

Factors Influence Muslim Students' Motivation To Use Online Academic Support Services Within Islamic Higher Education In Indonesia

Askar Askar¹, Adawiyah Pettalongi², Nurdin Nurdin³

^{1,2}Associate Professor at Faculty of Education and Teacher Training, Universitas Islam Negeri Datokarama Palu, INDONESIA

³Professor at Faculty of Islamic Economics and Business, Universitas Islam Negeri Datokarama Palu, INDONESIA

*Corresponding author email: askar@uindatokarama.ac.id

Abstract

Students' academic advising support is considered important in students' success within a higher education institution. The students support service help students solve academic problems during their study period through direct consultation between students and academic advisors. Currently, such students' academic support services are available online to make the services easier to access. However, limited studies have been conducted to understand factors that affect students' motivation to adopt online academic support services within Islamic universities which practice strong Islamic values. Therefore, the aim of the study is to explore factors that influence Muslim students to adopt and use online academic advising support systems within an Islamic university in Indonesia. We tested five variables to find out factors for Muslim students to adopt and use an online academic advising support system. We recruited 160 students from four faculties within an Islamic university, and then we distributed a five-scale Likert scale online questionnaire. The results of our study show that variables perceived of use, perceived usefulness, perceived interactivity, perceived non-mahram avoidance, and perceived anonymity have significantly influenced the students' intention to adopt and use the online academic advising support systems. Our findings contribute to the understanding that online academic advising support systems can attract more Muslim students to the system within a university. The high rate of web-based academic advising support systems adoption and use might increase the student's academic success and increase the high rate of student retention. This study might contribute to the rampant adoption and use of web-based academic advising support systems within universities in the future.

Keywords: Online advising services; online advising adoption; academic support

INTRODUCTION

Students' academic advising services within higher education institutions have received great attention from many scholars (LaPadula, 2003; van Wyk, 2021). The academic advising service has been found can increase students' academic outcomes

(Renner-Potacco, Orellana, Chen, & Salazar, 2019) and reduce students' dropout (Lee-St. John et al., 2018) because students can get help regarding academic difficulties. Academic advising refers to a series of planned interactions between students and academic advisors to discuss program

requirements, course specifications, learning outcomes, and other related topics and issues in the program of study (C. X. Wang & Houdyshell, 2021).

University students often experience academic difficulties at an early stage or during the whole study process, which is mostly four years at the undergraduate level. The difficulties in academics have resulted in an increasing number of students taking study leave for a certain period (Lotkowski, Robbins, & North, 2004; Morse, Spoltore, & Galvinhill, 2017; Naidoo & Cartwright, 2018). This phenomenon is worse when a campus does not have academic advising and help support centers. Students might keep the stressful situation without a solution which may cause their education failure (Hunt & Eisenberg, 2010).

Most universities in developing countries have yet to establish an academic advising service center, such as Thailand (Choompunuch, Lebkhao, Suksatan, & Suk-erb, 2022), Philipines (Castolo & Diana Lee Tracy K. Chan, 2018), and Tanzania (Fussy, 2018). Islamic universities have also been found to lack academic support services. For example, Islamic education institutions in Indonesia and Malaysia have been found to lack academic advising facilities, which causes low student achievement (Hashim & Langgulung, 2008). Besides, some students of Islamic universities come from traditional boarding schools¹ Which often forbids non-mahram² Men and women have direct contact (Al-Kaysi, 2003; Ali, 2010; Srimulyani, 2007). Such Islamic rule has caused male or female students to be reluctant to seek academic consultations with different-sex advisors.

¹. An Islamic boarding school is a traditional Islamic institution of education, and its curriculum and academic culture mostly focus on Islamic teaching. However, the boarding schools also apply the national curriculum together with Islamic teaching. Islamic values are strongly implemented. For example, male and female students are not mixed.

² The Arabic term *mahram* is derived from *haraam*, which literally means something which is

However, since the emergence of new information technology, educational institutions have changed their academic advising services from traditional face-to-face to online academic advising to reduce direct interaction between advisors and students (C. X. Wang & Houdyshell, 2021). The new information technology supports two-ways interaction that encourages the adoption and use of web-based academic advising services within higher education institutions (Talukder, 2020). The web-based academic advising services provide benefits such as accessibility across devices for users (Unsworth, So, Chua, Gudimetla, & Naweed, 2021), protection of personal data (W. Wang, 2016), and increased flexibility and scalability of access (Tella, Ukwoma, & Kayode, 2020). Online academic advising can also reduce users' costs and time to access it. Empirical evidence also showed that more students were satisfied and experienced the academic support e-tools as very helpful for academic consultation (van Wyk, 2021).

Previous studies (e.g: Dowling & Rickwood, 2013; Leibert, Jr., Munson, & York, 2006) show that active use of online advising services due to users' identities is more confidential because direct contact is not required. As such, using an online academic advising method may encourage more Muslim students to engage in this service because direct interaction with non-mahram is eliminated. Academic advising is essential in linking students to learning opportunities, helping them realize key learning outcomes, and improving their engagement (Mohamed, 2016).

Academic advising support center may become an essential element for learning success in Islamic university environments, but it has received little

sacred, sacrosanct, or prohibited. In the terminology of Islamic Jurisprudence, a mahram relative is generally one to whom marriage is absolutely and permanently prohibited; and a non-mahram is usually one to whom marriage is permissible.

attention from researchers. Since academic advising can contribute to improving the satisfaction and retention of students, research on this activity is especially needed in the current situation of competition among Islamic universities in Indonesia and across the globe. Lack of studies of academic advising within Islamic education institutions may cause a lack of academic literature and hinder the development of the institutions.

This study, therefore, explores Muslim students' adoption and use of online academic advising services to consult issues related to academic and campus life. It is expected to shed light on factors Muslim students adopt and use online academic advising services. Understanding factors that influence Muslim students to adopt and use online advising service not only help the students solve their problem but also help Islamic universities to improve their education services. The result could also be used to assist Islamic universities in providing quality, accurate, and consistent advising services to their students.

