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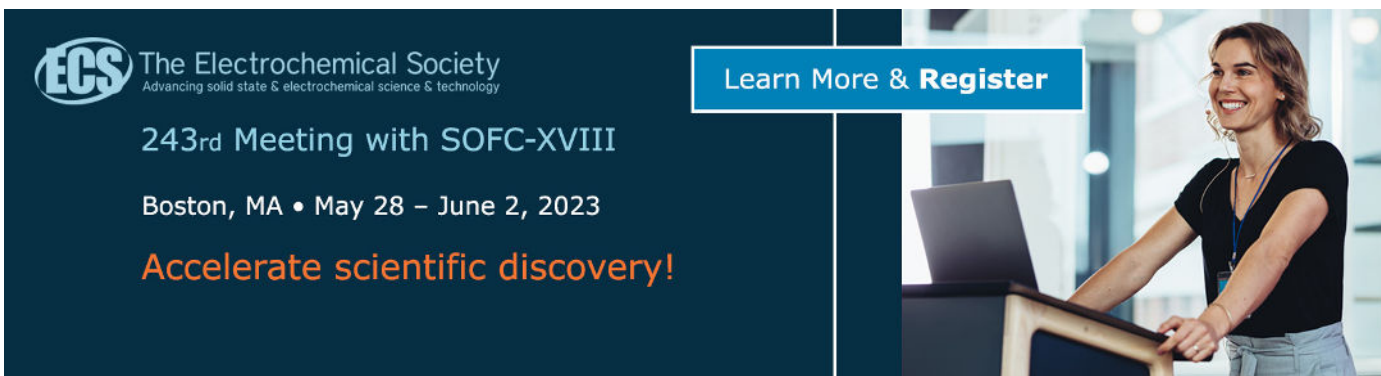
## The Optimization of Telegram Bot in Improving the Cohesiveness of Bandung Raya Confero Community

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# The Optimization of Telegram Bot in Improving the Cohesiveness of Bandung Raya Confero Community

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**Abstract.** A computer program that can perform many tasks automatically, the Telegram Bot is able to facilitate our activities. One of them is improving group cohesiveness. A newly-formed community in West Java, Bandung Raya Confero Community (BRCC) uses the Bot as a means of communication in its official Telegram group 'barayaconfero.org.' Using descriptive case study approach, this study sought to describe the optimization of Bot in barayaconfero.org Telegram group in improving the cohesiveness of its members. The data were collected through direct observation, interview, and literature study. The results showed that the Bot of barayaconfero.org was identified as "Abah." As a Telegram Bot, Abah can help BRCC members to identify other members' data based on vehicle registration plate number or hull number registered through BRCC's official website. In addition, Abah is also able to identify all official activities in the official website www.barayaconfero.org. Thanks to these abilities, all up-to-date official activities can be delivered to the Telegram group, so the members will be informed. The study concludes that the optimization of Abah as a Bot in barayaconfero.org Telegram group can increase the cohesiveness of BRCC.

## 1. Introduction

The term of Bot is still Greek to most people. It is actually a computer program that works automatically like a robot. Bot is applicable in Telegram, an instant messaging app with more advantages compared to other apps like WhatsApp, Line and Facebook Messenger.

*An instant messaging app, Telegram claims that it can cover some of the flaws of WhatsApp. Telegram is cloud-based and encrypted. Telegram provides end-to-end encryption, self-destructing messages, and multi-data center. A real-time instant messenger, Telegram provides easy access for its users as it is available on mobile and desktop platforms. The mobile platform is applicable on iPhone, Android and Windows, while the desktop platform is applicable on Windows, Linux, Mac OS and web browsers. Telegram claims that it is the fastest and safest mass messaging application in the market. In addition, Telegram offers a room for developers who want to make use of Open API and Protocol through Telegram Bot development as cited on its official website [1].*

Bot becomes an added value of Telegram because it allows the users, either personal or group, to send a certain command to be responded by the computer program. Telegram Bot can be built based on the needs of its users, for example, to integrate various services for smart home, to build social services and custom tools, and to do other things virtually. This advantage can streamline the process of communication, particularly among distanced-members.



Bandung Raya Confero Community (BRCC) uses Telegram Bot to support the communication of its members. As it was officially chartered in February 2018, the communication of the members is essential to foster. Community is established by four factors: (1) communication and sharing; (2) agreed meeting place; (3) rituals and habits; (4) influencer. Communication is the first and main base of the establishment of an organization. Therefore, the management of communication media of community members is critical. BRCC uses instant messaging apps to streamline communication among members. The apps are WhatsApp and Telegram. In the context of this study, the researchers focus on the use of Telegram, particularly its Bot feature, in the official Telegram group of BRCC 'barayaconfero.org.'

