

Assessing consumer complaints during COVID-19 in Mexico using large-scale Twitter data

Evaluación de quejas de consumidores durante COVID-19 analizando Twitter a gran escala

Avaliação de reclamações de consumidores durante COVID-19 no Twitter em larga escala

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ABSTRACT | The unprecedented growth of e-commerce in Mexico triggered by the COVID-19 pandemic and the initial lockdown became a challenge for retailers in terms of complaint management. While marketing studies have investigated the use of social media in this context, there is little research from a consumer perspective to understand how digital communication has transformed consumers' ability to obtain redress from companies. This study uses the theoretical framework of electronic word of mouth (eWOM) and complaining behavior to explore and understand online consumer complaints during the pandemic. Through analysis of large-scale Twitter data in 2019 and 2020 (just over 95,000 tweets), we quantified the frequency of complaints to show the evolution of this phenomenon for seven of the country's leading retailers. The data granularity is presented via a qualitative content analysis. Results indicate that most retailers present a similar trend in terms of number and type of complaints during the pandemic; however, some of them seem to have been able to adapt more quickly as their level of complaints decreased. Electronic markets, on the contrary, presented a different type of issues. Overall, topics related to delivery, return, and service were among the most frequently tweeted. Complaints also suggest that the lack of knowledge on procedures and insufficient information are dimensions that need the retailers' attention. By comparing the formal complaints filed by consumers to their Twitter's use, the study concludes that consumers are using it to complain.

KEYWORDS: pandemic; social media; consumer protection; consumer complaining behavior; government agency; eWOM; digital communication; Mexico.

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RESUMEN | *El crecimiento sin precedentes del comercio electrónico en México causado por la pandemia de COVID-19 se convirtió en un desafío para los minoristas en términos de gestión de quejas. Si bien los estudios de marketing han estudiado el uso de las redes sociales en este contexto, hay poca investigación desde la perspectiva del consumidor para comprender cómo la comunicación digital ha transformado la capacidad del consumidor para obtener compensación. Este estudio utiliza el marco teórico del boca a boca electrónico (eWOM) y el comportamiento de quejas para explorar los reclamos en línea de los consumidores durante la pandemia. Mediante el análisis de datos de Twitter a gran escala en 2019 y 2020 (un poco más de 95.000 tuits), se cuantifica la frecuencia de las denuncias para mostrar la evolución de este fenómeno para siete de los principales minoristas del país a través de un análisis cualitativo. Los resultados indican que la mayoría de los minoristas presentan una tendencia similar en términos de cantidad y tipo de quejas; sin embargo, algunos de ellos parecen haberse adaptado más rápidamente. Los mercados electrónicos, por el contrario, presentan problemáticas distintas. En general, los temas relacionados con la entrega, la devolución y el servicio estuvieron entre los más tuiteados. Las quejas también sugieren que la falta de conocimiento sobre los procedimientos y la información insuficiente son dimensiones que requieren atención. Al comparar las quejas formales presentadas por los consumidores con su uso de Twitter, el estudio concluye que utilizan esta red para quejarse.*

KEYWORDS: *pandemia; redes sociales; protección al consumidor; comportamiento de quejas; agencia gubernamental; eWOM; comunicación digital; México.*

RESUMO | *O crescimento sem precedentes do comércio eletrônico no México causado pela pandemia do COVID-19 tornou-se um desafio para os varejistas em termos de gerenciamento de reclamações. Embora os estudos de marketing tenham investigado o uso das mídias sociais nesse contexto, há poucas pesquisas do ponto de vista do consumidor para entender como a comunicação digital transformou a capacidade dos consumidores de obter indenização das empresas. Este estudo usa o marco teórico do boca a boca eletrônico (eWOM) e do comportamento de reclamação para entender as reclamações online do consumidor durante a pandemia. Por meio da análise de dados do Twitter em grande escala em 2019 e 2020 (pouco mais de 95,000 tweets), a frequência de reclamações é quantificada para mostrar a evolução desse fenômeno para sete grandes varejistas do país através de uma análise qualitativa. Os resultados indicam que a maioria dos varejistas apresenta uma tendência semelhante em termos de quantidade e tipo de reclamações, no entanto, alguns deles parecem ter conseguido adaptar-se mais rapidamente à medida que o seu nível de reclamações diminuiu. Os mercados eletrônicos, por outro lado, apresentam problemas distintos. No geral, os tópicos relacionados à entrega, a devolução e o serviço estavam entre os mais frequentes. As reclamações também sugerem que a falta de conhecimento sobre os procedimentos e informações insuficientes são dimensões que precisam de atenção. Ao comparar as reclamações formais apresentadas pelos consumidores com o uso do Twitter, o estudo conclui que os consumidores estão usando este último para reclamar.*

KEYWORDS: *pandemia; redes sociais; proteção do consumidor; comportamento de reclamações; agência governamental; eWOM; comunicação digital; México.*

INTRODUCTION

E-commerce has grown by double digits in Mexico in recent years, but it experienced a massive increase in sales during the pandemic. According to a recent study by the Mexican Association of Online Sales (AMVO, by its Spanish acronym) (Asociación Mexicana de Venta Online, 2020), Mexican e-commerce grew 81% in 2020. In just one year, 5.4 million people with Internet became digital consumers according to the National Survey on the Availability and Use of Information Technologies (ENDUTIH, by its Spanish acronym) (Instituto Nacional de Estadística y Geografía, 2020). The annual growth in the number of digital consumers was the largest reported since records began. This unprecedented increase undoubtedly became simultaneously an opportunity and a challenge for major stores in terms of sales, customer service level agreements, and complaint management.

