# THE USAGE OF GADGETS FOR RELIGIOUS ACTIVITIES AMONG MUSLIM TEENAGERS IN YOGYAKARTA

*by* Twediana Budi Hapsari

# THE USAGE OF GADGETS FOR RELIGIOUS ACTIVITIES AMONG MUSLIM TEENAGERS IN YOGYAKARTA

Twediana Budi Hapsari[1] and Rhafidilla Vebrynda[2]

**Abstract---** *The technological change has always affected to the existence of the society, not only as aid to daily activities but also how they interact and doing religious activities. This study describes the gadget utilization among Muslim teenagers for their daily religious activities. The data were gathered from 490 Muslim teenagers across five regencies in Yogyakarta province in 2018. The data analysis was conducted through clustering the respondents' daily religious activities, religious activities using the gadget, their interest in Islamic issues, and their lifestyles. This study results in four clusters of Muslim teenagers in term of their religious movement using devices related to their lifestyles and interest in Islamic issues. The four groups are religious minimalist, religious activist, intellectual religious and millennial religious.*

**Keywords---** *Religious activities and gadgets, Gadgets and Muslim teenagers*

## I.    INTRODUCTION

The development of communication technology has contributed to the change of the society's structures. To start with, Gutenberg's invention of printed machine in 1450s in Germany had contributed to knowledge duplication and spreading wider from a scholar to many printed books. Nowadays, as the presence of the internet, there is a significant use of new communication technology such as smartphones, laptops and tablet among society. According to the report of Asosiasi Penyelenggara Jasa Internet Indonesia (APJII) – the Association of Indonesian Internet Provider - the number of internet penetration is 54,68% of the total Indonesia population in 2017, with teenager from 13 – 18 years old as the highest number of internet user (75,5%)(APJII, 2019). Regarding to the survey conducted by Indonesia's Ministry of Communication and Information and the UNICEF in 2014, 79,5% of teenagers between 10 to 19 years old were active internet users. This survey also found three motivation for teenagers for to access the internet: looking for information, staying connected with friends, and entertaining themselves. The first motive is mainly for doing their school assignment, while the other two are for their personal needs("Kementerian Komunikasi dan Informatika," 2014).

The high penetration of gadget users among teenagers has led to another problem: gadget addictions. Further research conducted to investigate the new problem arisen following the craving of the technology among juveniles. The most gadget effects on teenagers are about its effect on their health both physically and mentally. Wahyuningrum and Prameswari (2018) examined the correlation between duration, frequency, type of gadget and visual acuity among elementary students in Malang, East Java, Indonesia (Wahyuningrum & Prameswari, 2018). This research results the significant correlation between frequency

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and duration of gadget users with the quality of visual acuity among respondents, while type of gadget has no relations. This study found that the quality of visual acuity will be decreased by 5,299 from a longer duration of gadget consuming. In addition, when the frequency of gadget use increased, the visual acuity will be reduced by 5,986.

Similar research conducted by Muduli (2013) investigated the gadget impact on health and lifestyle among college students in India (Muduli, 2013). This study found that the more the respondents' access the gadget, the higher probability of some physical and mental problem. Some physical health problem includes the hearing capacity, physical discomfort, and sleeping problem. To the mental health, the issues occurred among gadget addictive users are anxiety or stress level, logical thinking and memory, mood, mental stability and consciousness' problem. Moreover, the research also found that the users of more than six hours a day of using gadget will face public speaking anxiety up to 55%, caused by the less time they spent in direct interaction to others in daily life.

Furthermore, to compare the effects of the more and less gadget usage, Mamatha SL, Hanakeri and Aminabhavi (2016) revealed two most dimensions affected by both more and less active gadget users in terms of emotional maturity and reasoning ability (Pooja A Aminabhavi, 2016). The dimensions of emotional maturity are emotional instability, emotional regression, social maladjustment, personality disintegration and lack of independence. The study found that less active gadget users showed high scores in all dimensions of emotional maturity, while more active users showed low scores in all dimensions. However, for reasoning ability, more active gadget users have a higher score compared to the less active gadget users.

Other study of gadget effect was conducted by the Swiss Tropical and Public Health Institute (Swiss TPH) in 2018 that investigated the potential health effect on human brain related to the exposure of radiofrequency electromagnetic fields of wireless communication devices (Foerster, Thielens, Joseph, Eeftens, & Röösli, 2018). This study was a one year cohort study that involved 895 teenagers between 12 to 17 years old. The research found the behavior of most respondents in using their right side of the head, which the right part of the brain is responsible for the observed association. The result is confirming the previous study, that the use of mobile phone cause negative effect on the development of figural memories.