The communication among BRCC members through Telegram is Computer Mediated Communication, human communication via computers where it involves people, certain contexts, and processes to form media with various purposes [2]. For further details, the definition of CMC (Computer Mediated Communication) in James Simpson's article in ELT Journal published by Oxford University Press is

*CMC is an umbrella term which refers to human communication via computers. Temporally, a distinction can be made between synchronous CMC, where interaction takes place in real time, and asynchronous CMC, where participants are not necessarily online simultaneously. Synchronous CMC includes various types of text-based online chat, computer, audio, and video conferencing; asynchronous CMC encompasses email, discussion forums, and mailing lists. CMC can take place over local area networks (LANs) or over the Internet. Internet CMC, as well as allowing for global communication, also provides for the added dimension of hypertext links to sites on the www, and to email addresses.[3].*

In practice, CMC is usually related more specifically to human communication on or using the Internet and website components. John December in Computer Mediated Communication: Social Interaction and The Internet defines the CMC as human communication via computers that involves people, situated in various contexts, and involving processes to form media with diverse aims. In addition, CMC can also be defined as communication transactions via two interconnected computers or more, such as chatting, instant messaging, social networking and email [4].

Based on computer mediated communication (CMC), this study sought to reveal how the optimization of Telegram Bot in establishing the cohesiveness of BRCC. Cohesiveness is the extent to which a member is willing to retain his membership and is also a measure of how attractive a community is to its members[5]. Communication is an important factor to establish the cohesiveness of BRCC. The existence of communication media that allow whole members to interact and Telegram Bot that enriches the quality of communication of the members, by using descriptive case study approach, this study sought to answer the "how" and "why" in the optimization of Telegram Bot in barayaconfero.org group. In details, the questions of this study are (1) why did BRCC choose Telegram as one of internal communication media of its members? (2) how do the members use the Bot feature in barayaconfero.org Telegram group? and (3) how is the optimization of Telegram Bot in improving the cohesiveness of BRCC members?

To answer the questions above, the researchers collected data from multisource, both primarily and secondary. The primary data was obtained through direct observation on the use of Telegram Bot in barayaconfero.org and interview with several people associated with the use of Telegram Bot in the group. The key informant was Eka Wibowo, the secretary of BRCC as well as the initiator and executor of the use of Bot. In addition, the researchers also interviewed other informants, i.e. BRCC Chairman Dian K. Hadiansyah; Chandra Sufiawan, a member of BRCC Executive Board; Rahman Situmeang, a member of BRCC Supervisory Board; Dienasti Kientaro, a long-active BRCC member; and Arif Prabowo, the newest BRCC member. The secondary data were obtained through library study on many literatures related to this study.

Data analysis was conducted through three stages: (1) data reduction. This is where the raw data were simplified, abstracted and transformed; (2) data display. The compiled information was described here for (3) conclusion drawing and verification. All of these was based on interactive model of Matthew B. Miles & Michael A. Huberman [6]. The researchers sought the meaning of every phenomenon in the field and looked for regularity or pattern of possible explanation and configuration, causality flow, and proposition. As for the validity of data of this study, that was conducted from February 2018, the official founding of BRCC, to April 2018 in Bandung, Indonesia, the researchers used member check and expert triangulation.

## 2. Fact findings and analysis

### 2.1. *The Motive of Telegram Bot Utilization in barayaconfero.org Group*

Bandung Raya Confero Community (BRCC) is the community of Wuling Confero owners which is established on the basis of kinship, as a forum of communication, coordination, consultation, and hospitality for its members. An independent organization, the BRCC already has a strong legal foundation. The founding of the community was endorsed by Notarial Deed EHNIK AVERIA GAGALIN, S.H., Number 01 on February 15, 2018, with SK. Menkumham No. AHU - 0002253.AH.01.07.YEAR 2018. On that basis, BRCC or better known as Baraya Confero can run all of their activities to achieve organizational goals.

As a young community, BRCC officials feel the needs to establish communication among members. It is undeniable that the existence of the community began from intensive communication of the members. WhatsApp group was the initial means of their communication. The group was initiated by Eka Wibowo, a Wuling Confero owner. Then, started from three owners, the members of group are now 124.

