

# Online Communications in Medical Mobile Application: Customer Complaint's Assertiveness During Covid-19 Pandemic

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**Abstract**— Digital technology has made things easier for people during the pandemic especially for accessing health services. They can consult with a doctor, order medication, and make appointments for laboratory examinations via the application. This research aims to understand the assertiveness of medical mobile application users by analyzing these concepts: Computer-Mediated Communication (CMC), Consumer Complaint Behavior and Communication Assertiveness. This is descriptive quantitative research with content analysis methods. It aimed at describing the complaints of mobile application users. The population is customers of medical mobile applications who give 1-star rating of Halodoc, Alodokter, Mobile JKN dan eHac Indonesia application in the past 6 months. From the findings it was noted that there is still a room for improvement for medical mobile application providers. It is important to train customers to communicate more assertively so that the company could get better insights of what to do to improve their service in future.

**Keywords**— assertive communication, online communications, customer complaint behavior, mobile applications

## I. INTRODUCTION

The country's health sector has experienced quite major changes in the last decades. Technology for digital health first developed in 1990s with the emergence of telemedicine. In the early 2000, the medical technology has grown further to the arising of electronic medical record and prescription. At present, health services are only few clicks away [1]. There are more and more medical applications that serve real-time online consultation with doctors, provided by both private sectors and government. Some of those belong to private sectors are *HaloDoc*, *Alo Dokter*, and *Sehatq*. While the ones provided by government are Mobile JKN Faskes for BPJS and eHac (Indonesia Health Alert Card) by Ministry of Health.

APJI noted that in 2017 there were 51% of Indonesians use medical application to search health related information and 14,05% people use it to consult with medical experts. During the survey, the users said that practicality and

convenience are their first consideration in using medical app continued by low cost and variety of options. However 61,2% of people still choose not to use the application because of their lack of trust towards the application [2].

In the midst of COVID-19 pandemic where people are encouraged to limit their mobilization, the use medical mobile application has increased. Chief Business Officer & Co-Founder Halodoc, Dody Lukito, said that during the peak of pandemic (March-May 2020) a number of progress took place: transaction increased 6 times higher for doctor consultation, medicine purchase raised up to 300%, Covid-19 drive thru test-users raise for 65%, purchase of vitamin and supplements raised double, active users reached 20 million people. These numbers speak volume that the people's awareness and needs towards health digitalization has increased [3].

Social Information Processing (SIP) as one of Computer Mediated Communication (CMC) theory argues that humans innately seek to build and develop interpersonal relationships. As a result, this theory argues that communicators will rely upon other cues to transmit relational meaning in spite of the lack of social cues. Some examples of other cues include emoticons, communication content, communication style, and nonverbal cues. It also suggests that in online communication extended time is required to build close connection. Walther finds that messages spoken in person might take about four times longer to say online [4]. In regards with the use of medical mobile application, SIP theory will be the analytical tool to view online communication carried by the providers and customers.

The main purpose of the medical application use is to shorten the complicated and time-consuming health services process. However, in reality, the implementations are not always in line. From researchers' early observation, customers of medical mobile application have been complaining on various related issues concerning the services.

Day et al. [5] noted that Consumer Complaint Behavior (CCB) is the consequence 'of a given act of consumption, following which the consumer is confronted with an experience generating a high dissatisfaction, of sufficient impact so that it is, neither likened psychologically, nor quickly forgotten'. Singh [6] suggests that this behavior activated at an emotional or sentimental level by a perceived dissatisfaction, is part of the more general framework of responses to dissatisfaction.

Furthermore, Singh [6] categorized CCB into four types: passive, voices, irate and activist. Goetzinger [7] continued this categorization by adding one more category: collective complaining. Collective complaints refer to customers who publicly complain via offline media (radio, newspaper) and online media (e-mail, complaint website, review website). Being in line with, Svani and Olsen [8] stated that when there is failure in service, customer tend to complain anonymously via social media, blog and tells negative word of mouth about the company.