One of the most critical findings about the teenager's behavior and the existence of the information technology was demonstrated by Jean Twenge, the professor of psychology from San Diego State University, California, in her book iGen: Why Today's Super connected Kids are Growing Up Less Rebellious, More Tolerant, Less Happy – and Completely Unprepared for Adulthood (Twenge, 2017). In this book Twenge stated that unlike previous generations, those who was born after 1995 seemed to be petered out. The trend is reversal with former generations, whose their rates of anxiety and depression are raised up among young people. However, on the other hand this generation has less engagement with adults, which means they are less drinking, less motivated to get their driving licenses, less going out, and even less work. This spectacle seems to be good, since the bad side of adulthood behavior is reduced among young individuals. Yet, this adult behavior avoidance was caused by the addictive and distraction nature of gadgets. Furthermore, Twenge highlighted the number of attempt suicide case among high school girls from 2009 to 2015 has risen 43%, and the number of college students who seriously thinking of ending their lives increased 51%. In addition, Twenge also concluded that higher anxiety and increased feelings of loneliness, particularly in girls, are boosted among heavy smartphone and social media users.

Several studies above had explained the variety of research regarding the gadget effects on physical health, mental health, the user's lifestyle and the psychological impact that might supporting negative behavior of loneliness and anxiety. Most gadget effect studies are concerning the negative impact on the users as already explained. However, every new technology also has positive influence that would

enhance the quality of life as well as the efficiency and time reduction in helping users fulfilling their daily activity.

The discussion about gadget users and religiosity is interesting to explore. For example, connecting the gadget behavior and religious activity, the effect of heavy gadget users with the rituality of praying, as well as the life style of religious users. Irwanto (2018) investigates the lifestyle of gadget users among teenagers in Malang (Irwanto, 2018). His study elaborated lifestyle into activity, interest, and opinion, which resulted into three clusters. First cluster is using gadget for supporting teenagers' daily activities and keeping in touch with their friends. Third cluster is exploiting gadget for updating the latest technology. This study, however, is not clearly explaining the distinctive characters between each cluster, even the second cluster is not well exposed.

Basri (2014) connected the religiosity rate with the tendency of internet disorder among college students (Basri, 2014). The result of the study proved a significant negative connection between religiosity and internet disorder, which means if the religiosity level is higher, the internet disorder is lower. This study also uncovered that there is different level of religiosity and internet disorder between male and female students. Female students tend to have higher level of religiosity and internet disorder compared to male students.

Unlike the previous studies, the propose of this study was trying to define gadget behavior among Muslim teenagers specifically with the existence of religion, lifestyle, social economics backgrounds, and also their daily activities with their gadgets. This paper tried to uncover the pattern of Muslim adolescence in using their gadgets for religious activities. Yogyakarta is chosen as the first place to be explored, since this small province in Java is well known as the city of students (in bahasa is Kota Pelajar).

## II. LITERATURE REVIEW

The high penetration of the internet among teenagers existed in their daily activities along with their gadget. Nowadays, myriad variety of application such as online music, movies, ebook, chat room, social media are provided in the Playstore or Appstore in everyone's android or iPhone. Jeane Twege (2017) mentioned in her book about her student engagement with their smartphones are categorized obsession, since they almost had their gadgets all the time, including put them under the pillow, and the first thing they did after woke up is checking their smartphones (Twenge, 2017).

The study about the relations between internet addiction and gadget usage habit among University students in Turkey conducted by Karaca (2017) concluded that gadget usage habit is included the frequency of smartphone checking (checking habit), duration of smartphone possession, daily smartphone usage in hours and variety application on gadgets (Karaca, 2017). Besides that, Karaca also indicated the different pattern in accessing internet between male and female students. Female students usually use the internet for educational information and interpersonal communication, while male students tend to access the internet for entertainment and leisure.

To get comprehensive result of gadget usage for religious activities among Muslim teenagers, this study applied the aspects of their gadget habit, lifestyles and religiosity. The teenager's habit toward their communication devices are include daily duration of access, checking habit, activity with smartphone, and kind of application that is accessed the most. Understanding the teenager's gadget habit is unique, since they are not financially independent yet, therefore their parents still play a significant role in accessing internet (the cost of data plan for their gadgets) and types of gadget (the features, facility and quality of the phones). Therefore, the social economics backgrounds of the parents will affect the gadget daily habit of Muslim teenagers.

Life style is how an individual spend his or her time and money (Khasali, 1998). Activities, interest and opinion (AIO) approach are the measurement of life style that had widely applied in the past (Wells & J Tigert, 1971). Joseph Plummer (1974) modify AIO measurement with demographic dimension such as age, income, educational background, occupation, family size, dwelling, geography and stage in life style (Plummer, 1974). Previous study about Indonesian teenagers lifestyles was conducted by Susianto (1993) that resulted in the six life style segmentations (in bahasa) : Hura-hura, hedonis, rumahan, sportif, kebanyakan and untuk orang lain (Susianto, 1993). Hura-hura, that means does not like serious things, takes it easy for everything. Hedonis is for those who prioritize their life for pleasure. Rumahan is a segmentation for teenagers who love to spend most of their time at home, family time is more important that going out with friends. Sportif refers to teenagers who like sport and join sport competition. Sportif teenagers are open minded and do not like fashions. Kebanyakan or ordinary teenagers is the biggest segment (about 30% of all segments). This ordinary teen avoids conflicts, carefully make decisions, and have no initiative. The last segment (untuk orang lain) is sensitive of other' needs, dependable, social worker and highlighting togetherness. This teen segment, however, was conducted when gadget and internet has not existed yet. Hence, this segmentation is not suitable with recent situation.

