# CSR UUMWiFi: A University's Effort in Bridging Digital Divide among Rural Community

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*Abstract*—As a response to the government effort to bridge digital divide and democratising access to the Internet, particularly in rural area, Universiti Utara Malaysia (UUM) has taken a proactive step to provide free wireless internet connection for Sintok-Changlun community known as CSR UUMWiFi. It is the first local public university in Malaysia that provides such service as part of its corporate social responsibility. In this paper, an investigation towards CSR UUMWiFi was conducted with the aim to ascertain the level of awareness, satisfactions, and its importance to the community. To achieve that, a questionnaire survey (via printed and online) were conducted and distributed within the Sintok-Changlon areas. A total of 424 usable responses were collected through simple random sampling. Data from the questionnaire were analysed using several statistical analysis's such descriptive analysis, correlation test, and chi-square test. Findings from the study reveal that majority of the users are Changlun's local residents, particularly the young and well educated group. The service is rank highly in terms of its importance. Nevertheless, the level of satisfaction on the CSR UUMWiFi is still at a moderate level. Interestingly, the gender and level of education have significant relationship with internet browsing activity where female and those with bachelor degree and SPM have higher propensity to use the service. Some improvements and future works were proposed to ensure that the service is more reliable and can help to transform the socio-economic of the community.

*Index Terms*—Digital Divide; Wireless Network; Rural Development; Corporate Social Responsibility (CSR)

## I. INTRODUCTION

The Internet is undoubtedly one of the most powerful invention of the modern world. Nowadays, every aspect of our life revolves around the Internet. The Internet has revolutionized the way we socialize, conduct business, communicate, learn, and even love. Researchers have long realized the enormous impact that the Internet and other related technologies can bring to human life. Some suggest that the Internet have the power to transform society, improve our mutual understanding, eradicate power differentials, realizing a truly free and democratic global community [1]. In many developing countries, the Internet act as a catalyst to boost economic development and improve quality of life. However, the potential of Internet is somehow restricted by the imbalance development especially between the urban and rural areas or commonly referred as digital divide. While those in the urban areas are enjoying the benefits of the Internet, majority of those in the rural areas are still lag behind in terms of infrastructure, knowledge and sometime even awareness of the technology.

Rural areas (sparsely inhabited by low-income population) in both the developed and developing counties typically have either limited connectivity or no internet at all. High installation cost and supporting infrastructure in low income and population density areas have hindered the Internet service provider to establish a profitable network in these areas [2][3][4][5][6][7]. Segments of the population that do not have access to ICTs especially in the era of rapid advancement in ICTs are unlikely to benefit from these advancement, leading to an increasing divide between those with access and those without. In developing countries there is evidence of digital enclaves created by the availability of highly skilled, low cost workers, but little benefit accruing to segments of the population outside these enclaves [8]. International Telecommunication Union (ITU) reported that in 2016, only 40.1 percent of household in developing countries have access to the Internet, in contrast to 81.0 percent of households in developed countries [9]. Limitation in access to internet in rural areas can lead to inequality development between urban and rural world in the aspects of technology literacy, household income, education, occupation and health [6][10][11][12][13]. As the Internet grew in importance, some researchers warn of the need to democratize the technology and bridge the gap to ensure that no one were left behind in the digital revolution.

## II. LITERATURE REVIEW

### A. The Digital Divide

Digital divide is the term emerged in the late 1990s used to describe the gap between those with and without access to information and communication technology (ICT), particularly the internet. It is believe that universal access to internet could contribute to the social, economic and political well-being of individual, communities and country. These includes more effective and efficient communication, improved social welfare and mobility, equal opportunity, participation and co-creation for commerce, education, health and other public services which all could lead to a better quality of life.

Despite its simple definition, a closer examination on this issue reveals that it is far from being straight forward. There is on-going debate on the nature and extent of the digital divide. Dewan and Riggins (2005) in their review of existing studies on digital divide suggest a framework that describe

the complexities of the issue. The issue has been studied from various theoretical perspectives including sociology, economics, diffusion of innovations, public policy and technical design. There are at least three levels in which the issues have been analyzed, which are individual (or community), organizational and global level. Additionally, two main aspects of digital divide have been the main focal point in research in this area. First, most research has addressed the first order effects of digital divide which concerns on the level of access to ICTs between those who have it and those who do not. The second area which is increasingly attract more studies in this area is on the second order effects which shift the focus on the people who have the access but are lacking the ability to use them. Hence, the existence of digital divide is often multifold and not easily grasp, as such that it does not clearly separate society into two groups.