The relations between CCB and assertiveness first started by Fornell & Westbrook [9]. They conducted explorative research about connection between assertiveness and aggressiveness in CCB [10]. Assertive people operate with an "I win, you win" philosophy. They assume that both parties can gain something from an interpersonal interaction, even from a confrontation. Unlike their aggressive counterparts, however, they don't hurt others in the process. They don't use the harsh words. Assertive people speak their minds, explain something in detail, asking question confidently and welcome others to do likewise [11].

When they are having dissatisfaction, the assertive customer will still convey their complaints and opinions but not in aggressive way. Therefore, it can be said that assertive is not part of aggressiveness because it does not include the use of violence. The assertive customers will only become aggressive if their complaints are responded in a wrong way. This is in accordance with the definition of assertiveness from Nevid & Rathus. Assertiveness is a person's attitude in dealing with other people dominantly and trying to achieve their own goals, asking a request straightforwardly, with creating positive feelings of others. One of the instruments used to measure assertiveness is the Rathus Assertiveness Schedule, which contains 30 items, uses a Likert scale, with high reliability and validity [12].

De Vito [11] noted four criteria to communicate assertively: (1) describe the problem, (2) state how the problem affects one-self, (3) propose solutions that are workable, (4) confirm understanding.

According to Hirschman [13], the complaint must be considered as feedback on the quality delivered by the company. Badghish et al. [10] stated that company should have a clear understanding about customer differences and their expectation in terms of complaining. Metehan & Yasemin [14] highlighted that recognizing and analyzing types of customer in terms of complaints is urgent for company to do. This also applied for medical mobile application. The providers should take all of those complaints into account by first recognizing complaints behavior and whether the customers are able to convey their complaints in assertive manner. Thus, the purpose of this research is to identify the typology of complaint and the

assertiveness of users of medical mobile application during the pandemic.

## II. METHOD

The method used is content analysis. This research aims to describe assertive communication of negative reviews by the users of medical mobile applications in Indonesia. This content analysis used quantitative research by computing the data and making conclusion to the sample taken.

Content analysis is systematic technique to analyze message content and communication behavior. Therefore, content analysis has systematic, objective, real and quantitative principles. Quantitative principle in content analysis is noting the values of numbers or frequencies to describe different types of content defined. This principle is also used as a deductive method and to make an action recommendation. Therefore, data collection as well as data analysis are done in a structured [15].

This research is designed to assist decision makers in determining, evaluating and choosing the way that acts will be taken in a given situation [15]. The result of this research is expected to produce evaluations and recommendations to mobile applications developers particularly in the health sector.

This is an exploratory research in nature of digging into how negative review typology or complaints of users of medical mobile applications in pandemic times are equipped with descriptive research, with the aim of describing mobile application user complaints. The result of this descriptive research is structured, based on large samples to have the right respondents to collect the data. Descriptive research marked by a clear formulation of indicators, as well as detailed information needs [15]. This research used cross-sectional design, which is single cross-sectional design that collects the data from one sample at specific point in time.

The population of this research is customers of medical mobile applications in Indonesia who give 1-star rating, like as Khalid done [16], of these following applications: Halodoc, Alodokter, Mobile JKN and eHac Indonesia in the past 6 months (Agustus 2020 s.d. Januari 2021). These four mobile applications are chosen based on the highest rank and the most reviewed on the AppStore and GooglePlay as of 29 January 2021. The sampling technique is proportional sampling of all four mobile applications. The result of sample distribution is as follows: Halodoc (58 reviews), Alodokter (25 reviews), MobileJKN (15 reviews), eHacIndonesia (2 reviews).

Content analysis in this research is to measure assertiveness communications from the users medical mobile application who give 1-star rating. Indicator of assertive communication are: (1) state how the problem affects one-self, (2) convey the problem straightforwardly, (3) propose solutions that are workable (4) describe the problem in detail, (5) not using the harsh words, (6) asking a request straightforwardly, (7) asking question confidently [9], [10], [11], [12].

There are seven indicators of assertive communication used in this research, and scored with these orders: scale 1 = low, 2 = medium, 3 = high.