The digital communication generated on social media is used to express concerns or problems with a specific online retailer, brand, or product. During the confinement, social networks became the main channels of communication between consumers and stores. Thus, social media provides a tremendous amount of public data to analyze issues that affected digital consumers during the pandemic.

Through the analysis of large-scale Twitter data, this study examines 95,129 tweets (27.1% of which we later categorized as consumer complaints), covering from January 1, 2019 to December 31, 2020 (see methodology section). This paper addresses partially the gap identified by the Organisation for Economic Co-operation and Development (OECD, 2022) in its study on consumer protection launched in 2022. That study highlights the need to collect more specific consumer complaint data relating to marketplaces (our study covers the three largest in the country), as it is currently difficult to accurately measure the scale of consumer complaints received by authorities and they do not specifically categorize them according to whether they occur in online marketplaces.

Being a country member of the OECD, with our exploratory study we specifically aim to address the following questions: i) How did the number of public consumer complaints evolve during the COVID-19 pandemic? and ii) What types of issues do consumers encounter from different providers (regular retailers and marketplaces)? With the first question our intention is to measure how much complaints grew on Twitter when consumers were restricted from visiting the store to resolve their problem. Knowing how much complaints grew generally and by store, with the second question we sought to identify the problems consumers faced when shopping primarily online.

By answering these questions, we seek to contribute to the literature on complaint consumption behavior, especially by identifying what kind of problems

are mentioned in complaints through social networks. Data can be an innovative tool to enhance consumer protection monitoring and a practical input to design policies aligned with the digital economic context. Consumer complaints posted in social media are an easy-access information source with the potential for answering questions related to market practices, evaluating provider responsiveness to consumers, and even analyzing the support received from the governmental authority for consumer protection.

Extensive data analysis that aims at monitoring and understanding the types of consumers' problems when using social media tools for consumer protection remains scarce (Frasquet et al., 2019). There is a vast collection of studies focusing on social media complaints from a marketing perspective to provide insights for retailers to assist complaints. Many studies focus on the tourism industry (Cantalops & Salvi, 2014; Yen & Thang, 2015). In addition, marketing researchers have focused on studying consumers' motives and behavior (Yang, 2013), intentions to complain (Boo & Kim, 2013), and brand reputation (Olaleye et al., 2018). Several theoretical investigations address the framework of consumer complaining behavior (CCB) (Henning-Thurau, 2004) and factors influencing consumer behavior to complain via social media (Balaji et al., 2015).

This research aims to be the first analysis of online consumer complaints in Mexico. The constant analysis of social media posts should be a fundamental part of monitoring consumer protection in e-commerce. It can provide real-time indicators and statistics to protect consumers, prevent fraud, and also support the Federal Agency of Consumer Affairs (PROFECO, by its Spanish acronym) to take legal action against certain providers when needed. A complaint categorization could also help understand the factors that influence consumers to make public complaints on social media.

LITERATURE REVIEW

Social media has forever changed communication between consumers and suppliers. Currently, Twitter and Meta offer a wide range of possibilities for consumers to communicate their opinions to the market and exchange information about their services or products (Einwillier & Steilen, 2015). Complaints are one type of opinion that consumers can communicate to suppliers through social media. And they do communicate in a direct, public, real-time, and sometimes massive way.

The communication between consumers and providers in the form of complaints has been analyzed in an extensive way by business researchers. They have put special attention on the negative implication of a hostile response for the brand's

reputation in an increasingly digital world. Little research has been undertaken from a consumer perspective to understand how digitalization and social media have transformed the consumer's ability to obtain redress from companies. We also found little research on how social media platforms can serve as efficient tools to i) strengthen consumer rights, ii) warn consumers about fraudulent business practices, iii) provide government institutions and policy makers with crucial data for consumer protection policies and, thus, iv) create a more competitive business environment that triggers innovative economic growth.

In this literature review, we first provide the framework of word of mouth (WOM) and consumer complaining behavior. We then look at the more recent research on complaints in the digital world and social networks.

Word of Mouth (WOM) and complaining behavior

Consumer tweets about stores can include different types of communication. Based on the consumer complaining behavior (CCB) literature, the communication from a person to a person about a product, brand, or service to the receiver in a non-commercial manner is known as Word of Mouth (WOM) (Arndt, 1967). Complaining is a specific form of negative word of mouth (WOM). With the advent of the Internet, WOM became eWOM which is a consumption-related communication that employs digital tools and is directed primarily to other consumers (Babić Rosario et al., 2020). Tweets are an example of eWOM. Considering CCB literature, we define negative eWOM in our analysis (i.e., tweets that are a complaints) as tweets that express dissatisfaction to the company account or to the government agency account.

