Analysis of E-Commerce Repurchase Intention by Consumers during the Covid-19 Pandemic Based on Social Network Behavior

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Abstract

The emergence of global social isolation in the context of the Covid-19 pandemic accelerated the growth of e-commerce to a high level, that allowed companies to become more technologically aware of customer management, moving from a traditional system to a modern one. However, this change has not been carried out in a drastic way, and even not completely, because the Peruvian commercial environment is difficult to penetrate, and it is complicated to displace the already established sales channels. Therefore, in this research, data was collected from the main e-commerce companies in the Peruvian market, at the national level (Falabella Peru and Ripley Peru), to demonstrate the importance of social media management as a factor promoting repurchase intention and that, consequently, it is an important aspect to consider during the elaboration of loyalty models in organizations. For this reason, a survey was used as a data collection tool and the information obtained was analyzed using Structural Equation Modeling with IBM SPSS AMOS software. Given this, the most relevant result obtained was that social media activities have a positive and significant effect on repurchase intention. On the contrary, brand equity and customer relationship have a positive relationship, but not as relevant for repurchase intention.

Keywords
Repurchase intention, social networks, e-commerce, brand value and customer relationship.

1. Introduction

Due to the advance and spread of the Covid-19 disease, the World Health Organization (2020) decided to declare a global pandemic on March 11, 2020. Specifically, in Peru, the country registered a mortality rate of 4.02% and ranked seventh internationally among countries with the highest number of positive cases (Mejía et al., 2020). In response to these statistics, the Peruvian government implemented quarantine and social distancing policies (Córdova-Aguilar et al., 2020), which led to traffic restrictions and the closure of businesses.

Those measures implemented, according to the Peruvian Chamber of Electronic Commerce (2021), forced "businesses to boost their online sales, which led to a 50% growth in e-commerce in 2020; that is, a 300% increase in the number of e-commerce shipments and a 400% increase in the number of new companies that entered the electronic industry" (Neo Consulting, 2021). It is also important to recognize that, in the report made by Neo Consulting, an increase of approximately double the number of Peruvian online shoppers as a result of the emergence of the pandemic (Neo Consulting, 2021).

Given the impact of COVID-19, e-commerce accelerated 5 years in only 3 months, where the growth of e-commerce retail stands out, which grew by 250% (Peruvian Chamber of Electronic Commerce, 2021). Therefore, within the analysis in this research, the behavior of consumers of the main online stores belonging to this sector, Falabella and Ripley, will be studied. According to the report prepared by Neo Consulting (2021), both e-commerce companies maintain the leadership in the traffic of the main retailers, compared to Oechsle, Sodimac and Promart.
However, this new opportunity for e-commerce companies does not necessarily mean that customer relationships will remain permanent. One of the factors that reduces possible loyalty to a single brand is the nature of the Lima shopper. According to the study conducted by Nielsen Consumer (2014), the profile of the Peruvian consumer presents a very weak repurchase culture, which is limited to specific products, such as household appliances and automobiles, specialty, or non-searched products. This is due to their rational, thrifty, and demanding nature, as Peruvian buyers can vary their choices depending on time, offers and prices (Nielsen Consumer, 2014).

Therefore, it is currently important to know the effect of social media in an ecommerce, since, through that, it is possible to determine the activities and elements to incorporate in the digital marketing strategy, taking into consideration the needs of consumers (Liao and Huang, 2021). Therefore, when reviewing the importance of social media in the marketing strategy of an e-commerce, and given that it is projected that, in Peru, e-commerce will have a growth of 110% by the year 2025. (El Comercio, 2021). The study will analyze and discover the effect of social media activities on repurchase intention, brand equity and customer relationship, as well as the influence of customer relationship and brand equity on repurchase intention in a retail business in an e-commerce environment.

1.1 Objectives
To analyze the effect of social media on repurchase intention in e-retailers by identifying the influence of social media activities on repurchase intention, brand value and customer relationship, as well as the influence of customer relationship and brand value on repurchase intention.

2. Literature Review
The basis for starting this study is presented in the current online repurchase models and their main drivers within commercial organizations. During the research, the literature review conducted by Guevara and Jimenez (2022) was found, who identified that "the theory of planned behavior and reasoned action, the S-O-R model (stimulus, organism, response) and its services cape evolution are used, in addition to the TAM (technology acceptance model), information adoption models, among others". Among the models reviewed, the drivers that ensure beneficial consequences for companies are highlighted. These models include customer commitment and brand loyalty (Guevara and Jiménez, 2022). However, as evidenced in the research, there are few references that cover repurchase models from a context entirely based on digital marketing, specifically social networks. Thus, this article seeks to present a different view of repurchase intention, from an online marketing point of view and influenced by the emergence of social isolation as a result of Covid-19.