There are various factors which contribute to the existence of digital divide and these can be categorized into technical and contextual factors. On the technical side, factors such as infrastructures, quality and costs of connection, quality of digital contents are among the main antecedents. Meanwhile the contextual factors includes factors such as age, gender, socio-eonomic status, level of education, ethnicity, geographical location, attitude towards technology and social associations [8][15][16][17][18]. On the individual level, household income is one of the prominent factors of digital divide as it also explains differences in ownership of appropriate devices and access to internet and computer [19]. To this end, Dewan and Riggins (2005) suggested that there are three main issues which relates to the ICT adoption cycle that need to be addressed to bridge the digital divide: awareness of the innovation, access to the innovation and usage or application of the innovation.

Various strategies have been suggested and implemented to bridge the gap. From the technical perspective, the use of power line and satellite communication are some measures used to help people in rural areas bypass the traditional ways of connecting to the internet that is through telephone lines. Apart from that, efforts also have been focused on making it easier and cheaper for marginalized community to gain access and use the technologies. For instance, Zhang and Wolff (2004) propose an innovative and cost effective methods to reach to new users and provide Internet access to remote geographical areas using technologies such as high-gain antennas, multihop routing and dynamically steerable beam-forming antennas. Meanwhile Idrus and Atan (2004) describe a project named Mobile Internet Unit using busses equipped with all the technologies to reach to students in rural areas in Malaysia. Thapa (2011) presented a case study on how a social activist took an initiative to set up a Wireless Networking Project (NWNP) for local community in the Myagdi district in the mountain region of Nepal. The aim of this project is to help the community to improve their socio-economic activity and health life. Meanwhile, Anand et al. (2012) conducted a survey on the usage of local wireless network in two villages in South Africa and Zambia. They examined how local wireless network can help the communities in these two villages to communicate to each other.

The government is placed at the centre of efforts in bridging the digital divide. It is argued that the government and its agencies could infuse various direct and indirect impacts in concerting the efforts to close the gap [8]. Among

other things that could and have been done includes subsidizing the access to internet to marginalized communities [14], establishment of public kiosks [20] and community centers [21] that could act as a one stop centre for internet services. In addition, it is vital for the governments to provide socio-economic climate and come out with policies or programmes that promotes the use of internet. Efforts also need to be focused on increasing collaboration and buy-in by the non-profit organisations as well as the businesses to garner support and investment in education and skills development, and to promote the use advance technologies at affordable costs. Despite the efforts, Riggins (2004) warns on the unanticipated consequences of the efforts to bridge the digital divide. He argues that the digital divide implicitly segments the marketplace and efforts to close the gap may lead to lower product quality and poorer service for consumers at the lower end.

### B. Efforts to Bridge the Digital Divide in Malaysia

The digital divide is still a prevalent issue in Malaysia. A survey conducted by the Multimedia Communication and Multimedia Commission (MCMC) in 2016 found that the ratio of Internet users in urban against rural in Malaysia was 74.3:25.72 [23]. Table 1 shows the household broadband penetration in each state in Malaysia for the third quarter of 2016 [24]. From the table, there is an apparent gap in the internet connectivity between the urban and rural areas. While the penetration rate is extremely high in urban areas such as Kuala Lumpur, Selangor, Pulau Pinang and Johor the opposite can be observed in rural areas such as Kedah, Kelantan, Sabah and Sarawak.

Malaysia is committed to achieve the status of developed nation. The government believes that knowledge and technologies are the two key ingredients that will enable the country to move forward. In particular, the implementation of broadband technologies will have significant contribution to the Gross Domestic Product (GDP) of the country as well as attracting Foreign Direct Investment (FDI). For example, in 2008 the communications and multimedia industry contributed 6.1% in terms of revenue to the country's GDP. They are also aware that the unbalance in spread and adoption of technologies between the urban and rural community especially the internet connectivity may slowdown the progress. It also highlights a division in the society as well as signal that there are segments which may have not been able to enjoy the progress.