A consumer who experiences a problem has two options: take some action or take no action. Over the years, researchers have developed several frameworks to understand why consumers take one or another way. All those theoretical frameworks are encompassed into the consumer complaining behavior (CCB) analysis. Following Crié (2003)'s framework for complaining behavior, negative eWOM and complaints or legal actions are different types of responses consumers can have. A public complaint refers to consumer complaints directed to the service provider or to a government agency to take legal action, while private complaints are those directed to other consumers to warn about the brand (Golmohammadi et al., 2021).

Consumer complaints in times of COVID-19

Literature that looks at complaints during this period focuses mainly on complaints related to health issues (Klimach et al., 2020; Prince & Sergel, 2020). This is true not only for the Latin American context, but on a global basis. Studies related to other goods or services are scarce. For example, Liu and colleagues (2021) find that although tourism enterprises in China quickly introduced measures in

response to complaints, the effectiveness of targeted policies is still to be evaluated. On time arrivals (OTAs) were the main target of complainers, and three themes of complaints were identified, namely, cancellation barriers, refund barriers, and customer relationship management. Another interesting finding is that of Castello (2020), who stresses how travel agencies may see a resurgence in their activity in view of the demand for personalized attention when it comes to solving problems that arose with cancellations, delays, and adequate medical coverage.

In the same context, Gutiérrez-Leefmans and Rico-Sulayes (2022) study logistic companies' complaints in a smaller scale, finding that time, service, responsibility, technology, and quality are the most mentioned topics. The authors do an analysis based on YouTube videos, hence, similar themes can be found in complaints from other social media.

Consumer complaints in the era of social media

Social media allow consumers to send their complaints to suppliers in a direct, public, real-time, and sometimes massive way. There is limited research about the factors that influence consumers to make public or private complaints on social media. Hennig-Thuraru et al. (2004) built one of the first theoretical frameworks. They classified consumer reasons to communicate on social media platforms into three types: focus-related utility, consumption utility, and approval utility. The first one is the benefit the consumer receives when adding value to the community through his or her contributions (Hennig-Thuraru et al., 2004). Digital platforms became a space for consumers to participate and affiliate with a virtual community.

Dalla Pozza (2014) found that consumers choose social networks such as Meta or Twitter as a channel to disseminate their public and direct complaints mainly because of their dissatisfaction with other channels that have been useless to resolve them or to obtain the expected result. The choice of Twitter to file a complaint lies in utilitarian perceptions. Consumers appreciate the rapidity and practicality of Twitter, and experience shorter channel choice patterns (Dalla Pozza, 2014).

Another reason consumers choose to complain publicly and directly through social media is related to perceived unfairness and retaliation motives (Gelbrich, 2010). Consumers who feel betrayed by the supplier seek to damage its reputation publicly and spread their sense of injustice to other consumers (Balaji et al., 2015). In their empirical analysis of Meta complaints, Mei and colleagues (2019) identified that the purpose to complain on social media has five different roots: to vent frustration, to share their experiences, to seek understanding and respect, to seek revenge and damage the retailer, and to offer the retailer a chance to improve. Another interesting classification in the corporate crisis context is that

of Etter and Vestergaard (2015), who classify issues as causes, consequences, problems, and remedies.

More recently, Frasquet and colleagues (2019) found that social media is used by all segments of customers to complain in varying degrees but always combined with other channels. Their study also highlights how few researchers have included social media among the set of channels available for complaining.

Studies related to the pandemic focused on understanding how opinions on social networks served to make purchasing decisions considering the impossibility to visit the store physically (Nilashi et al., 2022). Another example is the work who identify that corporations should have shifted from traditional offensive and rational communication responses towards more defensive and emotional ones (Wang et al., 2021).

Complaints and Twitter use

Consumers engage in social media to receive, produce, and share information (Heinonen, 2011). Cebal-Loureda and Sued-Palmeiro (2021) do a large-scale analysis using topic modelling and sentiment analysis to explore Twitter conversations related to COVID-19 pandemic. However, there is still an area of opportunity to dig into specific studies of users' complaints via social media.

Twitter is considered an ideal vehicle due to its effective propagation and support by a large number users (Batzdorfer et al., 2021) connected through specific hashtags. Antelmi and colleagues (2019) analyze Twitter users and conclude that the use of this social network is turning new generation of consumers to interact more actively.

Most complaint-related work has a marketing approach, such as the work of Okazaki et al. (2015) whose analysis of Tweet coding and social network concludes that the use of Twitter by companies is an opportunity to demonstrate the company's commitment to improving service quality and customer satisfaction. Golmohammadi et al., (2021) found that firms with poor management of their response channels (e.g., responding the same thing to the customer through different channels) have a negative impact on the perception of the company's quality. Similarly, Ibrahim and Wang (2019) use topic modelling and sentiment analysis to identify that delivery, product, and customer service are among the most-discussed topics on Twitter, and the areas that receive the most negative customer sentiments are delivery and customer service.

