



Communication Network on the Centrality of Prostitution Actors on Twitter

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Abstract

The COVID-19 pandemic does not weaken commercial sex workers (CSWs) in carrying out their activities. They form new networks of sex workers on social media. The existence of social media makes it easier for commercial sex workers (CSWs) to form new groups and sub-groups to communicate between them. Responding to this phenomenon, it is necessary for researchers to analyze the communication network used by commercial sex workers (CSWs) based on Social Network Theory. In addition, researchers also explore the use of words and language as well as interactions in the expansion of network formation using the explanatory sequential mixed- method design. The results of the study show that commercial sex workers (CSWs) can do massive network expansion through social media which already has a very wide network. In addition, online prostitution on Twitter has spread to all cities on the island of Java and the network can even extend to outside Java. It is undeniable that the motive for trading sex services online is an economic necessity.

Keywords: *Prostitution; Centrality of Actors; Sub Group; Mixed-Method; Communication network*

Introduction

The presence of women with professions as commercial sex workers (CSWs) must be accepted as a reality, because their existence cannot be simply erased. In 1969 a project to tackle the problem of prostitution was created in Central and North Jakarta. Furthermore, the control of the prostitution business was carried out in several cities and regencies on the island of Java. The commercial sex workers were not allowed to operate on the streets because their existence disturbed the security and public order. In addition, this effort was intended to save the public from the direct influence of prostitution.

During the Covid-19 pandemic, apart from being unable to operate in the entertainment industry, female commercial sex workers are also unable to operate on the street. The COVID-19 Task Force continues to carry out operations to monitor community activities to enforce health protocols, including preventing community crowds and close physical social interactions. Commercial sex workers are prohibited from trading sex services on the grounds that women commercial sex workers are the most vulnerable to physical contact with the community. This is all intended to prevent the emergence of new clusters of transmission of the COVID-19 outbreak.

The government's call to the community to study from home, work from home, and worship from home has made these commercial sex workers think hard to find ways to keep their businesses running

and earn money to meet their living expenses. During the COVID-19 pandemic, all female commercial sex workers have lost their jobs in the entertainment industry. The majority of these commercial sex workers are informal sector workers who rely on income only from guest services. In addition, these commercial sex workers are paid based on the number of guests they serve and the tips given.

For most sex workers, promoting themselves through social media must be done because it is considered more effective. The sex workers use devices, such as smartphones, to offer themselves via Twitter or mobile chat, such as MiChat, by posting captions for price offers, types of services, photos, and so on. They do this to show the wider community about free sex service they offer. In this case, social media functions as a massive promotional medium.

The moment of the online system of working, studying, and worshiping is also adapted by commercial sex workers. The number of new sex workers (newbies) on social media is increasing because the work practice system is simpler and the information is more accessible to the wider community. However, this has become a big problem and is troubling the community because the movement of illegal online prostitution is getting faster and wilder.

Prostitution activities in Java spread across 5 provinces, especially activities for the middle and upper classes. Prostitution in these classes has a work system that does not indicate a localization place (marketplace). This prostitution work system already uses information services through social media and has left the old mass media published in print media such as magazines or yellow newspapers. The online prostitution work system spreads faster and more efficiently because it is cheap and the use of the application is free.

According to wearesocial.net hootsuite, until October 2020 the number of social media users during the COVID-19 pandemic increased by 12.3% or reached 453 million worldwide from various platforms(<https://wearesocial-net.s3.amazonaws.com/uk/wpcontent/uploads/sites/2/2020/10/06-Social-Platform-Ranking-DataReportal-20201018-Digital-2020-October-Statshot-Report-Slide-50.png>)

The increase in the number of social media users is used by prostitution service providers as an opportunity to offer services to satisfy lust through social media. These prostitution service providers can connect with each other and form groups or sub-groups in the network through hashtags (#) or mentions (@) which are usually done by groups or sub-groups of users of the Twitter social media platform. Social media makes it easier for them to make contact and communicate. Twitter has become the mainstay of virtual prostitution, ranging from video calls to sex to direct sexual intercourse through electronic transactions. Twitter is preferred because it is not too flashy, unlike other social media, such as Instagram or Facebook. On Twitter, it is easier to display sexual service offers. The regulations applied on this social media make it easier for prostitution service providers.

In this case, there must be a central role that forms a network on Twitter social media to make it easier for prostitution service providers to communicate and share information on sexual service offerings between one another, either through re-tweets or comments. Some sex workers join other prostitution groups in one hashtag so that they are easily caught in a network group or form their own network, but all of them are interrelated.

This central actor also accommodates the digital space through hashtags in virtual meetings between female sex workers and male potential customers. The hashtag provides a platform for sex workers to offer their services and connects the mention link with the hashtag on Twitter, so that this central actor is expected to be able to bring in profits and provide offers to potential customers.

It is undeniable that this type of prostitution also has a classic reason that digital technology helps a lot in the effectiveness and efficiency of daily human activities. There are various kinds of media that facilitate human interaction. This social interaction occurs on social media platforms.

Based on the problems described above, the researchers focus on the centrality of sex workers and the pattern of network distribution among commercial sex workers. The problem in this research is that the communication network between commercial sex workers is getting out of control and the trade in illegal prostitution services through social media is increasingly widespread and is carried out virtually anti-mainframe. This is of course very dangerous for underage social media users or students because social media users will be connected easily through hashtags and pornographic photos, including pornographic videos that are spread wildly uploaded via Twitter social media without shame.