Table 1
The Broadband Penetration Rate by State in Malaysia for Quarter Three 2016, Source: Malaysian Communications and Multimedia Commission [24]

| State | Penetration Rate (%) | State | Penetration Rate (%) |
|---|---|---|---|
| W.P. Kuala Lumpur | 99.9 | Perlis | 57.3 |
| Selangor | 99.7 | Pahang | 56.8 |
| Pulau Pinang | 88.6 | Terengganu | 56.8 |
| Johor | 86.4 | Kedah | 53.6 |
| Negeri Sembilan | 74 | Sarawak | 51.8 |
| Melaka | 72.9 | Kelantan | 51.0 |
| Perak | 65.6 | W.P Labuan | 47.8 |
| Putrajaya | 61.9 | Sabah | 43.3 |

As more and more services are provided through the Internet, some may eventually be totally left out on all of the development. The government has come out with a number of strategies and plans to overcome the problem of digital

divide in Malaysia. The country's strategic framework on bridging digital divide not only focused on providing the world class infrastructure but also to incorporate the use of ICT into their daily life of all Malaysians.

The Multimedia Super Corridor or MSC, is one of the most prominent efforts to revolutionize the use of ICT in the country. The project which was launched in 1996, aims to provide world class ICT infrastructure and enhance internet connectivity to all Malaysians. The National Broadband Initiative (NBI) which was set up by the government in October 2004 plans to expand the broadband connection to the whole country. The implementation of this strategy is put under the responsibility of Multimedia Communication and Multimedia Commission (MCMC) as the regulation body and will take into account both supply and demand of broadband. From the supply side, efforts are focused on providing broadband infrastructure and services to the general population as well as businesses. Meanwhile from the demand side, the focus is on increasing awareness, attractiveness and affordability of the services which will be delivered through the Universal Service Provision (USP) initiative. There are in total 17 initiatives under the USP or also known as telecenters. Razak & Malek (2008) in their study found that the telecenters in Malaysia is a potential platform to transform the community in the rural areas especially with regard to information dissemination and promoting lifelong learning. Nevertheless, the effort need to be supplemented with careful planning and monetary assistance to ensure its sustainability. Table 2 highlights some of the key development in this initiative.

The government's effort to bridge the digital divide and democratizing access to the Internet has shown remarkable progress. Evidently, the country's household broadband penetration has increased from 31.7% in 2009 to 77.9% in 2016. The Internet User survey conducted by the MCMC in 2016 reveals that Malaysians in general are savvy in multitasking with several devices by accessing through various platforms.

Table 2
Key development on USP initiative
Source: Malaysian Communications and Multimedia Commission [26]

| Timeline | Milestone | Key Development (until 2015) |
|---|---|---|
| 2002 | Telephony | 500 units |
| 2007 | 1Malaysia Internet Centre | 144 sites |
|  | Community Broadband Library | 44 sites |
| 2009 | Cellular Coverage Expansion | 51 towers |
| 2010 | Mini Community Broadband Centre | 120 sites |
|  | 1Malaysia Netbook | 343,887 units |
| 2011 | Community WiFi | 788 sites |
| 2014 | Cellular Coverage Expansion Mobile Broadband Coverage Expansion - 3G | 400 towers (under implementation) |
|  | Mobile Broadband Coverage Expansion – LTE | 556 sites |
|  | Fiber optic Network Expansion | 44 sites |
|  | Mini 1Malaysia Internet Centre | 206 km |
| 2015 | Next Generation 1Malaysia Internet Centre | 1 site |
|  | Rural Broadband | 2 sites |
|  | Suburban Broadband | 6,700 ports |
|  | 1Malaysia People's Cable System | 90,172 ports |
|  |  | 3,800km (under implementation) |

The Internet is commonly used in administration, communication, business and security. The study conclude that responsible parties should play a more active role in increasing the awareness and adoption of new ICT among Malaysians [24]. This call for more participation from the businesses, non-governmental organizations (NGOs) as well as other related agencies to lend their support for this effort. Big corporations such as Telekom Malaysia Berhad (TMB), Petronas and multi-national companies like IBM, Motorola and Fujitsu, have donated generously towards the eradication of the digital divide problem [1]. While there is increase participation among the businesses in the effort to bridge digital divide, Zaitun & Crump (2005) argue that there is not enough contribution made by the institution of higher education (HEI). They call for more active participation among the HEIs in tackling the issue and suggest a number of approaches that can be adopted. These include using their resources to educate and empower the community to use the technologies.