Wuling Confero is the first car released by PT. SGMW Motor Indonesia, a Chinese producer. In Indonesia, Chinese products are still underestimated, especially those of high involvement like cars. However, quite a few Indonesians are willing to be early customers. They dare to try and buy Confero, the first product of Wuling. Among of them are three founding fathers of Baraya Confero: Eka Wibowo, Dian K. Hadiansyah, and Iman. Early customer can be considered early adopter, according to Everett M. Rogers in his Diffusion of Innovation Theory. Rogers states that members of social system can be divided into adopter groups (innovation beneficiaries) according to their innovation level (the pace of accepting innovation). One of the groupings is based on the adoption curve that has been tested by Rogers. The grouping is as follows:

1. Innovators: About 2.5% of individuals are first adopters of innovations. The characteristics are adventurous, risk-taking, mobile, smart, and high economic ability.
2. Early Adopters (Pioneers): 13,5% are pioneers in innovation acceptance. They are the role models, respected people, high internal access.
3. Early Majority: 34% are early followers. The characteristics are full consideration, high internal interaction.
4. Late Majority: 34% are late followers. The characteristics are skeptical, too cautious, and their acceptance is based on economic or social pressure.
5. Laggards (Traditional Group): The last 16% are the traditional. They are traditional, isolated, insight-limited, resource-limited and not opinion leaders [7].

As the pioneer users of the Chinese car, these early customers feel the need to assemble in a group, so they can share information and experience of using this product. The communication among Confero owners in WhatsApp group later became serious. Thus, they eventually chartered Bandung Raya Confero Community (BRCC) as an official community of Wuling Confero owners in West Java.

An official organization, BRCC configured a committee. Dian K. Hadiansyah was elected chairman with Eka Wibowo as the general secretary for 2018-2021 period. With educational background of bachelor of information technology, Wibowo felt that it was necessary to build an information system to support intensive communication among members. His knowledge of computer programs and communication technology encouraged him to choose Telegram, an instant messaging app, as official medium for communication among members. Wuling Confero owners who have been official members of BRCC and have completed all administrative requirements will be automatically invited to 'barayaconfero.org,' the official BRCC Telegram group.

The use of Telegram for BRCC communication was based on several reasons. Through his personal Telegram account wibowoeka, the secretary himself told the authors why he chose it:

1. *A group can accommodate five thousand members.*
2. *Unlike WhatsApp, it's light because it doesn't consume much memory.*
3. *Photos and files are stored in the server. Thus, it lightens up the phone and does not need to restore.*
4. *It has saved message feature.*
5. *Telegram API is open for developers.*
6. *It's the most secure app with the best built-in encryption.*
7. *The size of photos or files to send is huge, up to 1GB or more.*
8. *It provides multi-function Bot.*

It is explicitly revealed that one of the reasons of choosing Telegram was the multi-function Bot. Wibowo stated that the motive of Telegram Bot utilization was originally his being lazy to take care of all membership administrations. Therefore, he utilized Bot technology of Telegram.