Many people responded to the posts of prostitutes spread through social media and they offered themselves openly through comments to use the services of these prostitutes by asking for rates and bargaining. The communication network between prostitutes tends to expand and it is necessary to conduct a more in-depth investigation regarding the formation of a communication network between the prostitutes.

Theoretical Framework

This study focuses on the level of group communication with the context of the group and organization, so the concentration is on the process of organizing. In this case, groups and organizations are created through interaction. The tradition used is the cybernetic tradition by questioning how the network and the relationship between the prostitution groups work.

The cybernetic tradition is part of a popular and influential communication so that it is useful for understanding communication in general, including communication that occurs in everyday life. The influence of the system and the general vocabulary make this theory appropriate and useful for the group. This tradition is very useful in helping us understand the individual human being as a communicator (Athique, 2017; Littlejohn, Stephen W. & Foss, 2009).

This study discusses the communication network between groups of sex workers on a large social network using Manuel Castells' Theory of Network Society. This theory explains the connectedness of society in a virtual network group on the internet, either through the web or through social media. In the theory of Network Society, as stated by Manuel Castells in his book *The Information Age Vol.1: The Rise of the Network Society* (2010), digital information is the main driver of economic, cultural, and social change. This is happening in an increasingly competitive global system where knowledge is starting to replace labor as the most valuable component, and the consequence is that products and services are different from manufacturing (Himanen, 2004).

Networks provide the basis for organizing and developing in the information age. The expansion of computers occurs because of the influence of the networking process itself and the ability to connect and disseminate information flows at an unprecedented scale (Littlejohn, Stephen W. & Foss, 2009). In positively connected networks, centrality generates power because central actors can act as intermediaries in cooperative relationships. However, in negatively connected networks, centrality is less important than access to highly dependent actors who have few or no alternatives. The most central actor is not always the actor with the greatest power. (Ritzer, George & Smart, 2014)

To be able to build a wide network and facilitate access to communication between sex workers, actors who are involved in prostitution activities on social media prioritize communication mediated through smartphone devices as part of smart computer programming. So in this case the researchers use the theory of Computer Mediated Communication (CMC) to explore patterns of communication and interaction between individual actors and between actors and other prostitution groups on social media by focusing on studies on online communities.

CMC allows someone to communicate using communication tools that are integrated with a computer system. Internet access and applications enable us to read the latest news online and play virtual

games that make us feel as if we were playing with someone, who actually is not. near us. We can talk and discuss with anyone whenever and wherever they are (Crispin Thurlow, 2004).

Communication Network Exchange

Exchange is closely related to the field of social network analysis. According to Emerson (1972) in Ritzer, George & Smart (2014), a group is a collective actor that functions as a single unit in exchange with other actors. An exchange network is a collection of direct exchange relations among actors, individuals, or collectives, which are connected to one another. A connection is said to be positive when an exchange in one relation increases the exchange in another relation, and a connection is said to be negative when an exchange in one relation decreases the exchange in another relation. Thus, the way the relationship is connected, either positively or negatively, determines the dynamics of the exchange.

The network is a set of constructs that connect and explain reality. The communication network takes into account the network of relationships inherent in actors, both limiting and providing opportunities. This view focuses on environmental entities which are conceptualized as relationships between one entity and other entities and the relationship between them (Eriyanto, 2014).

Research Method

Responding to the element of causality in the relationship of the distribution network of Responding to the element of causality in the relationship between the communication distribution network and the central actor and the relationship between the level of closeness of the relationship and the surrounding social environment, this study uses a post-positivist paradigm. Research using the post-positivist paradigm refers more to the results obtained from the ongoing process, such as case studies that do not prioritize a particular model but use several approaches with the aim of getting results from the existing process.

This study uses an explanatory sequential mixed methods approach, a mixed methods design with a strong quantitative background or from relatively new fields to qualitative approaches. This approach involves a two-phase project in which the researchers collect quantitative data in the first phase, analyze the results, and use the results to plan or create. The first phase uses quantitative exploratory analysis of communication networks. Meanwhile, the second phase, or qualitative phase, uses in-depth interviews with informants after going through the cluster process on the centrality of actors with a descriptive qualitative approach (Creswell, 2016).

This research uses two case study approaches: quantitative case study and qualitative case study. A case study is seen as an attempt to explain a problem through direct or indirect observation. Participatory qualitative research and secondary research ask what and why something happens in cases of prostitution on social media. Case studies can provide details that are found behind events and present efforts to build strategies in handling them.

Sampling in this study is carried out using a non-probability sampling technique, where each element contained in the population does not have the same opportunity to be selected as a sample. The selection of the sampling unit is based on subjective considerations and does not involve the use of probability theory. The type of non-probability sampling used is Snowball, where the sample which is initially small in number gradually becomes more and more, and stops if the information obtained is considered sufficient. This technique is good to apply if prospective respondents are difficult to identify.

The communication network analysis used in this study focuses on the centrality of the actor. The measure used in network analysis is centrality. This refers to how the position of actors (nodes) in the whole network and how big the role of central actor in a network. In the study of network analysis, an important question is: who is the prominent and most decisive actor (node) in the network? Then, those who are prominent and most decisive are called central actors – people who have a prominent position or power in the network (Hansen, Derek; Shneiderman, Ben; Smith, 2011).

