UNIVERSITI SAINS ISLAM MALAYSIA
جامعة العلوم الإسلامية الماليزية
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

Article

Transforming Halal Training Through Gamification and Immersive Technology to Empower Talents

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ABSTRACT - With a 4-year Compound Annual Growth Rate (CAGR) of 7.5%, the Halal economy is estimated to reach US$2.8 trillion by 2025. To obtain and retain Halal certification, businesses must guarantee that their workers are knowledgeable and skilled. Implementing Halal-toyyiban in businesses can be complex, especially when the manufacturing entities are owned and managed by non-Muslims. Therefore, developing a Halal training programme is crucial. The main challenge is ensuring that trainees can retain and recall what they have learned, ultimately changing their work culture and mindset. To address this challenge, corporate Halal training programmes must include built-in learning retention elements, such as gamification through games. Gamification can enhance employee engagement and safety awareness, reduce training costs, and lower learning curves. Moreover, recent technological advancements in Augmented Reality (AR), Mixed Reality (MR), and gamification enhance user experience and performance in various domains. AR and MR are viable options as they can include aspects of the current environment in real-time and present a combination of the virtual world and reality. This study explores the viability of AR and MR gamified Halal training to empower Halal workers for businesses' sustainability and expansion. The study reviews and analyses published literature from bibliographic and other acknowledged sources. Consequently, the authors discovered that while AR and gamification have been used extensively, combining both to enhance experiential learning and immersive experience is in its infancy. The findings suggest that leveraging these options can lead to future-oriented Halal training that improves experiential and immersive learning and is accessible anytime and anywhere.

INTRODUCTION

The Halal economy is fueled by the increasing demands of the 1.9 billion population of affluent Muslims who embrace a lifestyle based on their faith. According to the latest State of Islamic Report forecast, the Halal economy is expected to reach a staggering US$2.8 trillion by 2025. This projection is based on a steady growth rate of 7.5% over four years (SGIER, 2022). Notably, Halal and Haram are essential considerations for Muslims, both on an individual level and for the overall well-being of society. In addition to the religious significance, the growing demand for Halal-toyyiban products and services stems from the comprehensive Shariah guidelines. Halal-toyyiban places great importance on protecting life and health, preserving lineage, upholding self-respect, and maintaining integrity. Note that the Halal supply chain encompasses every aspect, starting

from sourcing raw materials to the production process, all the way to delivering to consumers and handling financial transactions. It can be deduced that Muslims seek products and services that meet their dietary and religious requirements and ensure they are of high quality. In order to meet the growing demand, it is crucial for stakeholders in the Halal supply chain to possess a deep understanding of the concepts of Halal-toyyiban and Haram. This includes the potential consequences of failing to obtain Halal certification or extending its validation. Present-day challenges can be quite complex when the manufacturing entities are owned and managed by individuals who do not practise the Muslim faith. However, there are only a limited number of Muslim employees who have the necessary authority to oversee the production, implementation, and adherence to Halal-toyyiban standards. Therefore, it is of utmost importance for owners, managers, and employees to undergo Halal training in order to enhance their understanding and gain valuable insights into Halal-toyyiban, Halal Assurance Management System, and the internationally recognised Halal application certification process.

Halal training is being facilitated through diverse programmes and initiatives, encompassing Halal product certification via the self-declaration programme and implementing the Traceability-Technology-Training (3T) Framework for Halal Logistics at Small and Medium Enterprises (SMEs). Integrating technology has initiated non-face-to-face training methods. Nevertheless, the traditional classroom setting remains prevalent in Halal training endeavours. Therefore, the COVID-19 pandemic and mobility restrictions have had a detrimental effect on physical Halal training. If this issue is not resolved, it could lead to delays in the training and qualifications of employees and new Halal executives, significantly impacting the Halal industry's resilience. Hence, it is crucial for the industry to develop innovative methods of delivering course content in order to strengthen the Halal training process against potential disruptions.