The analysis presented in this paper approaches online consumer complaints in a large-scale to see their evolution during the pandemic and the type of issues consumers faced. The objective is to detect patterns that can inform policy makers on retailer's practices and, therefore, trigger changes that protect consumers.

METHODOLOGY

The initial quantitative analysis is of a descriptive nature, as the aim is to present the public complaining landscape through Twitter during the period previously stated and to understand its scope.

The Twitter API consulted consisted of 500 tweets in a 2,500 request package.¹ First, we managed to get a glimpse of how many tweets are directed to each of the seven department and online stores per day. We then managed to get an idea of how many tweets are directed to each of the department stores or online retailers AND the Federal Agency of Consumer Affairs in Mexico (PROFECO) during a few days.

The number of tweets mark a clear trend. While 24,937 tweets were directed to one of the seven stores during 2019, during the same period 59,984 tweets were published in 2020. As the numbers in table 1 show, there is a sharp increase of tweets directed to Mercado Libre, Liverpool, and Walmart.

We considered all tweets tagging one of the seven department stores or online retailers AND PROFECO during the years of 2019, 2020 and between the 1st and 16th of January 2021 (date when we concluded our analysis). We classify these tweets as public complaints, following the initial works and typology of customer consumer behavior mentioned in Harrison-Walker (2001).

Store	2019			2020			2021
	02-10 Jan.	07-15 May	12-15 Nov.	02-10 Jan.	07-15 May	12-15 Nov.	02-10 Jan.
Total	9,477	8,059	7,401	11,357	35,675	12,952	18,396
Amazon	949	1,208	2,953	1,196	2,527	1,995	1,667
ClaroShop	46	26	30	746	996	295	887
El Palacio de Hierro	572	415	315	321	1,681	476	1,433
Home Depot	65	88	89	144	424	88	203
Liverpool	1,857	1,179	657	1,204	9,205	1,578	1,959
Mercado Libre	3,909	3,958	1,969	5,708	16,322	3,572	10,235
Walmart	2,079	1,185	1,388	2,038	4,520	4,948	2,012

Table 1. Distribution of tweets directed to the seven stores during the seven weeks we looked at

Source: Own elaboration.

1. <https://developer.twitter.com/en/pricing/search-30day>

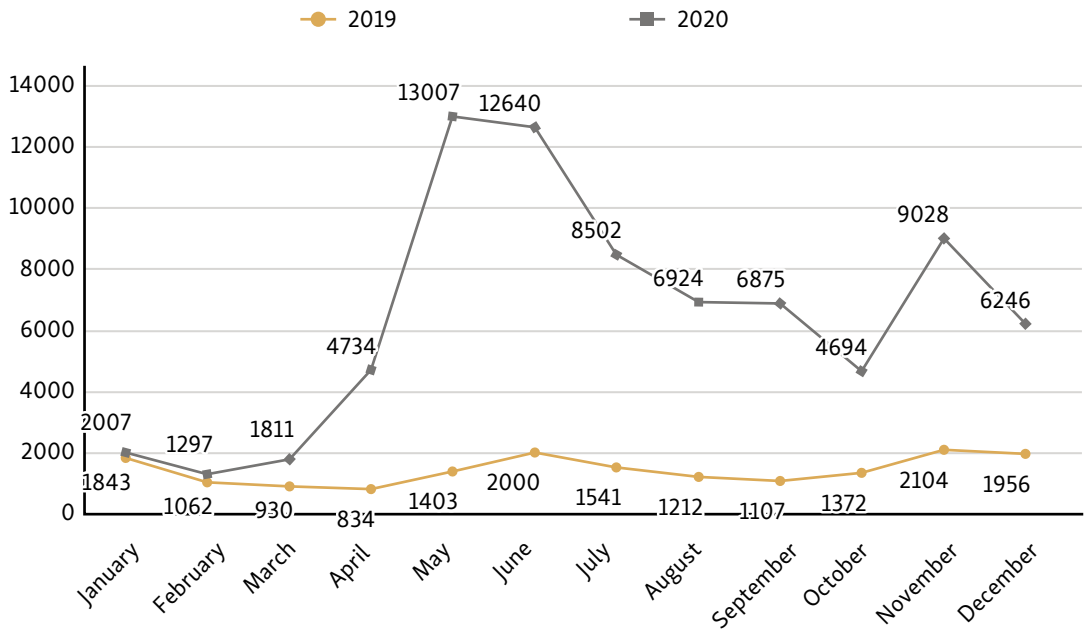


Figure 1. All tweets directed to the seven stores and PROFECO during 2019 and 2020

Source: Own elaboration.

Figure 1 provides evidence of the increase of tweet complaints shortly after the COVID-19 outbreak and lockdown in Mexico.

For this, we consulted and analyzed 95,129 tweets in 2019 and 2020, as well as 2,501 between the January 1 and 16, 2021. All tweets are directed to one of the seven department stores or online retailers as well as to PROFECO. Yet, the total number might be misleading as the tweets include retweets, replies by PROFECO and the department stores and online retailers.