To enrich the analysis, we study the response from the mobile application developer for negative reviews of its user. The technique is done to better understand of the data findings from content analysis regarding such negative reviews, in order to give meaning and add comprehensive research analysis.

Reliability test are conducted to test whether the measuring apparatus can be considered consistent if measurements are made repeatedly. In order to be objective, categorization must be maintained with reliability and measure at pre-test stage. Reliability test used in this research according to the formula of Ole R. Holsty. This reliability test is conducted at the pretest stage and the overall stage of the study by coded the samples based on categorization. Categorizing in this study was conducted by 2 researchers, which known as inter-coder reliability test.

Reliability numerals range from 0 to 1. Value 0 means none of the approvals between the coders, while value 1 means the coders fully have agreement or approval. The minimal number for this inter-coder reliability checks according to Holsty is 0.70. [17].

From the reliability tests conducted in this pre-test stage, the result for all indicators has been above 0.70. Thus, it can be concluded that the seven indicators of communication assertiveness used in the study have been reliable. After the entire research has been conducted, re-performed reliability tests for the entire sample, with results above 0.70 as well. It can be concluded that the seven indicators of communication assertiveness are reliable and reusable in another research.

### III. RESULT AND DISCUSSION

#### A. Medical Mobile Application

During the Covid-19 pandemic, medical mobile applications became one of the mobile applications that many communities sought and used, including in Indonesia. Four medical mobile applications analyzed in the research are Halodoc, Alodokter, Mobile JKN and eHac Indonesia.

Halodoc with its tagline "Solusi Kesehatan Terlengkap di Indonesia" provides online consultation with doctor, drug delivery and lab, insurance services and hospital search and health care providers. In addition to those, on its mobile app menu HaloDoc also provides Covid-19 Test, Halofit, Animal health, Menstrual Calendar, Mental Health, Calculator BMI, Healthy Package, Test Lab, Meds and self-checks.

Alodokter as the official partner of Ministry of Health provides features: doctor consultation appointments, hospitals finding, additional health protection with Alodokter Protection, Alodokter Shop, medical services (CT Scan, Rapid/Swab, Swab Antigen, PCR Swab Test), as well as providing health articles on website.

Mobile JKN application is an application launched by the Social Security Organizing Agency (BPJS) in which it presents six new features among others: list of BPJS-borne drugs lists, delinquent relaxation program, schedules of operating and bed availability, doctor consultation, list of first level health facility (FKTP) and Covid-19 screening.

eHac Indonesia application was developed by Indonesia Health Ministry as a system for rapid monitoring of the

entire visitors who would come to Indonesia via seaports and airports. This application is used to create electronic health alert card (eHac). There are two types of options to make HAC Card, namely HAC Indonesia that used when visiting Indonesia from overseas and HAC Domestic Indonesia to travel between cities within Indonesia.

Out of the many services offered and the promises delivered, it turns out that service failures can still occur. Although companies have worked to prevent service failures and seek to provide the best quality of service, service failure can still arise. Service quality 100% cannot be applied, particularly if the service definition is viewed from the customer's point of [18].

This research found several types of service failures revealed by users of medical mobile applications in Indonesia through their review marked with 1 star as can be seen in the following table:

TABLE I. TYPOLOGY OF MEDICAL MOBILE APPLICATION USER COMPLAINTS IN INDONESIA

No.	Complaint type	Description	Example Review	Freq
1.	Application technical problem	Problems about bad application systems.	"Applications often stop when urgent moments. Please fix it."	30
2.	Application Security	Leakage of customer personal data to customer balance vacuuming.	"Please be more privacy-guarded because the cheater knows email & born date from this application."	16
3.	Financial problems	Slow cut refunds, difficult payment methods as well as unsuitable prices.	"Promised refund for 3 days, 10 days of funds not at refund."	16
4.	Doctor services	Unkind doctor response and unilateral cancellation of consultation.	"The doctor's response is unfriendly, I ask to the doctor but be scolded and ask me to leave chat."	11
5.	Service attitude	Problems about unkind customer service officer.	"Please stop call me to offered your program because I'm not interested. Very disturbing. Last call. (at THREE) very un-appropriate when i answer 'i'm not interesting', they said 'Really? ONLY FREE NOT INTERESTING YA, OK' in a very condescending tone."	10
6.	Rapid process and swab test results	Unilateral Rapid/Swab Test cancellation and exit result test is not appropriate.	"They said the results of the rapid test were sent max at 12pm, until this second there was no result."	10
7.	Process drug purchase service	Drugs that are not on order and address errors of recipients.	"I'm ordering the Stimuno drugs sent out instead of Vitacimin?"	7
TOTAL				100

