

ORIGINAL CONTRIBUTION

Women's Understanding of ICT at Coastal Area

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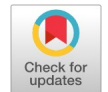
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Abstract— This study aims to explore the understanding of women in coastal area in Indonesia especially in Sukabumi, West Java province about the internet. Information, Communication and Technology (ICT) has rapidly growth in Indonesia, specifically the use of internet has increased drastically. A huge number of people have been utilizing internet in Indonesia including the Indonesian coastal areas. Thus, it is interesting to observe and investigate the role of internet in improving people's lives especially women in coastal areas. Also, there is a lack of study on how women at coastal area “see” the internet. Qualitative research method is applied in this study based on observation and interview. Respondents were the women from coastal areas. The results show that most of women have a sophisticated mobile phone, but they sometimes do not know about its applications. Thus, the internet is remained abandoned and women do not use the internet in order to have information. Further to this, most of their children know how to use the internet such as to play the game and to use social media such as facebook, instagram and whatsapp. This study would provide insights to local government and policy makers so that they may enforce the women to utilize the internet and let the society become media literate.

Index Terms— Coastal Area, Communication and Technology, Information, Internet, Mobile Phone, Women

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Introduction

ICT is growing very rapidly in Indonesia, especially the internet. Almost all society both old and young generation utilize the internet. The Internet becomes one of the media accessed to obtain information and entertainment. Women also take advantage of internet. In general, data show that women are increasingly fond of the internet world. In 2010, 46 users of internet users around the world were women. This figure does not vary much with men (Dong & Keshavjee, 2016; Kompas, 2011; Thanasripanitchai, 2017; Wang, 2015). But for the case in Indonesia, the reality is “research conducted by Google Indonesia revealed that the number of Indonesian women who access the internet is lower than men” (Meodia, 2017).

The study shows that women's access to the internet has not been utilized by these women. Furthermore, research conducted by Google Indonesia also underlines that women also want to be able to use and utilize the internet more; but there are obstacles encountered, among others, they cannot find what they need. As many as 53 percent of women who became their respondents said it (Meodia, 2017; Nisser & Ayedh, 2017; Salam, 2016; Wanninayake, 2016). Interestingly the study did not reveal where the location of the women who became respondents, the age range of respondents and the distribution of respondents' education level. However, the data reported in general, basically women are less than men in accessing the internet.

Women in rural areas and coastal areas are also experiencing similar things. Researchers repeatedly noticed that fewer women access the internet than men. This is interesting because today, researchers see that many women who have used mobile phones or smartphones with applications that have been sophisticated and it can be connected to the internet. Unfortunately, it has not been utilized by women.

Women in coastal areas are women who are vulnerable to the economy. The point is that when the catch and production of the sea are small, women in the coastal areas will work harder to help the family economy and women experience multiple workloads. Basically, coastal women help in the family's economy by producing fish catches to be marketable such as salted fish, fish balls, fish crackers and other processed species. Some of their production has been able to penetrate the market larger, not only in their area alone but have their various outside areas. In fact these women market and sell their product in local area and still using the traditional ways such as bring to the local market and selling in a small kiosk. While, actually, by existing the technology of communication and information, especially the internet, where there are a huge number people are selling their product online, those women should be able to utilize this technology in supporting their marker as well.

The above facts show that women do have not fully understood about the existing ICT (especially the internet) that it could be able to assist the marketing of their products. Women should change the behavior of marketing the product from traditionally into modern ways by using the

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internet. Thus, it is happening in Sukabumi, Sukabumi is one of the coastal areas in West Java. One of the well-known sub-districts and a tourist destination both domestically and abroad is Pelabuhan Ratu. The potential of Pelabuhan Ratu is quite promising for the community and coastal women of the area, not yet maximally utilized. Some women have used fish catch but have not maximally marketed their products in modern ways. In reality, one of the product called shredded fish is quite famous and high demand but this women is not fully using the internet in assisting to market her product widely. She does not fully connect to the internet either. This is interesting because basically women also help their families in the economy, but this is not fully supported by existing ICT. While in many literatures state that ICT could improve women's quality of life. Based on this fact, it is fascinating to observe and describe the understanding of women in coastal areas, especially Pelabuhan Ratu, Sukabumi, West Java on utilizing ICT especially the internet.

Literature Review

This part consists of reviewing some literatures about what is discussed, i.e., ICT, ICT and women and previous studies about the ICT and women.

ICT

ICT is known as a set of tools to transfer and receive the information from and to others in a large society. ICT is defined as "a diverse set of technological and an effective tool in growth of economic activities in efficient governance and human resource development which create, disseminate, store, and bring value addition and manage information (Hosseini & Manjunath, 2016; Yoo et al., 2016). What can be defined as ICT here is included telecommunication, television, radio broadcasting, computer hardware and software and services and electronic media like the internet, mobile telephony and electronic mail. Therefore, what main ICT in this paper discussed is more into new media or the internet.