Talking about life style cannot be separated with the economic growth in Indonesia that encourages the growth of Middle-class Muslim in this country. Indonesia is the largest Muslim population country with 87% of Indonesian population (or around 207 million). On the other hand, the growth of middle class in Indonesia (those who spent $10 to $20 per day) is projected sky rocketed from 74 million in 2012 to 141 million in 2020. In accordance with this middle-class growth in Indonesia, middle class Muslim raising stands out. Yuswohadi (2014) notified this progression by the mushrooming Islam related products such as Syariah Banking, labelling halal for restaurants and other food products, more Muslim women wearing hijab as well as the growth of Muslim boutiques in malls, halal cosmetics, Syariah hotels, and others (Yuswohady, H, & I, 2015). According to Yuswohady, Indonesian Muslim consumer considering two aspects in purchasing behavior: functional value or product benefit and spiritual value or compliance to Islamic value. Regarding to this consideration, it seems religiosity contribute life style for Indonesian Muslim today.

Charles Y Glock (1962) initiated the measurement of religiosity in the field of sociology of religion. Glock defined five dimensions of religion: the intellectual, the ideological, the ritualistic, the experiential and the consequential dimensions (Glock, 1962). Later, Stark and Glock (1968) took out the consequential dimension and split the ritualistic dimension into public and private dimensions (Stark & Glock, 1968). Even though this religious dimension was developed in sociological perspective, it is also could be explain within psychological perspective (Huber & Huber, 2012). The ideology and intellectual dimensions refer to thought, public and private practice refers to action, and the experiential dimension refers to experience, emotion and perception.

## III.    METHODOLOGY

The data for this study is collected from 490 high school Muslim students from five regions in Yogyakarta: Bantul, Gunung Kidul, Kulon Progo, Kota Jogja and Sleman. High school students are chosen as the respondents as most of them possessed gadgets as part of their daily activities. The composition of respondents from their origin in table 1 bellow.

**Table 1**
**Place of origin respondents**

| Place of origin | Bantul | Gunung Kidul | Kulon progo | Kota Jogja | Sleman | total |
|---|---|---|---|---|---|---|

| Total number | 91 | 94 | 84 | 100 | 115 | 490 |
|---|---|---|---|---|---|---|
| Percentage | 18.6% | 19.2% | 17.1% | 20.4% | 23.5% | 100% |

High school system in Indonesia is distinguished from the owner of the school (state or private school), the system of the school (general school or vocational high school) and under coordination ministry of education (for general schools) or ministry of religious affairs (for religious schools). Therefore, there are different kind of high schools as schools of origin respondents, such as Sekolah Menengah Atas (SMA, general high school), Sekolah Menengah Kejuruan (SMK, vocational high school), and Madrasah Aliyah (MA, high school under Ministry of Religious Affairs). The respondents' composition based on their schools of origins are presented in table 2.

**Tabel 2**. School of origin respondents

| School of origins | number | percentage |
|---|---|---|
| State high schools | 208 | 42.4% |
| Private High schools | 23 | 4.7% |
| State Vocational High Schools | 91 | 18.6% |
| Private Vocational High Schools | 47 | 9.6% |
| State *Madrasah Aliyah* (under ministry of religious affairs) | 104 | 21.2% |
| Private *Madrasah Aliyah* (under ministry of religious affairs) | 2 | 0.4% |
| Junior High Schools / *Madrasah Tsanawiyah* | 15 | 3.1% |
| total | 490 | 100% |

The survey was conducted by spreading google forms with four sections of questions. First section is about demographics and social economic backgrounds, such as school of origin, age, monthly pocket money, live in urban or rural area, monthly pocket money, and educational backgrounds of their parents. Second section is about gadget habit include kind of gadgets (smartphones, tablets, laptops, PC), range price of their gadgets, average expenses for data plan per month, access duration per day, and activities using gadget. Third section is about the use of gadgets for religious activities and the respondents' daily religious activities as well. For example, the religious activities using gadget, Islamic application they possess, the religious ritual they do, including the consideration of their daily appearance. The last section is about their interest and opinion, including how they spend their free time, hobby, and their interest in social issues.

All data is coded and clustered using TwoStep clusters from SPSS version 22. The clusters resulted from the data processing then being analyzed and interpreted to get detailed behavior that is described in each cluster.

## IV.    RESULTS

The general gadget habit of teenagers can be identified from the price of the gadget and amount of money they spent a month for buying data plan. Both data can be interpreted as the social economic classes they are coming from, and gadget engagement from the sum of data plan they can access every day.