2.1 Relationship between social media activity and repurchase intention
On the one hand, it is exposed that marketing activities in various social media do not maintain a relevant relationship with the intention to repurchase online, since the variable related to social networks is not sufficient for there to be an increase in the willingness of consumers to make a repeat purchase (Maskuroh et al., 2022). On the other hand, among the actions that can be carried out in social media is the support of celebrities. Therefore, more specifically, it is explained that repurchase intention and that variable have a significant relationship, since celebrity endorsement is important, as it "... moderates the relationship between brand image and repurchase intention" (Herjanto et al., 2020). Additionally, engagement in social media affects repurchase intention, since it is a determinant for that behavior to take place (Kim et al., 2021).

2.2. Relationship between customer relationship and repurchase intention
In Ho and Wang (2015), it was shown that the relationship with the customer, in a digital environment can improve post-sale behavior, where word of mouth and the intention to buy again in a certain business are highlighted. Likewise, in the research of Dwinda et al. (2021), it is explained that the relationship perceived by the customer, mediates in the design of the website on the intention to repurchase. It is noteworthy that, in the article, the perception of website design has a significant positive effect on repurchase intention. In Maskuroh et al. (2022), it was obtained as a result of the implemented model that the relationship with the customer has no relevant relationship with repurchase intention.

2.3 Relationship between brand value and repurchase intention
In Sullivan and Kim (2018), the results showed that both perceived value and online trust are the main variables, in the study, which determine repurchase intention. In addition, in the model of Maskuroh et al. (2022), it was obtained that brand value is the variable with the highest significance and positive affect on repurchase intention, since "the
accumulated experience and knowledge of a brand is a factor that can influence to buy again in the same brand”. Likewise, in the research results of Pham et al. (2018) showed that perceived value is important when a factor has influence on repurchase intention, in the same way, because it intervenes between the relationship of convenience and repurchase intention.

2.4 Relationship of social media activities with customer relationship and brand value
Due to the limited information on the relationship between social media activities and the two described variables, it was found that, firstly, social media actions have a great positive influence on the relationship with the customer, because it helps to improve the bond with the consumer, and secondly, it allows the brand value to be reinforced. (Maskuroh et al. 2022).

3. Methods
The research to be carried out is classified as explanatory and presents a positivist paradigm. Likewise, the article will present a quantitative approach with a pure experimental design. This is based, according to Westreicher (2021), on the existence of "two control groups. Thus, the independent variable is manipulated in one of them and not in the other. In that way, the effect in both groups can be compared." To this is added the search to ensure and control the validity of the research, limiting the factors that influence the experiment to only the previously defined variables.

On the other hand, the effect that the independent variable (social networks) would have on the dependent variable (repurchase intention) will be measured. This would allow describing and explaining the cause-and-effect relationship, as well as analyzing how to obtain better results using digital marketing in repurchase models. That is, an explanatory scope due to the fact that data from social networks and indicators will be used to measure the repurchase process. In addition, the relationship between the variables will be explained. Subsequently, the conceptual diagram is presented, where the expected relationships between the variables are shown in Figure 1.

![Conceptual diagram](https://example.com/diagram.png)

Based on the model shown in the graph, the research hypotheses:

**H1:** There is an effect of social media activities on repurchase intention.
**H2:** There is an effect of customer relationship on repurchase intention.
**H3:** There is an effect of brand value on repurchase intention.
**H4:** There is an effect of social media activities on customer relationship.
**H5:** There is an effect of social media activities on brand value.

4. Data Collection
For data collection, a survey will be conducted using an online questionnaire as a tool in which questions will be asked about the habits and behaviors of e-commerce consumers of the main companies positioned in Peru. For the sample, the technique used will be non-probabilistic sampling. Likewise, within this technique, judgmental sampling will be used, since “the population will be selected based on characteristics that are appropriate to the research”. (Maskuroh, et al., 2022). Among the qualities of the respondents that will be chosen are that they are users of social networks, that they have made purchases through an e-commerce and that they are followers of the social network of the corresponding e-commerce.