It together with Communication Technologies has brought an extraordinary change in the way people communicate; conduct business, pleasure and social interaction. The evolution of new forms of technologies has delivered the lives of the people better and more comfortable in several ways (Purba & Martono, 2017; Voluntary Association for People Service, 2010). Further to this, many arguments about ICT that it can assist the human life to be much better. It is also believed that the continuity development of ICT and their application to economic, politic, and social process is creating a new opportunity and it could increase the quality of human life (Huyer & Sikoska, 2003; Reza et al., 2017). Some expertise also note that women's status can be improved by ICT through providing education, information and knowledge, training, occupational opportunities, market information and financial services, information about health agencies and workers and further it can influence the public opinion about gender equality but in a positive way (Hosseini & Manjunath, 2016).

ICT and women

Many literatures and expertise underline that ICT can improve women's quality of life. The fact that men are more tech-savvy than women. Most women are lack information of ICT and how to use it. It is suggested that there in an equality for men and women in assessing the ICT and its benefit. Tokyo Declaration states that there should be more attention given to ICT for empowerment and full participation in political, economic and social development (Wanasundera, 2005). Other studies state that ICT can be tool for women to be active in participation in increasing their life quality, simple access to information and improved

communication can end the isolation of women (Huyer & Sikoska, 2003).

Stressing the benefit of ICT for women, the World Summit on the Information Society (WSIS), held in 2003 in Geneva, saw ICTs as vital tools for women's empowerment which states; "We are committed to ensuring that the Information Society enables women's empowerment and their full participation based on equality in all spheres of society and in all decision-making processes. To this end, we should mainstream gender equality perspective and use ICTs as a tool to that end" (Hosseini & Manjunath, 2016). It can be underlined that there are many opportunities for women in the work situations and small business by utilizing the ICT.

In fact, women are less in using ICT compare to men Union Inter Parliamentary (2005), especially internet which is discussed in this paper. There are barriers for women in using ICT such as poverty, lack of access and opportunities, illiteracy and language barriers are factor for women not to access the internet. Melhem et al. (2009) say that countries with low incomes of citizens, women also experience setbacks in four areas:

1. Access and use of ICT: Social and cultural factors are the limitations of women in accessing and sharing ICT facilities.
2. Literacy: Access to education is an obstacle for women, where an estimated two-thirds of the world's population is uneducated. Thus, education in knowledge and technology is dominated by men almost in all cultures.
3. Development and design: Most internet content is not built on the needs of women in developing countries, where the language on the internet is not the language used by them. Content built by women for women will be more valuable and can provide information on economic development for fellow women.
4. Leadership and power: Both in developed countries and developing countries, the percentage of women who occupy top leadership positions is still lacking. So, this has an impact on economic development. Very few women sit in decision makers about ICT.

Women should have chance to access ICT, the internet. For the development purposes. The Voluntary Association for People Service (2010) further underlines that "women should have equal access and full benefits from development, design and application and ultimately have opportunities offered by the market". Having equal access will improve women's quality of life. Cases in countries such as Argentina, Morocco, India, Malaysia and the Philippines in the book Digital Economy: Perspective from the Developing World, demonstrate how economic opportunities through ICT can change women's position in family and workplace and provide them with a better option for life they (Melhem et al., 2009).

History has always noted that the isolation women from economic development and lack of access to information due to social factors, culture and market access restrictions that make them far from global information and general knowledge. Nath (2001) concludes that the existence of gender discrimination will have an impact on the ability of development and low poverty reduction. It means that if women have access to ICT or the internet, they will be able to enhance their activities including to improve the economic sector.

Previous studies about ICT and women

There are numbers of studies about the ICT and women. Here it is discussed a few number of previous study about women and ICT. A research from Galyani Moghaddam (2010) about "Information technology and gender gap: toward a global view" stated that

"Information and communication technology has brought many changes in society in many aspects, has shaped new scenarios and provided new challenges for human beings. Women, comprising over half of society, are not waived of these changes, although, there is a gender gap to access and use of IT among all nations without exception"

(Galyani Moghaddam, 2010).

This research shows that women are still lack behind in using ICT and men are always in the front gate in technology. Another study about it is from Hilbert (2011). He concluded that women are less in using ICT because of employment, education and income. Thus women could improve their quality of life if better if given women's affinity for ICT, and given that digital technologies are tools that can improve living conditions, ICT represent a concrete and tangible opportunity to tackle longstanding challenges of gender inequalities in developing countries, including access to employment, income, education and health services. Once women have these opportunity, they would be able to increase their life quality (Hilbert, 2011).