**Table 3.** The smartphone price and data plan spending per month

| Data plan spending | Gadget Price | | | | | Total number |
|---|---|---|---|---|---|---|
| | < Rp 1 M* | Rp 1 – 3.5M | Rp 3.5 – 5M | Rp 5 – 10M | >Rp 10M | |

| < Rp 25k** | 43 | 29 | 1 | 0 | 0 | 73 |
|---|---|---|---|---|---|---|
| Rp 25 – 50k | 70 | 187 | 11 | 0 | 0 | 268 (54.69%) |
| Rp 50 – 100k | 18 | 78 | 11 | 4 | 0 | 111 |
| Rp 100- 200k | 4 | 17 | 3 | 3 | 4 | 31 |
| >Rp 200k | 1 | 6 | 0 | 0 | 0 | 7 |
| Total | 136 | 317 (64.69%) | 26 | 7 | 4 | |

*million rupiah    **thousands of rupiah

Most of respondents own smartphone with the prices range between 1 to 3,5 million rupiah, or equal to USD 70.47 to USD 246.65 (around 64.69% of total respondents).  The kind of smartphones within that price in quite good quality, with limited storage memory and simple operating systems. The gadget activities cover standard activities like chatting, social media, browsing, music player, video streaming and gaming. In addition, more than half respondents (54.69%) spent Rp 25k to Rp 50k (around USD 1.76 to USD 3.52) a month for data plan. Within this price, respondents could access data for internet around 2 to 4 gigabytes, enough for chatting, browsing, play music, social media and gaming. Detailed respondents' activities using gadgets is in the figure 1.
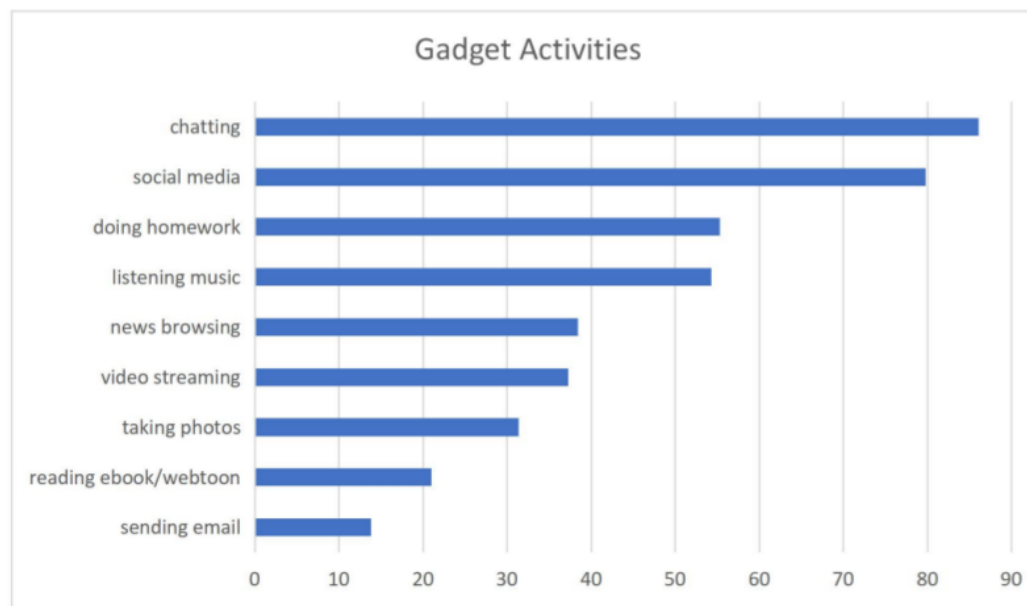


**Figure 1**. Gadget activities

Chatting and social media are the two activities that most respondents (around 80%) like to do. It shows that most of them are using their gadgets for communication and interaction with others. Moreover, doing homework and listening to music have almost similar percentage between 50% to 60%. This fact could be interpreted that respondents are using gadget for studying, and at the same time they also listening to music for entertaining them. This finding is in line with Peres & Mesquita (2018), which investigates generation Z and their characteristics in doing their job (Peres & Mesquita, 2018). This study states that this generation is expert in technology which is integrated in their daily lives to improve their quality of work.

Since technology is attached in daily activities of teenagers, the utilization of gadget for religious activities should appear too. Figure 2 shows the religious activities that spread from worshipping to