We then started to narrow down the total number of tweets. First, we deleted all retweets. Second, we deleted all but one tweet emitted by each user. Users often post the same complaints several times in their account and, as a result, these multiple tweets would inflate the actual number of complaints. Nonetheless, this also means that a user who had several different complaints against the same store in 2020 was only counted once as a consumer complaint. Third, we deleted tweets that were identified as answers by the retailers.

The second part of the analysis is qualitative. To visualize not only the magnitude and evolution of complaints during the COVID-19 pandemic, but also the content of these complaints, we created word clouds for each store using R software. Word clouds are used to give an intuitive and visually appealing overview of content by depicting the words that are used most often. The analysis led to a classification of issues per store, in order to find out complaint patterns.

RESULTS

Complaint tweets directed to stores and PROFECO

Figure 2 provides a summary of the tweets directed to both one of the seven providers and PROFECO (after having narrowed down the number of relevant tweets). Unlike tweets from the first group, some of which could express congratulations to a store or ask a question related to a product or service, a tweet that is directed to the PROFECO account and a store is highly likely to be a consumer complaint. It is important again to note that in this group we analyzed data for the whole year of 2019 and 2020, while in the group of tweets directed purely to stores we only looked at the three weeks in 2019 and 2020.

The increase in consumer complaint tweets between 2019 and 2020 already gives us a sense of the challenges consumers faced at the start of the pandemic. 19,928 consumers in Mexico wrote at least one tweet directed to one of the seven stores and PROFECO in 2020 (8,702 in 2019). Most likely, these tweets mentioned a complaint or problem with a purchase. In May 2020, our analysis showed nearly 4,000 potential complaints from unique users directed to PROFECO and one of the seven retailers. The number was 449.4% higher compared to the same period in 2019. April also saw a sharp increase of 264.4% compared to 2019. In November 2020, it shows a similar increase. This might be related to the organization of the biggest commercial (both offline and online) event in Mexico during the pandemic, the so-called Buen Fin.

The data for each retailer shows visible differences in the number of tweets and complaints received. The overall rather low number of tweets (meaning complaints) and the small increase of tweets directed to Amazon suggests that Amazon managed to adapt in an efficient way to the sharp increase of sales during the pandemic. This comes as no surprise.

In contrast to Amazon, classic retailers with a large physical in-store presence in Mexico, such as El Palacio de Hierro, Liverpool, and The Home Depot, experienced sharp increases shortly after the breakout of the pandemic. Claroshop is an exception, as, although it is also marketplace, it too experienced such sharp increases. We observe a similar tendency with the omni channel Walmart, which also provides grocery store services. In the case of El Palacio de Hierro, the data suggests that the department store needed several months to adjust its operational model to avoid complaints in Twitter.

The online marketplace Mercado Libre experienced a sharp increase after the breakout of the pandemic, but also a significant drop in July and August back to nearly pre-pandemic levels. This might indicate that Mercado Libre needed a few weeks to adjust its operation to the excessive demand of online purchases.

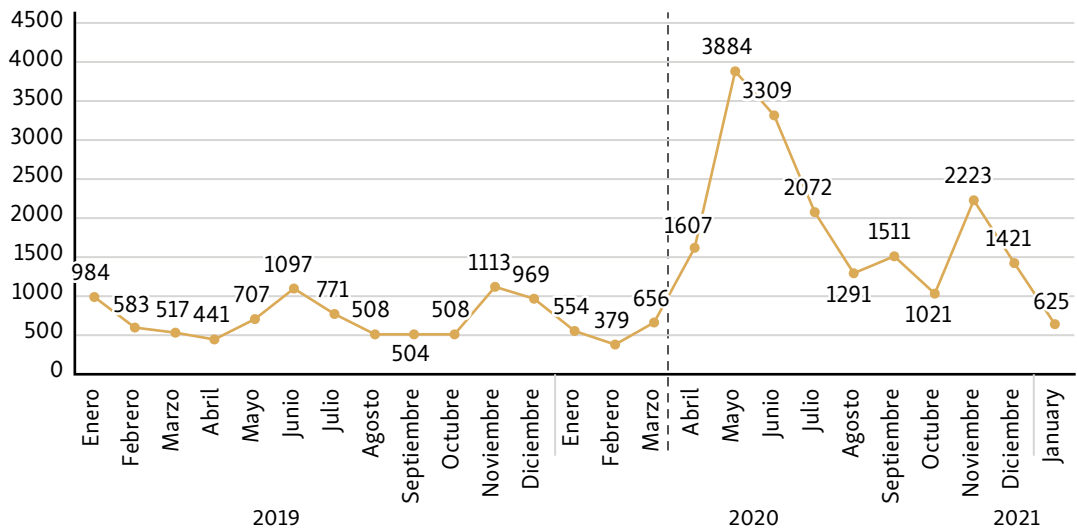


Figure 2. Relevant tweets directed to the seven stores and PROFECO

Source: Own elaboration.