To determine the sample size, in Artana et al (2022), it is described that to perform an analysis with the Structural Equation Model (SEM) it should be considered that the sampling size should be five times the number of indicators for the model. However, in Memon et al (2020), it is stated that, for the sample size for a SEM, it is suggested to use Power Analysis software, by means of which the required amount is calculated. For this purpose, the free software of
Heinrich Heine Universität Düsseldorf is used, considering in the parameters two tails, an error of 5% and a confidence level of 95%. In other words, a sample size of 210 participants will be considered in the online survey to be conducted. On the other hand, in order to select the appropriate sample, in this case, followers and online shoppers of the e-commerce Ripley, Saga Falabella and their competitors, the Chrome extension IGExport was used. This tool facilitates the extraction in Excel of random followers in each of the social networks corresponding to the retailers studied. A sample of 500 followers was obtained from which minors were filtered out, leaving 309. Subsequently, the difference was randomly eliminated and a final sample of 210 individuals was obtained.

Finally, the tool used to analyze the data will be the Structural Equation Model, since the causal relationships of the variables will be estimated (Artana. et al., 2022). Likewise, the software through which the model will be carried out will be IBM SPSS AMOS, since the free trial includes all the necessary features for modeling. The table below describes the variables used for a better understanding of the discussion and results (Table 1).

### Table 1. Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>Customer Relationship: is consider relevant to increase competitive advantages, it can be established by two-way communication with users. (Maskuroh et al., 2022)</td>
</tr>
<tr>
<td>BV</td>
<td>Brand Value: is defined as the positive or negative perception of consumers of a brand, based on a previous experience. (Maskuroh et al., 2022)</td>
</tr>
<tr>
<td>RI</td>
<td>Repurchase Intention: defined as the willingness of each person to buy more from the same company, based on their previous experience. (Hellier, Geursen, Carr and Rickard, 2003)</td>
</tr>
<tr>
<td>SM</td>
<td>Social Media: is defined as a tool to support e-commerce (Ho and Wang, 2015), through them, users can share photos, videos, express their opinions and share emotions. (Luna, 2017).</td>
</tr>
</tbody>
</table>

### 5. Results and Discussion

The type of test for the model developed in this article is the confirmatory approach, since it seeks to verify that the hypothesis proposed coincides with the data collected. As indicated by Malkanthie (2015), this test "proves that, if the model fit criteria are acceptable, the model can be accepted" and, therefore, the hypothesis would be accepted. Thus, after performing the respective analysis, numerical and graphical results were obtained that will help determine the nature of the theory proposed at the beginning of the research; the effect of activities in social networks on the intention to repurchase.

#### 5.1 Numerical Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>SM</th>
<th>CR</th>
<th>BV</th>
<th>RI</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>-1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BV</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RI</td>
<td>1.35</td>
<td>0.016</td>
<td>0.2</td>
<td>-</td>
</tr>
<tr>
<td>CR 3</td>
<td>-</td>
<td>0.033</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SM 3</td>
<td>0.544</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BV 3</td>
<td>-</td>
<td>-</td>
<td>-0.172</td>
<td>-</td>
</tr>
<tr>
<td>RI 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.063</td>
</tr>
<tr>
<td>CR 2</td>
<td>-</td>
<td>-0.038</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CR 1</td>
<td>-</td>
<td>0.067</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SM 2</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
The results obtained in Table 2 show that, according to Kline (2016), the effect of social media activities (SM) on customer relationship (CR) is -1, which means that if SM increases, CR decreases. In contrast, the influence on brand value (BV) is positive, so there is a relevant relationship between both variables.

The SM has a positive and committed relationship with repurchase intention (RI), as do CR and BV, but to a lesser extent, due to the values obtained, which are lower than those of SM (Table 3).

### Table 3. Regression Weights.

<table>
<thead>
<tr>
<th>Label</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>SM</th>
<th>BV</th>
<th>CR</th>
<th>RI</th>
<th>RI</th>
<th>BV</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM 1</td>
<td>0.809</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BV 2</td>
<td>-</td>
<td>-</td>
<td>0.265</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BV 1</td>
<td>-</td>
<td>-</td>
<td>0.367</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RI 3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.329</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RI 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.259</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The results obtained in Table 2 show that, according to Kline (2016), the effect of social media activities (SM) on customer relationship (CR) is -1, which means that if SM increases, CR decreases. In contrast, the influence on brand value (BV) is positive, so there is a relevant relationship between both variables.