Elnaggar (2008) studied about a gender-sensitive assessment of the ICT space in Oman. The study found that socio-cultural norms, the innate character issues of Omani females, access and training, and career counseling are mostly the factors that inhibit them from entering and adopting a career in ICT (Elnaggar, 2008). It is interesting on how women see the ICT as one of occupations and most of women do not work in ICT sector.

Furthermore, Arrawatia & Meel (2012) in their research about the ICT and Women Empowerment in India state that "Information needs of women as well as their ICT use differ widely. However, there is no ideal ICT that fits all situations. Though women are engaged in numerous roles in agriculture, they are keen to have information on other parts, such as child health, nutrition, prevention and cure of common diseases, employment opportunities etc. Those trying to install ICTs for women empowerment should build their strategies grounded on ICT use pattern and varied information needs of rural women. Emerging a dynamic and relevant content for rural women continues to remain as a major challenge. Adequate resources need to be allocated for this activity, if profits from resources invested in connectivity and hardware have to be copiously realized" (Arrawatia & Meel, 2012).

This research clearly stated that there is a challenge in order to empower women through ICT. Even though women are keen to learn about the ICT, but there are barriers in getting the information itself and women need more information.

These previous studies are about women and ICT and gender gap in using ICT. These studies observe women at rural area and other women in developing countries as well. While the study from the researcher is for women at coastal area and about their understanding of the internet. The coastal area becomes an interesting locus for the research because there are still lack of number studies about ICT at the coastal area especially for women at coastal area. Thus this study attempt to observe the women and ICT utilization.

Methodology

To answer the problems described, the method of writing this paper is based on observations and interview. The observation and interview are done with women in Sukabumi especially in Pelabuhan Ratu sub-districts who have a production in helping the family income. Some women are interviewed to find out how their productivity and their understanding of ICT especially about the internet. The literature study is also used by analyzing theoretically about ICT and women. Literature study is done by collecting reading materials related to the topic stated on the chapter of literature review.

Results

Research conducted in the village of Pelabuhan Ratu involves women who have production and activity on fish catch or processing. There were 11 women who became respondents in this study. It is chosen because

the women tend to be active in doing business or home production of fish catch or fish processing business. Production of processed fish produced are fish meatballs, salted fish, fish crackers, fish shredded, pindang ikan and other processed fish worth consumption.

They sell their fish production in their environment or local community, but some products are marketed outside Pelabuhan Ratu. Women are assumed to start utilizing ICT especially internet to expand their consumer market. So, the understanding of ICT from women this is being explored deeper. To find about this, then the researcher asked about the knowledge of respondents about information, communication and internet. The answers given by the respondents are very varied and interesting. In general, the women know what information, communication and internet are. When they were asked more about the internet, many women associated the internet as an information search engine in the form of news and entertainment. The understanding of the Internet (interconnection networking) itself is an open global communication network and connect millions and even billions of computer networks with various types and types, using the type of communication such as telephone, satellite and so forth (Muflikhati et al., 2009). It can be said that women understood the function of the internet is growing at this time.

The researcher asked further whether they start using the internet as a means of information and entertainment as they have understood, the women answered that they did not utilize the internet and its function. When examined further, the women have been using a smartphone that can connect to the internet. However, the reality is women are not yet fully used and utilized the internet connection on their smartphone. This is due to the constraints of ignorance about the internet connection on their smartphone and they also do not know how to use the existing internet applications. Interesting indeed, when they have a smartphone, but the smartphone function has not been maximally utilized. This is due to the level of education held by these women as well as social relations in their own social or community. Women who have graduated from high school and have a broad connectivity or network in the community, tend to be able to utilize and use existing smartphone facilities including the internet. On the contrary, if their education is low then they tend to avoid "technology" because it is considered unimportant or "a little scary."

Women who have used smartphones with the app, have also utilized the functionality of existing applications such as Facebook, WhatsApp, Instagram and others. They tend to use social media to communicate than to browse information from Google, Chrome, or other search engines to get information and entertainment. One of the women who processed the shredded fish product said that WhatsApp becomes one of the media which is used to market or sell shredded fish. If there is new production, then the information is immediately sent to the customers; and usually these customers will also disseminate the product information they get. She got help at the beginning using the WhatsApp by her son. Since then, she started using WhatsApp to market her product. Researchers are also often informed when there is new production through WhatsApp.

Ignorance about the importance of the internet, it makes women are only able to market their products in the environment they have done since the beginning. Researcher is wondering about their interest and their willingness to learn about the internet. The answer was a bit surprised that they have the eagerness to know and learn about the internet and they are very enthusiastic to get knowledge about the internet. The smartphone they owned is used more by their children or husband. Women have not been entirely touched by internet technology.