### C. The CSR UUMWiFi

Changlun is a township in Kubang Pasu District. It is located within the state of Kedah, which has the second lowest broadband penetration rate in Peninsular Malaysia. The population of the town is made of people from diverse economic and social background. These includes the government servants, professionals, industrial workers, business owners, farmers, students, housewives, retirees, foreigners and so on. Its strategic location near to the Malaysia-Thailand border, has set Changlun as a satellite town for the surrounding areas, such as Napoh, Bukit Kayu Hitam, Pauh, Kodiang and Arau. The town also houses several government agencies, higher education institutions, logistics hub and industrial zone. These include the Napoh Rural Transformation Centre, Bukit Kayu Hitam Custom and Immigration checkpoint, Kolej Matrikulasi Kedah, Kolej Pertanian Bukit Tangga, Aerospace Composites Malaysia (ACM) Sdn. Bhd., Politeknik Tuanku Syed Sirajuddin, Universiti Malaysia Perlis (UMP) and Universiti Utara Malaysia (UUM). The economic and social progress in the area has led to an increase in population, which is evident from the growing number of new developments for residential and commercial areas. The development in Changlun areas has also lead to an increase in demand for digital services, particularly services that are based on the internet.

Internet has become a vital tool for government in the process to create a 21$^{st}$ century human capital who is equipped with advance and world class ICT knowledge. Realizing the importance of assisting the government to improve Malaysian citizen ICT literacy, UUM took an initiative under its corporate social responsibility (CSR) project by providing Changlun community with free internet connection. The CSR project is called as CSR UUMWiFi. UUM is the first and at present, the only public university who has offered this kind of service. The project was launched in mid-2015 with the aim to empower and improve the community's quality of life especially the socio-economic and education.

The CSR UUMWiFi connection is provided along the Sintok – Changlun Corridor, as shown in Figure 1. The network has fifteen access points installed within six hot spot locations, i.e. Bandar Baru Sintok Primary and Secondary Schools, UUM staff residential area, C-MART Shopping Complex, Taman Teja Housing Area, and the Changlun's main junction area. The maximum internet connection is up to 50Mbps. Since 2015, there were about 50,000 users used this facility with average of 700 users per day. Figure 2

samples the internet usage and internet traffic of the CSR UUM WiFi for 6 months (from June to December 2016).
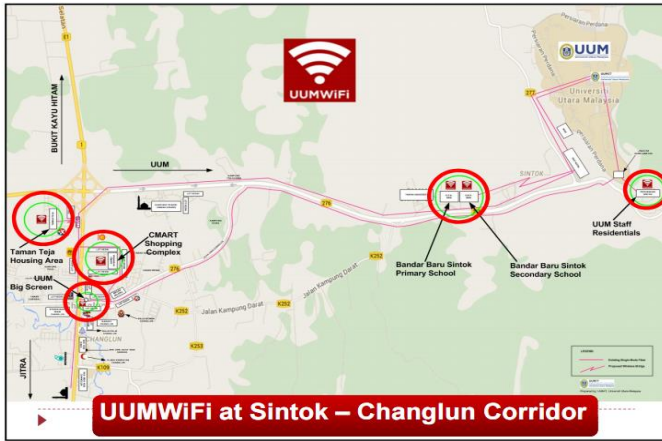