In all these observations the sharp increases of tweets between 2019 and 2020 need to be put into perspective with the increase of sales. We do not have access to the sales reports of the seven providers, but at first glance, the number of complaints looks comparatively small in relation to total sales. Yet, this should not be interpreted as success for the providers, or even less, serve as evidence that providers respect Mexican consumer rights. As said earlier, our analysis shows that at least (very conservative estimate) almost 20,000 consumers in Mexico expressed concern about one of the seven providers to PROFECO in 2020. In addition, it is likely that many consumers try to communicate directly with the providers without using Twitter.

54 unique users tweeted to one of the the seven stores and PROFECO per day in 2020. The low level of consumer complaints per day could be seen as a positive sign of consumer experience in Mexican e-commerce. It might be that the number of complaints is low, or that the quality of customer service via other store channels, such as email or call center is very efficient. However, the low number of tweets could also be due to the poor quality of the store's customer service via Twitter, e.g., automated responses (bots) instead of dealing with each complaint individually.

Table 2 shows the number of formal complaints submitted via PROFECO for the seven suppliers². Based on this information, formal complaints represent 47.0% of the total unique tweets. We cannot link formal complaints in 2020 to the tweets

²Formal complaints submitted via PROFECO were obtained through an information request under the registry number 103150009321. Retrieved from: <https://buscador.plataformadetransparencia.org.mx/web/guest/buscador nacional?buscador=103150009321&coleccion=5>

Store	2019			2020			2021
	02-10 Enero	07- 15 Mayo	12-15 Nov.	02-10 Enero	07- 15 Mayo	12-15 Nov.	02-10 Enero
Total	3,576	2,959	3,384	3,949	13,609	4,247	5,696
Amazon	536	402	1,458	515	1,102	856	788
ClaroShop	23	22	16	166	321	65	164
El Palacio de Hierro	210	128	158	116	717	160	393
Home Depot	40	55	43	67	118	51	91
Liverpool	622	497	349	507	3,767	650	784
Mercado Libre	1,343	1,369	781	1,767	5,927	970	2,531
Walmart	802	486	579	811	1,657	1,495	945

Table 2. Number of formal complaints presented, and Tweets directed to the seven retailers and PROFECO in 2020

Source: Own calculation with data from PROFECO.

classified as complaints in our analysis. Yet, we believe that the actual number of problems and complaints about the seven retailers might be higher than suggested by the numbers of formal official complaints. Besides, it is important to note again that the number of relevant tweets in our analysis is most likely a very conservative, low estimate of consumer complaints on Twitter.

Comparing the number of official complaints filed via PROFECO and likely complaints via Twitter, we find that formal complaints via PROFECO mark only 18% of all tweets for Amazon. At this stage, it is very difficult to understand the underlying reasons, but it might be that Amazon tries to solve and assist consumer complaints via Twitter. It also has a very easy process on their website and in their workflow for complaints or to return and obtain refunds for unwanted merchandise. By doing so, Amazon prevents consumers from filing a formal request with PROFECO. In contrast, formal consumer complaints about Walmart sum up to 63% of all complaints observed on Twitter (even worse in the case of The Home Depot, with 95%).

Content analysis of tweets directed to stores and PROFECO

In our analysis, we highlighted the hundred most frequent words used in tweets directed to the seven department stores and online retailers and PROFECO. It is important to remember that we deleted all retweets and tweets posted more than once by the same twitter account. We did this to avoid any kind of inflation of tweets.



Figure 3. The 100 most common words in tweets directed to all the stores AND PROFECO during 2020

Source: Own elaboration.

Though word clouds do not capture the context of a tweet or potential complain, it allows us to:

- I. Verify if most tweets actually were complaints.
- II. Interpret common issues of these tweets.

The size of the word reflects the number of times it is mentioned. The larger a word, the greater the number of times it was used in a complaint.

We found that the four most commonly found words in tweets directed to the seven stores and PROFECO are “return” (devolución), “delivery” (entrega), “customer service or support” (atención) and “terrible” (pésimo), closely followed by “solution” (solución), “refund” (reembolso), “answer” (contestan), and “price” (precio) (see figure 3). The analysis confirms that the tweets consulted during our research were somehow related to consumer complaints. Most of the words have essentially the same objective: to communicate dissatisfaction about a purchase. Other common words in these tweets were “proceed to” (procede), “still” (sigo), “did” (realicé), “time” (tiempo), “complaint” (denuncia), “fraud” (fraude), “help” (ayudar), or “solve” (resolver).

Tweets directed to each store and PROFECO

By depiction of figure 4, we can tell that, interestingly, Amazon consumers appear not to complain primarily about a lack of customer service. Claro Shop's

word cloud indicates that the tweets describe poor customer service. Users might have first sent an email to the customer service area of Claro Shop before contacting Claro Shop via Twitter. Other meaningful words directed to this company are those that denote or could indicate a bad shopping experience, or could reflect a long wait for a solution by consumers. For example, “awful” (pésimo), “worst” (peor), “urge” (urge), “problem” (problema), “yesterday” (ayer), “weeks” (semanas), “wait” (espera), “still” (sigo), “calls” (llamadas), and “trying” (intentando).