The SM has a positive and committed relationship with repurchase intention (RI), as do CR and BV, but to a lesser extent, due to the values obtained, which are lower than those of SM (Table 3).

On the other hand, the regression weights table is interpreted based on two main columns, which are estimation and probability. In the first row, it is found that the estimate of social networks (SM) based on brand value (BV) is 0.659. This means that every time SM increases by one (1), BV increases by 0.659; however, this happens with negligible probability.

The same reasoning is applied for the rest of the rows, thus obtaining the following results.

**CR <--- SM:** For each point that social media (SM) increase, customer relationships (CR) decrease by 0.138 and present a probability of 39.2%.

**RI <--- CR:** For each point that customer relationships (CR) increase, repurchase intention (RI) increases by 0.048.

**RI <--- SM:** For each point increase in social media (SM), repurchase intention (RI) increases by 0.561.
RI ←→ BV: For each point increase in brand value (BV), repurchase intention (RI) increases by 0.126.

5.2 Graphical Results

In the Figure 2, of the model presented, it can be recognized that, of the three main paths, which are the variables directly connected to repurchase intention (RI), the influence of social media (SM) on RI is greater and of a significant magnitude, as it exceeds 0.5 of positive increment. Compared to customer relationships and brand equity, which results were 0.05 and 0.13, respectively. It should also be noted that, although the direct effect of BV and CR is not significant, both variables have an influence on the management of social networks.

5.3 Proposed Improvements

To improve the result of the model obtained, the program used, IBM SPSS AMOS, has an option that allows identifying what changes could be made in order to achieve a more adequate model. In Malkanthie (2015), it is explained that in the first modeling experience it is difficult to find that the result obtained is adequate. Therefore, in
the program the modification indexes make it possible for the researcher to generate a more adequate model, since they identify suggestions for changes to be made in relation to the possible paths that can be added to the Figure. The table below shows the proposed changes to be made to the model, as well as the impact they would have on the results (Table 4).

Table 4. Improvement Proposal.

<table>
<thead>
<tr>
<th></th>
<th>M.I.</th>
<th>Par Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR 3</td>
<td>&lt;---</td>
<td>CR 1</td>
</tr>
<tr>
<td>RI 1</td>
<td>&lt;---</td>
<td>CR 1</td>
</tr>
<tr>
<td>CR 2</td>
<td>&lt;---</td>
<td>RI 1</td>
</tr>
<tr>
<td>CR 1</td>
<td>&lt;---</td>
<td>CR 3</td>
</tr>
<tr>
<td>CR 1</td>
<td>&lt;---</td>
<td>RI 1</td>
</tr>
<tr>
<td>BV 2</td>
<td>&lt;---</td>
<td>BV 1</td>
</tr>
</tbody>
</table>

The model with the improvement proposals is shown below in Figure 3:
5.4 Validation

From the results obtained, it is evident that the variable that presents the most significant and positive relationship with repurchase intention (RI) is that of social media marketing activities (SM). This can be explained by the fact that the research was conducted in the context of a global pandemic. In that scenario, the use of social media increased significantly as explained by Dubbelink (2021). Approximately, the global e-commerce market grew by 27.6%. Also, shopping through the electronic medium enabled a more convenient comparison to be made and, therefore, customers can opt to choose the best option. Additionally, it was obtained that there is an effect of SRs on brand value (BV), this positive result obtained for this variable may be a consequence of the fact that, considering the characteristics of the population that participated in the sample, the highest percentage of responses were given by people belonging to generation Z (16 to 24 years old). It is worth highlighting the generational range to which they belong, given that among the particularities of the indicated category, the constant use of social networks stands out, since they are connected to those media a greater amount of time, approximately between 20 to 30 hours per week and about 30% is used to look at profiles (Alvarez et al., 2019).

In addition, both e-commerce platforms chosen to present a great positioning in the Peruvian market, as previously mentioned, they were selected mainly for that performance in the country. Therefore, to understand the positive and significant result of the SM variable on the IR and BV, it is important to mention indicators of their social networks,
since given the pandemic caused by COVID-19, emphasis has been placed on marketing strategies employed in a
digital environment, primarily due to the great influence of social networks in online purchases (Dubbelink, 2021).
On the one hand, Falabella Peru maintains an engagement in its followers of 0.15% on Instagram, 8% on TikTok and
0.072% on Facebook; on the other hand, Ripley Peru maintains the following values: 0.092% on Instagram and
0.046% on Facebook (Fanpage Karma). The percentage of follower engagement is relevant, since through it, it can
have an impact on BV, by expanding the reach of the content and facilitating long-term brand loyalty (Zailskaite-
Jakste and Minelgaite, 2021), which would explain the positive influence between both variables. Additionally, as for
the positive impact on repurchase intention, it would also be understood, because for e-commerce studied, around 4% of
the traffic to their online shopping platform is driven by social networks (SimilarWeb).

