

Gamification in Higher Education Promotion: The Development and Implementation of TIC ACC TOE and e-TACC-TOE for ACCA Programme Recruitment

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Abstract

Ineffective promotional activities, such as traditional slide presentations, often fail to capture students' attention, resulting in low awareness and reduced enrollment. Developing an interactive promotional game presents a more engaging solution to boost audience engagement and assess knowledge retention. TIC ACC TOE and e-TACC-TOE were developed as gamification tools to improve promotional activities for the ACCA programme at DPAS, UiTM Shah Alam. Initially a physical board game, TIC ACC TOE was later digitised into e-TACC-TOE to adapt to online promotional needs, particularly during the COVID-19 pandemic. These tools effectively engage students and enhance knowledge retention, leading to a noticeable increase in applications for the ACCA programme. With both physical and digital versions, the tools support diverse promotional activities, helping UiTM contribute to Malaysia's national goal of producing 60,000 chartered accountants by 2030. Other institutions can adapt this product innovation for various activities, including promotions, student inductions, and industrial talks, and have commercial potential as a mobile app, improving accessibility and overcoming device limitations.

Keywords: innovation, gamification, promotion, ACCA

1. Introduction

Achieving a high success rate in producing graduates is a key factor in attracting high-quality students to higher education institutions (Mayer-Foulkes, 2002). However, to drive the enrolment rate, it hinges on effective student recruitment strategies or promotional activities. In a competitive environment with numerous options available, institutions must continuously promote their offerings to ensure that their target audience is well-informed about the institution's goals, activities, and services, while also encouraging active participation and engagement (Gajić, 2012). Thus, designing effective promotional strategies is imperative.

While institutions can utilise various marketing methods, such as social media and advertising, one of the most effective approaches for promoting university programmes is through school presentations (Gajić, 2012). To make these promotional efforts impactful, however, traditional presentation methods may not resonate with the current generation, who are more responsive to interactive and engaging content (Monaco & Martin, 2007; Roberts et al., 2012). Thus, developing appropriate tools to execute impactful promotional programmes is essential to ensure that efforts are practical and objectives are achieved.

1.1 The Issue

Promoting the Association of Chartered Certified Accountants (ACCA) programme to high school students in Malaysia presents a significant challenge, as many students are still uncertain about their choices for tertiary education. Moreover, pursuing a professional accounting qualification is generally perceived as more demanding than typical diploma or undergraduate programs (Mat Bahari et al., 2014), and many students embark on this path without fully comprehending the level of commitment required (Masters, 2015). With Malaysia's National Agenda aiming to produce 60,000 chartered accountants by 2030, a target still far from being achieved (MIA, 2023), it is essential to generate interest in the ACCA programme consistently. A decline in applications from qualified candidates could hinder the realisation of this national objective.

1.2 Problem Statement

Ineffective promotional activities can result in low awareness, diminished interest, and a reduced number of enrolments from prospective students. Traditional slide presentations, being a one-way communication method, struggle to sustain students' attention, leading to suboptimal outcomes. To better engage the audience and assess knowledge retention during promotional activities, developing an interactive promotional game offers a promising solution.

1.3 Project Objectives

The objectives of this paper are:

- (1) To describe the development of a copyright game and its evolution from a physical to a digital promotional tool; and
- (2) To discuss how the implementation of gamification at school, matriculation, and university levels impacts audience knowledge retention and the number of student enrolments.

2. Literature Review

2.1 Promotion Strategies

Promoting accounting courses has often relied on conventional methods such as print media (brochures, newspapers, billboards), admission campaigns (open days and campus tours), and electronic advertising (radio and television). While still relevant, the rapid evolution of technology and shifts in the educational landscape have significantly impacted the effectiveness of these methods (Ghosal et.al., 2020).

First, the proliferation of social media and online platforms necessitates the creation of more engaging and dynamic content to connect with potential students (Labausa et al., 2023). Rendering promotional content using traditional methods appears to lack immediacy and interactivity, resulting in a decline in reach and engagement (Kusumawati, 2019). In contrast, utilising digital marketing allows two-way functionality, where potential students can get immediate feedback in the comment section, the ability to share videos and photos with brief captions (Kusumawati, 2019), which has proven to influence students' decision to enroll in the higher education institution (Bohara et. al., 2022). Therefore, persisting in using the conventional promotional strategies may cause universities to lose a competitive advantage, particularly in attracting high-quality students (Makrydakis, 2021).

