

Communication Network of Cyber Prostitution on Twitter in Indonesia

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Abstract - Cyber Prostitution activity in Indonesia is likely similar to the practice of conventional prostitution with three main perpetrators, namely prostitutes, pimps, and customers. This study analyzes the relationship between perpetrators in the practice of Cyber Prostitution on Twitter Microblogs from 12 alters accounts. This research focuses on prostitution communication networks through Twitter social media. The structure and patterns of digital network communication make the relationship between communication network actors in the practice of cyber prostitution faster and more efficient. This research uses the Communication Network Analysis method that reveals the communication network of online prostitution actors. The research found more than 700 accounts of prostitutes on Twitter. With computer-mediated communication, they form a strong communication network and work together. The research results show that the communication network formed in the practice of Cyber Prostitution, especially in Twitter takes place with direct and indirect relations. In direct relations between prostitutes, pimps, and clients, there are senders and receivers, there are subjects and objects. In an indirect relation, no sender and receiver, actors (prostitutes, pimps, and clients) share the same role.

Keywords - communication network, cyber-prostitution, Twitter, Indonesia

I. INTRODUCTION

Based on the research by Laksono and Magfiraini about Cyber Prostitution: Shifting Social Problem Into The Virtual Space, which showed the problem of prostitution into the real dark side of society, are now beginning to shift to the cyber society [1]. Prostitution in cyber society or called cyber-prostitution has become a phenomenon of social problems in the digital era. Prostitution practices are growing rapidly by utilizing information technology with all its sophistication. This has become a new social problem that is difficult to control. Through the internet, sex workers (prostitutes) offer sex services on sites that provide sex services. According to Laksono and Magfiraini, cyberspace is difficult to control, because it provides flexibility for online prostitution to develop very quickly and massively. When social control over the practice of prostitution in the real world is tight, he finds a place to flourish in this uncontrolled space [1].

This research focuses on tracking the process of a communication network formed in the practice of Cyber Prostitution, especially in Twitter as social media, and how the description of structure of communication networks that formed. How the relationship between perpetrator in the practice of Cyber Prostitution, is it cohesive or liquid. The actors of prostitution use computer-based communication technology to communicate and build relationships. Personal

computers, laptops, tablets, and smartphones have become devices that make it easier for prostitutes to offer sexual services and connect with pimps and customers online on social media.

This research took some Twitter account incorporated with 12 community alter named "69_Indonesia", "AlterInfo69", "CaptainAngel8", "dapurbecak", "Dj_paijo", "Geje_Alter", "KupuKupuAlter", "Madu_Alter", "PremiumAngels", "Promot_Bisyar", "sukaCDwanita", dan "tenderoffender" .

One concept that sees the internet as a communication medium is computer-mediated communication theory. Link and Wagner in Zaphiris and Ang (2009), proposed computer mediated communication as the media that facilitates the exchange of semantic content, transmitted through telecommunication networks, processed through one or more computers, between individuals and among groups [2]. The habits or symptoms of using computers connected to Internet networks such as email, browsing, chatting, blogging, e-publishing, e-commerce, and social media in everyday life are examples of computer-mediated communication.

Kumar et al defined computer-mediated communication as the method of creating, exchanging, and perceiving information, which aids in encode, decode and transmit messages using telecommunication network [3]. Walther and Burgoon (1992) assume that communicators in CMC can reduce interpersonal uncertainty, form impressions, and develop affinity in online settings as they can do in face to face context and rejects the view that the absence of nonverbal cues restricts the communicators' capability to exchange information [4].

In its development, computer-mediated communication has become a network that is interconnected in cyberspace, which has become one of the social networking media called computer-mediated social network (CMSN) entirely intensifies the benefits of the social network. CMSN comprises but is not limited to the practice of e-mails, blogs, news, forums, chat, etc to communicate [3]. This sort of communication is highly been a success. For instance, Myspace, Facebook, YouTube, Instagram, Twitter, etc., has 160 million active users in Indonesia.

Social network states the precise example of relation connecting a distinct set of persons. It is a network through modes of organizations, groups, individuals, and allied systems that links one or added interdependencies. It comprises ideas and vision, shared values, group participation in events, and membership in an organization between various features of human relationships [5].