LITERATURE REVIEW

Online academic service adoption and use

A study by Mattei, Dodson, Guerin, Goldsmith, & Mazur (2014) found that advising support using online tools can tighten the relationship between a student and an advisor, such as in course planning. Technology-based academic advising can also complement conventional traditional advising services to reduce direct personal contact barriers and inefficiencies (Henderson & Goodridge, 2015). For example, research conducted by Harbertsroh, et al (2008) on college students in America found that students were very enthusiastic about using online chat to consult because visually, there was no need to meet. Thus the students can consult freely without feeling pressured due to shame or being seen by the counselor.

Another study conducted by Roehen, Kan, and Wong (2004) reported that male students even

showed a more active nature in online advising. In addition, problems with anonymity, discomfort, and time can be eliminated in the online advising process because it is minus direct contact (Shilpa Suresh & Yogesh, 2018). Such benefits can make relationships more attractive to those who would hesitate to go into an advising support office for fear of being found out by others, embarrassment, or inability to get to the support center.

Meanwhile, academic advising services provided via Facebook (e.g: Amador & Amador, 2014) help students to send messages and receive a response quickly. Students also perceive Facebook as a useful advising tool that enhances their experience. A study conducted by Tsan and Day (2007) which involved 176 college students, also found that their attitudes and behaviors related to the use of advising services on campuses were increasingly active when they learned that the services could be obtained online. Students actively send emails, instant text messages, and chat through provided online sites. In addition, sensitive issues such as personal problems are expressed freely to their online advisors (Rummell & Joyce, 2010).

In some cases, most of the advisors' time on campus is spent on routine tasks rather than assisting the students. As a result, they need more opportunities to provide advising services with competent advice to help students gain maximum academic potential during their study process. To support the advising process and to automate routine tasks in advising students, Al-Nory (2012), for example, developed a spreadsheet-based Decision Support tool to ease advisors to provide better academic advising support. As a result, academic advising systems and tools are able to provide true decision support for students and advisors by processing specific student information and producing customized advice for a particular student.

Theoretical Constructs and Hypothesis

In this section, we will discuss our theoretical constructs and hypothesis building. Our theoretical

constructs and hypotheses become the basis of our study to build our research instruments and to test our theory. A number of studies have focused on adopting and using information technology. Early seminal studies on information technology adoption were carried out by Davis (1989) and Davis (1999). Their theory on information technology adoption and use has been extensively applied and extended in various fields of information system adoption. For example, Saeed

& Abdinnour (2008) use variables of perceived ease of use and perceived usefulness to study the characteristics of information systems in the post-adoption phase. The use of technology adoption theory in various fields of information systems has caused the extension of the theory with the use of other variables. Table 1 below shows variables in information systems related to online service adoption and use and the authors.

Table 1. The Variables for online service adoption and use

No	Variables	Authors
1	Perceived ease of use	(Gutiérrez et al., 2020; C. X. Wang & Houdyshell, 2021)
2	Perceived usefulness	(Rodda & Lubman, 2014; C. X. Wang & Houdyshell, 2021)
3	Perceived interactivity	(Ahn, Park, Lee, & Noh, 2021; Islam, Jebarajakirthy, & Shankar, 2021; Oh, 2022)
4	Perceived non-mahram avoidance	(Hosseini, Emamian, & Asadov, 2021; Priyatmoko, Maulana, & Antariksa, 2022; Srimulyani, 2007)
5	Perceived anonymity	(Paquette & Cortoni, 2021; Tsikerdekis, 2013; Wu & Atkin, 2018)
6	Use of an online support system	(Kim & Kim, 2021; Owusu Kwateng, Appiah, & Atiemo, 2021; Tabim, Ayala, & Frank, 2021)

Perceived ease of use of information systems encourages users to adopt and use an information system because they believe it is easy to use (Lwoga & Komba, 2015). The ease of use of an information system reflects users do not have to spend extra effort to learn how to use the system. As such, perceived ease of use causes rapid adoption of information systems within an organization (Changchit, Klaus, Konkani, & Sampat, 2020). Information systems characterized by ease of use also reflect less effort of users in using the systems, or the systems do not require experience to use them (Aldholay, Abdullah, Isaac, & Mutahar, 2020). Therefore we hypothesize as follows:

H1: Perceived ease of use positively influences Muslim students to adopt and use online academic support systems

Meanwhile, an information system's perceived usefulness reflects that users can use it to solve their work problems (Venkatesh, Thong, Chan, Hu, & Brown, 2011). In other words, information systems can improve work performance and create new organizational innovations. For example, online academic support systems can help students choose what courses to take in an upcoming academic semester (Hilliger et al., 2020). Online academic advising systems within higher education is adopted and used by students because it is useful to support dialogue between students and advisors when advising on a study plan (De Laet et al., 2020), and providing official and informal information regarding courses selection (Ho, Lee, Lo, & Lui, 2018). Users also perceived the usefulness of online academic advising services because the system supports synchronous communication technology when seeking remote

academic advising (C. X. Wang & Houdyshell, 2021). Therefore, we hypothesize as follows:

H2 : Perceived usefulness positively influences Muslim students to adopt and use online academic advising support systems.

Interactivity is a concept that reflects a web-based information system that supports active two-way interaction (Nurdin & Aratusa, 2020; Tinsel et al., 2021). For example, a web-based information system provides more e-tools to interact with company owners. The interactivities tools might be telephone, email, and social media sites that are linked to web-based services (C. X. Wang & Houdyshell, 2021). All the interactivity tools support mutual interaction between users and service providers 24 hours and seven day. Such interactivity tools enhance consultation between students and academic advisors, become more interactive, and it also creates a positive experience in academic advising service provision. Therefore we hypothesize as follows:

H3 : Perceived interactivity significantly influences Muslim students to adopt and use online academic advising support systems

Avoiding unmarried men and women from mixing with each other within Muslim communities context has been found might contributes to the psychological health of an individual Muslim due to the fear of committing sins (Hosseini et al., 2021). Scholars (e.g. Hosseini et al., 2021; Zempi, 2016) also argue that the principle of avoiding contact with 'non-mahram' men is pivotal for Muslim women. Some female Muslim students view free-mixing and socialization between unrelated (non-mahram) men and women as strictly forbidden in daily life, except a woman has a close relative accompanying her (Zempi, 2016). However, interaction through online systems can reduce worries of committing sins because there is no physical contact between a man and a woman. As such, information systems that support indirect physical contact between men and women in

seeking a service might increase users' intention to adopt and use the systems. Therefore, we hypothesize as follows:

H4. Perceived non-mahram avoidance significantly influences Muslim students to adopt and use online academic support systems.