Second, using conventional marketing is criticised for its low return on investment (Kusumawati, 2019). While using print media can be costly and less environmentally friendly, airing radio or TV commercials may not have the ability to reach a global audience. This poses a significant constraint, especially for higher educational institutions that have limited funding to manage their resources (Ghosal et al., 2020). Hence, re-strategising the promotional medium is deemed imperative to remain relevant in the evolving educational landscape (Labausa et.al., 2023). However, most literature tends to focus on the performance impact (e.g., Alghizzawi et al., 2023) within the context of small and medium-sized enterprises (e.g., Chen et al., 2022), highlighting the need for further research on enrollment strategies in educational settings.

Finally, the use of conventional marketing is often criticized for being one-size-fits-all, thereby lacking the ability to personally target prospective students based on data-driven insights (Hartley & Claycomb, 2013). Thus, there is a need to call for more customized or targeted marketing that suits the current generation (Ghosal et al., 2020). However, current literature tends to analyse this from the perspective of social media (Harbi and Maqsood, 2022), neglecting the role of innovation in attracting the current generation when choosing their preferred educational institution. Therefore, this paper aims to contribute to the body of knowledge on the role of gamification as a promotional tool to attract the current generation, Generation Z, to enroll in accounting courses.

2.2 Gamification and Generation Z

Dimock (2019) classifies Generation X as individuals born between 1965 and 1980, Millennials as those born between 1981 and 1996, and Generation Z as those born from 1997 onward. Generation Z, with its unique characteristics and preferences, appears to be less responsive to conventional marketing strategies, which are typically tailored to audiences with differing behavioral patterns and media consumption habits (Prensky, 2001a). Therefore, understanding these distinct traits is essential in designing promotional strategies that are better aligned with the current generation (Creighton, 2018).

Born into the digital age, Generation Z has been immersed in technology from a young age, shaping both their cognitive processes and the ways they engage with information (Prensky, 2001a, b). Slower and more passive forms of communication, such as extensive print media or detailed direct mail, are argued to hinder their receptivity, as Generation Z tends to favour concise, visually stimulating content that can be consumed quickly (Williams et. al., 2012). This generation expects promotional content to offer immediacy, interactivity, and connectivity. For instance, gamified university open days, where prospective students earn points or rewards by completing activities or quizzes, have shown marked improvements in engagement and information retention (Li et al., 2023). Additionally, the use of digital games with entertaining and humorous elements not only captures the attention of Generation Z but also significantly influences their purchasing decisions (Vasan, 2023). Therefore, revamping promotional strategies to cater to Generation Z is crucial.

Further evidence from Sheetal et al. (2023) suggests that incorporating gamification elements, such as challenges and rewards, into promotional activities enhances customer retention and fosters brand loyalty. These findings align with Xi and Hamari's (2020) research, which shows a positive relationship between gamification features and brand engagement. This suggests that students participating in gamified university campaigns are more likely to form positive emotional connections with the institution, thereby increasing the likelihood of enrollment. However, as Santos et al. (2024) reveal through their bibliometric analysis, much of the existing research has focused on identifying specific game elements for gamification systems and their effects on engagement and behavior. There is limited exploration of how to develop and implement gamification in promotional campaigns, which this paper seeks to address.

3. The Games: TIC ACC TOE and e-TACC-TOE

This paper utilises product innovation as the core research methodology, enabling a structured exploration of how innovative processes drive product development, consistent with Intan et. al. (2008). The novelties and delineation of how TIC ACC TOE and e-TACC-TOE were developed and implemented are discussed in this section.

3.1 Novelties

TIC ACC TOE and e-TACC-TOE are argued to facilitate knowledge retention and attention of prospective ACCA students during the ACCA's promotional campaigns. This gamification tool has been utilized by the Department of Professional Accounting Studies (DPAS) at UiTM in several institutions at both the secondary and tertiary levels, in collaboration with ACCA. It is an initiative to increase the application and enrolment rate in the programme. The game can be adapted by various institutions for other diverse activities, such as orientation programmes, group training, and industrial talks, to achieve similar objectives.

3.2 Game Development

In 2019, TIC ACC TOE (Figure 1) was developed as a gamification promotional tool, modeled after the game "bingo". The goal is to promote the professional accountancy programme, ACCA, at DPAS, UiTM. The objective of the game was to engage prospective students with the promotional content, enhancing its effectiveness in increasing applications for the ACCA programme.

During each promotional event, a session is dedicated to providing an overview of the ACCA programme. The speaker delivers key information about the qualification, highlighting its core features, career opportunities for graduates, and important application deadlines for prospective students. However, due to the variety of entry routes and requirements, the application process can be complex, often making it difficult for prospective students to fully understand the technical details and remain engaged throughout the process. This can negatively impact the number of applications and ultimately affect enrollment rates.