Social media is a new medium for communication and interaction between Internet users around the world. According to Kaplan & Haenlein (2010), social media is "a group of Internet-based applications that build on the

ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content (UGC)” [6]. Sims et al (2017) suggested social media as an Information System, social media is built upon a set of (available) Internet, communication, and computing technologies, as well as a set of ideological beliefs about how information should be created, accessed, and distributed [7].

Social media is a medium that serves as a bridge for social communication. An online media where people can share stories, participate, share and form networks. Kietzmann et al (2011) specifies seven functional building blocks of Social Media which are identity, conversations, sharing, presence, relationship, groups, and reputation [8]. Social media has the characteristics of being easily accessible and easily operated by anyone and tends to be difficult to control by the government or authorities.

Indonesia, with an estimated number of Internet users reaching 133 million people by 2018, is one of the largest markets in the online business. From the number of internet users, according to wearesocial.com, 130 million people have an account on social media. Of 130 million social media users, 52% or 62.4 million Indonesian people using Twitter as social media platform [9]. Twitter is the most popular social media and the number 5 most users in Indonesia after Youtube, WhatsApp, Facebook, and Instagram.

Twitter is currently one of the most popular social media in Indonesia, despite the features offered are not as complete as other social media. Twitter users can only post a maximum of 280 words per post and only people who are already followers will read them. Regarding interpersonal communication on social media, Walther (1996) argued that four sets of effects namely sender, receiver, channel, and feedback may create hyperpersonal communication that goes beyond the interpersonal interaction in a face-to-face context [10].

With the existing retweet facility, Twitter users can view or read a "tweet" from a certain account in a chain. Apart from that, the facilities for mentions, hashtags, and trending topics are also a distinct advantage for Twitter compared to other social media such as Facebook, Youtube, and Instagram. Receiver and source effects come from the roles individuals play in the communication process. The channel (social media) facilitates goal-enhancing messages by allowing greater control over message construction than is available in face-to-face context [10].

In this digital era, the emergence of new media and social media has created a new form of society, namely cyber society. Various kinds of activities such as searching for information, communicating, and socializing using social media or messaging applications such as Facebook, Instagram, Line, Twitter, and Whatsapp have become commonplace in the lives of most people today. Including using e-commerce applications or online transportation, buying daily necessities such as ordering food, buying drugs, buying clothes, even sexual service activities (prostitution) can be done through social media.

According to Laksono and Magfiraini (2014), the activity of the sex business (prostitution) also continues and shifts

towards virtual transactions. Prostitution in a cyber society has become a phenomenon of social problems in the era of digitalization [1]. Prostitution practices are growing rapidly by utilizing information technology with all its sophistication.

In Indonesia, the practice of online prostitution had been started to emerge since the development of mobile-phone information and communication technology in 2003 and continues to grow where prostitutes sell sex workers through sites on the internet. As it has been developed in 2012, several sites have emerged offering the practice of www.krucil.net, www.semprot.com, and others. During its development, the practice of online prostitution has shifted to social media, such as Facebook and Twitter. For example, when the public in Indonesia was shocked by the homicide case of an online prostitute by her customers. On Friday, April 10, 2015, the owner of the @tataa_chubby account died after serving customers who made transactions on social media Twitter.

Cyber Prostitution provides sex services by utilizing new media and social media to upload erotic photos and videos. The perpetrators market themselves and the women they sell through the internet, both by using websites and social media such as Facebook, Twitter, and others [11]. In contrast to offline prostitution that requires a certain place or localization to 'peddle' himself, cyber prostitution is not limited by time and space in the transaction. Transaction in Cyber Prostitution usually started by getting acquainted and transacting online between prostitutes with clients, or between pimps with clients.

In the case of Cyber Prostitution with social media, the practice of Cyber Prostitution has become more prevalent, and at a certain point, the prostitutes can work alone to expand their clients without Pimp's help. Prostitution networks through social media communication patterns and communication networks change when they abuse Twitter. Information technology has changed the face of prostitution in Indonesia.

