

Users' Perception Towards the Usage of 'Athan' App in Sri Lanka through the Lens of the Technology Acceptance Model (TAM)

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Abstract- *The use of Islamic religious mobile apps has become common in the digital era, where various Islamic apps to enhance the life of a Muslim is widely used all over the world. Among the used applications, "Athan" is one of the well-known apps used by 5 million Muslims globally. A study to identify the opinion and perception of the users is essential in many aspects. Hence this paper identifies the perceived usefulness and perceived ease of use of the "Athan" mobile app. A quantitative survey has been administered through the lens of the Technology Acceptance Model as the framework for the study. The study reveals that the "Athan" app users are positive towards the usefulness of the application, and it has not been impacted by the respondents' socio-demographic diversity.*

Keywords: *"Athan" Mobile Application, Perceived usefulness, Perceived Ease of Use, Technology Acceptance Model, Islamic Mobile Applications*

I. INTRODUCTION

Information and communication systems dominate today's world. One of the main features which dominate the world is the exponential growth of mobile applications. At this point, apps are an integral part of our daily lives. The marketplace is crowded with all types of mobile apps. Every business that never would have needed mobile apps in the past era is getting into the game itself. While specific cohorts are doing their best to stay ahead of the technological curve, many simply admit people's need and demand for an app that makes their lives easier.

The number of users of mobile applications is increasing rapidly year to year. Mobile usage in the world is increasing 58% year to year. In Sri Lanka, it is in rapid growth with the increase of Smart Phone usage in adjacent years. Users spend 90 % of their time in mobile apps than mobile web. Users download on average 8.8 apps per month

with app installs up to 5% year over year (Mobile App Development | Mobile Applications | Android App | iOS App | Sri Lanka, 2021). The number of mobile connections in Sri Lanka increased by 2.2 million (+7.5%) between January 2019 and January 2020 (DataReportal, 2021). The statistic depicts the number of mobile-cellular subscriptions in Sri Lanka from 2000 to 2019. In 2019, the number of mobile subscriptions in Sri Lanka was 30.78 million from 0.43 in 2000 (O'Dea, 2021). This statistic shows the estimated number of smartphone users in Sri Lanka from 2010 to 2025. The number of smartphone users is projected to reach 9.1 million by 2025 (Degenhard, 2021). The number of mobile connections in Sri Lanka in January 2020 was equivalent to 149% (Simon.K,2020). The above statistics clearly show the achieved and growing popularity of mobile apps in Sri Lanka.

Different mobile apps are used for different purposes. Mobile apps can be categorized into different categories such as Lifestyle mobile apps, which are used to enhance the users (Ex: Spotify, TripAdvisor, Uber), Social media apps which are used to build one social network (Facebook, Instagram, Snapseed), Utility Mobile apps which are used often without thinking about them as apps indeed. (Ex, Reminders, Calculator, Whether), Games or Entertainment apps (Angry Birds, Clash of Clans, Candy Crush Saga), Productivity mobile apps which are used to help their users to accomplish a task quickly and efficiently (Docs, Wallet, Evernote), News /Information outlet apps that supply their users with the news and information they are looking for in an easy-to-understand layout. (Ex. Buzz Feed, Yahoo News digest) (Duckma, 2021).

Technology, when used efficiently, can help to lead an effective and efficient life. In that line, technology can help people in religious affairs as well. In that line, many apps exist in the market

which can help Muslims get closer to Allah. There are many apps today that help Muslims in their daily life to regularize their daily Islamic rituals. Such as One path network, Muslim Pro, Athan, Never Miss Fajr, Quran Companion, iQuran, and more. Among all these apps, one app was so popular that the MuslimPro has around 98 million users worldwide. This app was high in success, and many Muslims got used to it. However, Muslims looked for other similar apps after a news spread that said that Muslim Pro sells the user data to the US military (Aliya, 2020, Aljazeera, 2020). Therefore, people have started to use another app similar to the MuslimPro called "Athan" recently.