Figure 1: UUMWiFi CSR Sintok – Changlun Corridor

UUM commitment with this CSR project does not stop with the free Internet provision. To leverage the potential of this technology and ensuring total benefit to the community, UUM also offered to share its knowledge expertise with local community who live around Sintok and Changlun areas through an initiative called Changlun Living Lab (CLL). The initiative was established under the Center of Innovation and Commercialization which aims to use the CSR UUMWiFi as a platform for research and community engagement.
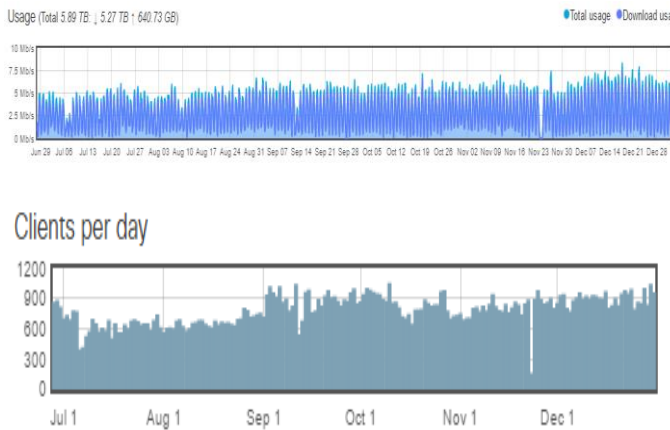


Figure 2: Internet usage and internet traffic for CSR UUMWiFi for 6 months (June to December 2016).

Currently, there are four research projects is going on under the CLL, which includes the users' profiling, mobile applications development for local crime prevention (DETECTIVE CHANGLUN), local stalls search (CHATOK) and learning Mathematics in fun and easy way (STEM). All the projects aim to support the use of UUMWiFi and empower the community to grasp the full benefits of the technology through co-participation.

### III. METHODOLOGY

The main source of data for the present study came from a questionnaire survey. The questionnaire consists of four main parts: demographic profile of respondents, awareness on the existence of CSR UUMWiFi in Sintok-Changlun corridor area, usage of the CSR UUMWiFi and level of users'

satisfaction towards this service. A simple random sampling was used to randomly select respondents from an estimated of 30,000 Sintok-Changlun population. Data were collected via online and printed questionnaires, which took three months to complete (from November 2016 to January 2017). Online survey was created using *Google Form* and the link was sent out to UUM staff and student who live in the area CSR UUMWiFi corridor via email and related Facebook groups.

Meanwhile, printed questionnaire was distributed randomly around Sintok-Changlun corridor area. The total number of respondents in this survey is 424, of this number, 416 were usable, which more than the number of sample size recommended by Krejcie & Morgan (1970). Descriptive analyses were conducted to describe the general findings of this study, and correlation analyses and chi-square test were used to examining the significant relationships between two metric variables that would deduce meaningful inference pertinent to the objectives. We used an alpha level of 0.05 for all statistical tests.

In addition to the primary data, the study also incorporated secondary data from the Cisco Meraki Database maintained by the UUM's IT Centre (UUMIT) which records data on the CSR UUMWiFi usage based on the users device media access control (MAC) address.

### IV. FINDING AND DISCUSSION

This section presents and discusses the result of the study and is organized into four sections. First is demographic of the respondents and the next three sections focus on awareness, usage and satisfaction towards the service.

#### A. Demographic factors

The results displayed in Table 3 show that 37 percent of respondents were male and 63 percent were female. Most of the respondents are those in the 18 – 25 age group (40%), followed by those aged 26 to 35 (24.3%), and then those aged 36 to 45 (13.5%). With regards to their highest of education, half of the respondents had achieved higher level of education; PhD/DBA (2.9%), Master (9.6%), Bachelor degree (26.9%) and Diploma (13.0%) and the other half had obtained certificates of STPM (9.1%) and SPM (27.2%) and passed primary school educational level (11.3%). In terms of monthly income, more than half of the respondents had obtained salary range between RM500 and RM2,999; RM500 to RM999 (22.7%), RM1,00 to RM1,999 (25.2%) and RM2,000 to RM2,999 (13.9%) and the other half had obtained salary more than RM3,000, with a majority obtained RM4,000 to RM4,999 (17.6%). 76 percent of the respondents have used the CSR UUMWiFi and the majority are Changlun-Sintok residents. The finding suggests that the service has reached its target group.

#### B. Awareness and Usage of CSR UUMWiFi

86.6 percent of respondents have heard about CSR UUMWiFi. Most of them are Changlun-Sintok residents and knew about the service through word-of-mouth. Of all respondents who were aware about the service, 76.4% have used it. The main reason given by those who did not use the service despite knowing about it is the inability to connect to the service. This highlight some issues on coverage and reliability of the service. Further analysis was conducted from

the perspective of usage frequency, regular activities and its importance of the service to the users.