In addition, training and development professionals often encounter challenges when conducting courses in a traditional classroom setting, as trainees struggle to retain and recall the information they have learned effectively. This problem becomes apparent when the trainees are later expected to put into practice what they have learned in a real-world work environment.
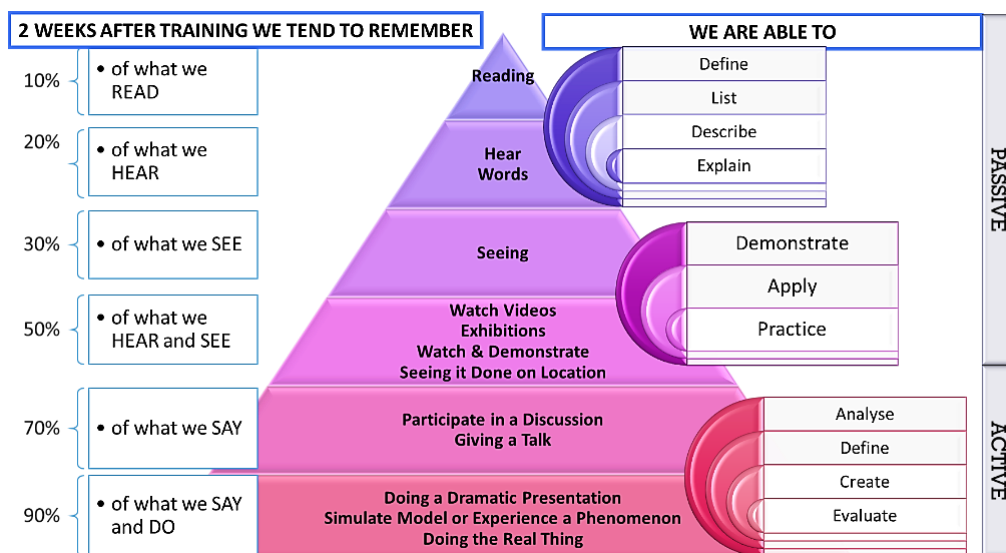
Source: Adopted from Dale's Cone of Learning

Figure 1: Edgar Dale's cone of learning

The famous quote, "Tell me and I forget, teach me and I may remember, involve me and I learn," by Benjamin Franklin, perfectly captures the essence of the Theory of Experiential Learning. It views learning as a transformative process that occurs through firsthand experiences. Meanwhile, Kolb's framework for the experiential learning cycle promotes performance enhancement, learning, and growth. According to Figure 1, Dale's Cone of Learning suggests

incorporating learning retention elements into Halal training programmes can strengthen the modules. Research has also indicated that this can be accomplished by implementing gamification, which involves simulating real-life scenarios to enhance hands-on learning and create an immersive experience (Geelan et al., 2015).

The phrase "involve me and I learn" serves as a powerful reminder that individuals acquire knowledge through active engagement and hands-on experiences. Therefore, incorporating game mechanics into existing entities aims to enhance user experience, making them more engaging, enjoyable, and effective in improving performance. In addition, corporate training incorporates gamification to immerse learners in realistic scenarios, allowing them to experience real-life situations. Moreover, Problem-Based Learning (PBL) activities introduced into the scenario promote the development of critical thinking, communication, and problem-solving skills. Gamification notably affects employee retention and recall rates since users become more engaged with the subject matter, making the learning process enjoyable (Darejeh and Salem 2016). In a study conducted by Deterding et al. (2011), they discussed the concept of gamification. They explained that gamification involves incorporating game mechanics into a non-game setting, shifting participants' behaviours towards desired outcomes, and the achievement of learning goals.

The rapid advancement of Industrial Revolution 4.0 technology (IR4.0) has brought significant improvements and introduced numerous advantageous tools to the workplace. Tools of the IR4.0, including Augmented Reality (AR), Virtual Reality (VR), Mixed Reality (MR), Extended Reality (XR), Blockchain technology (BC), Big Data analytics (BD), Artificial Intelligence (AI), and Cloud Computing (CC), have many applications. The COVID-19 pandemic has led to a positive outcome in terms of the increased use of IR4.0 technologies worldwide. The global community has embraced these modern technologies and recognised their benefits.