A large number of tweets directed to El Palacio de Hierro and to PROFECO are related to some kind of problem with poor customer service. In addition, data suggests that the retailer faced several problems with refunding their clients’ purchases or with facilitating the return process. A recent successful collective complaint of 87 consumers facilitated by the consumer NGO Tec-Check seems to confirm that consumers waited several months for refunds from this department store³.

The Home Depot’s data appears to be related to problems that users face with poor customer service and the delivery of their purchase. There are other words related to the process of customer service, for example, “chat” (chat), “report” (reporte), “answer” (contestan), “support” (apoyo), “wait” (espero), “whatsapp” (whatsapp), “employers” (trabajadores), and “system” (sistema). Liverpool seemed to face severe problems with the delivery of purchases. This was also confirmed by two recent successful collective complaints of 97 consumers in 2020⁴.

Mercado Libre is an online marketplace that has a platform of electronic payment known as Mercado Pago. It could be assumed that several users turned to Twitter to communicate about the complaint process that this marketplace has. This could be because of dissatisfaction with the resolution or bad quality of the complaint process. In the case of Walmart, the data confirms a pattern of problems with customer service as well as doubts about prices and promotions they published.

Table 3 summarizes the most common words in tweets directed to all stores and PROFECO, the issues encountered, and the dimension that encompasses them.

3. Information obtained by an information request registered with the number 1031500009321. Retrieved from: <https://buscador.plataformadetransparencia.org.mx/web/guest/buscadornacional?buscador=1031500009321&coleccion=5>

4. Information obtained by an information request registered with the number 1031500009321. Retrieved from: <https://buscador.plataformadetransparencia.org.mx/web/guest/buscadornacional?buscador=1031500009321&coleccion=5>



Figure 4. The 100 most common words in tweets directed to PROFECO AND Liverpool (left) and ClaroShop (right) during 2020

Source: Own elaboration.

Retailer/ Marketplace	Common words	Issue	Dimension
Amazon	delivery, refund, dispatch, problem	Refund management	Delivery / Process
Claroshop	do not answer, mail, delivery, shipment ID, invoice, reimbursement, return	Customer service	Service / Process
Mercado Libre	claim, seller, mercadopago, claim	Complaint process / Payment	Process
Palacio de Hierro	do not answer, support, reimbursement	Customer service	Service
The Home Depot	delivery, awful, support	Bad experience	Delivery / Service
Liverpool	delivery, do not answer, support, terrible	Bad experience	Delivery / Service
Walmart	claim, price, reimbursement	Information consistency	Data / Process

Table 3. Common words used to complain per store and its dimensions

Source: Own elaboration.

We find that the lack of knowledge on procedures to complain, return a product, or receive a reimbursement seems to be relevant for established marketplaces such as Amazon and MercadoLibre. This is understandable as third parties are involved and one may need to return a product to the retailer itself despite having purchased directly from the marketplace. That is, these platforms appear to have

better customer service but they still need to work on improving their refund process communication. However, Claroshop stands out as a marketplace that still faces the same customer service issues as the retailers. This is probably due to the more recent introduction and less use of the platform in Mexico.

Another concern is the lack of data or information deficiency, i.e., when prices do not match the ones advertised, as in Walmart's case, or when there is no information at all.

CONCLUSIONS AND RECOMMENDATIONS

This study, by analyzing the evolution of complaints via Twitter, marks a first step towards analyzing online consumer complaints via social media in Mexico. Not surprisingly, the analysis confirmed a sharp increase in complaints shortly after the pandemic restrictions were implemented in Mexico. Yet, in comparison to the overall number of online transactions in 2020, the number of complaints raised via Twitter seem to be rather small.

However, there is no doubt that thousands of online consumers faced some kind of problem with delivery, reimbursement, or fraud in 2020. Official data confirms that there were severe issues in e-commerce in 2020. The seven retailers analyzed in this study received a total of 9,439 filed complaints to PROFECO in 2020. Our analysis indicates that the number of officially filed complaints significantly underreports the actual number of complaints. This difference could be explained by saying that the retailers solved the complaints straight away. Hence, filing an official complaint was not necessary. However, it might also be that many consumers in Mexico:

- Are not aware of the official complaint procedures.
- Do not file an official complaint because it might take months and require paperwork.
- Do not trust the work of PROFECO (this confirms the study of Mattila and Wirtz, 2004).
- The study also leads to several important recommendations:
- Monitor customer services to prevent bad practices (e.g., automatic responses that do not give a solution).
- Implement a mechanism that allows businesses to charge the purchase only once the product has left the retailer.

- Define a maximum timeframe for the delivery of a purchase in the Federal Consumer Protection Law.
- Ensure providers are bound to refund payment via the same method of payment used by the consumer.
- Establish a maximum timeframe to providers for complaint response and solution.
- Government institutions need to make easier the complaining filing process and should speed their processes and resolution time to avoid negative eWOM.

Theoretical contribution

Nowadays, complaint communication takes place either via stores, websites, mobile apps or through social media (Frasquet et al., 2019). Hence, Crié (2003)'s distinction among negative eWOM and complaints or legal actions is no longer clear. Our analysis shows the scale of complaints that social media makes possible and the content analysis presented stresses the negative eWOM that takes place through Twitter. Users now simply direct their message to PROFECO when tweeting. Although this is not a formal complaint to the institution, it can be considered as a complaint for the sake of having a record of consumer complaining behavior. That is, consumers are using eWOM via social media to actually direct a complaint to the government.