From this data it is seen that the highest negative review is in terms of application technicality, which is as much as 30%. This includes the difficulty of use, disconnected consulting, not user friendly and the application is inaccessible, as expressed in one of the following reviews:

*"Disconnected in the middle of consultation"*

*I couldn't send chat in the middle of consultation. Notification said "something went wrong". There was no connections issue as I could use social media at that time. Tried to contact CS, I was advised to wait for confirmation and if I want to continue consult with doctor I need to make another payment with a risk of being disconnected again. What a waste of money! (andrewwok, July 11th 2020).*

The second rank of negative review is in terms of application security and financial problems, each at 16%. Application security issues include leaking customer personal data to syndicated subscriber balance siphoning as fraudulent, where the automated customer bank account balance is reduced with captions as membership fees previously unapproved by customers. One example of customer complaint in this regard is:

*My money is cut automatically.*

*Please delete my data! I don't want to join any membership. This application alone I've deleted. I think if it's not responded, there'll be no problem. Turn out my account balance is being cut automatically monthly!!! The number that called me yesterday can no longer be contacted. Is this mode of fraud? How do I cancel? Where do I call? (mermermermerimer, July 15th 2020).*

Meanwhile, in financial matters, it includes the slow process of returning a refund that has been cut off, difficult payment methods and inappropriate prices. This was revealed by one of mobile applications user:

*When I ordered the price 85,000 for 1 piece but when I checked the spelled note 165,000 and it was written 1 piece. I checked the price even at the pharmacy for 1 piece indeed 85,000. Really disappointed halodoc is dishonest. It's really unprofessional. Don't buy it here. Dishonest price. (Dita Prawesti, November 29th 2020).*

During the Covid-19 pandemic, the use of medical mobile applications increased, especially in Halodoc, which opened registration services for Covid-19 and e-Hac Indonesia tests. However, there were quite a lot of negative reviews related to the Covid-19 test process, namely 10%, as conveyed by the following mobile application users:

*I'm disappointed in halodoc. My status for rapid antigen test is not confirmed by the clinic. Contacting CS via phone, e-mail, or chat is hard to respond. When I checked late afternoon to clinic to get confirmation, apparently the clinic said that they didn't serve order from halodoc. I'm confused to look for another rapid place. Whenever I want to call CS Halodoc for refund, they are always busy. (Suci Zara Bukhaira, December 22th 2020).*

e-Hac Indonesia is used because people who are going to travel domestically by sea and air are required to have a Health Alert Card (HAC). With this mobile application, the e-HAC can be shown to officers at the inspection site, or it can also be downloaded and stored on a cell phone to make it easier to carry. However, e-Hac Indonesia received a lot of negative reviews due to technical issues, as noted by this user:

*Login's really hard. It's often a failure. At the departure airport it doesn't matter. But in arrivals it's very problematic. Sometimes the apps can't be opened. Hopefully soon it can be fixed so that it becomes more useful. As a result of long and failing logins, this application instead gave rise to a long line at the arrival airport. (Kedawung Senja, October 7th 2020).*

The findings regarding this type of complaint are consistent with several other previous studies, both on the website and mobile application platforms. For example, Li et al. [18] classifies the types of service failures in online shopping transactions into two, namely result failure and process failure. Result failure, which in some literature is also called outcome failure, consists of problems with the quality of the goods, the size or color of the product that does not match what is displayed on the website, the wrongly sent goods, and damaged packaging which results in the quality of the goods. Meanwhile, the process failure consists of long delivery or forgetting not to be sent, wrong delivery address, items ordered canceled or replaced because they are used up, websites cannot be accessed easily, payment systems have problems, and officers are difficult to contact, slow and unfriendly responses.