There are four most commonly used measures of centrality:

1. Degree Centrality

The degree shows the popularity of the actor in the social network. The degree is the number of links to and from the actor. In a directed network, this degree can be *indegree* (number of links or ties pointing to the actor) and *outdegree* (number of links coming out of the actor). Theoretically, the maximum number of degree centrality for an actor is N-1. This means that the actor contacts (*outdegree*) or is contacted (*indegree*) all other actors in the network. To calculate the value of degree centrality can be done using the following formula:

$$C_D = \sum \frac{d_i}{N-1}$$

C_D = Degree Centrality
 d = Number of ties (links) to and from actors
 N = Number of population members

2. Closeness Centrality

Closeness centrality describes how close an actor (node) is to all other actors (nodes) in the network. Closeness here is measured by how many paths an actor can contact or be contacted by other actors in the network. Closeness centrality calculates the average distance between a node and all other nodes in the network. To calculate the value of closeness centrality can be done using the following formula:

$$C_c = \frac{N-1}{\sum D_{ij}}$$

C_c = Closeness Centrality
 d = The shortest path to another actor
 N = Number of population members

The value for the closeness centrality is 0 to 1, where the bigger the better. A high value indicates the closeness of an actor's average distance to all other actors in the network.

3. Betweenness Centrality

Betweenness centrality shows the position of an actor as a betweenness of the relationship between one actor and another in a network. Whether the actor (node) to contact other actors can be directly or must pass through certain actors. Betweenness centrality is important as it relates to the control and manipulation of information (Hansen, Derek; Shneiderman, Ben; Smith, 2011). To calculate the value of betweenness centrality can be done using the following formula:

$$C_b = \frac{\frac{g_{ij} P_k}{g_{ij}}}{n^2 - 3n + 2}$$

C_b = Betweenness Centrality

$g_{ij} P_k$ = The number of shortest paths of an actor, and g_{ij} number of paths

$n^2 - 3n + 2$ = Maximum value

The value of betweenness centrality (normal) is 0-1, where a value close to 1 is the best.

4. Eigenvector centrality

Eigenvector is a term used in algebra. The calculation of the eigenvector itself is very complex. But in simple terms, the eigenvector can be described as how important the person who has a network with the actor is. How important is described as how many networks are owned by people/organizations/institutions that have relationships with actors. The importance of the actor's role is seen from the formation of the bridge and the clique.

The network distribution formula is carried out in a discretely distribution network formula.

To find the factors that make up the network variable, the researchers use communication network analysis to find indicators and categories on the variable of the prostitution connection network. When the network variable has been found, the next step is to measure the relationship between the network correlation variable and the level of this relationship. The researchers use contingency correlation where a relationship between two variables does not show a summary indicator of the strength of the relationship. In this study, the researchers use the Spearman Rank Correlation (Kuncoro, 2003).

Factor analysis is used to identify the principal dimensions or regularities of a phenomenon. The general purpose of factor analysis is to summarize the information content of a large number of variables into smaller ones. Factor analysis starts from compiling a new group of variables based on the correlation matrix relationship (Kuncoro, 2003).

The emergence of groups in most social networks in cyberspace is characterized by a denser network of online contacts between several member nodes. The clustering coefficient has a value between 0 and 1. The denser or more interconnected with node i , the higher the clustering coefficient. If the value of C_i is 0, it means that none of $node\ i$ is connected to each other. Mathematically, the clustering coefficient is denoted as C_i which is used to measure the density of edges among prostitutes from $node\ i$ with degree K_i and the number of relationships between prostitutes L_i . The value of C_i is calculated using the following equation (Alamsyah & Ramadhani, 2020):

$$C_i = \frac{2L_i}{k_i(k_i-1)}$$

The clustering coefficient has a value between 0 and 1. The denser or more interconnected the actors from $node\ i$ are, the higher the clustering coefficient will be. Meanwhile, for the clustering coefficient of the network as a whole C is measured through the average of the clustering coefficient C_i of all nodes I , where $i = 1, \dots, N$

$$(C) = \frac{1}{N} \sum_i^N = 1 \quad C_i$$

The qualitative data analysis technique used by the researchers in this study is a flow model analysis which includes data reduction, data presentation, and drawing conclusions. Data reduction is one of the theme data analysis techniques in the Case Study of prostitution on Twitter social media and the relationship between prostitution actors. Data reduction is a form of analysis that sharpens, classifies, directs, discards unnecessary data, and organizes data in such a way that final conclusions can be drawn. In data reduction, the coding process is carried out including Open Coding, Axial Coding, and Selective Coding.

After these themes are found, the next step is to describe the presentation of research data that is linked to three stages of deepening network analysis which consists of an explanation of the findings related to network intermediary pathways between prostitution actors, discussion, and elaboration of equality in the position of networks between prostitution actors and in the sub group.

Review and Discussion

To find the central actor in Twitter's big data on accounts from hashtags and mentions on prostitution networks in Jakarta, researchers conducted data crawling repeatedly, both through hashtags and mentions, until finally researchers also conducted network analysis and communication network relationships between central actors on each prostitution hashtag in Jakarta with the highest number of mentions and their network relationships. These accounts were analyzed using two levels of analysis, both at the system level and at the actor level, and looked at the network relationships between actors on Twitter. In the analysis using NodeXL, the researchers found 6 cluster groups in the mentions network.