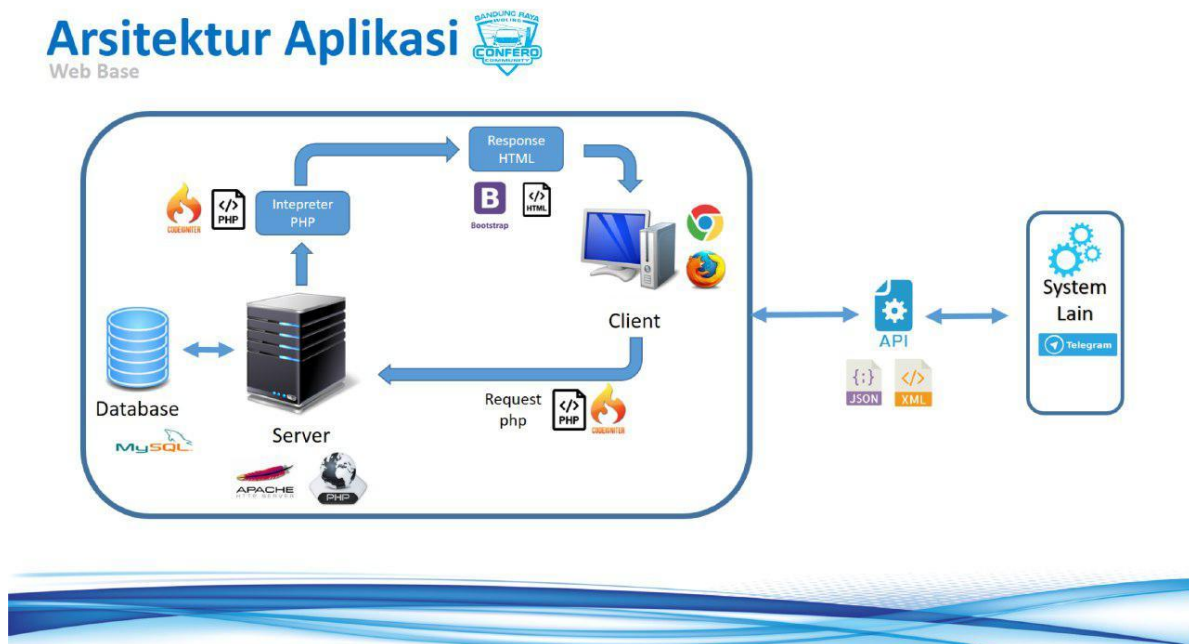
The Telegram Bot of BRCC is called "Abah." The name was selected based on the notion that Abah is a name for respected old man in Sundanese. In addition, Abah can be the icon of BRCC as a community that emerges and develops in West Java. Wibowo stated, "a community needs a unique icon. That's why it is named Abah, the respected old man in Sundanese." Until now, Abah as the Bot of barayaconfero.org is still developing. System development is based on the needs of community members. Currently Abah is capable of the followings:

1. *Looking for the profile of BRCC members based on hull number and registration plate number*
2. *Communicating with group members by using artificial intelligent (AI)*
3. *Adding new members by Admin*
4. *Displaying the types of Confero*
5. *Displaying the colors of Confero*
6. *Notifying existing members when there is a new registered member*
7. *Saying thank you when a member updates his/her profile*
8. *Displaying the data of those who have not updated their profiles, those who have registered, etc.*

The abilities of the Bot above make it easy for all members to find out the complete data of other members. Next section will discuss the utilization of Abah as a Bot of barayaconfero.org by all active members of BRCC.

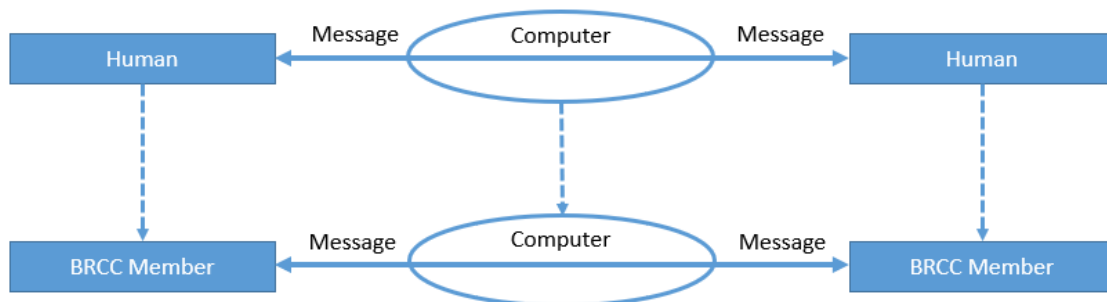
## 2.2. *The Utilization of Bot by BRCC members in barayaconfero.org Telegram Group*

As a bot, Abah was built by a programmer who was incidentally the secretary of BRCC. Abah works based on the request of the members. As described in the previous section, Abah was originally created to assist the works of the secretary only. But, in fact, Abah gives other positive impacts to each member of BRCC. Until now, the members of barayaconfero.org is 50. All of them interact with Abah either directly or indirectly. Every morning Abah greets each of them, and there will be a notification in the smartphone or desktop.