exploring things related to Islam. Reciting Al Qur'an and prayer notification are become two most religious activities using gadget (59% and 49% respectively). Both activities support worshipping action for praying and reciting Al Qur'an. Besides, around one third of the respondents use gadgets for learning about Islam and updating the recent news about Islamic world. Other religious activities by utilizing gadgets are listening to Qur'anic recitation, daily praying, checking the kiblah direction, and updating the trend of hijab. Al Qur'an digital is the most installed apps in teenagers' gadget around 63.10%. This phenomenon is in line with 59% respondents reciting Al Qur'an using gadget in figure 2. According to Play store data, digital Qur'an has been downloaded around 10 million. This number shows that having Qur'an apps in android become a common among android users.
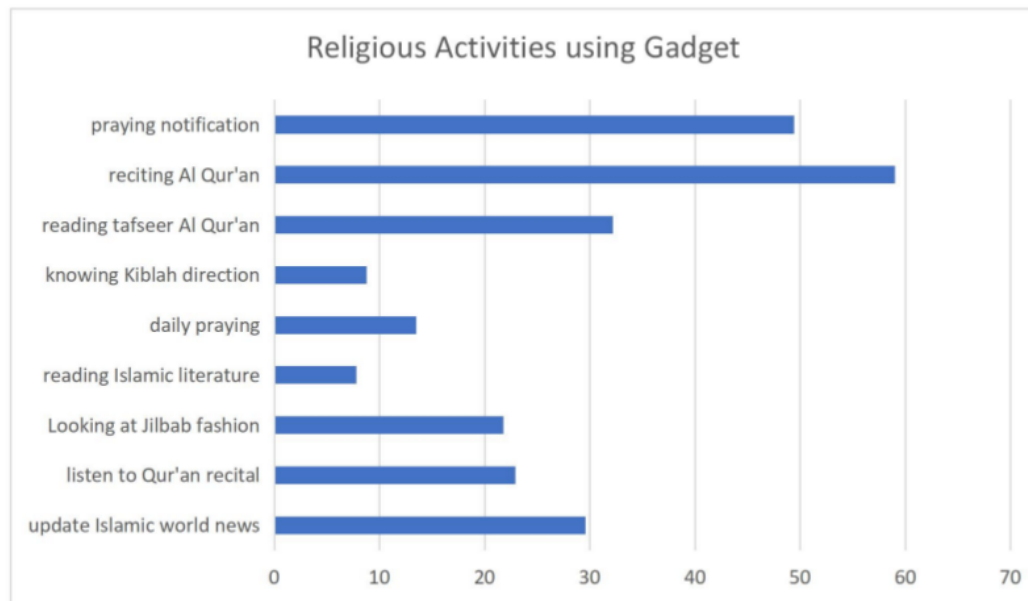


**Figure 2**. Religious Activities using Gadget

## V.    CLUSTERING RELIGIOUS ACTIVITIES WITH GADGETS

Clustering the teenagers' religious activities using their gadgets are obtained from social economics backgrounds, gadget's routine activities, religious activities and the respondents' lifestyles. All data was clustered using TwoSteps clustering analysis and resulted four clusters. The explanation of each cluster correspond to four major concepts above are bellow.

### *Social economic backgrounds*

The social economic backgrounds explored within this study is taken from the respondents' school backgrounds, the parents' educational backgrounds, the monthly pocket money, and amount of money they spent for buying the data plan for their internet access. Four clusters were resulted as bellow.

**Table 4.** Clusters of social economics backgrounds*

| Cluster 1 (74 respondents) | Cluster 2 (149 respondents) | Cluster 3 (103 respondents) | Cluster 4 (154 respondents) |
| --- | --- | --- | --- |

| School backgrounds | Madrasah Aliyah (74%) | Vocational high schools (62.4%) | High schools (88.9%) | High schools (72.2%) Vocational high schools (26%) |
|---|---|---|---|---|
| Father's school backgrounds | high schools (98.7%) | High schools (97.3%) | Higher degree (undergraduate/ postgraduate) 85.5% | High schools (88%) Higher degree (12.1%) |
| Mother's school backgrounds | High schools (98.7%) | High schools (99.3%) | Higher degree (undergraduate / postgraduate) 81.5% | High schools (87.4%) Higher degree (12.7%) |
| Monthly pocket money | <Rp 100k – 300k (94.6%) | <Rp 100k – 300k (81.2%) | Rp 100k – 600k (74.1%) | < Rp 100 – 300k (72.8%) |
| Data plan per month | <Rp 25k – 50k (93.2%) | < Rp 25k – 50k (86.6%) | Rp 25k – 200k (88.9%) | < RP 25k – 100k (85.5%) |

*survey data

Data from table 4.6 shows a sharp difference of cluster 1, cluster 2 and cluster 3 especially in terms of their school backgrounds. Most of teenagers in cluster 1 have Madrasah Aliyah (MA, Islamic high schools) background (74%), while in cluster 2 are mostly with Vocational High School background (62.4%), and for cluster 3 mainly have high school background (88.9%). Meanwhile, for cluster 4 are mostly high schoolers (72.2%) and vocational high school backgrounds (26%).

Another distinctive figure is from cluster 3 that shows their parents' academic's backgrounds as well as their monthly pocket money and data plan for accessing the internet. From the parent's school backgrounds, most of the cluster 3's parents possessed higher degree backgrounds with average percentage of 83.5%. This number is incomparable to cluster 4 parents' school background with undergraduate / postgraduate tenure only 12.7%. While for cluster 1 and cluster 2, their parents' academic backgrounds are high schools with average percentage are 98.7% for cluster 1 and 98.3% for cluster 2.

From the combination of the parents' school backgrounds and monthly pocket money and data plan purchased, it can be concluded that cluster 3 possessed higher social class compared to other teenagers from other clusters. While for the backgrounds of cluster 1 and 2 are mostly similar in terms of the parents' educations, monthly pocket money and purchasing data plan. However, there is slightly different for cluster 4 background, it is a bit higher when it comes to the amount of pocket money and data plan purchasing compared to cluster 1 and 2. In addition, the parents' education backgrounds for cluster 4 also a slightly different compare to cluster 1 and 2 with average 12.4% higher degree educational backgrounds.