An online support service that requires confidentiality of users' data should have a feature that can protect users' identities. For example, in an online private consultation, users expect their identities not to be exposed (Al-Issa, Ottom, & Tamrawi, 2019; Ziebland, 2004). In other words, anonymity is an important aspect that should be concerned in an online consultation service when it involves personal affairs. The anonymity mode can be facilitated by online facilities such as websites, emails, chats, etc. However, the facilities are provided as a medium for interaction only, not to replace human functions in online private academic consultation services (Elleven & Allen, 2004). Anonymity also becomes an important characteristic of web-based online academic services because the consultation usually involves users' detailed information and advice regarding personal academic conditions (Brockes, Schenkel, Buehler, Grätz, & Schmidt-Weitmann, 2012). Therefore we hypothesize as follows.

H5: Perceived anonymity significantly influences Muslim students to adopt and use online academic advising support systems

METHODOLOGY

This study used the quantitative method. Data was gathered through an online survey to find out factors that affect Muslim students' intention to adopt and use an online academic advising system. An Islamic university academic center provided a web-based academic advising system to support the student's academic advice and consultation. The online academic advising system was provided through the university's official website. Assigned

academic advisors were available twenty-four hours and seven days a week.

In conducting the study, online structured questionnaires were assigned to 160 students randomly selected from four faculties at the university. The survey used a five Likert scale ranging from strongly agree, agree, neutral, disagree, and strongly disagree. Each variable

consisted of questions derived from the theoretical construct. There were twenty-seven questions to be responded to in the survey. Out of 160 distributed questionnaires to students from four faculties, twelve were not returned, and eight were incomplete and were not included for further analysis.

Table 2. Demographic data of respondents

Gender	Total	Percentage
Men	71	44
Women	89	56
Total	160	100%
Faculties		
a. Faculty of Islamic Teacher Training and Education	40	25
b. Faculty of Islamic Economics and Business	40	25
c. Faculty of Islamic Law	40	25
d. Faculty of Islamic Philosophy, Humanities, and Communication		
Total	160	100%

A total of 140 completed surveys were collected to be calculated and analyzed. Statistical analysis was performed to analyze the data collected from the survey. The result of the analyses was used to determine the factors that influence the students' intention to adopt and use online academic advising support systems according to each variable developed in the theoretical construct section.

In the measurement of statements, we used five Likert scales ranging from strongly agree (5), agree (4), neutral (3), don't agree (2), and strongly don't agree (1). However, before we distributed the questionnaire, we conducted a pre-tested with relevant research experts and prospective respondents and then followed by a pilot test with 20 university students.

The data were analyzed using AMOS version 24. First, we conducted an explanatory Factor Analysis (EFA) with main components extraction to explore all constructs used in this study. The constructs

were five variables, X, and one variable, Y. Then, we conducted confirmatory factors analysis (CFA) to measure factor loading, reliability, convergent, and discriminate validity.

RESULTS AND DISCUSSION

Statistics descriptive

Before conducting confirmatory analysis to measure factor loading, reliability, convergent, and discriminate validity, we conducted a statistical description of factors that affect students' intention to adopt and use online academic advising support systems. The calculation of the mean showed that the highest mean score is in the first item of the perceived ease of use factor, which is 4.15, while the lowest mean score is in the second item of the perceived anonymity factor, which is 3.51. Meanwhile, the calculation of Standard Deviation showed that the fourth item of perceived

interactivity has the highest score, which is 0.885, while the fourth item of factor, perceived ease of use, has the lowest score, which is 0.575. The results of the statistical description of the items and variables are presented in table 2 below:

Table 3. The statistical description of factors that influence online academic advising adoption and use

Factors and indicators	Mean	SD
Perceived ease of use (PEU)		
PEU1: I find the web-based academic support can be accessed quickly	4.15	0.731
PEU2: The web-based academic support system help determine the appropriate academic advisor	3.55	0.643
PEU3: The web-based academic support system is easy to use in determining consultation topics	3.57	0.651
PEU4: Less effort is required to use the web-based academic support system	3.69	0.737
PEU5: I did not need to work hard to use the web-based support system	3.36	0.575
Perceived Usefulness (PU)		
PU1: I find the use of a web-based academic support system improves my consultation efficiency	3.62	0.622
PU2: I can manage my academic consultation time anytime I want	3.50	0.585
PU3: I become more skillful when using the web-based academic support system	3.89	0.836
PU4: I find the web-based academic support system helps me to consult my academic problems more easier	3.73	0.736
Perceived Interactivity (PI)		
PI1: I find the web-based academic support services are very interactive	3.56	0.730
PI2: The web-based academic support service supports two-way communication between students and advisors	3.69	0.796
PI3: The web-based academic support services have more tools for interaction	3.64	0.762
PI4: I can choose many tools on the web-based academic support service to consult with the academic advisors	4.07	0.885
Perceived non-mahram avoidance (PNA)		
PNA1: The web-based academic support system helps me to avoid direct contact with different-sex academic advisors	3.76	0.816
PNA2: Regardless of the sex of an advisor, I find the web-based academic support systems make me more open to expressing my academic problems	3.90	0.882
PNA3: I am not reluctant to discuss my academic problems through the web-based academic support systems even though with different sex advisors	3.82	0.826
PNA4: The web-based academic support prevents me from feeling sinful when I discuss with a different sex advisors	3.78	0.835