When an app is developed with new features inclusive of new technological icons, a need to study the apps from different perspectives. Such as to what extent the app has made an impact on the users, to what extent the user interface has been appreciated by the users, to what level the audience has accepted the technology, how the usability is achieved in terms of the factors like screen resolution, hardware limitations, data usage, connectivity issues and level of interaction and more. Hence this research aims to study the level of perception of the "Athan" app through the lens of the Technology Acceptance Model (TAM).

II. LITERATURE REVIEW

Curiosity in techno-spiritual habits (Bell, 2006) has arisen with the appreciation that technology has been used across the globe to endorse a range of spiritual activities. For instance, Catholics receive Pope's daily thoughts via SMS, Orthodox Jews use "kosher phones," and Protestant Christians download carols as ringtones (Bell, 2006). There are an estimated 1.9 billion Muslims live worldwide (Worldpopulationreview,2021). Muslims have historically been relied on technology to aid their religious practices. For example, Muslims developed compasses to determine Qiblah's direction and developed and telescopes to watch the sun's locations for daily prayer and more. Hence adapting to mobile technology is highly feasible and can enhance the Islamic religious lifestyle of a Muslim

A. *Brief Introduction To The Prayers And Other Daily Rituals Of A Muslim*

Muslims differ broadly in terms of their traditions and daily religious rituals. Praying the god "Allah" five times a day is compulsory for every adult and child older than ten years in the Muslim

community. The time for the prayer varies from place to place and even from day to day. The ritual begins with adhan the call to prayer. Following the call, Muslims perform "Wudhu," washing parts of their body, and perform two to four ritual cycles called raka'ahs while facing the qibla, or Mecca's direction. Other than that, Muslims recite different Arabic verses called "Dua" or "Dhikr" or "Azkar" on different occasions daily. Furthermore, reciting the Holy Quran is a common practice in Islam. Hence having a technological aid to perform these rituals reminds the time for the prayer, reminding the user to recite Quran or Dua, and more can be beneficial to the community.

B. *Islamic Mobile Applications*

In the digital era, every portion of our lives has become handy. Almost all of our daily activity has been transferred from the conventional approach to the smart approach accomplished handy smart digital gadgets that are the smartphone to access whatever they want in few clicks being at the same place. In that line, millions of Muslims are using smart devices to recite Quran and other spiritual material using mobile applications. According to Shameera and Nadhira (2017), there exist more than 450 religious applications inclusive of 190 Islamic religion-related applications. (Shameera and Shiby, 2017) revealed in their study that nearly 80% of Muslim people had used several technologies for aiding in Qur'an memorization and recitation.

A study was done by Hafizah and Ruslan (2016) under the topic of "a study of the Malaysian youth perception toward 'Muslim pro' apps through the smartphone in Malaysia using technology acceptance model (TAM), "and another study by (Shameera et al., 2018) under the topic of "Sri Lankan Youth Perception (User) Toward 'Muslim Pro' Apps Through Smart Phone" have indicated that the "Muslim pro" application is beneficial to the majority of the youth in Malaysia as well in Sri Lanka as they stated that it improves their quality as Muslim lifestyle.

III. PROBLEM STATEMENT

The use and popularity of mobile applications are increasing day by day, and people tried to use mobile applications instead of desktop applications to enhance their lifestyle; especially mobile apps developed to perform religious rituals effectively have become trendy. The majority of Muslim people are using one of the apps to

enhance their daily religious rituals. The "Athan" mobile app is one of the apps that Muslims use next to "Muslim pro." Muslim Pro is popular among the majority of Muslims in Sri Lanka. However, Muslims are using the "Athan" app as well. Therefore, this paper tries to identify users' perceptions towards the "Athan" mobile app and the level of usefulness of the "Athan" app.

IV. OBJECTIVE OF STUDY

A. Overall Objective:

To identify the perceived usefulness and perceived ease of use of the "Athan" mobile app.

B. Specific Objectives

- 1) To identify the opinion of Sri Lankan Muslims toward using lifestyle mobile applications.
- 2) To identify the perception of Sri Lankan Muslims towards the "Athan" mobile app.
- 3) To find the level of usefulness of the "Athan" app among Sri Lankan Muslims.