### Gadget's activities

Gadget's activities explored within this study include time duration of accessing gadgets and behaviors using gadgets. Generally, the gadget's activities among all respondents are similar, they are doing chatting, social media, listening to music, taking pictures, and for accomplishing assignments or homework. Yet, cluster 1 shows quite different activities compared to other clusters. The duration of accessing the gadgets for cluster 1 is mostly between 1 to 5 hours per day. This might happen since this cluster has low budget for purchasing data plan, where around 90.5% bought less than 50k rupiahs.

Teenagers at the cluster 1 also only do chatting and social media (61% and 92.1% respectively), and only less than 7% do other activities.

Meanwhile, the other three clusters show variety of behavior with their gadgets and for supporting their daily activities. Besides chatting and social media, they also listen to music, watching videos, and doing their homework. It is interesting to focus on two activities with almost similar percentages, they are listening to music and studying (table 5). It confirmed that according to Josh Miller gen Z who are born in 1996 to 2009 primarily use gadgets for entertainment purposes and tend to incorporate the work and entertainment. Therefore, the teenagers' respondents listened to music from their gadgets while doing their school's assignments.

Cluster 3 and cluster 4 have standing out activities with their gadgets compare to other clusters. Both clusters use their gadgets for reading eBook or webtoon, which none of cluster 1 did, and only 2.68% of cluster 2 has habit of reading with their gadgets. One of predominate activity for cluster 3 is more than half teenagers from this cluster (52.7%) is browsing the news. This number is the highest, compare to cluster 2 (30.87%), cluster 4 (39.2%) and cluster 1 with the least number (2.8%). While cluster 4 tend to have highest percentage of using gadgets for entertainment (photos, listening to music and watching videos), compare to other clusters. Complete data are in table 5 below.

**Table 5.** Gadget's Activities*

| | Cluster 1 (74 respondents) | Cluster 2 (149 respondents) | Cluster 3 (103 respondents) | Cluster 4 (154 respondents) |
|---|---|---|---|---|
| Time duration per day | 1 to 5 hours (97.3%) | 1 to 7 hours (75.8%) | 3 to > 7 hour (79.6%) | 1 to > 7 hour (96.3%) |
| *Gadget activities* | | | | |
| chatting | 61% | 89.26% | 90.7% | 93% |
| Social media | 92.1% | 69.13% | 75% | 51.9% |
| Taking photos | 6.8% | 29.53% | 31.48% | 44.3% |
| Listen to music | 1.4% | 53.02% | 57.4% | 67.08% |
| Watching video | 5.5% | 38.92% | 38.89% | 43.03% |
| News browsing | 2.8% | 30.87% | 52.7% | 39.2% |
| Reading e-book / Webtoon | - | 2.68% | 35.18% | 25.9% |
| emails | - | 1.34% | - | - |
| Studying / doing homework | 1.4% | 59.73% | 66.6% | 67.08% |

*survey data

### Religious Activities in routine and using Gadget

To describe the comprehensive religious activities of teenagers can be defined from their daily ritual activities and the existence of their gadgets in supporting their religious activities. There is an obligation for Muslims to perform five prayers a day, fasting for a month in Ramadhan, giving money for charity and perform Hajj once in a life time. The Muslim's religiosity is shown by their obedience in performing their worship, religious activities in social life, and also the reason of choosing their clothing as an indicator of their obedience in applying one of Islamic rules in daily performance especially on how to dress up.

Generally, all of respondents do five-time prayers every day. It means most of the teenagers of all clusters are devoted Muslims. Indeed, praying five-times a day is an obligation for all Muslims who

already reach their puberty. Whilst combining with other sunnah practices like sunnah rowatib praying (the praying that is done before and/or after the obligatory prayers), fasting sunnah (Monday and Thursday fasting), reciting Al Qur'an and giving for charity, each cluster showed different facts.

Regarding to the daily religious worshipping, cluster 3 seems the most religious teenagers compare to other clusters. Cluster 3 does not only show high percentage for five-times praying, but also has highest percentage in reciting Al Qur'an (65.74%), sunnah praying (48.15%) and giving for charity (41.66%) compare to other clusters. The last one is the most outstanding number compare to other clusters, it might because cluster 3 has the highest social economics level among others. On the other hand, cluster 1 is the least worshippers, which only doing five-times praying, without sunnah praying. Even in low percentage, some of cluster 1 also doing Monday and Thursday fasting (12.1%) and reciting Al Qur'an (8.1%).

Cluster 2 and 4 are quite similar in daily worshipping activities. However, when it comes to the percentage of each worship activity, cluster 4 has higher number in every item of activity. For example, in reciting Al Qur'an, 56.9% of cluster 4 doing it, compare to cluster 2 with 53.02%. Similar facts also happen in sunnah praying and sunnah fasting on Monday and Thursday, cluster 4 has higher percentage compare to cluster 2. Exclude giving charity, cluster 4 tends to be more generous (with 31.01%) rather than cluster 2 (17.4%).