PNA5: No matter a man or a woman advisor, when I use web-based academic support systems for academic consultation	3.82	0.856
Perceived anonymity (PA)		
PA1: The web-based academic support systems help me to keep my identity undisclosed	3.92	0.842
PA2: I find the way we consult with the academic advisors can protect my personal information	3.51	0.665
PA3: I am confident my information during academic consultation on the web-based academic support system is confidential	3.66	0.776
Intention to Adopt and Use (ItoAU)		
ItoAU: I will continue using the web-based counseling systems	3.52	0.634
ItoAU2: I am interested in continuing the use of web-based counseling systems to consult my personal problems	3.83	0.838
ItoAU3: I prefer to use web-based online counseling systems over conventional counseling systems	3.52	0.635
ItoAU4: I will suggest my friends adopt the web-based counseling systems for personal and academic consultation	3.65	0.751
ItoAU5: I will keep using the web-based counseling systems as frequently as possible	3.63	0.767
ItoAU6: I will enjoy using web-based counseling systems in the future	3.64	0.742

4.2 Factors influencing adoption and use of online academic advising support systems

The constructs were used to determine the factors that influenced Muslim students to adopt and use online academic advising support systems. Table 4 below shows the results of the measurement. The results below show that all items fit their variables. All the loading items from scores 0.600 to 0.850 shows higher than the threshold of 0.50. The coefficient of Cronbach's alpha for all factors variables spanned between 0.721 to 0.847, which

means they are higher than the 0.7 value. Furthermore, the composite reliability values (CR) were higher than 0.8 (ranging from values 0.84 to 0.918), while the average extracted variances (AEV) were higher than the recommended 0.5 value, meaning that the relationship between all variables and the motivation to adopt and use (ItoAU) of academic advising support systems has shown internal consistency reliability or the variables consistency with the scale (Nadal, Sas, & Doherty, 2020; Vahdat, Alizadeh, Quach, & Hamelin, 2021).

Table 4. The Results of the Calculation

Constructs	Factors extracted	Cronbach's alpha	Standardized items loading	Squared multiple correlations	Composite reliability	Average variances extracted
PEU1	0.771		0.721	0.520		
PEU2	0.743		0.584	0.340		

PEU3	0.751	0.788	0.620	0.380	0.843	0.503
PEU4	0.798		0.875	0.770		
PEU4	0.808		0.710	0.480		
PU1	0.738	0.815	0.627	0.390	0.909	0.538
PU2	0.847		0.795	0.630		
PU3	0.790		0.745	0.560		
PU4	0.810		0.754	0.570		
PI1	0.890	0.823	0.850	0.720	0.898	0.602
PI2	0.880		0.820	0.670		
PI3	0.850		0.640	0.410		
PI4	0.790		0.680	0.460		
PNA1	0.860	0.721	0.790	0.620	0.840	0.502
PNA2	0.870		0.600	0.360		
PNA3	0.880		0.640	0.410		
PNA4	0.778		0.710	0.500		
PNA5	0.810		0.700	0.610		
PNA6	0.780		0.730	0.570		
PA1	0.820	0.847	0.840	0.710	0.918	0.670
PA2	0.840		0.680	0.460		
PA3	0.810		0.780	0.600		
ItoAU1	0.840	0.835	0.730	0.530	0.892	0.617
ItoAU2	0.850		0.680	0.460		
ItoAU3	0.790		0.750	0.560		
ItoAU4	0.720		0.700	0.490		
ItoAU5	0.740		0.720	0.510		
ItoAU6	0.780		0.750	0.560		

Table 4 above also indicates that the more factors' loading different among items within similar variables, the bigger the gap between the score of CR and Cronbach's Alpha. Our study also compared the square root of the average variance extracted from each variable and the correlation between variables in examining the discriminant validity (Fu, Chan, Wong, & Yip, 2018). The discriminant validity indicated whether or not the variables in the research model are significantly related among them.

The square roots of the average extracted variance of all variables were found to be larger than the relationship estimated with the other variables. In other words, the computation technique exceeds adequate reliability, validity, and discriminant validity. The highlight scores on

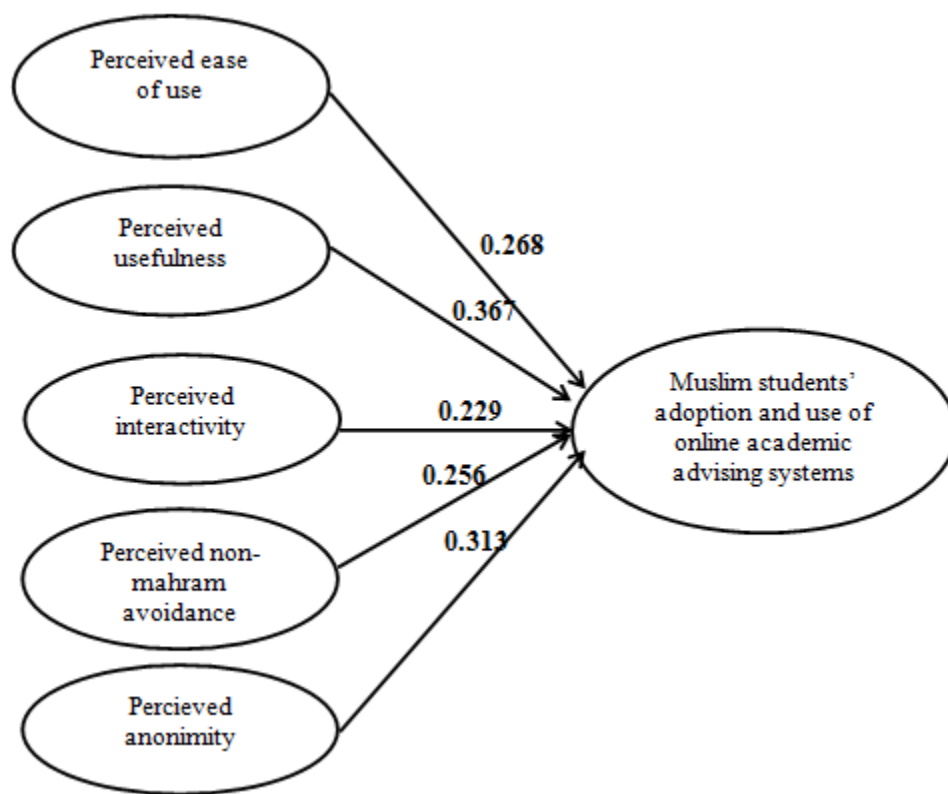
the diagonal indicate the square root of the average extracted variance. The results of the theoretical constructs testing include the standardized regression coefficient, the critical ratio (t-value), and the probability (P-value). The model tested in this study shows the significant influence of all five factors on the intention of students to adopt and use online academic advising support systems. We found all variables significantly influence the student's adoption and use of online academic advising support systems with a determined significant level was 5% ($p < 0.05$).