Based on the results of the overall network analysis conducted by the researchers, which began by analyzing the general hashtag network of 7 hashtags, the researchers found the dominant hashtag (#) networks in 6 cities on the island of Java which became the main center of distribution of prostitution networks, with the following order: Jakarta with 11 hashtags, Bekasi with 5 hashtags, Semarang with 8 hashtags, Jogja with 13 hashtags, Surabaya with 12 hashtags, and Bandung with 6 hashtags, all of which were analyzed using sociometric social network analysis to find the central actor of each these hashtags in which in-depth interviews would be conducted with each of these actors.

Based on the identification, the majority of network distribution are in big cities, such as Jakarta, Bekasi, Bandung, Semarang, Yogyakarta, and Surabaya. This distribution network is a central network that can extend to several cities or regencies, such as in Jakarta which can expand to Bogor, Depok, Tangerang, Bekasi, and Karawang. Likewise, the Bekasi network can extend to Cikarang and Karawang. The Bandung network can extend to Kuningan, Majalengka, and Subang. Meanwhile, the Yogyakarta network can extend to Solo and Purwokerto. The Semarang network can extend to Temanggung and Demak. Based on the results of a long network analysis conducted by researchers, it is found that the online prostitution network connections between cities are not interrupted but even inter-connected to each other, so it is very possible that between these prostitution networks can be connected to each other and make virtual contact with each other following the flow of 'traffic' communication network. Therefore, it is very possible for prostitution actors or sub-actors to be directly connected to the central actors of large and small networks.

In addition to finding the central actor of each network that is distributed in each city, the researchers also analyze the network of central actors in each distribution of actor networks in each hashtag at the level of actor centrality analysis.

The density value of the whole network does not reach 0.1 or 1.0, so it can be concluded that, overall, the density level of the prostitution communication network with the hashtag network as a system

and actor network is weak. It is assumed that the actors do not know each other or are only connected (to follow), without any introduction process from the beginning, or closer introduction.

The diameter number for each region or city hashtag, from general networks to actor networks, is from 2 to 25, meaning that the network diameter varies widely. To be able to connect with the central actor, the sub-actors need to go through several actor (Node) steps or network (Edge) steps. When viewed from the results of the analysis, only the closest actors or sub-actor networks have the highest role as Betweenness Centrality and Closeness Centrality with the highest value from each centrality analysis with a diameter number from 2 to 4 steps.

In addition, not all central actors have a role as opinion leaders or as main figures who have a strong role and are considered as important people, so that the actors then feel that they do not always have a strong interest in the central actor. However, if the central actor has a strong role or is able to provide great importance to other actors, then the actor has a large number of networks (edges) and is able to build an extensive network even though the density level is low.

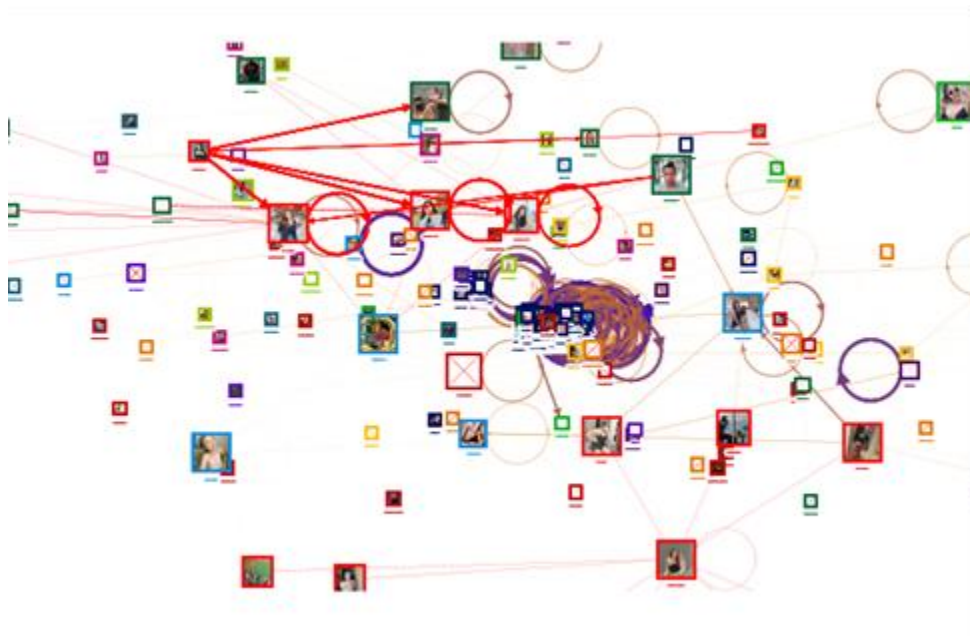


Figure 1: Identification of Gaps and Cliques on Prostitution Networks

Too many cliques on each network cause a large number of gaps. This is based on each actor in building a network with each of his close friends or with friends from the same area and city that are easy to recognize. Of course, this contrasts with the network of central actors who can join any gap or clique regardless of the city or particular gap. The role of the gap can be formed on the basis of the similarity of the city where the actors work on the basis of a sense of ethnicity as seen from the clique of each group of prostitution actors. The prostitution network group in one city can also be connected across cities or across provinces, although the close relationship between gaps and cliques is more dominated by the relationship between one city, one region, and one race.