After the explanation above, researchers are interested in researching tracking the process of a communication network formed in the practice of Cyber Prostitution, especially on social media, and how the structure of the communication network is formed. A network, in addition to consisting of actors (nodes) and links (edges), also has elements of components, clicks, bridges, hubs, cutpoints, and scanners [12]. This research also analyzes the relationship between perpetrators in the practice of Cyber Prostitution via Twitter, whether it is compact or fluid.

II. METHODOLOGY

The method used in this research is communication network analysis (CNA). Communication network analysis focuses on perpetrator's relationships. The analysis of the communications network will provide information on how the perpetrator behaves, whether they have strategic contacts [12]. The perpetrator being studied are 12 Twitter microblog accounts in the alter community who practice Cyber prostitution. The researcher will observe how the

relationship is formed, the contact made by one perpetrator with another until it is formed, the contact made by the perpetrator to form the Cyber Prostitution network. The analysis of the communications network will provide information on how the actor behaves, whether the actor has strategic contacts.

The data collection in this research is from the existing communication network in Twitter social media limited to 12 community Twitter alter accounts "69_Indonesia", "AlterInfo69", "CaptainAngel8", "Dapurbecek", "Dj_paijo", "Geje_Alter", "KupuKupuAlter", "Madu_Alter", "PremiumAngels", "Promot_Bisyar", "like CDwomen", and "tenderoffender" and chripstory limits in the period November 2016 - November 2017. Data collection is done through observation and name generating from 12 Twitter accounts. This research sample was drawn by purposive sampling, moving to Supported Account points as the beginning of the tracking process. After that, based on the tweet and retweet activity therein will be seen the relation among perpetrators in the form of accounts that communicate with each other in networks. This is done until it reaches a saturation point in the sampling process. Furthermore, the network found it is coded and processed using the UCINET Netdraw program. The total number of name generators was 710 accounts and the total relational activity was 6991 including tweets, retweets, and mentions in the chripstory period.

Considerations for using Communication Network Analysis are researchers have no direct access to communication networks on prostitution online, then the process of communication and transactions on online prostitution take place dynamic and very fast, so difficult to observe one by one. Additionally, Chripstory on Microblog Twitter gives traces of easily tracked information that is useful in analyzing a network of cyber prostitution actors. Based on that, the researchers used the document in the form of posting tweets and retweets on the Twitter microblog Chripstory tracked from November 2016 – November 2017

III. RESULTS

Prostitution practices in Indonesia are increasingly proliferating both done conventionally (street prostitution) and online through social media is triggered by technological advances that provide ease in accessing information and communication between humans with millions of other humans across the world. As explained by Williamson and Baker (2009) that there are several typologies of prostitution work styles, namely pimp-controlled prostitution, renegade prostitution, and outlaw prostitution [13]. In this case, there is a role for the pimp as an intermediary between prostitutes and users of sexual services.

In cyber prostitution, there are three perpetrators, namely prostitutes, pimps, and clients in online prostitution. They form a strong communication network and work together according to their respective roles. Their communication network has a pattern with Pimp's central actor to maintain the cohesiveness of relationships between actors. In the case of prostitution with Twitter, the practice of Cyber Prostitution is increasingly easy, and at some point, the

prostitute can work alone to expand the client without the help of the Pimp.

As socio-emotional concerns such as conflict take time and effort away from task resolution, any mechanism that reduces the need to expend effort should enhance the efficiency of a group's efforts [4]. The network of prostitution through computer-mediated communication patterns and communication networks change when they abuse social media Twitter. Awaludin explained that online prostitution is a phenomenon that is seen as damaging to morale, disturbing order, and opening up opportunities for sexual exploitation to the point of psychological and social harm [14].

Prostitution using social media is beneficial for the parties involved in it. For prostitutes, the average customer in cyberspace is educated, making it easier for online interactions and transactions. For prospective clients, dealing with sex workers via the internet is also considered more comfortable. According to Bunga (2012) in [1], most cybersex workers come from the upper-middle class. In addition, if a prospective client does not match the description on social media, the sex worker does not need to spend time or money on meeting the prospective client in person.