Meanwhile, for their daily religious activities, more than 50% of all clusters are actively attending the Islamic lecturers either in their schools or neighborhood mosques. Even though some members from cluster 3 (23.14%) and cluster 4 (22.7%) prefer to learn Islam independently via internet. Some of them also actively engaged as activist for religion association in their schools and local mosques nearby their home. Most of cluster 2 members (79.1%) are joining Muslim association in both school and community. This number is followed by cluster 3 (73.15%) with almost one third of cluster 3 members are joining Muslim students' association at their schools, and it is the highest percentage for joining Muslim students' organization compared to other clusters.

Thus, the existence of new technology like gadget appeared in the Muslims' daily life is undeniably influencing their religious activities. The religious activities of using gadgets within this study are defined from the application (apps) installed and the religious activities supported by the gadgets like reciting Al Qur'an and praying notification. The Al Qur'an digital is the most apps installed in the respondents' gadgets. This fact is in accordance to the activity of reciting Al Qur'an using gadgets also the main religious activity was doing by the respondents. The gadget uses for religious activities besides reciting Al Qur'an include the uses for reading Islamic literature, listening to Qur'anic recitation, praying notification, updating Islamic world news, and checking the hijab (jilbab) fashion.

Cluster 1 shows the least religious activity using gadget by only using it for prayer notification (79.9%) and almost one fifth (19%) of cluster 1 recites Al Qur'an using gadget. This fact is contrary with the religious activities of cluster 3 and cluster 4. Both clusters show various religious activities such as reciting Al Qur'an, reading Islamic literatures and listening to Al Qur'an recitation. Cluster 4, however, adds one stand out activity that has been done by more than half respondents (56.96%) that is updating the hijab fashion. Meanwhile, cluster 2 also shows variety of religious activities like cluster 3 with lower percentage.

**Table 6**. Religious Activities in routine and using Gadget

| | Cluster 1 (74 respondents) | Cluster 2 (149 respondents) | Cluster 3 (103 respondents) | Cluster 4 (154 respondents) |
|---|---|---|---|---|
| **Worshipping activities** | | | | |
| Five-times praying | 82.4% | 85.2% | 88.8% | 98.73% |
| Monday & Thursday fasting | 12.1% | 6.7% | 8.3% | 12.65% |
| Reciting Al Qur'an | 8.1% | 53.02% | 65.74% | 56.9% |
| Giving for charity | 2.7% | 17.4% | 41.66% | 31.01% |
| Sunnah Praying | - | 18.11% | 48.15% | 27.21% |
| **Religious Activities** | | | | |
| Attending Islamic Lecturing | 54.05% | 65.7% | 72.2% | 67.08% |
| Joining Muslim students' association (in school) | 16.21% | 22.8% | 37.9% | 26.5% |
| Joining Muslim teenagers' in community | 27.02% | 56.3% | 35.18% | 41.13% |
| Learning Islam from Internet independently | - | 12.08% | 23.14% | 22.7% |
| **Gadget use for religious activities** | | | | |
| Praying notification | 79.9% | 38.25% | 40.7% | 41.13% |
| Reciting Al Qur'an | 19% | 48.32% | 69.44% | 79.1% |
| Reading Islamic literature | 1.4% | 33.56% | 40.73% | 47.37% |
| Daily *du'a* | - | 15.44% | 12.9% | 15.8% |
| updated Hijab fashion | 2.7% | 20.8% | 16.67% | 56.96% |
| Listening to Qur'anic recital | 2.8% | 16.11% | 27.7% | 28.48% |
| Islamic world news update | 0 | 23.49% | 37.9% | 33.54% |
| **Gadget Apps owned by respondents** | | | | |
| MuslimPro | 1.4% | 10.7% | 30.5% | 17.7% |
| Digital Al Qur'an | 8.1% | 58.3% | 79.62% | 82.27% |
| Apa Doanya (what is the du'a?) | 1.4% | 6.04% | 4.63% | 5.6% |
| Islamic music (nasheed) | 82.4% | 22.8% | 13.8% | 18.30% |
| Islamic world news | 1.4% | 8.7% | 2.78% | 9.49% |

The difference among four clusters has been discussed, and to make it prominent each cluster should be labelled. Based on the obvious fact of each cluster, *cluster 1* is labelled as the **Religious**

**minimalist**, *cluster 2* is **the religious activist**, *cluster 3* is **the scholarly religious** and **the religious millennial** for cluster 4.

*The religious minimalist* is a label for *cluster 1*, since the most member of this cluster are going to Madrasah Aliyah, the Islamic based school for high school level. However, even though they have Islamic background at school, their daily worshipping activities, as well as their engagement with religious activities in their community are minimalist compare to the other clusters. For example, none of this cluster doing sunnah praying, and less that 10% reciting Al Quran daily. When it comes to religious activities using gadget, the cluster mainly only use it for praying notification (79%) and only one fifth of them using gadget for reciting Al Qur'an. Largely, religious minimalist also uses gadgets for entertaining, including listening to *nasheed* (Islamic music), and in their free time they prefer watching online movies and playing online games.