AR technology enables the intricate integration of location, visual simulation, and interaction technologies. It enables the overlay of a digital layer onto the actual world, merging virtual and real data to create an immersive environment. Furthermore, AR enables the integration of the real-time existing environment with the virtual world to enhance employee training in operational skills while simultaneously reducing time, costs, and spatial limitations. Therefore, it is crucial to provide an immersive experience and encourage trainees to enhance their work engagement, reduce associated risks, and minimise learning curves (Fade, 2021).

Recent progress in AR and gamification technology has demonstrated its ability to enhance users' learning experience, improving memory retention and skill development (Lampropoulos et al., 2022). Although AR and gamification have been widely utilised, integrating both to promote immersive learning is still nascent. Thus, by utilising tangible devices like smartphones, tablets, and laptops, trainees can engage in the real-time practice of job activities at their preferred speed and without incurring any financial or management risks. Deduced from the argument above, this study intends to explore innovative methods of delivering Halal training content in response to mobility restrictions, particularly focusing on leveraging digital technologies such as AR and gamification. Globally, the rapid integration of digital technology in Halal manufacturing and services is anticipated to enable greater participation in the Halal industry.

LITERATURE REVIEW
Challenges Impacting the Halal Economy
The need for Halal certification has grown significantly due to extensive global liberalisation, which has resulted in a borderless international trading system. According to Pew Research Centre, it is projected that Muslims will make up approximately 35% of the global population by 2050. Additionally, there has been a rise in the number of non-Muslims buying Halal items (Aoun & Tournois, 2015). Additionally, non-Muslims believe that the management and production of Halal products adhere to responsible consumption and support the development of a sustainable economy (Mohamed et al., 2013).

Due to the significant rise in demand for Halal-certified food and drinks among Millennial Muslims, Muslim-majority countries have been compelled to import from Muslim minority countries, which currently dominate 90% of the worldwide Halal market (Masood, 2021). Simultaneously, the worldwide outbreak of COVID-19 and the resulting limitations have demonstrated the vulnerabilities encountered by international participants in the Halal trade. However, the apprehension among consumers regarding the use of Halal items with questionable integrity and traceability has significantly increased following a series of fraudulent incidents amid supply disruptions. Ensuring the resilience and integrity of global Halal food networks and organisations along the Halal food supply chain has become a major problem in ensuring the safe consumption of 1.9 billion Muslims globally. Muslims worldwide have advocated for increased transparency and improved administration of the sector. Therefore, to address the increasing concerns over the safety and quality of Halal-toyyiban products, Halal assurance management systems have been established for several areas of the Halal industry.

Hairol Ariffein Sahari, the Chief Executive Officer of the Halal Development Corporation (HDC), stated in a recent interview that out of the 200,000 businesses catering to the Malaysian Halal market, only 8,000 had Halal certification. Furthermore, only 2,000 certified businesses have the capacity and capability to engage in exporting. They contributed to the RM59.46 billion revenue that was attained last year in a market valued at US$3 trillion (RM13.3 trillion). This highlights the pressing need for Malaysia to enhance the adoption of Halal certification by its SMEs, which play a crucial role in supporting local employment and promoting economic inclusivity.