Meetings between commercial sex workers, across cities or across races, are conducted using Twitter as a communication medium. Currently, commercial sex workers use social media as their working medium, but the types of applications used are of course varied. This study focuses on the use of Twitter because as a whole the sex workers use it. However, researchers also need to conduct a survey

related to social media applications, used by prostitutes other than Twitter, which are used as a work medium or just looking for friendship.

The separation of the gap in the prostitution network is very diverse. This can be measured in terms of the price offered in a certain group or gap. The transaction systems offered are also diverse, ranging from face-to-face transactions or Cash on Delivery (COD) to Down Payment (DP) transactions or through advance transfers prior to sexual service transactions carried out by the prostitutes. Therefore, the income earned by sex workers varies considering that the trust of customers also needs to be taken into account in relation to the service payment transaction system.

After doing a search on Twitter, the researchers find that sex workers make transactions in various places, some of them offer at hotels, ranging from budget hotels to 1-star, 2-star or 3-star hotels. And some even offer places in apartments, boarding house or rent house. Therefore, researchers need to conduct a survey regarding the residences of these sex workers and conduct a quantitative descriptive study to find out the number of tips they receive from each service.



Figure 2: Prostitution Network on Twitter Macro

In this study, the population of prostitution networks that are identified as valid from 6 cities is 55 hashtags (#), which when accumulated based on the network, the total is 1,380 active actors involved. The researchers use cluster sampling where the total population (N) is multiplied by 10% to find the number of samples (n). So, from a total of $1,380 \times 10\%$, it is found that $n = 138$ respondents (sample).

The survey approach is used by researchers to analyze in terms of homophile in the actor network. The distribution of the questionnaires is based on variable indicators that have been prepared in the operationalization framework. There are 5 indicators that are measured by division, each of which is developed into a questionnaire question based on the themes found.

The survey results show that 73.3% of sex workers are high school graduates, 60.1% are married, but there are also those who are married and still work as prostitutes as many as 29.0%, 51.4% live in boarding houses, and 23% live in rented houses. The majority of sex workers (49.3%) are 26-35 years old.

Based on the average monthly income, 67.4% or the majority of prostitutes have an average income from IDR 1,000,000 to IDR 3,000,000. 24.4% have an average income from IDR 3,000,000 to IDR 5,000,000.

Based on expenditure per month, 60.0% have an average expenditure from IDR 1,000,000 to IDR 3,000,000. 28.9% have an average expenditure from 3,000,000 to IDR 5,000,000.

Based on tips received from customers per day, 50.4% or the majority of sex workers get less than IDR 50,000 per day. 32.6% get tips from 50,000 to IDR 100,000.

Based on the number of customers served per day, 45.9% or the majority of sex workers serve from 3 to 5 customers. 37.8% serve 1 or 2 customers per day

The majority of sex workers work 8 – 9 hours per day, the same as the working time of office workers. Meanwhile, some sex workers work less than 8 hours per day (23.0%). The working period of sex workers also varies, from 1 to 2 years (33.3%) and from 3 to 4 years (27.4%).

Based on the cross tabulation results, the average income of prostitutes working less than 8 hours is IDR 1,000,000 – IDR 3,000,000 (15,6%). Meanwhile, prostitutes who work 8 – 9 hours per day also earn the same income as those who work less than 8 hours per day with an average of IDR 1,000,000 – IDR 3,000,000 (42.2%). It can be concluded that the income between prostitutes who work less than 8 hours and those who work 8-9 hours per day does not have a significant difference so that prostitutes who work less than 8 hours can be said to be more effective in terms of time. The majority of prostitutes receive 3-5 customers per day with a net income of IDR 1,000,000 - IDR 3,000,000 per month (62.9% workers).

In terms of receiving tips from customers per day there is also no significant difference between those who work less than 8 hours and those who work 8-9 hours per day. The majority get tips of less than IDR 50,000 per day. Prostitutes who work less than 8 hours per day are 11.9% and prostitutes who work 8-9 hours per day are 30.4%. So it can be concluded that the prostitutes, who are on average 26-35 years old, with the last education being Senior High School (first order) and Junior High School (second order), basically there is no significant difference in terms of income earned even though their working time varies. . Such informal workers are indeed faced with job competition, between one individual and another, as well as in terms of earning tips from customers, the majority earn IDR 50,000 or less per day.

In their work, prostitutes use social media as a means of communicating and offering services. In addition to using Twitter, some prostitutes also use other social media to build their existence and introduce themselves to others. Based on the results of a survey conducted by researchers, 64.5% of prostitutes use *MiChat* as a medium to communicate and present themselves in their status posts, and 28.3% of prostitutes use social media *Instagram*.

The results of the survey related to the purpose of using social media show that 37.0% of sex workers use social media to fill their spare time and as a medium for work. 28.1% use the Mi Chat social media application for work, 8.9% use social media to find new friends, while 17.8% use social media to fill their spare time.

To measure the significance of the relationship between communication networks and the level of closeness of relationships between prostitutes and their circle of friends, the researchers use the Spearman correlation test to measure whether there is a relationship between variable X (communication network) and variable Y (level of closeness of relationship). The results of the analysis are shown in table 1 below.

Table 1: Correlation Test Results

Correlations				
			Variable X	Variable Y
Spearman's rho	Variable X	Correlation Coefficient	1.000	.429**
		Sig. (2-tailed)	.	.000
		N	135	135
	Variable Y	Correlation Coefficient	.429**	1.000
		Sig. (2-tailed)	.000	.
		N	135	135
**. Correlation is significant at the 0.01 level (2-tailed).				