Meanwhile, Forbes et al. [19] made 3 major groups in the typology of complaints against e-commerce, namely complaints about service delivery systems and product failures, complaints related to customer needs and requests and unprompted and unsolicited actions.

Especially with regard to negative reviews on mobile applications, the results of this study are also in accordance with research by Khalid [16] which made 12 typologies negative reviews on iOS mobile applications, which are related to hidden costs, functional errors, compatibility, app crashing, feature removal, feature requests, network problem, privacy and ethical, resource heavy, unresponsive app and uninteresting content also interface design problems.

From SIP theory perspective, the rampant negative reviews from customers indicate that medical mobile application providers are not able to carry out satisfying online communication with their customers. Reasons are as follows: (1) the absence of nonverbal cues has not been substituted well by verbal cues as the provider only replied on the application with basic and template response without actually giving solutions for customers' complaints. (2) the extended time required to build close connection are not in line with customers' purpose of using medical mobile application which is to shorten the time of getting health services. Below are the examples of response from the mobile medical application:

*Hi Sevalo8! Apologize for the inconvenience. If you cannot place an order for medicine because it is not available on the application please try again periodically. As for the medicine is not covered by the insurance you could directly contact your insurance agent to confirm. If there is any other problem, please contact our customer service by "chat with us" on Halodoc application. (Response by Halodoc)*

ALO Mr U. Apologize for the inconvenience. For cancellation please kindly inform detail the subscribed and emailed name and phone number to

support@alodokter.com so that we can assist to check further. Thank you. (Response by AloDokter).

### B. Assertive communication

The research analyzed in a review of 1-star rating, to see how strong the assertiveness of the users of medical mobile applications in conveying complaints. There are seven indicators to measure these variables: (1) state how the problem affects one-self, (2) convey the problem straightforwardly, (3) propose solutions that are workable (4) describe the problem in detail, (5) not using the harsh words, (6) asking a request straightforwardly, (7) asking question confidently.

All those indicators were scored by two researchers with 3 point scale from 1 score for unassertive up to 3 for very assertive. Average, mode and deviation for this research can see in the following table:

TABLE II. AVERAGE, MODE AND STANDARD DEVIATIONS (N = 100)

No.	Indicator	Average	Mode	Deviations
1.	State how the problem affects one-self.	2,54	3,00	0,51
2.	Convey the problem straightforwardly.	2,60	3,00	0,49
3.	Propose solutions that are workable.	1,36	1,00	0,62
4.	Describe the problems in detail.	2,10	2,00	0,54
5.	Not using the harsh words.	2,49	3,00	0,70
6.	Asking a request straightforwardly.	1,69	1,00	0,88
7.	Asking questions confidently.	1,53	1,00	0,82
Total average		2.04		0,65

The total mean level of assertiveness communications of users of medical mobile applications who gave this 1-star review was 2.04. This is consistent with the research of Khalid [16] which proves that in a condition of experiencing service disappointment, customers who complain are more assertive, while customers who do not complain actually prefer to avoid risk (risk averse). They emphasized that assertiveness is the cause of the high level of complaints. Fornell and Westbrook [9], and Badghish et al. [10] also proved that customers who submit complaints to the company have a more assertive personality than customers who tell their disappointments to friends or even say nothing, do not complain at all.

The mode or the highest score for the seven indicators varies from 1 to 3. For the indicators of "state how the problem affects one-self", "explain the problem straightforwardly" and "not using harsh words", the maximum score is 3. This means medical mobile users applications are considered very assertive in expressing opinions and complaints, without using harsh words. Meanwhile, for the indicators "propose solutions that are workable", "make a request straightforwardly", and "asking question confidently", the mode is in 1 value. This means that most medical mobile application users in this study were considered less assertive for these three indicators. Most of

them do not offer alternative solutions to address complaints, nor do they ask questions and requests straightforwardly regarding their complaints.