On the contrary, for the population studied and the characteristics of the sample, SM does not have a positive effect
on CR. That result differs from what was found in Maskuroh et al. (2022), since the study explains that the influence
of social media marketing was higher in the variable of relationship with customers, considering that the participants
of their research realized in Indonesia. Therefore, the results obtained can be explained by the behavior of the Peruvian
consumer, since the relationship with customers analyzes the way in which a given company approaches consumers,
specifically through communication with them. Given that, in social networks, messages are transmitted through
publications containing videos or photos, and in the case of the retails selected for the study, they maintain an
interaction in their publications of less than 0.045%, (Fanpage Karma,) this indicator could justify the result obtained.
Regarding the variables that affect the repurchase intention (RI), first of all, the brand value (BV) presents a positive
effect on the RI, which could be caused by the positive impact that SM had on the BV, as well as the great significance
of the SM on the RI. Therefore, it could be explained by the fact that BV mediates or drives the relationship between
SM and IR. Therefore, the BV variable does not have an incredibly significant effect on IR. Secondly, CR presents a
direct relationship; however, the result obtained is not as significant as for the other variables with which the
relationship has been analyzed. It should also be noted that the model obtained, and its interpretation is similar to the
results of the study by Maskuroh et al. (2022), which concluded, based on the values obtained in their model, that this
variable does not represent a significant influence on IR.

6. Conclusion

H1: There is an effect of social media activities on repurchase intention.
According to the model analyzed, it can be concluded that there is an effect of social media activities on repurchase
intention in an e-commerce company, and that, moreover, this influence is significantly positive. As previously
explained in the numerical results, the management of social networks presents a direct effect estimate of 1.35 on
repurchase intention, and also shows a regression weight of 0.561, the highest of all the proposed paths. Therefore,
the importance of implementing the use of social networks for pre- and post-sales processes as a driver of the
repurchase intention indicator can be deduced.

H2: There is an effect of the relationship with the customer on repurchase intention.
The results obtained allow us to affirm that there is a non-significant positive direct effect of customer relationship on
repurchase intention, this is supported by the fact that, when analyzing the direct effects table, an estimate of 0.016 is
found for this path. Furthermore, once the regression weight is reviewed, an estimate of 0.048 is found, which is of
little importance compared to the rest of the variables.

H3: There is an effect of brand value on repurchase intention.
Regarding the third hypothesis, it is concluded that there is an effect of brand value on repurchase intention. Although
the influence is positive, this does not represent the ideal path, as it remains with a relatively low direct effect estimate
(0.20) and an even lower regression weight (0.126). This indicates that brand value is not a variable that can be directly
considered as a factor influencing repurchase intention.

H4: There is an effect of social media activities on customer relationship.
Although the relationship with the customer is not related to repurchase intention, the bond with the consumer is
influenced indirectly by social networks, since it is a consequence of social network behavior. The table of direct
effects explains that the estimate for both variables is -1, which allows us to understand that while one rises, the other
tends to fall. On the other hand, in the revision of the regression weight, it is found that this indirect effect is negative
and insignificant, having an estimate value of -0.138.
H5: There is an effect of social media activities on brand value.

Analyzing the relationship between BV and SM with a 0.659 regression weight, it can be deduced that there is an effect of social networking behavior on perceived brand value. As previously explained, this indicates that, since there is a direct connection with the SM variable, it is deduced that the link with repurchase intention is indirect and therefore it is not suggested to consider BV as a promoter of IR.

Finally, it is concluded with this scientific article that it is feasible to analyze the behavior of social networks in a Latin American environment during the pandemic and that such data can be applied in a practical mathematical model of equations, which confirms the theory stated at the beginning: digital marketing, specifically the use of social networks in pre- and post-sales processes, should be considered as a primary factor during the elaboration of repurchase models in e-commerce companies. This is because it seeks to ensure the loyalty of the new generation of consumers through digitalized, simple and eye-catching channels that not only promote the shopping culture, but also encourage interest in commercial development, continuous growth and competition in the retail market itself.

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