Based on the results of the correlation test in Table 1, the correlation value is 0.429, or sufficient. The decision is taken based on the probability value, if probability value (sig) > α , then H_0 is accepted.

The hypotheses built in this research are as follows:

H_0 : There is no significant relationship between the communication network and the level of proximity of prostitution actors.

H_a : There is a significant relationship between the communication network and the level of proximity of prostitution actors.

Based on the correlation table, the value of sig is 0.00, while the value of $\alpha = 0.05$. From the results of the comparison between the value of sig and the value of α , it is obtained that $\text{Sig} = 0.00 < \alpha = 0.05$, so H_0 is rejected, or there is a relationship between the communication network and the relationship level of prostitution actors.

The factoring process produces three factors which can be seen from the total variance explained. Thus, there is no need to rotate because the rotation process is used to clarify which variables are included in which factors are then narrowed down to find several dominant factors from X and Y that are most related.

Here are three factors and the largest order of communalities values:

Table 2: Dominant Factors Connecting Network Variables and Relationship Level

Variable Factor	Extraction Value
Purpose of using social media	875
Closeness with friends of different ethnicities / Cultural Tribes outside the workplace.	760
The actor's closeness with friends from different professions	731

Based on the results of factor analysis, after finding 3 factors, the next step is to conduct a cluster analysis to find the characteristics of the informants who will be interviewed further. The clustering process of a group of data is carried out using the K Means method by processing all objects (cases) at once. This process begins with determining the number of clusters. Based on the analysis, there are 3 clusters found on the basis of the number of factors.

The distribution of clusters of informants does not involve key informants and central network actors. The cluster division is based on the results of the respondent survey conducted by the researchers as follows:

1. Informant 1: having the character of using social media for the purpose of filling spare time, not having closeness with friends or friends from different ethnicities / cultures outside the workplace environment, and not having closeness with friends from different professions outside the workplace environment
2. Informant 2: having the character of using social media for the purpose of filling spare time, having closeness with friends or friends from different ethnicities / cultures outside the workplace environment, and having closeness with friends from different professions outside the workplace environment. However, the friendship between different ethnicities or outside the work environment is not too close or mediocre.
3. Informant 3: having the character of using social media as a medium for working, having closeness with friends or friends from different ethnicities/ethnic cultures outside the workplace environment, and having closeness with friends from different professions outside the workplace environment. However, the friendship between different ethnicities or outside the work environment is not too close or mediocre.

Based on the results of the research described above, it is found that commercial sex workers, through online prostitution, are required to be able to build networks and relationships self-taught through learning from experience, following prostitution practices carried out by other commercial sex workers and observing prostitution movements on Twitter, MiChat and other application media.

Rapid technological advances require everyone to always develop their work skills. Therefore, online prostitutes need to follow these developments by upgrading their skills, such as in finding connections between prostitutes or BO (Booking Order) women and their customers, maximizing the tag function to connect with each other through re-tweets, actively participating in an online community, and building an online community through a network of hashtags (#) or mentions on twitter. In addition, commercial sex workers must also improve skills that can add value. They have to carry out many tasks even if they only stay in a hotel room or boarding house and actively seek out customers and offer services. In addition, they are also required to be able to solve the problems they face.

Although online sex workers are in a virtual work system and have high time flexibility, they are in a growing work environment that requires ongoing skills and knowledge. The rapid development of technology makes many jobs have been replaced by new professions. The online prostitution model itself has actually become an update from the classic prostitution model which relies on marketing through brothels, massage parlors ++, nightclubs, and underground through contest offers in a house that is hidden and not widely known by many people. Online prostitution can minimize operational costs and the offers displayed on Twitter can be seen by many people. The online prostitution model has replaced the conventional method of trafficking in women which is carried out through a special platform such as a brothel.

The problem experienced by sex workers is the lack of critical thinking skills. They are easily deceived by people who pretend to want to book their services. They even often become victims of fraudulent modes carried out by irresponsible people. In addition to wasting time, they also lost property, as told by Tya to one of her subordinates who was cheated by his customer and lost some money.

However, there are also sex workers who can think critically. They are selective in determining customers and always seek the truth regarding the whereabouts of customers and do not easily accept BO women who enter the network illegally from informants or key informants on Twitter.

The Covid-19 pandemic and the illegal practice of prostitution in almost all cities on the island of Java have caused sex workers to be unable to move freely. They are not able to develop creativity and

mental elasticity because they are confined to the room where they practice and only expect the willingness of men to be their customers.

The development of technology that mediates communication not only has an influence on the technical diversity of communication media, but also provides differences and/or developments in the communication text itself (Lloyd et al., 1997 in Nasrullah, 2016). Even according to Holmes (2005), in the new media (second media age) communication is not only limited to focusing on discussing the form or media model (form), but also on discussing the content in it, including in terms of language.

Communication that occurs in the internet interaction room is a “synchronous, multi-user, text-based chat technology” communication (Crispin Thurlow, 2004). According to James E Katz and Mark A. Aaklus (2010), changes in meaning and expression in the internet world can be regarded as apparatus neologisms. Cyber culture binds both the technological aspect itself to the individual and collective aspects of social habits. According to Manuelle Castells, in today's Network Society, a meaning (culture) can emerge and be reinterpreted because entities connected to the internet come from the real world and have differences, at least in terms of demographics, but the interactions that occur and technology cause the cyber world to have its own culture (Nasrullah, 2016).