In our research theoretical constructs section, we hypothesized that factors perceived ease of use, perceived usefulness, perceived interactivity, perceived non-mahram avoidance, and perceived

anonymity positively influence the students' intention to adopt and use the online academic advising support systems. Based on our statistical calculation results, we found that the standardized regression coefficient indicated the significance of all factors to the continuance intention of Muslim students to adopt and use online academic advising support systems

ranging from 0.229 to 0.367. The perceived usefulness factor strongly influences the student's intention to adopt and use the systems. Meanwhile, the factor of perceived interactivity played the weakest influence on the students' adoption and use of online academic advising support systems. As a result, our model is presented in figure 1 below.

Figure 1. Results of the study



The results above also indicate that the more factors loading different among items within similar variables, the bigger the gap between the score of CR and Cronbach's Alpha. Our study also compared the square root of the average variance extracted from each variable and the correlation between variables in examining the discriminant validity (C.C & Prathap, 2020). The discriminant validity indicated whether or not the variables in the research model are significantly related among them.

Our study shows that our research constructs and hypothesis are proven significantly and able to describe factors of Muslim students' intention to adopt and use academic advising support systems. Tested constructs (factors): perceived ease of use, perceived usefulness, perceived interactivity, perceived non-mahram avoidance and perceived anonymity in the online academic advising system adoption and use were all important factors that affect the students' intention to adopt the web-based counseling systems.

The results of this study support earlier relevant studies. For example, earlier research (e.g. Zhang, Li, & Fan, 2020) found that the perceived ease of use (PEU) and perceived usefulness (PU) of online health consultation has significantly influenced users' intention to adopt and use it. Our study indicated that users with high-perceived usefulness expectancy tend to adopt and use academic advising support systems.

The variable perceived interactivity (PI) played an important influence on users' intention to adopt and use online academic advising support. The finding indicated that students expect the online academic advising support systems can be accessed through many interactive e-tools such as WhatsApp, email, and web chat. Such interactive facilities can generate a positive experience for the students, resulting in high intention to adopt and use the system (Alvarez-Jimenez et al., 2020).

The variable perceived non-mahram avoidance (PNA) also contributed a positive influence on the student's intention to adopt and use online academic advising support systems in which the systems allow the students to access it twenty-four hours and seven days a week. The online academic advising support systems is considered can prevent them from committing sins when it supports the students to interact remotely with non-mahram advisors (Zempi, 2016). The students perceived non-mahram avoidance increases the psychological happiness of the students in using online academic advising consultation because the students can practice clear relationship rules as regulated by Islamic values and norms (Syed, 2008).

The variable perceived anonymity (PA) was also found to have an important effect on the student's intention to adopt and use online academic advising support systems. The finding suggested that online personal consultation services that guarantee confidentiality and personal data can enhance the adoption and use of the systems (Paquette & Cortona, 2021). In other words, the online academic advising support systems' characteristics that allow indirect interaction with anonymous identities

between the students and academic advisors might have caused rapid adoption and use of the systems.

CONCLUSION

We have shown significant factors that affect Muslim students' intention to adopt and use online academic advising support systems. Knowing the trend of the student's intention to adopt and use a technology product may help policymakers improve the technology's quality so that the technology services can be utilized maximally by users (Norfazlina, Akma, Adrina, & Noorizan, 2016). Besides that, our study can also be a factor in the success of an information system created (Vaezi, Mills, Chin, & Zafar, 2016), which in this study is the online academic advising support systems within Islamic higher education institutions context.

Our study contributes to both the theory and practice world. From theoretical perspective, our study shed light on the understanding of the predictors of Muslim students' intention to adopt and use online academic advising support systems within Islamic higher education institutions. This study also might become a reference for academia and higher education institutions practitioners. For the researchers, the model used in the study can be tested with a broader context involving more populations from other universities.

MANAGEMENT IMPLICATIONS

As the findings show that students express more complaints through an online academic advising center, there is an urgent need for the Islamic university to establish a permanent online academic advising center. Furthermore, the online academic advising center can limit barriers regarding Muslim students' beliefs and norms towards opposite-sex advisors issues because most students who come from traditional boarding Islamic schools have strong beliefs towards direct personal contact with non-mahram advisors.

Besides, during the online academic advising session, this study also found that students are more open to exposing campus environment issues such as bureaucracy, fairness, and service quality. These issues can help the university to improve its management and service. The university may also use these findings to improve its service quality, eliminate bureaucracy inertia, and create equality and openness in service provision. Through a permanent online academic advising center, the university may assign helpful advisors who can serve as an academic family, validating educational experiences and propelling academic successes to make sense of the university.

