

# Evaluation of an e-Advising System: User Experience

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## ABSTRACT

Higher education (HE) in Kuwait suffers from high dropout rates, and one of the leading causes of this desertion is a lack of academic advising. Effective academic advising systems must fulfill its users' needs and provide a positive user experience (UX), which allows users to successfully and effectively fulfill their goals. This study used quantitative and qualitative approaches to evaluate an electronic advising system (e-advisor) used by the Public Authority for Applied Education and Training (PAAET). Survey data from 1,095 PAAET students were analyzed to determine students' perceptions and evaluate their experience using e-Advisor. The findings indicated that students were aware of the features and advantages of e-Advisor. Overall, the participants had a moderately positive impression of e-Advisor's UX. The system's attractiveness, efficiency, and perspicuity were rated slightly higher than its dependability, stimulation, and novelty. Moreover, female students' perceptions of e-Advisor's UX were significantly more favorable than their male counterparts.

## KEYWORDS

e-Advising, e-Learning, Higher Education, Human-Computer Interaction, Software Engineering, Usability, User Experience

## INTRODUCTION

Modern technology has moved academic advising away from in-person meetings in offices dedicated to student services, where students could access advisers and tools to help them optimize their academic choices (Noaman & Ahmed, 2015). An absence of effective academic advising leads students to make decisions regarding the course of their academic career that adversely affect their goals and prospects. Therefore, there is a pressing need to ensure that students can make informed decisions regarding their academic plans that support their professional aspirations. Electronic advising (e-advising) systems support college administrations and enhance student performance (Alkhoori, Kuhail, & Alkhoori, 2020; Karrolla, 2017). Therefore, the key features of these systems responsible for their success must be identified, which requires appropriate usability evaluation criteria. Usability is a measure to evaluate whether and to what extent a system, product, or service can be used by specified users to achieve defined goals effectively and efficiently within a specified context. According to Preece, Rogers, and

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Sharp (2015), usability includes factors that ensure a system is efficient, easy to use, and pleasant from the user's perspective. Recently, the concept of user experience (UX) has gained considerable attention in academia and industry and become a key figure that represents a crucial aspect of the success of systems or products (Hinderks, Schrepp, Mayoa, Escalona, & Thomaschewski, 2019).

While the literature contains studies that evaluate the UXs of many different types of information systems, no studies investigate the systems designed to support academic services (Demirkola & Seneler, 2019). Usable academic advising systems are essential; however, little research was conducted on this topic, especially at Arab Universities, particularly in the State of Kuwait. In addition, some usability studies fail to consider UX in the analysis and development of such systems. To fill this gap, this study uses an adapted version of the User Experience Questionnaire (UEQ) to assess the UX of an e-advising system within this specific academic and cultural context (User Experience Questionnaire (UEQ)) available at [www.ueq-online.org](http://www.ueq-online.org). Hinderks et al. (2019) determined that the UEQ reliably depicts six dimensions of UX including *Attractiveness* "the product should look attractive, enjoyable, friendly and pleasant"; *Efficiency* "the user should perform tasks with the product fast, efficient and in a pragmatic way"; *Perspicuity* "the product should be easy to understand, clear, simple, and easy to learn"; *Dependability* "the interaction with the product should be predictable, secure and meets my expectations"; *Stimulation* "using the product should be interesting, exciting and motivating"; and *Novelty* "the product should be innovative, inventive and creatively designed". This adapted questionnaire was used to elucidate students' perceptions and UX of the e-advising system used at the five colleges of the Public Authority for Applied Education and Training (PAAET), a higher education (HE) institute in Kuwait. PAAET developed and implemented an e-advising system (e-Advisor) that works together with traditional, paper-based, face-to-face academic advising. This system was implemented in 2016 and, in the four years since then, over 40,000 students have used e-Advisor. This pioneer study investigates the application of an e-advisory system within the unexplored context of Kuwait, where the little research that has been conducted focuses largely on gender differences UX. The findings from this study can inform system developers of relevant growth opportunities that can improve future versions of e-Advisor. These improvements will not only enhance the efficiency and attractiveness of e-advising systems but also improve users' interactions with the system and enhance their perceptions of its associated functions (Morville, 2014).

Regarding gender differences in the use of technology, especially in a conservative society like Kuwait, Al-Kandari et al. (2017) highlight the collectivist nature of Kuwaiti culture in which people mainly devote their time to family, friends, and social obligations (Al-Kandari, Al-Sumait, & Al-Hunaiyyan, 2017). As such, one would expect male and female Kuwaiti citizens to both use online applications primarily as social links in response to the limiting conservative cultural environment (Sharif & Al-Kandari, 2010). A similar study by Al-Hunaiyyan, Al-Sharhan, & Alhajri (2017) found significant gender and age-based differences and identified some social and cultural issues that may act as barriers to online learning implementation. Technology use might differ between men and women due to societal norms. Synthesizing this sensitivity, gender, and culture is essential toward understanding the impact of living in a conservative society in this modern era of pervasive technology and software usage. Boy (2017) conceptualizes UX as a subjective indicator based on users' perceptions, which can differ widely, particularly according to age and gender (Boy, 2017). It is pertinent to evaluate UX according to gender, age, background, and culture (Prayaq, 2019). Thus, this study aims to investigate gender differences in the UX of academic e-advising systems, and tests the following six hypotheses:

H1: There are significant differences between male and female students' perceptions of e-Advisor's *attractiveness*.

H2: There are significant differences between male and female students' perceptions of e-Advisor's *efficiency*.

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