V. RESEARCH QUESTIONS

- 1) What is the opinion on using mobile lifestyle applications by Sri Lankan Muslims?
- 2) What is the perception of Sri Lankan Muslims toward the "Athan" mobile app?
- 3) How does the usefulness of the 'Athan' mobile application perceive by Sri Lankan Muslims?

VI. MATERIALS AND METHODS

A quantitative research design has been handled in this research in which entire data has been collected using an online structured questionnaire.

A. Study Population:

The data was collected from 44 participants using the convenience sampling technique. The convenience sampling technique is a type of nonprobability sampling in which the entire population is sampled simply because they are "convenient" sources of data for the study. The participants were selected based on their interest to be a participant in the study having a condition as the participant should have used the "Athan" app for at least a month. Moreover, the participants have been achieved with the help of Facebook and WhatsApp groups.

B. Study Tool/Instrument And Data Collection:

A structured questionnaire has been used as a study instrument to collect information regarding the perceived usefulness of the "Athan" mobile

app. Questions in the questionnaire were constructed into three main categories based on the objectives of the study.

C. Statistical Analysis:

All the quantitative responses obtained were analyzed using MS EXCEL 2016.

VII. THEORETICAL FRAMEWORK

The framework used by this study is the "Technology Acceptance Model" which is used to study the level of acceptance of new technology by the audience. (Davis, 1989)

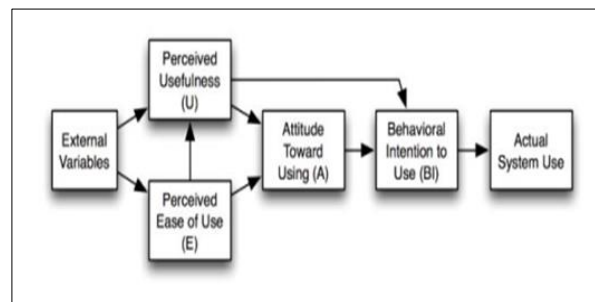


Figure 01: Technology Acceptance Model (TAM) by Fred Davis (1989)

VIII. RESULTS AND DISCUSSION

According to the survey, the first segment of the questionnaire is about demographic. Table 01 summarizes all the baseline details about the participants. Most of the participants are Female with 52.3% with a slightly different (4.6 %) unlike with male participants. Majority of the participants (50 %) are among 21 – 30 years old. At this junction it could be concluded that generation boomers are not supposed to be interested in using the app and only few of the Generation X had shown interest in using the app. This might be the result because of the generation Gap in terms of digital age.

Table 01: Baseline characteristics of the participants

Participants	Value(n=44)
Gender	
Male	21
Female	23
Age Category	
Less than 15 Years	0
15 to 20 Years	2 (4.5%)
21 to 30 Years	22 (50%)
31 to 40 Year	16 (36.4%)
41 to 50 Years	4 (9.1%)
51 to 60 Years	0
Above 60 years	0
Location (District in Sri Lanka)	
Ampara	39 (88.6%)
Colombo	02 (4.5%)
Trincomalee	01 (2.3%)
Gampaha	01 (2.3%)
Kalutara	01 (2.3%)
Marital Status	
Married	30 (81.6%)
Unmarried	14(31.78%)
Employment Status	
Student	11 (25%)
Employee	25 (56.7%)
Housewife	07 (15.9%)
Owning a business	01 (2.3%)
Number of lifestyle apps installed in a smartphone	
Less than 5	11 (25%)
5 to 10	20 (45.5%)
10 to 15	05 (11.4%)
More than 15	08 (18.2%)

The second segment of the questionnaire contained the questions to assess the interest in using mobile apps to enhance their lifestyle or ease their lives. The importance of using mobile apps to enhance living was assessed, which revealed that 86% of the respondents were much positive towards using mobile apps to ease their lifestyle. Nearly 11.6% of the respondents were not sure about their interest in using mobile apps.