Research conducted in the village of Pelabuhan Ratu can be concluded that women do not have fully used and accessed on ICT especially the internet. This is because of the lack of knowledge about the internet, low education level, income is still insufficient to have the internet connection and the income is only for daily needs and not media literacy. As the

experts say that women are very less in accessing the internet which ultimately impact on the gender digital divide. This happens in the village of Pelabuhan Ratu.

Discussion

Brief information about Sukabumi regency

Sukabumi Regency is one of the regencies in Tanah Pasundan, West Java Province, Indonesia. The capital is Pelabuhan Ratu. In the beginning the area of Sukabumi Regency was under Cianjur Regency during the Dutch East Indies colonial period.

Soekaboemi's name existed before the anniversary of the city of Sukabumi is January 13, 1815. The city is currently expanded 52.46 km² it got its name from a surgeon named Dr Andries de Wilde named Soekaboemi (sukabumikab.go.id). Sukabumi District has the following borders:

- Regency of Bogor in the north,
- Regency of Cianjur in the east,
- South by the Indian Ocean, and
- West bordering Lebak Regency.

The area of Sukabumi Regency was becoming the location for a project called Pengembangan Desa Pesisir Tangguh (PDPT) or Strong Coastal Development for 2012-2014 with one of the objects being Pelabuhan Ratu Urban Village in Pelabuhan Ratu Sub-district.

Pelabuhan Ratu sub-district

Pelabuhan Ratu sub-district is in the District of Pelabuhan Ratu, Sukabumi District, West Java Province with the following regional boundaries:

- North is bordered by Citepus Village,
- South is bordered by Citarik Village,
- East borders with Buniwangi Village,
- The west is bordered by the Indonesian Ocean

History

Pelabuhan Ratu Urban Village during the Dutch colonial period around the 1940s with the status of Village (Pelabuhan Ratu) whose office is in the village of Buniwangi. After 1940 the village office moved to Pelabuhan Ratu town which is located next to the Koramil office which has been built and used as the BPR office (Rural Bank). In 1945 the village was led by the father of Atmawinata with in charge of 5 (five) Kokolot (formation of village) namely Buniwangi, Cimanggu, Cibodas, Pasanggarahan, and Kiaralawang. The first village head elections were held in 1980 which was won by Suganda. Subsequently in 1981 the status of the village changed into a village based on Presidential Decree no. 33/1981 together with Cibadak and Cicurug municipalities. An area Geographically the area is a tropical region with an area of 1,023,220 ha.

Total population of this sub-district is 31,308 residents live in the Pelabuhan Ratu urban village, consisting of 15,923 men, and 15,385 women and 8,545 households.

Economic-social activities

Family social economic condition: It is a common fact that people living in coastal areas, most livelihoods as fishermen. However, some are not fishermen. In addition, the characteristics of fishing families are still considered very traditional compared to non-fishermen families. This is seen from the large number of extended families in the fisher folk families, the larger number of family members, the lower education of father and mother, fewer asset values, and lower average family expenditure com-

pared to non-fisher families (Muflikhati et al., 2009). Research conducted by Muflikhati et al. (2009) also shows that fisher families have a significant higher per capita income than non-fishermen families. Logically if the income is high, then the expenditure is also high and certainly will have higher socioeconomic conditions. Apparently, this does not apply to families of fishermen in coastal areas of West Java.

Similarly, that happens on the coast of Sukabumi with research target Pelabuhan Ratu. Family fishermen living in this coastal area have enough income but have a high expenditure. Researchers once talked to one of the fisheries instructors to give such a picture. People's lifestyles with very high consumptive power push the socioeconomic condition not as good as the income generated (interviewed January 2018).

Limitations and Future Research Directions

There are some limitations in the study which could be addressed in future. This study relied on observations and interviews to obtain data and results, however, these methods are prone to social desirability bias and interviewer biases. Moreover, due to limited time and resources maximum women were not interviewed thus, the findings could not be generalized for a larger population. Hence, scholars are encouraged to replicate this study and extend it in future to gain more reliable results.

Conclusion

Women at coastal area who are mostly work and help for family income by producing fish catch should be empowered to use the internet to enlarge the market. In fact, many women do not know how to use the internet and are keen to learn and know more about it. However, there is still lack women's empowerment program through ICT. They still sell their production at local market. Government should be aware that women have to be heard and participated in determining the development goal especially in utilizing the ICT. By this participation, women's capacity will improve and it is expected that increasing the prosperity as well. Women's participation in developing what they need for the ICT is needed to be explored more, so women will have an opportunity to access the internet based on the content what they are expected. A special program or infrastructure to let women be well informed by utilizing the internet.

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