Twitter alters accounts like "69_Indonesia", "AlterInfo69", "CaptainAngel8", etc as the community that originated from a virtual community through social media microblogging twitter describes a cyber-community mediated internet and computer technology. Twitter is utilized in disseminating information, interpersonal interaction, prostitution transactions, group communication, and establishing group identity within the cyber prostitution community. The number of members of each alter account varies, and some prostitute accounts become members of multiple community accounts or pimp accounts :

TABLE I

NUMBER OF MEMBERS ACCOUNTS

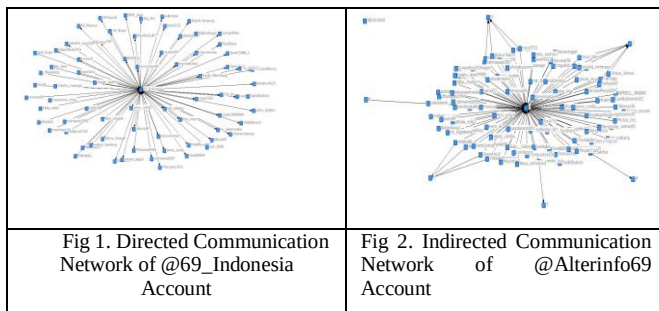
Alter Account Name	Number of Members
69Indonesia	71 accounts
AlterInfo69	90 accounts
Captain Angel8	79 accounts
Dapurbecek	110 accounts
Dj_paijo	120 accounts
Geje_Alter	56 accounts
KupuKupuAlter	113 accounts
Madu Alter	55 accounts
PremiumAngels	105 accounts
PromotBisyar	75 accounts
SukaCDWanita	37 accounts
tenderoffender	39 accounts

These 12 twitter accounts can be said to be promotional accounts and some even act as pimps for some accounts of commercial sex workers. There are 710 active member accounts from 12 alter accounts. Each account that is a prostitute can also act as a pimp directly communicate with the client.

IV. DISCUSSION

From the 12 alter accounts, there are 2 communication network patterns between the promote (pimp) account, prostitutes, and customers. First, directed pattern of communication network contain in 11 accounts, "69_Indonesia", "CaptainAngel8", "Dapurbecek", "Dj_paijo", "Geje_Alter", "KupuKupuAlter", "Madu_Alter", "PremiumAngels", "Promot_Bisyar", "like CDwomen", and "tenderoffender". According to D'Andrea (2010), in relations that have a directed direction, there are senders and receivers, there are subjects and objects [15]. In this pattern, an asymmetrical communication network is formed, namely a relationship in which one party is not dominant, the other party gives the other party to accept.

Twitter account "69_Indonesia" for example of the directed pattern, acting as community accounts and supported accounts is accounts that act as intermediaries or in the practice of prostitution are called a pimp. There are 71 Twitter accounts connected to the "69_Indonesia" account network, consisting of prostitute accounts and client accounts. Prostitutes account to get the opportunity to be promoted by the "69_Indonesia" account, promote themselves, and also promote other accounts that are in the "69_Indonesia" community network. Clients account to get the information about prostitutes from "69_Indonesia" and can be connected to prostitutes' accounts to get information and make transactions with a specific account as desired. This networking illustrated in the following figure :



The second pattern of communication network is indirected relation, there is no dominant sender and receiver, both actors share the same role [15][16]. In this communication network, there is a symmetrical relationship, where two actors are involved in the relationship, and each actor has the same contribution or role. The "alterinfo69" account is example of indirect pattern, where the pimp, prostitutes, and clients share the information with others. Different from the "69_Indonesia" Twitter account, on the "alterinfo69" account network which also acts as a promotional account for prostitutes, there are 90 prostitution accounts that are directly connected in the community, but there are also 6 accounts connected indirectly to the "alterinfo69" account.

The networking in "alterinfo69" community is illustrated in figure 2. There is a role group, the actors are divided into four groups, i.e client, ingroup prostitute, outgroup prostitute, and pimp. From the 12 alter accounts in this study, there are two alter accounts that are involved in one communication network, and have several same members, namely the @KupuKupuAlter @PremiumAngels account. There are 7 clicks found in the network of these two alter

accounts. Clicks are a more stringent grouper of actors than components, that are marked by the relation between an actor (node) completely and maximal [12]. Called complete when members of the actors each have a relation (link) to each other.