**Figure 1** The Architecture of Bot Application in barayaconfero.org Telegram Group, Juni 2018

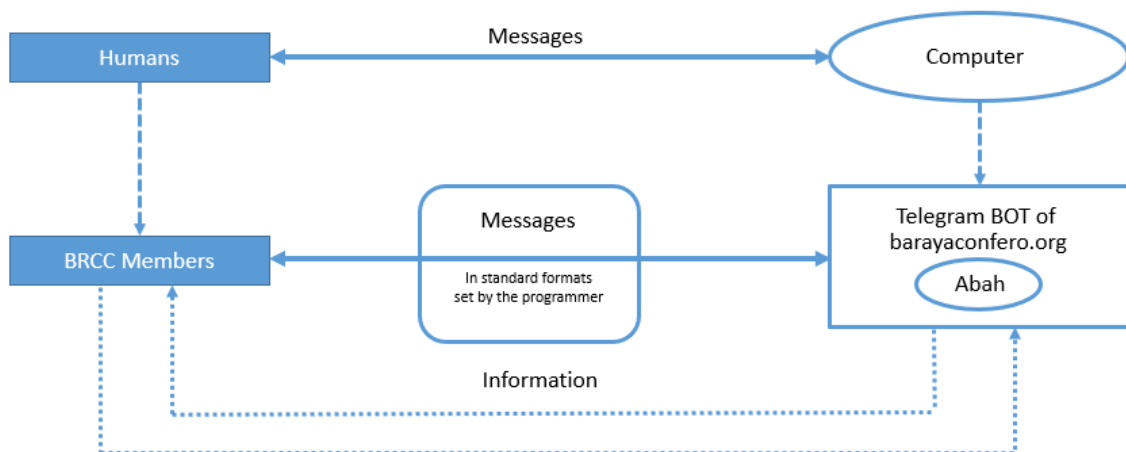
Figure 1 is the architecture of Abah as a Bot in barayaconfero.org. It appears that Abah is able to communicate with the members because of the server set by the programmer. The server can read all members' data from www.barayaconfero.org, the official website of BRCC. The communication between Abah and the members is a kind of computer mediated communication (CMC). It is a concept that states that communication among people can be conducted through computer. The communication among BRCC members in barayaconfero.org is an example of CMC. The model of communication is as follow:



**Figure 2** The Application of Computer Mediated Communication (CMC) Model, Juni 2018

In practice, CMC is usually linked more specifically to human communication on or using the Internet and website components. John December (1997) in Computer Mediated Communication: Social Interaction and The Internet defines the CMC as human communication via computers that involves people, situated in various contexts, and involving processes to form media with diverse aims. In addition, CMC can also be defined as communication transactions via two connected computers or more, such as chatting, instant messaging, social networking and email.

The communication between Abah the Bot and BRCC members is rather different from the concept of CMC above. The study of humans-robot communication is deeper than CMC. The reason is that Bot application is not only a medium for communication among people, but it is also a communicator. So, the message from the members should be in form of standard command in order to get a certain respond from Abah. The scheme of the communication is as follow:



**Figure 3** The Communication of BRCC Members with the Bot in barayaconfero.org Telegram Group, Juni 2018

Considering that Telegram Bot is a machine that responds to standardized questions, despite bidirectional, it can only deliver limited messages set by the programmer. Based on specific commands, the communication between BRCC members and Abah is still limited to information exchange on the data of BRCC members. Abah can provide information about (1) registration plate number, (2) hull number, (3) colors, (4) types, (5) home address of the members and (6) chassis and engine numbers. Abah can also reply some common chats, such as greetings, and notify members of all activities on [www.barayaconfero.org](http://www.barayaconfero.org), the official website of BRCC. Wibowo stated that Abah is able to inform all existing members when there's a new member and profile update by a member. Due to Abah's communication, each member of BRCC will always feel close to the other members because all basic information about the members is always updated by Abah and all members will inevitably receive the information simultaneously.

### 2.3. The Cohesiveness of BRCC due to the Use of Bot

Humans make groups, and each group directly influences humans either. Grouping in life is a purposive necessity for humans—to increase their happiness and well-being. Through a group, humans can meet their needs in life. In fact, it can be said that happiness and life empowerment can only be achieved by grouping.

Merton defines group as a set of people who interact with each other according to established patterns. There's a sense of solidarity within a group because of shared values and shared responsibilities[8]. According to Soerjono Soekanto, social group is a set or entity of human beings who live together because of mutual interconnectedness and influence[9].

A group may have members who have strong relationships and want to retain themselves in the group. However, some others may be eager to leave the group. In case the members want to retain their memberships, it is called group cohesiveness. Furthermore, Greenberg states that cohesiveness is a sense of togetherness among group members. If the cohesiveness is high, it means each member of

the group interact with each other, achieve their goals, and help each other at meetings. On the contrary, if the group is not compact, it means each member dislike each other and there may be dissent [10].