Gamification, mLearning, and Augmented Reality (AR)
Gamification

Armstrong and Landers (2018) defined gamification as integrating game design elements into an existing training approach to address a problem and achieve the intended outcome. Gamification utilises the principles and mechanics of games in a situation that is not inherently a game, aiming to promote desired behaviour and achieve specific learning objectives (Deterding et al., 2011). In addition, the course incorporates principles of human psychology by integrating obstacles that motivate learners to progress and receive rewards and recognition (Kapp, 2012). Gamification is an excellent method for training as it encourages ongoing participation in learning and enhances the retention of knowledge (Brull et al., 2017). Accordingly, increasing one's knowledge allows for a greater chance to effectively utilise acquired skills in the workplace, leading to achieving performance objectives. In her study, Larson (2020) highlighted that trainees are willing to engage in repetitive tasks, tolerate failure, and persist in making several efforts, even when potential hazards are involved, as long as these activities occur inside a gamified setting. Meanwhile, Darejeh and Salim (2016) proposed that gamification and actual gaming can be differentiated by the incorporation of game mechanics into existing programmes. This resulted in increased user engagement, enjoyment, and performance enhancement.
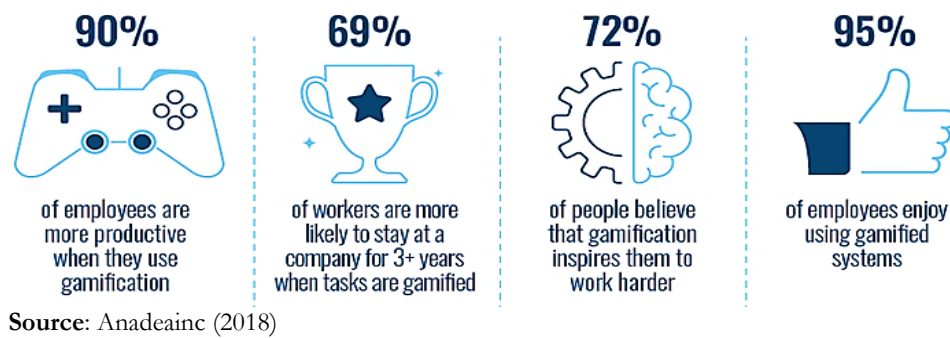
90% of employees are more productive when they use gamification

69% of workers are more likely to stay at a company for 3+ years when tasks are gamified

72% of people believe that gamification inspires them to work harder

95% of employees enjoy using gamified systems

Source: Anadeainc (2018)

Figure 2: Impact of gamification

Figure 2 displays infographics illustrating the influence of gamification on the performance, loyalty, and attitude of employees at companies who use gamification.

Mobile Learning (mLearning)

The drive for digital transformation not only influences company procedures and operations but also impacts the practical aspects of training, particularly in terms of how employees acquire knowledge and enhance their abilities. Notably, the acceleration of IR4.0 technological development occurred during the confinement period of the COVID-19 pandemic (Smith et al., 2021). The proliferation of mobile device technology, a surge in big data, a boost in social media usage, and advancement in wearable computers have led to a significant rise in interest in mobile Learning (mLearning). It refers to the process of acquiring knowledge and skills through mobile technology. It may be accessed through many online and offline platforms at any time and location, leading to a change in behaviour (Behera, 2013). Those with a smartphone, tablet, or other sophisticated portable devices can conveniently retrieve the training material at their convenience, regardless of the device or location. Keskin and Metcalf (2011) stated that mLearning theories encompass various features, including technology, a learner-centred approach, and the current association with pervasive learning. Consequently, it is currently utilised in training as a result of the progress in mobile technology and other IR4.0 technologies that enhance it.

Immersive Technologies and AR

According to Scavarelli et al. (2020), contextual learning enables the seamless transfer of new knowledge and abilities when memory recall is associated with the environment. The utilisation of immersive technology in workforce learning has numerous advantages. This includes the reduction of risks, costs, and time, stimulation of emotions, retention of memory, and enhanced contextualisation (Ahir et al., 2020; Awoke et al., 2021). AR, VR, MR, and XR offer extensive possibilities that meet the highest aspirations (Balu 2022). A Stanford University and Technical University Denmark study discovered that learners demonstrated enhanced recall abilities while utilising virtual teaching methods, leading to a notable 76% increase in learning effectiveness.