Of all the indicators, it can be seen that the highest standard deviation is found in the indicator "asking a request straightforwardly", which is 0.88. This suggests that the ability of mobile applications users to asking request is straightforward, more diverse, with an average score of only 1.69. With this large standard deviation, it means that the distribution of mobile applications users in making a request is also large. Many don't make requests, and many make requests straightforwardly.

Meanwhile, the lowest standard deviation is found in the indicator "convey the problem straightforwardly", which is 0.49. This means that the level of assertiveness of mobile applications users is fairly uniform in terms of submitting complaints, with an average score of 2.60 which also the highest average score among all indicators. This shows that the distribution of mobile application users to submit complaints is also small. The ability of all mobile applications users to complain is even. There is neither too high nor too low a level of assertiveness in submitting complaints.

To give Low, Medium and High scores, a score was divided, namely a score of 1 for low, 2 for medium, and a 3 for high, so that it has a range of 2 points. To determine the criteria for low, medium and high, the ranges were divided equally, namely  $2:3 = 0.66$ . From this calculation, it is obtained that the low criteria range is 1.00 to 1.66, the medium criteria are 1.67 to 2.33, and the high criteria are 2.34 to 3.00. The results obtained from this content analysis can be seen in the following table:

TABLE III. ASSERTIVE COMMUNICATIONS MEDICAL MOBILE USERS APPLICATIONS (N = 100)

No.	Indicator	Low (%)	Medium (%)	High (%)
1.	State how the problem affects one-self.	4	31	65
2.	Convey the problem straightforwardly.	3	26	71
3.	Propose solutions that are workable.	77	11	12
4.	Describe the problem in detail.	17	50	33
5.	Not using the harsh words.	13	22	65
6.	Asking a request straightforwardly.	65	3	32
7.	Asking questions confidently.	70	5	25

From the seven indicators of assertiveness communication, most medical mobile application users have a high level of assertiveness, namely being able to express opinions (by 65%) and submit complaints (by 71%) simply and not using harsh words (amounting to 65%). However, it is also seen that the majority of medical mobile application users are still lacking or even completely unable to present alternative solutions (77%) and submit requests (65%) and ask questions (70%) straightforwardly. Meanwhile, indicators that are in medium value are describing the problem in detail, which is 50%. This means that half of medical mobile applications users can explain the problem in

sufficient detail, but there is still 17% who cannot explain the problem in detail.

In the online shopping context, through most of the respondents in the study delivered the complaint via *online chat*, turns out their level *assertiveness* rate is high, ability to show off their disappointed feelings without having to use harsh words. This is in accordance with some of the earlier research, which assertive customers are able to deliver their intentions and argue well verbally [20], ability to achieve its goal without having to dispute [21], also can still respect others [22].

#### IV. CONCLUSION

There are four customer assertiveness indicators that are still low and should be leveled-up, namely: ability to offer alternative solutions, request inquiries, ask questions and explain problems in detail. Customers have shown high assertiveness level on other indicators like expressing opinion and complaints straightforwardly as well as not using harsh words. These qualities should be maintained especially ability to not using harsh words while complaining, otherwise this could lead to hard complaint and trigger further conflicts.

Customer assertiveness is great for company to acquire better insights of what to do to improve their service in future. Company should encourage customer complaint assertiveness and not being complacent when there is no complaint. Passive consumer usually never complains yet they could hold the grudge in silent. This could endanger company in a way that company will never get any feedback required for its growth.

From online communication perspective, the verbal cues in the form of responses given by providers should be enhanced to be more accommodating for customers' complaints. As for extended time required to build better connection, it is not inherent with the nature of medical mobile application business as customers wish to get their health service done in immediate manner.

There is room for improvement for medical mobile applications providers in terms of servicing customer better, especially during pandemic time. In the long run, those unresolved complaints could lead customers to leave their business. This can be better anticipated by encouraging customers to communicate in a more assertive way, so that the company could get better insights of what to do to improve their service.

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