According to Table 01, most respondents (46.5%) are using five to ten mobile apps to ease their lives, and a considerable percentage of respondents are using at least one app. "No app installed" choice was not given as the respondents were chosen from the population using the "Athan" app. Furthermore, respondents have indicated that mobile apps are essential (69.8%) to enhance and ease their life. In addition to that, 30.2% have mentioned that mobile apps are essential. So, all the respondents were extremely positive about the importance of using mobile apps. Hence, the above results answer research question 01 as summarized that the Sri Lankan Muslims are

positive towards using a lifestyle mobile app to ease and enhance their lives.

The third segment of the questions was asked to clarify Sri Lankan Muslims' perception towards a specific religious application called "Athan." Respondents have been asked for how long they are using the "Athan" app. About 38.9 % of the respondents were using the "Athan" app for more than a year, and 29.5% of the respondents were using the app for less than a month. It reveals that a considerable number of the population has used the "Athan" app for more than a year. It emphasizes the popularity of the "Athan" app. Moreover, 97.7% of the respondents have mentioned that the "Athan" app was useful to perform their daily religious rituals without fail. If a technology wants to succeed, one of the main features that the developers need to be considered by the developers is that the technology should be user-friendly. It applies to mobile apps as well. Figure 03 shows how the respondents find that the "Athan" app is user-friendly. Respondents were asked to rate user-friendliness on a scale of 1 to 5. The one was coded as "Poor," and the five were coded as "Excellent." Therefore, Figure 03 indicated that most of the respondents were rated that the "Athan" app is excellent in being user-friendly. About 22.7% of the respondents were neutral about the user-friendliness of the app, and a negligible amount of the respondents have rated that the "Athan" app is poor in terms of being user-friendly.

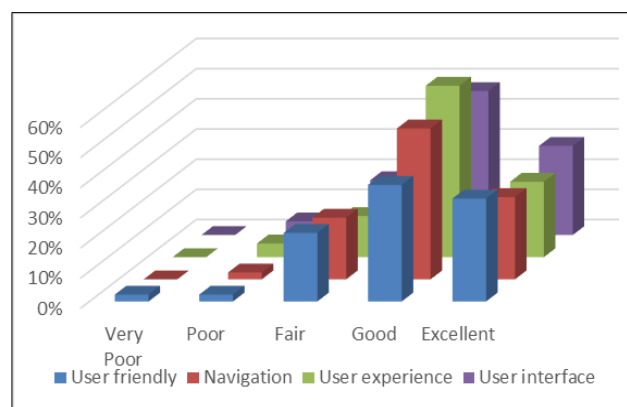


Figure 02: The extent to which the "Athan" app is user-friendly.

Moreover, 100% of the respondents have mentioned that they will recommend the app to others. In addition to that, 95.3 % use the free version of the app, which contains advertisements. The rest are using the premium version by paying

around 2500 LKR as annual subscription fees to avoid advertisements.

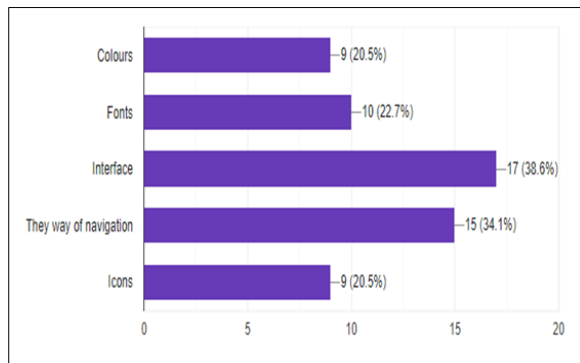


Figure 03: Cherished features in the “Athan” application in terms of the user interface.

Respondents were asked to reveal what they like more in the “Athan” app in terms of its feature to answer research question 02 partially. The results from Figure 03 show that the interface of the “Athan” app has been liked by the majority (38.6%). Similarly, other features like color, font, navigation, and icons are also considerably cherished by the users.