References

1. Ahn, J., Park, J.-M., Lee, W.-H., & Noh, G.-Y. (2021). Website interactivity and processing: Menu customization and sense of agency are keys to better interaction design. *International Journal of Human-Computer Studies*, 147, 102581. doi:<https://doi.org/10.1016/j.ijhcs.2020.102581>
2. Al-Issa, Y., Ottom, M. A., & Tamrawi, A. (2019). eHealth Cloud Security Challenges: A Survey. *Journal of Healthcare Engineering*, 2019, 7516035. doi:10.1155/2019/7516035
3. Al-Kaysi, M. I. (2003). *Morals and Manners in Islam: A Guide to Islamic Adab*. London: The Islamic Foundation.
4. Al-Nory, M. T. (2012, 3-5 Aug. 2012). Simple Decision Support Tool for university academic advising. Paper presented at the 2012 International Symposium on Information Technologies in Medicine and Education.
5. Aldholay, A., Abdullah, Z., Isaac, O., & Mutahar, A. M. (2020). Perspective of Yemeni students on use of online learning. *Information Technology & People*, 33(1), 106-128. doi:10.1108/ITP-02-2018-0095
6. Ali, S. S. (2010). Cyberspace as Emerging Muslim Discursive Space? *Online Fatawa On Women and Gender Relations and its Impact on Muslim Family Law Norms*. *International Journal of Law, Policy and the Family*, 24(3), 338-360. doi:10.1093/lawfam/ebq008
7. Alvarez-Jimenez, M., Rice, S., D'Alfonso, S., Leicester, S., Bendall, S., Pryor, I., . . . Gleeson, J. (2020). A Novel Multimodal Digital Service (Moderated Online Social Therapy+) for Help-Seeking Young People Experiencing Mental Ill-Health: Pilot Evaluation Within a National Youth E-Mental Health Service. *J Med Internet Res*, 22(8), e17155. doi:10.2196/17155
8. Amador, P., & Amador, J. (2014). Academic advising via Facebook: Examining student help-seeking. *The Internet and Higher Education*, 21, 9-16. doi:<https://doi.org/10.1016/j.iheduc.2013.10.03>
9. Brockes, C., Schenkel, J. S., Buehler, R. N., Grätz, K., & Schmidt-Weitmann, S. (2012). Medical online consultation service regarding maxillofacial surgery. *Journal of Cranio-Maxillofacial Surgery*, 40(7), 626-630. doi:<https://doi.org/10.1016/j.jcms.2012.03.018>
10. C.C, S., & Prathap, S. K. (2020). Continuance adoption of mobile-based payments in Covid-19 context: an integrated framework of health belief model and expectation confirmation model. *International Journal of Pervasive Computing and Communications*, 16(4), 351-369. doi:10.1108/IJPC-06-2020-0069
11. Castolo, C. L., & Diana Lee Tracy K. Chan. (2018). Students' Perceptions on the Academic Management at the Polytechnic University of the Philippines Open University System. *Asian Journal of Distance Education*, 11(1).
12. Changchit, C., Klaus, T., Lonkani, R., & Sampet, J. (2020). A Cultural Comparative Study of Mobile Banking Adoption Factors. *Journal of Computer Information Systems*, 60(5), 484-494. doi:10.1080/08874417.2018.1541724

13. Choompunuch, B., Lebkhao, D., Suksatan, W., & Suk-erb, W. (2022). A Development of Counseling Competency for Academic Advisors in Higher Education. *Sustainability*, 14(16), 1-12.
14. Davis, F. D. (Writer). (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology [Article], *MIS Quarterly: MIS Quarterly & The Society for Information Management*.
15. Davis, G. B. (1999). A Research Perspective for Information Systems and Example of Emerging Area of Research. *Information Systems Frontiers*, 1(3), 195-203. doi:10.1023/a:1010094126762
16. De Laet, T., Millecamp, M., Ortiz-Rojas, M., Jimenez, A., Maya, R., & Verbert, K. (2020). Adoption and impact of a learning analytics dashboard supporting the advisor—Student dialogue in a higher education institute in Latin America. *British Journal of Educational Technology*, 51(4), 1002-1018. doi:<https://doi.org/10.1111/bjet.12962>
17. Dowling, M., & Rickwood, D. (2013). Online Counseling and Therapy for Mental Health Problems: A Systematic Review of Individual Synchronous Interventions Using Chat. *Journal of Technology in Human Services*, 31(1), 1-21. doi:10.1080/15228835.2012.728508
18. Elleven, R. K., & Allen, J. (2004). Applying Technology to Online Counseling: Suggestion for the Beginning E-Therapist. *Journal of Instructional Psychology*, 31(3), 223-227.
19. Fu, K.-W., Chan, W. S. C., Wong, P. W. C., & Yip, P. S. F. (2018). Internet addiction: prevalence, discriminant validity and correlates among adolescents in Hong Kong. *British Journal of Psychiatry*, 196(6), 486-492. doi:10.1192/bjp.bp.109.075002
20. Fussy, D. S. (2018). The status of academic advising in Tanzanian universities. *KEDI Journal of Educational Policy*, 15(1), 81-98.
21. Gutiérrez, F., Seipp, K., Ochoa, X., Chiluiza, K., De Laet, T., & Verbert, K. (2020). LADA: A learning analytics dashboard for academic advising. *Computers in Human Behavior*, 107, 105826. doi:<https://doi.org/10.1016/j.chb.2018.12.004>
22. Haberstroh, S., Parr, G., Bradley, L., Morgan-Fleming, B., & Gee, R. (2008). Facilitating Online Counseling: Perspectives From Counselors in Training. *Journal of Counseling & Development*, 86(4), 460-470. doi:10.1002/j.1556-6678.2008.tb00534.x
23. Hashim, C. N., & Langgulung, H. (2008). Islamic Religious Curriculum in Muslim Countries: The Experiences of Indonesia and Malaysia. *Bulletin of Education & Research*, 30(1), 1-19.
24. Henderson, L. K., & Goodridge, W. (2015). AdviseMe: An Intelligent Web-Based Application for Academic Advising. (IJACSA) *International Journal of Advanced Computer Science and Applications*, 6(8), 233-243.
25. Hilliger, I., De Laet, T., Henríquez, V., Guerra, J., Ortiz-Rojas, M., Zuñiga, M. Á., . . . Pérez-Sanagustín, M. (2020, 2020//). For Learners, with Learners: Identifying Indicators for an Academic Advising Dashboard for Students. Paper presented at the Addressing Global Challenges and Quality Education, Cham.
26. Ho, C. C., Lee, H. L., Lo, W. K., & Lui, K. F. A. (2018, 31 July-2 Aug. 2018). Developing a Chatbot for College Student Programme Advisement. Paper presented at the 2018 International Symposium on Educational Technology (ISET).
27. Hosseini, Z.-S., Emamian, S. H., & Asadov, T. (2021). Ethical Principles of Social Activity of Muslim Women. *International Multidisciplinary Journal of "PURE LIFE"*, 8(26), 91-106.
28. Hunt, J., & Eisenberg, D. (2010). Mental Health Problems and Help-Seeking Behavior Among College Students. *Journal of*