No	Communication Network for each Twitter Account	Network data Analysis
1		Account : @69Indonesia Density of the input matrix: 0,181599407626805 Percentage of symmetric pairs was: 97.59% Percentage of reciprocated ties: 36.99% 0 cliques found.
2		Account : @AlterInfo69 Account Density of the input matrix: 0,43277227722723 Percentage of symmetric pairs was: 97.84% Percentage of reciprocated ties: 0.00% 0 cliques found.
3		Account : @CaptainAngel8 Density of the input matrix: 0,0766335441132189 Percentage of symmetric pairs was: 97.62% Percentage of reciprocated ties: 3.70% 0 cliques found.
4		Account : @Dapurbecek Density of the input matrix: 0,0574557086614173 Percentage of symmetric pairs was: 98.54% Percentage of reciprocated ties: 14.96% 0 cliques found.
5		Account : @Dj_paijo Density of the input matrix: 0,026644555002764 Percentage of symmetric pairs was: 98.65% Percentage of reciprocated ties: 32.82% 0 cliques found.
6		Account : @Geje_Alter Density of the input matrix: 0,24906015037594 Percentage of symmetric pairs was: 96.49% Percentage of reciprocated ties: 33.93% 0 cliques found.
7		Account : @Kupu Kupu Alter Density of the input matrix: 0,0847071850393701 Percentage of symmetric pairs was: 98.66%

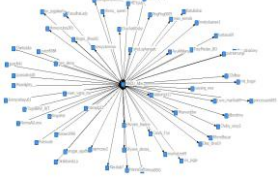
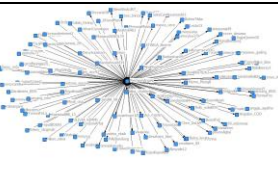
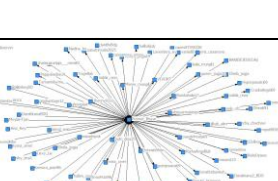
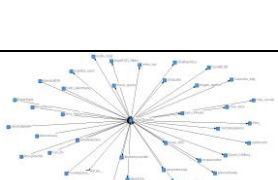
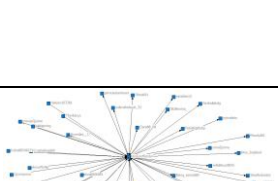
		Percentage of reciprocated ties: 44.09% 0 cliques found.
No	Communication Network for each Twitter Account	Network data Analysis
8		Account : @Madu Alter Density of the input matrix: 0,0914786967418546 Percentage of symmetric pairs was: 96.49% Percentage of reciprocated ties: 64.29% 0 cliques found.
9		Account : @Premium Angels Density of the input matrix: 0,0662140715923118 Percentage of symmetric pairs was: 98.20% Percentage of reciprocated ties: 44.86% 0 cliques found.
10		Account : Promot Bisyar Density of the input matrix: 0,101898101898102 Percentage of symmetric pairs was: 98.83% Percentage of reciprocated ties: 75.00% 0 cliques found.
11		Account : @Suka CD Wanita Density of the input matrix: 0,0768136557610242 Percentage of symmetric pairs was: 99.15% Percentage of reciprocated ties: 86.49% 0 cliques found.
12		Account : @Tender Offender Density of the input matrix: 0,407051282051282 Percentage of symmetric pairs was: 95.51% Percentage of reciprocated ties: 56.41% 0 cliques found.