*The religious activist* is labelled for *cluster 2*, since almost 80% of this cluster is actively joining the Muslim association in both school and community. Unlike the member of the *religious minimalist* that most of their gadget activities are for entertainment, more than half member of *the religious activist* also optimize the gadget for study and doing their school assignments. This fact happens because most member of this cluster is vocational high school students, who are likely using gadget to support learning process. In terms of religious activities supported by these gadgets, almost half members of this cluster use it for reciting Al Qur'an, praying notification and reading Islamic literatures.

*The scholarly religious* is for *cluster 3*, since the prominent fact of this cluster is their parents' academic backgrounds mostly from higher educations, compared to the other clusters. The school background of this cluster is high school students. In terms of social economic backgrounds, this cluster also has the highest level, which can be seen from their monthly pocket money and amount of data plan they purchased. Even though the member of this cluster has the greatest access of the internet, their gadget activity is more educated rather than only for entertained. For example, more than half of this cluster members are doing their school assignment and news browsing with their gadget, and more than one third use their gadgets for reading novels or e-books.

While in term of *religious activities*, *the scholarly religious* cluster has the highest percentage for daily worshipping activities. The member of this cluster is not only doing the obligatory worshipping like five-times a day praying, but also doing the sunnah praying, reciting Al Qur'an and giving for charity. It proved that this cluster is obedient Muslims. Almost 40% of this scholarly religious cluster also actively joining Muslim students' association, which is the highest percentage associate to other clusters.

This cluster proves the rise of middle-class Muslims in Indonesia that was predicted sky rocketed in 2020 (Yuswohady et al., 2015). The well-educated parents' backgrounds seem also influencing on how they train their children, especially for being dutiful Muslims.

The last, cluster 4 is labelled as ***the religious millennial***. The label is taken since this cluster tend to have highest percentage in variety activities using gadgets for religious proposes. For example, almost 80% of the religious millennial member are using gadget for reciting Al Qur'an, nearly 50% for reading Islamic literature, and updating the Islamic world news around 33% of all members. One striking fact is around 57% of this cluster member updated the hijab fashion, which other clusters seem did not put more attention in fashion, except one fifth of the *religious activist* members. This point shows that this cluster does not only concern in worshipping and learning about Islam, but also aware of personal appearance and fashion.

The detail characteristics of each labelled cluster is in table 7 bellow.

**Table 7.** The characteristics of four clusters for Religious activities using gadgets

| | Religious Minimalist (74 respondents) | Religious Activist (149 respondents) | Scholarly Religious (103 respondents) | Religious Millenial (154 respondents) |
|---|---|---|---|---|
| School backgounds | Madrasah Aliyah (74%) | Vocational high schools (62.4%) | High schools (88.9%) Parents have Higher degree education | High schools (72.2%) Vocational high schools (26%) |
| General Gadget Activities | Mostly for chatting and social media | studying / doing assignment, and listening to music | studying or doing homework, listening to music and news browsing | Studying and listen to music, taking pictures and watching videos |
| Worshipping activities | Only doing the obligatory worshipping, less sunnah activities and reciting Al Qur'an. Some doing Monday – Thursday fasting | The obligatory worshipping, reciting Al Qur'an, and sunnah praying | The most obedience teenagers' Muslim, not only five-time praying, but also sunnah praying, reciting Al Qur'an and giving for charity | Doing five-times prayers, reciting Al Qur'an, giving for charity and Monday – Thursday fasting. |
| Religious activities | Attending Islamic lecturing, joining local religious association (least number) | The most active member in joining Muslim association in both school and community | Members are joining students' Muslim association Learning Islam from the internet independently | More member joining local religious association Learning Islam independently from the Internet |
| Gadget use for religious activities | Only for notifying prayer time (*adzan*) | Reciting Al Qur'an, praying notification, reading Islamic literature | Reciting Al Qur'an, praying notification, reading Islamic literature and updating Islamic world news | Reciting Al Qur'an, updating hijab fashion, reading Islamic literature |

## VI. CONCLUSION

Clustering the teenagers' religious activities should be defined not only from the gadget activity itself, but also the social economic backgrounds that includes the parents' educational backgrounds, the teenagers' school backgrounds, and the amount of data plan they accessed. The religious minimalist shows that the religious school background is not always the sole cause of the students being more religious. On the other hand, the scholarly religious that has higher social economics status tend to balance their activity with gadget, that is involving religious activities, studying, and entertainment. Meanwhile for the religious activist, despite the big amount of time spent in playing gadget, this cluster

also actively engaged in Muslim community in both school and community. Lastly, the religious millennial tends to optimize the gadget for supporting their activities, including for their religious acts.

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# THE USAGE OF GADGETS FOR RELIGIOUS ACTIVITIES AMONG MUSLIM TEENAGERS IN YOGYAKARTA

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