The result displayed in Table 4 showed that only 28.4 percent use the service daily. Whereas the majority of respondents have used the CSR UUMWiFi inconsistently (39.6%) which again point back to the issues of reliability and coverage. Most respondents used mobile phone (95.6%) to access the service and C-Mart Shopping Complex is the main area with highest number of users. With respect to respondents' regular activities when using the service,

majority of them used it for leisure purposes including internet browsing (72.4%), social media interactive (74.2%), online messaging (61.8%) and online video streaming (52.0%). Only a small portion of the respondents have used the service to carry out transactional activities, which shows that there are still issues pertaining to trust. Regarding the importance of CSR UUMWiFi service among respondents, 77 percent of respondents feel that the service is important to them and the other 23 percent feel it not.

Table 3
Demographic Data of Respondents

| | Factors | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 154 | 37.0 |
| | Female | 262 | 63.0 |
| Age | Below 17 | 47 | 11.3 |
| | 18 – 25 | 167 | 40.1 |
| | 26 – 35 | 101 | 24.3 |
| | 36 – 45 | 56 | 13.5 |
| | 46 – 55 | 17 | 4.1 |
| | 56 and above | 6 | 1.4 |
| Highest Level of Education | Primary School or Equivalent | 47 | 11.3 |
| | SPM/MCE/GCE O-level or Equivalent | 113 | 27.2 |
| | STPM/MHSC/GCE A-level or Equivalent | 38 | 9.1 |
| | Diploma or Equivalent | 54 | 13.0 |
| | Bachelor Degree or Equivalent | 112 | 26.9 |
| | Master Degree or Equivalent | 40 | 9.6 |
| | Doctorate (PhD, DBA) or Equivalent | 12 | 2.9 |
| Level of Monthly Income | Below RM499 | 22 | 9.2 |
| | RM500 to RM999 | 54 | 22.7 |
| | RM1,000 to RM1,999 | 60 | 25.2 |
| | RM2,000 to RM2,999 | 33 | 13.9 |
| | RM3,000 to RM3,999 | 8 | 3.4 |
| | RM4,000 to RM4,999 | 42 | 17.6 |
| | RM5,000 to RM5,999 | 7 | 2.9 |
| | RM6,000 to RM6,999 | 5 | 2.1 |
| | RM7,000 to RM7,999 | 1 | 0.4 |
| | RM8,000 to RM8,999 | 3 | 1.3 |
| | RM9,000 to RM9,999 | 1 | 0.4 |
| | RM10,000 and above | 2 | 0.8 |
| Resident in Sintok - Changlun area? | Yes | 310 | 74.4 |
| | No | 106 | 25.5 |
| Ever used CSR UUMWiFi? | Yes | 275 | 76.4 |
| | No | 85 | 23.6 |

Table 4
Usage of CSR UUMWiFi

| | Perspective | Frequency | Percentage |
|---|---|---|---|
| Usage frequency | Everyday | 78 | 28.4 |
| | 2 to 5 times a week | 41 | 14.9 |
| | Once a week | 26 | 9.5 |
| | Once or twice a month | 21 | 7.6 |
| | Inconsistent use | 109 | 39.6 |
| Regular Activities | Internet Browsing | 199 | 72.4 |
| | Social Medias | 204 | 74.2 |
| | Online Messaging or Chat | 170 | 61.8 |
| | Online Shopping or Booking | 68 | 24.7 |
| | Online Banking | 71 | 25.8 |
| | Online Video Streaming | 143 | 52.0 |
| | Online Audio Streaming | 95 | 34.5 |
| | Online Game | 23 | 8.4 |
| | Email | 45 | 16.4 |
| | File Transfer | 84 | 30.5 |
| | Others. Update Mobile Phone's Software, Download games | 3 | 1.1 |
| Importance of the service | Important | 211 | 76.7 |
| | Not important | 64 | 23.3 |

## C. Relationship between demographic factors, regular activities, usage frequency and its importance

To further investigate the relationship between demographic factors, respondents' regular activities and the importance of CSR UUMWiFi, chi-square tests of independence and a Spearman correlation test were performed. For the regular activities, only the top four are included in the statistical analysis.