The next step is to verify the Network Society theory related to the density of online sex workers on Twitter and the level of closeness of the relationship between online sex workers and their friends in different ethnicities or one ethnicity, different professions or one profession. Based on the results of the correlation test analysis, the correlation value is 0.429 or a sufficient measure of the relationship, with a significance value of 0.00 or there is a relationship between the two variables. The most dominant factor for building relationships is the similarity of the prostitutes in using social media applications as a medium for work. In addition, the close relationship between sex workers in their friendship is heterogeneous, both in different races and in different professions and in common professions. So it can be assumed that the network is formed based on the introduction of one sex worker with another sex worker in conducting network exchanges.

There are two terms used in the use of language in cyber media: “*Netspeak*” and “*Netlingo*”. *Netspeak* means conversation as if it were talking, such as the language practice carried out by online sex workers on twitter. According to David Crystal (2001), internet language is the fourth medium after written language (writing), spoken language (speaking), and sign language (signing). *Netspeak* occurs when users interact directly (synchronously), such as in MUD's, online chat, or instant messaging. Text typography that appears and develops in cyber media is sometimes in the form of words, letters, punctuation marks, symbols, or certain images, as is the case with online sex workers as follows:

Table 3: *Netspeak* on Communication between Prostitution Actors on Twitter

Use of abbreviations, acronyms, and a combination of the two.	PHP (Pemberi Harapan Palsu / Giving false hope), CIM (<i>Cum in Mouth</i>), CIF (<i>Cum in Face</i>), Rim (<i>Rimming</i>), BJ (Blow Job), HJ (Hand Job), BO (<i>Booking Out</i>).OB (Open Booking), WP (Wanita Panggilan/Call Girl), Bisyar (Bisa Bayar/Can Pay), Bispak (Bisa Pakai/Can Use). COD (Cash on Delivery / face-to-face transactions), DP (Down Payment), TF (Transfer)
Combination of letters and numbers	Av4il (Avail / available), Open4BO (Open for Booking Order), bert4r1f (bertarif / with fare), r34dy (ready).
Use of punctuation	What!!!! Helloww!
Capital letters (indicating an angry or upset state)	MODUS, BASA-BASI, UP, NOT SET, KELAUT SANA.
Pronunciation style / likeness	Mi Sans (Main Santai / bermain santai / play casually)
Emotion icon (emoticon)	☺ ☹ :D

Meanwhile, *Netlingo* is the opposite of *Netspeak*. *Netlingo* is writing in cyber media where the writing seems to speak. Cyber media and communications that rely on text have also not shifted from just a standard text language to a text language that seems to represent expressions when speaking. One of the reasons why standard language that involves writing prerequisites is often violated in cyber media is because of the activities of cyber media users, such as not having much time, the influence of the technology device itself, small mobile phone devices, or the shape of the computer keyboard (Crispin Thurlow, 2004).

The use of *Netlingo* in cyber media can violate the basic rules of writing sentences or words even though the pronunciation is the same. For example, the words "*Hi BO Sis*" and "*Mssg*" are to the point without any other greetings or without having to go through small talk first. According to Thurlow, et al, typos, capitalization errors, and errors in the use of punctuation marks are commonplace in netlingo, because the text is speaking, and when speaking, the standard of writing and/or grammar is not important or reduces the message to be conveyed.

The expression *Hi* or *BO* in the virtual room is actually only in written format (text), not verbal language. The language used in the virtual space is impossible to use in everyday conversation. The use of abbreviations such as PAP (post a picture) is preferred by some young people because they are considered in line with their free spirit and different from others. According to Misandra (in Nasrullah, (2016), this language will gradually develop into slang because young people want to be judged as a group that is not outdated. Therefore, they switch from the usual writing to the slang style of writing. This is considering that most of the commercial sex workers are teenagers aged 26-35 years who prefer the "modern" style of language. This is a phenomenon where online sex workers follow the use of slang language.

Special terms used in modern society are also used by online sex workers, such as "*includeroom*" and "*excluderoom*", which are often used in the hospitality business. These terms are used by online sex workers to explain whether they have provided a room or not for sexual practices. In addition, there is the term "oral" which in medical terms is related to the oral cavity, but then it is used as oral sex services, and so on.

The term "*includeroom*" is often abbreviated as Inc, which means serving and providing sexual services along with the place or room. The room, as Renna said, could be a boarding house, hotel, apartment, inn, or motel. Renna herself used to serve her guests in hotel rooms she rented for a certain period of 1-2 weeks. This is different from prostitutes who choose apartments as a place to serve sexual services for their customers. So, overall, these prostitutes also have to spend some money to rent a place for the practice of sexual services.

The use of wrong words, such as 'ces' or 'charge' for the word "cash" is considered normal and is not a problem because they understand the meaning. Errors in writing are considered common, such as the word "real" becomes "reall", etc. The use of sentences becomes an agreement or is imitated as a language trend so that the sentences used between one prostitute and another are almost the same, there is no difference in language variants.

The results of research that have been verified with network society theory show that the bonds between commercial sex workers are usually symmetrical, both in terms of level and intensity. They supply each other with something different and they do so with greater or lesser intensity. The structure of social ties or relationships between sex workers gives rise to various non-random networks.