Fig 3. Communication Network for each alter accounts

Based on Fig. 3, when the communication network is analyzed for each r account, there is no clique found, only one account that the communication network is undirected is @ Alterinfo69. The majority of the communication network accounts are direct and symmetric communication. When the data for 12 accounts were combined and tested for clique, 7 cliques were found:

1. @desahans_bbw @KupuKupuAlter @PremiumAngels
2. @Jogjaqueen20 @KupuKupuAlter @PremiumAngels
3. @KupuKupuAlter @OLIVIA_KIMMI @PremiumAngels
4. @KupuKupuAlter @PremiumAngels @Rozalinaa85

5. @KupuKupuAlter @PremiumAngels @sayang_wee
6. @KupuKupuAlter @PremiumAngels @tikka_chubby
7. @_MissWindy @KupuKupuAlter @PremiumAngels

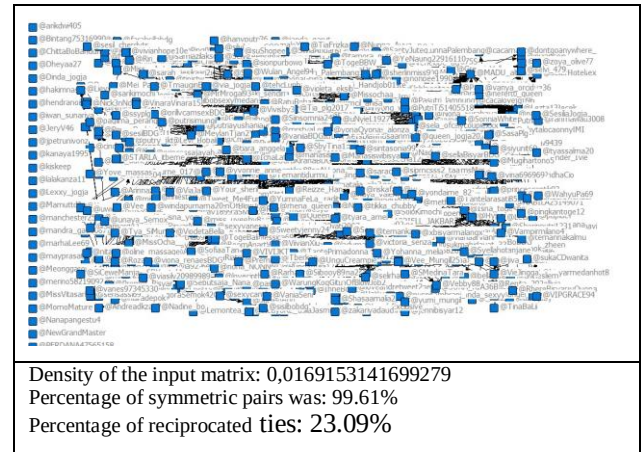


Fig 4. Communication network for 12 Alter accounts

TABLE 2
 DATA COMMUNICATION NETWORK 12 ALTER ACCOUNT

Alter Account	Density of the input matrix	Percent age of symme tric pairs	Percent age of recipo cated ties	Stan dard Devi ation	Average Without Degree
69Indonesia	0,182	97.59%	36.99%	1,662	13,257
AlterInfo69	0,433	97.84%	0.00%	5,159	43,277
Captain Angel8	0,077	97.62%	3.70%	1,913	6,207
Dapurbecak	0,057	98.54%	14.96%	1,901	7,297
Dj_paijo	0,027	98.65%	32.82%	0,955	3,570
Geje_Alter	0,249	96.49%	33.93%	2,114	13,947
KupuKupu Alter	0,085	98.66%	44.09%	1,053	10,758
Madu Alter	0,091	96.49%	64.29%	0,631	5,213
PremiumAn gels	0,066	98.20%	44.86%	0,655	7,019
PromotBisy ar	0,102	98.83%	75.00%	1,235	7,846
SukaCDWa nita	0,077	99.15%	86.49%	0,406	2,842
tenderoffen der	0,407	95.51%	56.41%	2,697	15,875
12 alter account	0,017	99.61%	23.09%	0,654	11,993

Based on data in Table 3, testing on each account and the combined network of all accounts, the value of Percentage of symmetric pairs is above 90%, however, the value of Percentage of reciprocated ties is not so large, whether it is done on the entire network. A relation which is based on a two-way (symmetric) relationship is a relation in which two actors are involved. It means that there is no single actor in the cyberprostitution network on Twitter

V. CONCLUSION

The practice of cyber prostitution through twitter is a well-planned practice between actors, meaning that there is

no single actor in cyber prostitution practice. In the alter Community accounts, each actor who is a prostitute builds a direct communication pattern with the client. In relations that have a direction (directed) there are senders and receivers, there are subjects and objects. While in an undirected relation, no sender and receiver, both actors share the same role.

The pattern of cyber prostitution communication network built from directional and non-directional communication process. In a relationship that has a direction, the perpetrator can position as subjects and objects. It means to be able to exchange roles between roles, both as pimps and prostitutes, and clients in context when exchanging information or promoting each other. The communication network formed in the practice of Cyber Prostitution, especially in Twitter takes place with direct and indirect relations. In direct relations between prostitute, pimps and clients, there are senders and receivers, there are subjects and objects. In an undirected relation, no sender and receiver, actors (prostitutes, pimps and clients) share the same role.

This research has several limitations, especially related to direct observation of cyber prostitution perpetrators, this is an input for future researchers to be able to conduct more in-depth research related to cyber prostitution communication networks. From the results of the research that found many prostitution accounts that interact and transact sexual services, it is an input for stakeholders to be able to control the growing development of cyber prostitution through Twitter.

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