- Adolescent Health, 46(1), 3-10. doi:<https://doi.org/10.1016/j.jadohealth.2009.08.008>
29. Islam, H., Jebarajakirthy, C., & Shankar, A. (2021). An experimental based investigation into the effects of website interactivity on customer behavior in online purchase context. *Journal of Strategic Marketing*, 29(2), 117-140. doi:10.1080/0965254X.2019.1637923
 30. Kim, J., & Kim, J. (2021). An Integrated Analysis of Value-Based Adoption Model and Information Systems Success Model for PropTech Service Platform. *Sustainability*, 13(23), 12974.
 31. LaPadula, M. (2003). A Comprehensive Look at Online Student Support Services for Distance Learners. *American Journal of Distance Education*, 17(2), 119-128. doi:10.1207/S15389286AJDE1702_4
 32. Lee-St. John, T. J., Walsh, M. E., Raczek, A. E., Vuilleumier, C. E., Foley, C., Heberle, A., . . . Dearing, E. (2018). The Long-Term Impact of Systemic Student Support in Elementary School: Reducing High School Dropout. *AERA Open*, 4(4), 2332858418799085. doi:10.1177/2332858418799085
 33. Leibert, T., Jr., J. A., Munson, J., & York, G. (2006). An Exploratory Study of Client Perceptions of Internet Counseling and the Therapeutic Alliance. *Journal of Mental Health Counseling*, 28(1), 69-83.
 34. Lotkowski, V. A., Robbins, S. B., & Noeth, R. J. (2004). The Role of Academic and Non-Academic Factors in Improving College Retention. Retrieved from Iowa: <https://files.eric.ed.gov/fulltext/ED485476.pdf>
 35. Lwoga, E. T., & Komba, M. (2015). Antecedents of continued usage intentions of web-based learning management system in Tanzania. *Education + Training*, 57(7), 738-756. doi:10.1108/ET-02-2014-0014
 36. Mattei, N., Dodson, T., Guerin, J. T., Goldsmith, J., & Mazur, J. M. (2014). Lessons Learned from Development of a Software Tool to Support Academic Advising. Paper presented at the Proceedings of the American Society for Engineering Education (ASEE Zone 1).
 37. Mohamed, A. (2016). Interactive decision support for academic advising. *Quality Assurance in Education*, 24(3), 349-368. DOI:doi:10.1108/QAE-03-2013-0011
 38. Morse, C. C., Spoltore, J. D., & Galvinhill, P. (2017). College/University Counseling Centers Supporting Study Away: Challenges and Opportunities. *Journal of College Student Psychotherapy*, 31(4), 325-335. doi:10.1080/87568225.2017.1313690
 39. Nadal, C., Sas, C., & Doherty, G. (2020). Technology Acceptance in Mobile Health: Scoping Review of Definitions, Models, and Measurement. *J Med Internet Res*, 22(7), e17256. doi:10.2196/17256
 40. Naidoo, P., & Cartwright, D. J. (2018). Reflections on the History of South African Student Counseling Services: Achievements, Challenges, and a Way Forward. *Journal of College Student Psychotherapy*, 32(1), 23-41. doi:10.1080/87568225.2017.1313692
 41. Norfazlina, G., Akma, A. S. S., Adrina, S. N., & Noorizan, M. M. (2016). Customer Information System Satisfaction and Task Productivity: The Moderating Effect of Training. *Procedia Economics and Finance*, 37, 7-12. DOI:[https://doi.org/10.1016/S2212-5671\(16\)30085-5](https://doi.org/10.1016/S2212-5671(16)30085-5)
 42. Nurdin, N., & Aratusa, Z. C. (2020). Benchmarking level interactivity of Indonesia government university websites. *TELKOMNIKA Telecommunication, Computing, Electronics and Control*, 18(2), 853-859.
 43. Oh, J. (2022). Quantity vs. Quality of Interactions: The Combinatory Effects of Website Interactivity and Need for Cognition on Anti-Smoking Message Perceptions and Smoking Attitudes. *Mass Communication and*