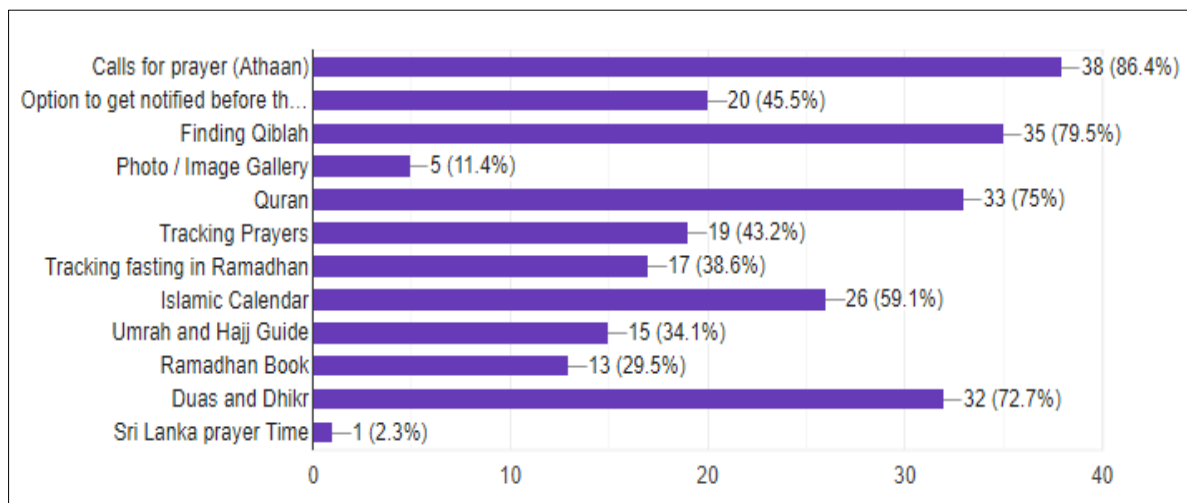


Figure 04: Cherished features in “Athan” application in terms of functionalities

According to Figure 04, the most liked functionality (86.4%) of the "Athan" app's calls for prayer followed by finding Qiblah which is the direction of performing prayers by 79.5%. Other than that, all most all the available functionaries are cherished by the users. However, the least liked is checking Sri Lankan prayer time. It might be the result because users do not want to check the time. They might have been interested in enabling notification before every prayer call (45.5%). In order to answer research question 03, respondents were asked to reveal their perception

of the “Athan” app. Figure 05 summarizes the responses. The majority of the respondents have mentioned that the app has helped them to regularize their prayer on time (90%), praying without fail (83%), able to recite Quran often (79%), which reflects the positively perceived usefulness of the “Athan” app. Only a negligible number of respondents have indicated that the app is a disturbance (02%), and the app was boring to use (02%). The notification sound might cause a disturbance for them.

Apart from that, 81.4% of the respondents have mentioned that they use the “Athan” app to track their daily religious rituals. The tracking feature can positively persuade them for a behavior change in terms of performing religious rituals properly. Hence nearly 65.4% of the respondents have mentioned that the “Athan” app persuaded them for a behavior change to perform their ritual perfectly. Hence it can be assumed that the “Athan” app has followed the elements of persuasive technology as tailoring, tunneling, suggestion, reminders, self-monitoring (Torning and Oinas-Kukkonen, 2009) as the app navigate