To mitigate this issue, the briefing session is supplemented with a game in which questions are based on the promotional content presented. After the briefing, students are divided into groups of four to six members and provided with a game template that they must complete within a specified time frame. Each team is given 25 answer cards and a TIC ACC TOE board, on which they randomly place the cards. As the speaker asks questions, teams remove the corresponding cards when they answer correctly. The first team to remove five cards in a row, column, or diagonal wins. This interactive format requires students to recall the information from the briefing, enhancing their engagement, retention, and interest in the ACCA programme.



Figure 1. The TIC ACC TOE

In 2022, during the post-pandemic period, face-to-face promotions were not possible. When the focus shifted to online methods, it was crucial to adapt TIC ACC TOE, initially designed for physical gameplay, into the digital e-TACC-TOE. Figure 2 displays the enhanced version, developed using Microsoft Excel's functionalities, and is compatible with smartphones, tablets, laptops, and computers. It features a puzzle game designed to engage millennials using digital tools. The game administrator tailors the crossword clues to align with the activity's objectives, specifically incorporating content from the promotional pack. Players get instant feedback on their guesses—correct answers change colors, while incorrect ones prompt a "try again" message. After finishing the game, players are greeted with a congratulatory message. The first team to complete the puzzle is deemed the winner. These interactive elements enhance player engagement while also helping them retain the content more effectively.

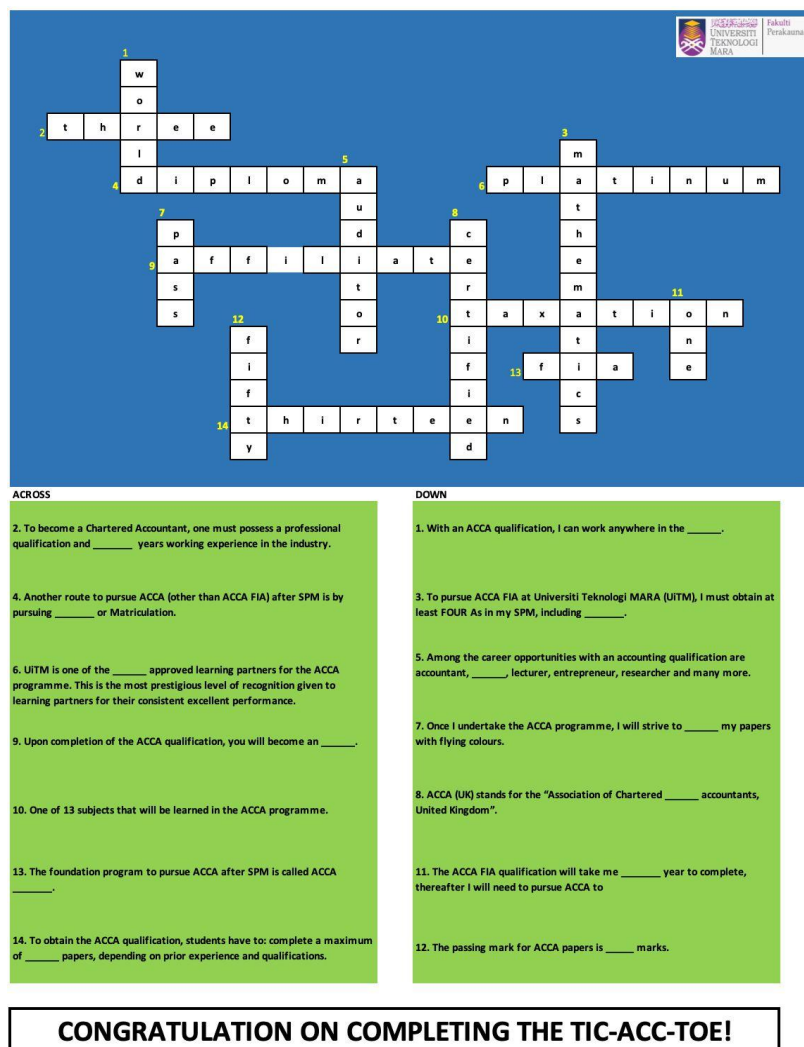


Figure 2. The digital e-TACC-TOE

The game's copyright was registered with two intellectual properties leading to participation in various innovation competitions, earning a silver award at the Invention, Innovation and Design Exposition (iindex) 2020; a gold award at iindex 2022; a silver award (innovation category) at the International Virtual Educational Design Invention and Innovation Competition (iVEDIIC) 2022; a special award for teaching innovation and a gold award (professional: social science category) at the International Research and Science Expo (iRISE) 2023; and a silver award (academics, professionals and industry players category) at the International Education Innovation Expo 2023. These awards demonstrate that the product has gained external recognition on a broader scale, both nationally and internationally.