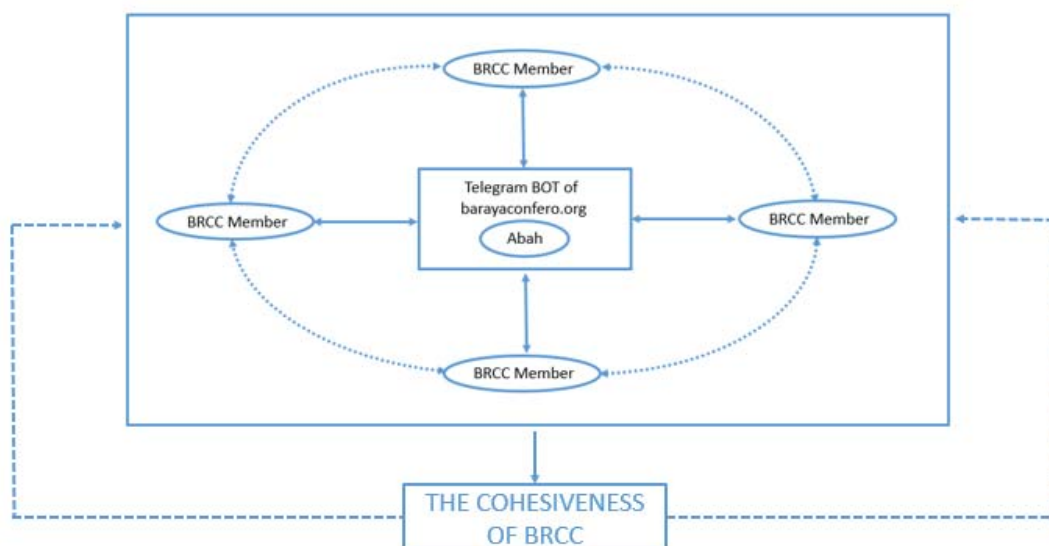
It turns out that the existence of Telegram Bot in barayaconfero.org is a factor that increase the cohesiveness of BRCC. Abah's ability to provide the data of BRCC members makes each of them feel close and belonged to the organization. Moreover, thanks to Abah, each member can immediately identify other members nearby. This makes their sense of belonging very high. For example, when a member hits the road, he may see another Confero. He can quickly know who the owner is by asking a question to Abah based on its registration plate number. Thus, he can communicate and interact with the owner of the car.

"...Thanks to Abah I can quickly identify the owner of other Conferos on the road. I just have to ask Abah and he will inform me the complete data of the owner. And, after that, I can say hi to the owner."

The above is a quote from an interview with a respondent of this study, an official member of BRCC. It shows that Abah's existence in the Telegram group has indirectly made the members get closer. Asking a Confero on the road to Abah leads to the interaction and communication among BRCC members.

"... After knowing who the owner of the car is, I usually contact him and say hi, either by making a phone call or a chat in the group. Because we are on the same location or nearby, we usually meet up after communicating by phone."

The communication between BRCC members and Abah about any information regarding membership can be the beginning of interaction and communication among members. This intensive communication eventually leads to the cohesiveness of the group. It is as depicted in Figure 4.



**Figure 4** The Optimization Model of Telegram Bot Utilization in Improving, Juni 2018

The Abah-mediated interaction among BRCC members makes each member feel recognized and belonged to the organization. This in turn increases the cohesiveness and compactness of BRCC. This is in accordance with Faturochman that states that group cohesiveness is the degree of a group's will to retain its memberships as well as a measure of the attractiveness of the group to individuals. It can



also be interpreted as a sense of responsibility to and liking the group. Group with high cohesiveness will have memberships with strong responsibility, strong interest in the group, and usually appear as a compact group.

According to Festinger in Sears, cohesiveness refers to both positive and negative forces that cause members to stay. It is the characteristic of a group as a whole and it depends on the level of attachment of each member. One of the principal positive forces is the interpersonal attraction of each member [11]. Robbins defines group cohesiveness as the extent to which members are attracted to each other and motivated to remain in the group [12]. If the members are attracted to each other and tied to a bond of friendship, the cohesiveness of the group will be high. This is what Abah and BRCC offers to the members.

### 3. Conclusions

Though it is capable of generating emotional appeals that encourage mutual love, help and support to remain in BRCC and perform activities to achieve organizational goals, the cohesiveness of BRCC does not directly arise from the existence of Telegram Bot in barayaconfero.org group. Still, Abah's ability has to be updated and upgraded. Abah is expected to have other possible features, such as to directly detect other Conferos nearby. So, though a member doesn't see other members' cars, Abah can notify their presence. This ability is believed to give a sense of security to each member of BRCC during their trips on Confero.

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