From the chi-square tests, only gender and level of education have significant relationship with internet browsing activity ($\chi^2$ (1, N= 275) = 5.42, p = 0.02 and $\chi^2$ (6, N= 275) = 14.06, p = 0.029, respectively). Female and those with bachelor degree and SPM have higher propensity to use the service for browsing internet as compared to the other activities. This finding reflects the demographic of the town itself which have a number of public institutions where the majority of the students are female. In addition, most of the access points are installed at leisure outlets such as the C-Mart Complex which probably make utilization of the service for work or transactional purposes rather inconvenient.

From the correlation test, results display in table 5 show only those who use the service for online video streaming activity put high importance for CSR UUMWiFi. This probably because online video streaming often consumes more bytes compare to other activities and most users understandably would not want to waste their paid connection for this purpose.

Table 5
Result of correlation test between top four activities and the importance of CSR UUMWiFi

| Activity | N | Spearman's Coefficient, $\rho$ | Sig (2-tailed) |
|---|---|---|---|
| Internet browsing | 275 | 0.066 | 0.239 |
| Social media | 275 | 0.080 | 0.157 |
| Online messaging | 275 | 0.014 | 0.803 |
| Online video streaming | 275 | 0.208 | 0.000 |

## D. Relationships between level of respondents' satisfaction with CSR UUMWiFi and its importance.

Overall, 59.6% of the respondent who have used the CSR UUMWiFi are satisfied with the service. The majority of respondents (63.6%) also rate the service as better compared to other free public WiFis that they have used previously. To further examine the significance of relationships between each dimension of satisfaction, the importance of CSR UUMWiFi and overall satisfaction, Spearman correlation test was performed. Six dimensions of satisfaction, namely reliability, connection speed, signal coverage, ease of use, convenience and security are included in the analysis. Results displayed in table 6 show that all dimensions were strongly correlated with respondents' overall satisfaction level of the service. Meanwhile, the importance of CSR UUMWiFi did not strongly contribute to the respondents' overall satisfaction, $\rho$ (275) = 0.207, p = 0.001. This shows that the satisfaction level of this service is somehow moderate even though some of the respondents feel that this service is important to them.

Table 6
Result of Correlation Test between Each Dimension of Satisfaction and the Overall Satisfaction

| Dimensions of Satisfaction | N | Spearman's Coefficient, $\rho$ | Sig (2-tailed) |
|---|---|---|---|
| Reliability | 274 | 0.628 | 0.000 |
| Connection speed | 274 | 0.580 | 0.000 |
| Signal coverage | 274 | 0.541 | 0.000 |
| Ease of use | 274 | 0.688 | 0.000 |
| Convenience | 274 | 0.788 | 0.000 |
| Security | 274 | 0.630 | 0.000 |

## V. CONCLUSION

The CSR UUMWiFi is currently in its first year of implementation. This study is one of the early work to evaluate the level of awareness, usage and satisfaction of this free service. Findings in this study suggests that while majority of the users put high importance on the service, the level of satisfaction on the service is still at a moderate level. The main issues that need to be addressed and solved are the coverage and reliability of the service. This is crucial to ensure that the users will not lost their interest to use the service due to technical difficulties and sustain the service. As a matter of fact, the connectivity and reliability are the two main concerns received from an open ended question in the survey. Specifically, the respondents feel that the service should be targeted to the village areas, instead of planned development areas, where the community mainly have low income. In addition, the university's need to provide a mean for the users to voice their comments or forward their issues which is not available at the moment. A helpline would be useful solution to this problem. Apart from that, there need to be more programs to promote the service and educate the community, especially those with low literacy, on how to make full use of the service.

Another striking finding from the study is on the usage of the service. As reported, the CSR UUMWiFi is mainly used for leisure purposes such as video streaming and social networks. The majority are young and educated users. Efforts need to be made to guarantee that other segments of the community will also enjoy the benefit of this service. In addition, to ensure that the service will achieve its aim to transform the socio-economic of the community, efforts need to be focused on educating the community on how to use the service for improving the well-being and economics of their family and community. Future works should be carried out to get the complete profile of the users, understand the pattern of usage as well as the impact that the CSR UUMWiFi to the community.

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