factors. For quantitative analysis, the ratings were allotted numeric values 5, 4, 3, 2, 1, representing strongly-agree, agree, neutral, disagree, and strongly disagree. Due to the inuniformity of the data, the data were normalised using the Z-score. A z-score, in simple words, normalises each data point to the standard deviation in the form:

$$x' = \frac{X - \mu}{\sigma}$$

\[ \text{let and } \sigma \text{ is the standard deviation.} \]

The raw and normalised values are shown in table 3, and figure 7 shows the corresponding graph. Next, we perform correlation analysis to determine which factor strongly relates to buying behaviour. Correlation Analysis is a statistical tool used to determine whether or not there is a link between two variables and the strength of that relationship [20]. As shown in figure 8, a very weak correlation of -0.1 is recorded for the social factor, 0.72 is recorded for the brand factor, and the best correlation is recorded for the cost factor.

![Diagram](image.png)

**Figure 5.** The response rate on how the primary factors influence consumer behaviour to buy an online product

![Graph](image.png)

**Figure 6.** Rate of consumer's level of agreement with proposed factors, namely: social, cost and brand

**Table 2.** The results of the ratings of proposed factors

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social</td>
<td>5</td>
<td>27</td>
<td>31</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>Cost</td>
<td>25</td>
<td>31</td>
<td>23</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Brand</td>
<td>21</td>
<td>32</td>
<td>23</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

**Table 3.** Normalised values for the proposed factors

<table>
<thead>
<tr>
<th>Buying Behaviour</th>
<th>Z-SCORE</th>
<th>Social factor</th>
<th>Z-SCORE</th>
<th>Cost factor</th>
<th>Z-SCORE</th>
<th>Brand factor</th>
<th>Z-SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1.41</td>
<td>5</td>
<td>-1.34</td>
<td>25</td>
<td>0.66</td>
<td>21</td>
<td>0.29</td>
</tr>
<tr>
<td>4</td>
<td>0.71</td>
<td>27</td>
<td>0.90</td>
<td>31</td>
<td>1.24</td>
<td>32</td>
<td>1.43</td>
</tr>
<tr>
<td>3</td>
<td>0.00</td>
<td>31</td>
<td>1.30</td>
<td>23</td>
<td>0.46</td>
<td>23</td>
<td>0.50</td>
</tr>
</tbody>
</table>
5. Conclusions and Future Work

5.1 Conclusions

This research titled, factors influencing the consumer's online buying behaviour: A case study on students of Marien Ngouabi University was conducted with qualitative data gathered from 91 respondents from the Marien Ngouabi University. The data was converted into quantitative data by assigning values to other qualitative variables. After administering questionnaires based on primary factors stated in 4.2, the respondents were further asked questions to rate their level of agreement with proposed factors, namely: social, cost and brand. The proposed factors were normalised, analysed and correlated. This paper concluded that the factor that affects consumer online buying behaviour most is cost.

5.2 Future work

This work encountered limitations on data gathering since there is no readily available data on the sample needed. Since the university has a population of about 20000 students, it is imperative to have at least 10 per cent of data, but the limitation and willingness of people to fill the questionnaire limited data collection. It is proposed that future work carries rigorous data collection on this subject. Among other things discussed in this paper are the age group and the kind of product they buy most online and trends they catch up with to make buying choices, but data exploration was not done. Future research must look at that.