This is indicated by the value of the Reciprocated Edge Ratio which reaches 0.1 or close to 1.0. This value indicates the existence of a non-random network distribution and the lack of reciprocal

communication relationships between prostitution actors so that there is an asymmetrical bond between elements in a network system which results in limited resources being distributed unequally. As a result, the research results show an unequal or overlapping network distribution, as indicated by the network modularity value.

In the short edge connected (small network), the unequal distribution of limited resources creates cooperation or even competition between prostitution actors. Even though there are prostitution actors who know each other or do not really know each other, basically they have been involved in a competition, where they offer services to each other or compete without a face on Twitter.

Central actors have an economic interest when they establish relationships with other BO (booking order) women operating through Twitter. In addition, sex workers also build networks based on their respective gaps or cliques to offer sex services to each other on Twitter which then also promote other sex workers through Re Tweet (RT) or tag mentions.

Based on a study through Computer Mediated Communications (CMC), online prostitution actors, as pure BO women or who double as a procurer, both provide self-descriptions or self-performance as individual efforts to construct themselves in an online context through photos or writing so that the social environment is willing to accept their existence and have the same perception.

Commercial sex workers also build online communities through social media Twitter which is incorporated in hashtags (#) and mentions (@). Network patterns that exist in cyber media will directly or indirectly connect users in various places. The interactions that occur between these users ultimately allow the formation of a cyber-network or community. Tim Jordan (1999) defines cyberspace as a place where a number of users meet in the same information space. Users no longer think that they are alone in cyber space. On the contrary, users can build relationships with other users. Jordan refers to cyber communities as virtual communities (Nasrullah, 2016).

Prostitution in online social media is not a reality created by a dominant group who wants to dominate a certain gender, but it is done voluntarily or of their own accord. Commercial sex workers who offer online prostitution services and the like basically do their work on a consensual basis and not under coercion. In addition, commercial sex workers can enter and leave their jobs whenever they want, without coercion. This is evidenced by the researchers that the majority of these commercial sex workers do not want same-sex relationships even though they are offered with a paid system. They still need different sex regardless of face.

Conclusion

Based on the results of research related to the online prostitution communication network on Twitter social media, it can be concluded that the practice of prostitution carried out online, especially through Twitter social media, has a very wide network and even involves around 100 sex workers. Meanwhile, the communication network for each region can involve more than 100 vertices or actors.

The density value (graph density) does not reach 0.1 or 1.0 so that the level of network connectivity can be said to be weak even though the density level is low. This is based on an analysis in 6 cities that are used as research objects based on the division of regional clusters. The majority of sub-actors or sub-groups of the network cannot directly connect to the central actor and must pass through several actors or networks in order to be connected to the central actor, so that the actor or sub-actor acts as a network intermediary.

Based on the reciprocity rate, the majority are still at the rate of 0.00 - 0.1. There is no reciprocity rate that reaches 1.0. So it can be ascertained that in the interaction model that takes place in the prostitution network, there is no active interaction between sex workers. In addition, the network is complex, undirected, and irregular. This can be shown from the network which as a whole is not always connected to the central network in the macro hashtag (#). This macro hashtag (#) is divided into several gaps in prostitution network groups based on their respective groups. In addition, in every macro network there is always a gap separate from the neutral that is connected with other prostitution network actors.

The prostitution network also experiences a disparity between the number of active accounts involved in prostitution (vertices) and the number of remotely monitored network connections. This is due to the large number of networks that are created in one account but spread or are widely distributed.

Based on identification, the majority of distribution networks are in big cities, such as Jakarta, Bekasi, Bandung, Semarang, Yogyakarta, and Surabaya. These distribution networks are central networks that can extend to several other cities or regencies. For example, the network in Jakarta can expand to other areas such as Bogor, Depok, Tangerang, Bekasi, and even Karawang. The Bekasi network can extend to Cikarang and Karawang. The Bandung network can extend to Kuningan, Majalengka, and Subang. Meanwhile, the Yogyakarta network can extend to Solo and Purwokerto. So it can be assumed that the central actors of each network are always connected to one another or uninterrupted. It can be ascertained that between the major networks of several cities and the minor networks there are actors who have a role as intermediaries.

The online prostitution communication network on Twitter social media is built based on the interest to "sell services" or sell themselves as commercial sex workers to serve men's sexual satisfaction in exchange for a certain amount of money according to the rates determined by each of the prostitution actors.

The way to build this network begins with recruiting or inviting BO (booking order) women or commercial sex workers who have lost their jobs at several entertainment venues or those who have been laid off from work due to the closure of many entertainment venues as a result of the COVID-19 pandemic. The prostitution actors then choose to continue their business independently as BO women or as Call Women with a settled model, some are in hotels, inns, boarding houses or rented houses.

In maintaining relations and network relationships, the central actor who is in the position of key informant is very selective in choosing BO women or commercial sex workers who want to join the hashtags or mentions. So in this case, the role of the central actor or procurer is not only as a broker or coordinator, but also as a gate keeper. This means that the central actor also selects sex workers who enter the network, without a permit or membership process.

The close relationship between the central actors of prostitution and the actors or sub-actors as a whole can be said to be very low. The actors of prostitution not only build friendships through virtual networks, but also in the real world, but not in large groups. This friendship is only limited to the gap between the actor and her close friends so that the online prostitution actor has a close relationship with the BO women who operate in the same city. In addition, the prostitution actors also build networks with other network groups only through Twitter. Meanwhile, through *whatsapp* or *telegram*, the communication made by the prostitution actors is only for close friends, family or customers they already know.

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