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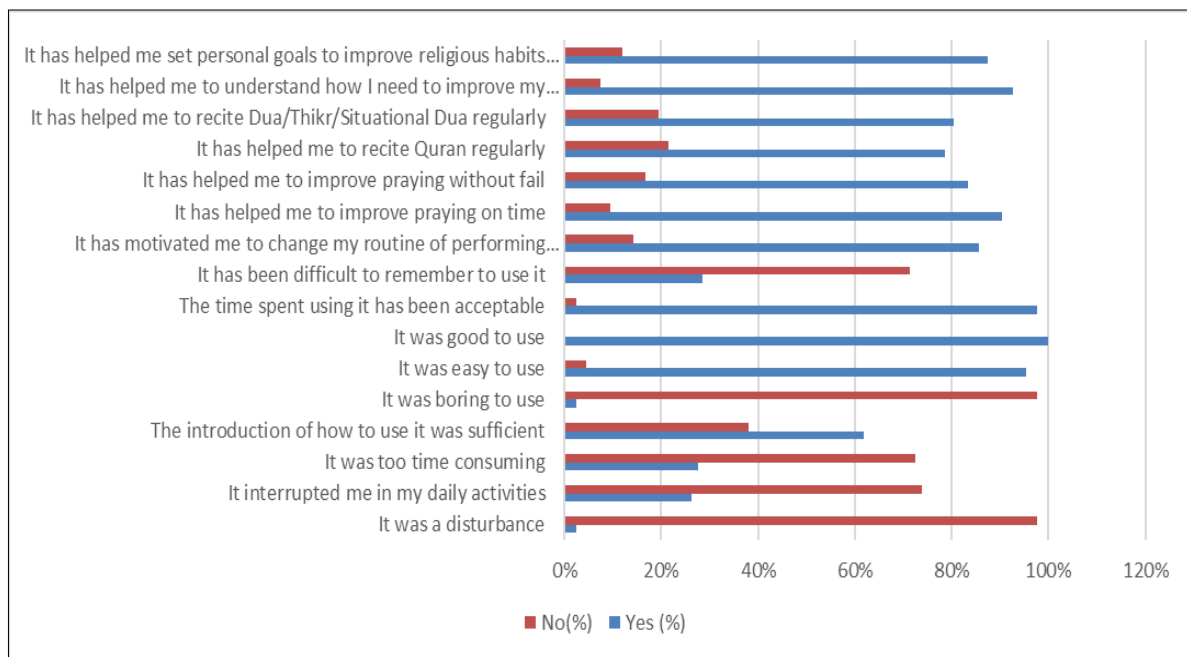


Figure 05: Level of perceptions (Perceived Usefulness & Perceived Ease of Use) towards using the "Athan" App.

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Finally, respondents have given a positive response to the question regarding the overall opinion about the app. The majority of the responses were like "Overall Satisfied," "It is good," "It is good for Muslims," Sufficient," Time management for prayers and duas," "Masha Allah very efficient," "Easy to follow the prayers routine," "It is good to use for Muslims," Daily use of this Athan app is very comfortable," "This Athan App easy to use & good." . As A Result, it

is widely accepted that the “Athan” app is beneficial to the users in many aspects.

IX. CONCLUSION

The ‘Athan’ religious application is a mobile application similar to the well-known application named” Muslim Pro.” It can be observed that the sample audience had given an enormous positive perception of using the “Athan” app. The majority of the respondents were satisfied with the user

interface and the technical features, and the functionalities f the app. Furthermore, the users agreed that using the app gives them a pleasant experience and benefits them in terms of positive behavior change, which is quite challenging to achieve by usual conventional efforts. This ‘Athan’ application is beneficial to the majority in Sri Lanka as they stated that it improves their quality as Muslim lifestyle. In conclusion, it can be said that the user’s perception of the perceived usefulness and perceived ease of use is on the positive side of the continuum.

X. LIMITATIONS AND FUTURE RESEARCH

This study highlighted the perception and opinion of Sri Lankan Muslims towards using one of the religious lifestyle mobile applications. This study is a preliminary pilot-level study conducted to know the perception of the users. The sample size is highly low compared to the entire Muslim population who might have used the “Athan” app. Therefore, a large number of samples would give

more precise results in terms of this research topic. Besides, this study was completely quantitative. However, a mixed-method study, especially an exploratory mixed-method study in which a qualitative study is performed, followed by a quantitative study, would be more beneficial in getting a more detailed view of users.

Additionally, descriptive analysis had given a certain percentage as an indicator of how the users percept using the 'Athan' religion application. So run an enhanced survey with detailed statistical analysis on data would give more insights into the objective of the research.

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