- Society, 25(3), 434-463. doi:10.1080/15205436.2021.1925299
44. Owusu Kwateng, K., Appiah, C., & Atiemo, K. A. O. (2021). Adoption of health information systems: Health professionals perspective. *International Journal of Healthcare Management*, 14(2), 517-533. doi:10.1080/20479700.2019.1672004
 45. Paquette, S., & Cortoni, F. (2021). Offence-Supportive Cognitions, Atypical Sexuality, Problematic Self-Regulation, and Perceived Anonymity Among Online and Contact Sexual Offenders Against Children. *Archives of Sexual Behavior*, 50(5), 2173-2187. doi:10.1007/s10508-020-01863-z
 46. Priyatmoko, R., Maulana, A., & Antariksa, B. (2022). The Sharia hotel policy in Yogyakarta toward non-Mahram guests In A. Rachmiate, I. J. Triwardani, Alhamuddin, & C. U. Abdullah (Eds.), *Islam, Media and Education in the Digital Era* (Vol. 1). London: Routledge.
 47. Rennar-Potacco, D., Orellana, A., Chen, P., & Salazar, A. (2019). Rethinking Academic Support: Improving the Academic Outcomes of Students in High-Risk STEM Courses With Synchronous Videoconferencing. *Journal of College Student Retention: Research, Theory & Practice*, 20(4), 455-474. doi:10.1177/1521025116678854
 48. Rochlen, A. B., Land, L. N., & Wong, Y. J. (2004). Male Restrictive Emotionality and Evaluations of Online Versus Face-to-Face Counseling. *Psychology of Men & Masculinity*, 5(2), 190-200. doi:10.1037/1524-9220.5.2.190
 49. Rodda, S., & Lubman, D. I. (2014). Characteristics of Gamblers Using a National Online Counselling Service for Problem Gambling. *Journal of Gambling Studies*, 30(2), 277-289. doi:10.1007/s10899-012-9352-7
 50. Rummell, C. M., & Joyce, N. R. (2010). "So wat do u want to wrk on 2day?": The Ethical Implications of Online Counseling. *Ethics & Behavior*, 20(6), 482-496. doi:10.1080/10508422.2010.521450
 51. Saeed, K. A., & Abdinnour-Helm, S. (2008). Examining the effects of information system characteristics and perceived usefulness on post adoption usage of information systems. *Information & Management*, 45(6), 376-386. doi:<https://doi.org/10.1016/j.im.2008.06.002>
 52. Shilpa Suresh, B., & Yogesh, M. D. (2018). Effectiveness of Internet Based Psychotherapeutic Intervention in Common Psychiatric Disorders. *International Journal of Cyber Behavior, Psychology and Learning (IJCBPL)*, 8(2), 51-62. doi:10.4018/ijcbpl.2018040104
 53. Srimulyani, E. (2007). Muslim Women and Education in Indonesia: The Pondok pesantren experience. *Asia Pacific Journal of Education*, 27(1), 85-99. doi:10.1080/02188790601145564
 54. Syed, J. (2008). A context-specific perspective of equal employment opportunity in Islamic societies. *Asia Pacific Journal of Management*, 25(1), 135-151. doi:10.1007/s10490-007-9051-6
 55. Tabim, V. M., Ayala, N. F., & Frank, A. G. (2021). Implementing Vertical Integration in the Industry 4.0 Journey: Which Factors Influence the Process of Information Systems Adoption? *Information Systems Frontiers*. doi:10.1007/s10796-021-10220-x
 56. Talukder, A. K. (2020). *The Next Generation Web: Technologies and Services*, Cham.
 57. Tella, A., Ukwoma, S. C., & Kayode, A. I. (2020). A two models modification for determining cloud computing adoption for web-based services in academic libraries in Nigeria. *The Journal of Academic Librarianship*, 46(6), 102255. doi:<https://doi.org/10.1016/j.acalib.2020.102255>
 58. Tinsel, I., Metzner, G., Schlett, C., Sehlbrede, M., Bischoff, M., Anger, R., . . . Farin-Glattacker, E. (2021). Effectiveness of an

- interactive web-based health program for adults: a study protocol for three concurrent controlled-randomized trials (EVA-TK-Coach). *Trials*, 22(1), 526. doi:10.1186/s13063-021-05470-8
59. Tsan, J. Y., & Day, S. X. (2007). Personality and Gender as Predictors of Online Counseling Use. *Journal of Technology in Human Services*, 25(3), 39-55. doi:10.1300/J017v25n03_03
60. Tsikerdekis, M. (2013). The effects of perceived anonymity and anonymity states on conformity and groupthink in online communities: A Wikipedia study. *Journal of the American Society for Information Science and Technology*, 64(5), 1001-1015. doi:<https://doi.org/10.1002/asi.22795>
61. Unsworth, C., So, M. H., Chua, J., Gudimetla, P., & Naweed, A. (2021). A systematic review of public transport accessibility for people using mobility devices. *Disability and Rehabilitation*, 43(16), 2253-2267. doi:10.1080/09638288.2019.1697382
62. Vaezi, R., Mills, A., Chin, W., & Zafar, H. (2016). User Satisfaction Research in Information Systems: Historical Roots and Approaches. *Communication of the Association for Information Systems*, 38(27), 33.
63. Vahdat, A., Alizadeh, A., Quach, S., & Hamelin, N. (2021). Would you like to shop via mobile app technology? The technology acceptance model, social factors and purchase intention. *Australasian Marketing Journal*, 29(2), 187-197. doi:10.1016/j.ausmj.2020.01.002
64. van Wyk, M. M. (2021). Academic support under COVID-19 lockdown: what students think of online support e-tools in an ODeL course. *Interactive Technology and Smart Education*, 18(2), 137-157. doi:10.1108/ITSE-08-2020-0121
65. Venkatesh, V., Thong, J. Y. L., Chan, F. K. Y., Hu, P. J.-H., & Brown, S. A. (2011). Extending the two-stage information systems continuance model: incorporating UTAUT predictors and the role of context. *Information Systems Journal*, 21(6), 527-555. doi:<https://doi.org/10.1111/j.1365-2575.2011.00373.x>
66. Wang, C. X., & Houdyshell, M. (2021). Remote Academic Advising Using Synchronous Technology: Knowledge, Experiences, and Perceptions from Students. *NACADA Journal*, 41(2), 40-52. doi:10.12930/nacada-20-27
67. Wang, W. (2016). Protecting Your Data. In W. Wang (Ed.), *Mac OS X for Absolute Beginners* (pp. 453-461). Berkeley, CA: Apress.
68. Wu, T.-Y., & Atkin, D. J. (2018). To comment or not to comment: Examining the influences of anonymity and social support on one's willingness to express in online news discussions. *New Media & Society*, 20(12), 4512-4532. doi:10.1177/1461444818776629
69. Zempi, I. (2016). 'It's a part of me, I feel naked without it: choice, agency and identity for Muslim women who wear the niqab. *Ethnic and Racial Studies*, 39(10), 1738-1754. doi:10.1080/01419870.2016.1159710
70. Zhang, Y., Li, X., & Fan, W. (2020). User adoption of physician's replies in an online health community: An empirical study. *Journal of the Association for Information Science and Technology*, 71(10), 1179-1191. doi:<https://doi.org/10.1002/asi.24319>
71. Ziebland, S. (2004). The importance of being expert: the quest for cancer information on the Internet. *Social Science & Medicine*, 59(9), 1783-1793. doi:<https://doi.org/10.1016/j.socscimed.2004.02.019>