3.3 Game Implementation

TIC ACC TOE was first launched at Matriculation College A, Perak, in August 2019 (Figure 3) and later implemented at UiTM Branch A and UiTM Branch B in October 2019 (Figure 4). The game was designed to encourage active participation while evaluating students' awareness and knowledge of the ACCA programme. Group sizes ranged from 30 to 100 students, with participants split into smaller teams of 4 to 6. The game duration varied depending on the overall session, the audience's background, and the difficulty of the question. The instructor played a crucial role in balancing the game's objectives while creating an enjoyable experience. Winners received food hampers as consolation prizes.



Figure 3. Using TIC ACC TOE in a promotion event at Matriculation College A (anonymous) held on August 2019 in Perak



Figure 4. Using TIC ACC TOE in promotion events at UiTM Branch A and B (anonymous) held in October 2019 in Johor and Kelantan

After receiving positive feedback from the 2019 rollout, ACCA issued a support letter endorsing the continued use of the game in future ACCA promotional events. In 2022, a digital version called e-TACC-TOE was introduced at Maktab Rendah Sains MARA (MRSMA) A (Figure 5) to promote the ACCA programme. Since the promotional event took place online, DPAS collaborated with the councilor. While DPAS representatives promoted ACCA and provided game instructions through the virtual platform, the counselor monitored the game in person with the students. Approximately 100 Form 4 and Form 5 students from both the science and commerce streams participated in a 1.5-hour Zoom session. The game lasted 30 minutes, with students participating via iPads, tablets, or smartphones. Observations revealed high levels of engagement, particularly in the final moments when the most challenging

puzzles remained unresolved. The first three groups to complete all the puzzles were rewarded with online vouchers, which were later presented during a school assembly.



Figure 5. Using e-TACC-TOE in a promotion event
at MRSMA (anonymous) held on August, 2022 in Kelantan

Since millennials have responded well to interactive and dynamic learning methods, e-TACC-TOE has proven successful in raising awareness about the ACCA programme. The school counselor, who played a key role in ensuring the online session, especially the game, ran smoothly and effectively, agreed that the inclusion of the game significantly engaged the students. As a result, the school expressed a strong desire to continue using the game in future activities. In addition to receiving positive feedback, the promotional campaign led to a 4% increase in DPAS's programme applications from 2021 to 2022, contributing to the national goal of producing 60,000 chartered accountants by 2030.

3.4 Challenges and Limitations

One of the challenges encountered during the promotional sessions is the limited availability of hardware, such as laptops and tablets, needed for the digital gameplay of e-TACC-TOE. Since students in schools are not typically required to use laptops for learning, this could pose an issue. However, this challenge was addressed by notifying the organisers in advance so they could make the necessary preparations.

The event's terms and conditions may also limit the deployment of the gamification promotional tool, as factors such as time and manpower constraints restrict the ability to accommodate a large number of participants simultaneously. Additionally, participant feedback was currently limited to observations by counselors during the promotional event. To enhance and refine the promotional tool, it would be beneficial to distribute feedback forms to participants in the future and analyse their responses.

4. Conclusion and Future Research

The product innovation, TIC ACC TOE and e-TACC-TOE, was developed to improve the effectiveness of promotional events for the ACCA professional accountancy programme at DPAS, UiTM Shah Alam. The creation of the gamification tool was prompted by the complexity of the ACCA programme, which includes various entry pathways and often lacks adequate visibility regarding the commitment needed for successful completion. Thus, the gamification tool is used to assess how well participants retain the information presented to them.

TIC ACC TOE initially began as a bingo-style board game, which was later digitised into e-TACC-TOE. This response addresses the increasing demand for online promotional events, particularly in light of the challenges presented by the COVID-19 pandemic. This gamification promotional tool has proven successful during promotional events, with the faculty seeing a rise in applications for the ACCA professional accountancy programme following the implementation of TIC ACC TOE and e-TACC-TOE. With both physical and digital versions of the game available, it has facilitated and ensured the effective execution of all types of promotional events. This success is crucial, as it supports UiTM's role in advancing Malaysia's national agenda to produce 60,000 chartered accountants by 2030.

For future developments, this product innovation can be creatively adapted by other faculties and institutions to engage millennials, not only for promotional purposes but also for student induction programmes, orientation activities, and industrial talks. Additionally, it has commercial potential to be developed into a mobile application, allowing students to access it easily via their smartphones. As a mobile app, it would also help address the challenge of limited device availability.

This study contributes to the accounting and finance literature by demonstrating how gamification can be systematically applied to promoting professional accountancy education. By developing and testing TIC ACC TOE and e-TACC-TOE, the paper provides empirical evidence on how innovative tools improve student engagement, knowledge retention, and program enrolment. These findings also highlight the strategic role of gamification in strengthening the pipeline for future professional accountants. The study therefore advances both theory and practice in accounting education, offering practical insights for institutions and policymakers striving to meet the national and global demand for qualified accountants.

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