Twitter appears to be one of the best eWOM tools to complain. Consumers all over the world use it to raise their voices in a simple and short message. However, studies that explore the use of Twitter by consumers tend to be marketing-oriented and focus on branding (Hayes et al., 2020; Read et al., 2019) or opinion mining (Kundu & Chakraborti, 2020; Rathana et al., 2018). In contrast, our study shows the enormous power that Twitter has and confirms the extensive use of social media as part of consumers' complaining behavior, specifically during times of crisis.

Our work confirms some of the findings of Ibrahim and Wang (2019), where delivery, product, and customer service are salient topics in their Twitter sentiment analysis. We extend such findings to topics that relate to processes and data. Following the work of Etter and Vestergaard (2015), the topics found can be classified as a) causes (in our case, information inconsistency and delivery issues), b) consequences (bad experience and claim), c) problems (insufficient support and bad customer service), and d) remedies (return and reimbursement). However, a deeper qualitative analysis is required to understand their nature. The authors are currently working on this.

Specifically, in a COVID related context, our study confirms the work of Liu and colleagues (2021), who find refunds and customer relationship management to be important issues. This shows how both products and services can converge in terms of complaints.

Our study's contributions can be therefore summarized as follows:

1. It is the first study of this nature and scope about Mexico (large population and consumption) intended to help national government policies.
2. We respond to the OECD's (Organisation for Economic Co-operation and Development, 2022) call for complaint analysis for both retailers and marketplaces, finding that they present slightly different issues.
3. We advance the field of CBB theory by confirming or not previous findings on specific issues (for example, contrasting services and products).
4. We advance the field of eWOM by providing an example of a complaint analysis in a COVID setting and confirm that it is key to study public complaint behavior (CBB). This fills the gap identified by Frasquet and colleagues (2019).
5. We demonstrate the exceptional challenge faced by people in Mexico during the pandemic with data and analysis.

Managerial, consumer and policy implications

Consumer complaints in social media can provide strategic insights for companies. Yet, our analysis suggests that Mexican retailers do not take advantage of the data available or the possibility to directly assist with consumer complaints. Moreover, we found that many retailers do not distinguish between consumer comments and specific complaints. Stores often reply with a standardized answer that leaves many consumers angry: "Sorry, please give us more information via direct message to solve your problem". Consumers often follow this advice but still receive no solution to their problem.

Consumers affected by unfair business practices will most likely lose trust in the retailer, or even worse, in e-commerce. For a sustainable growth of the digital economy in Mexico, it is important that stores systematically review complaints and responses to assess accuracy, completeness, and response time.

If we want to impact country policies, the amount of data to analyze is very relevant (in the case of issues, we had to analyze about 10 million words). This is how we intend to impact national policies and to have them include social media analysis to represent more accurately the number of complaints and the dimension of consumer issues.

While the content analysis looks at past tweets, a constant analysis of tweets in real-time is of great use for companies, consumer protection agencies, and consumers:

- Companies can quickly identify consumer complaints and act immediately to avoid problems that might affect sales (there are a variety of tools in the market already offering this data).
- Consumer protection agencies can prevent certain business practices that might affect consumers.
- Consumers can analyze the data before making a purchase decision.

Limitations and further research

Our study marks the first approach to analyze public online consumer complaints in Mexico. The study by no means claims to be comprehensive; there are still many methodological areas that need improvement, especially narrowing down complaints and extending the analysis to Meta, Instagram, and Google. Using artificial intelligence mechanisms that learn to identify consumer complaints in social media platforms might be of great future value.

Data from IAB México (“IAB México presenta...”, 2019) indicates that in 2019 Facebook and Twitter were the most used social networks. However, Twitter became the fifth most used social network in 2022. According to data from Statista (“Redes sociales...”, 2023), 53.7% of Mexicans use Twitter. Hence, this could be considered as a limitation as there may be more complaints in other social networks. These are users between 16 and 64 years old, which, due to microblogging’s rapidity and practicality (Dalla Pozza, 2014) require accurate, quick-to-digest information and look for a similar way of expressing their ideas. Other studies could relate such individual characteristics to complaining behavior.

Due to economic limitations, we had to limit substantially the number of tweets to be included in our analysis. A more in-depth analysis and revision of the tweet estimation would require further research and research funds to pay for the Twitter API.

Service issues seems to be common for both marketplaces and stores. This leads to suggestions for further research on the detail of service deficiencies that all types of retailers present, using natural language processing (NLP) to get a better understanding of consumer complaints. A promising research avenue would be to connect customer service theories with crisis management literature. The lack of knowledge on procedures and insufficient information are dimensions that also need more attention from researchers.

The differences found for marketplaces are only initial findings, an interesting research avenue (also currently addressed by the authors) is a more thorough analysis of these platforms and how their differences may impact complaining behavior and policies to regulate them.

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