AR is an immersive technology that combines reality with digital aspects to enhance the user's experience. This is achieved using digital visual elements or other sensory stimuli. Other than that, Hincapie et al. (2021) asserted that AR merges the actual surroundings with digital data, presenting interactive content that modifies trainees' perspectives. This, in turn, enhances their memory retention and motivation.
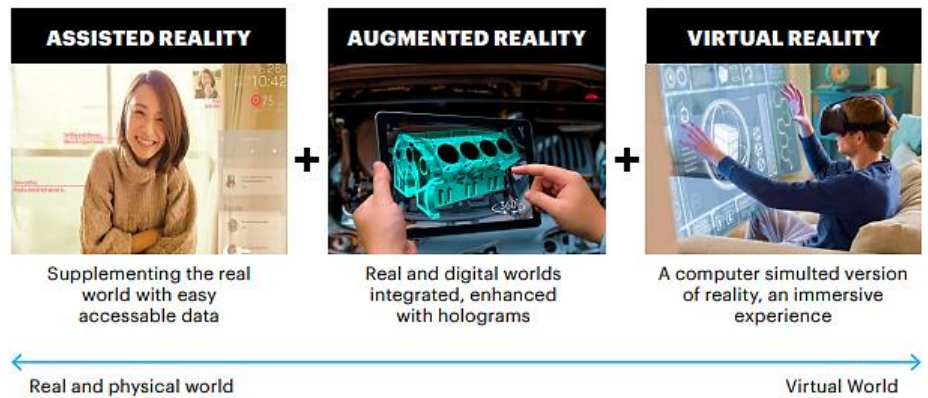
Figure 3: Extended reality

AR and VR differ in their approach to modifying the world. VR creates a completely new environment, whereas AR enhances the existing environment by adding augmented components to enhance the user's experience. According to Gavish et al. (2015), immersive AR settings provide enhanced interactive experiences and need fewer resources, less money, and less time compared to traditional learning environments. Figure 3 illustrates the various simulations observed by utilising diverse, immersive technologies in a professional setting, progressing from basic assisted reality to AR and ultimately to VR.

Advancing Experiential Learning Towards Immersive Learning and Experience

The foundation of the experiential learning theory is rooted in the concept of "learning by doing," which emphasises that the most effective approach to acquiring knowledge is through firsthand experiences. The Experiential Learning Cycle is a sequential learning process consisting of four steps that occur in a continuous cycle at every point of interaction and experience (Kolb, 1984). Note that experiential learning proves that acquiring information and experience via analysis and reflection improves practice (Figure 4).

According to Chavan (2011), experiential learning is the act of deriving meaning from firsthand experiences, either by actively engaging in activities or by learning from an event. The author asserted that experiential learning encompasses independent learning, learning by doing, and PBL. El Bedawy (2017) asserted that business simulation exercises enhance trainees' analytical skills by actively promoting learning through practical application, in contrast to the conventional classroom training method.

An immersive experience is any encounter that uses digital technology to recreate a physical world through a digital or simulated environment. This is achieved by creating a sensory-rich atmosphere that generates a strong sensation of immersion. Moreover, immersive learning involves placing students in an interactive learning environment, either physically or online, to reproduce potential events or teach certain skills or procedures. Note that immersive learning and experiential learning strategies share a close relationship, although they have distinct characteristics. Experiential learning follows a linear structure in which specific activities yield either correct or incorrect outcomes. Meanwhile, immersive learning involves engaging in non-linear activities that allow learners to discover several alternatives and emphasise the development of critical thinking and decision-making abilities. This results in a more comprehensive learning experience. Additionally, immersive learning involves digitally manipulating users' minds to elicit the same reactions as in real-life situations.

Digitalising Halal2U Simulated Boardgame to Animate Halal Training

Observed as having enormously beneficial economic effects, the Malaysian government has established international benchmarks for developing a flourishing Halal economy, from fostering

a strong Islamic banking and finance sector to offering a comprehensive Halal ecosystem. Since Halal products guarantee quality, hygiene, and moral business practices, they have grown in importance among Muslims and non-Muslims alike. As a result, businesses holding Malaysia's Department of Islamic Development Malaysia (JAKIM) Halal Certificate are considered to produce ethically and provide superior Halal goods.

However, since SMEs offer services to enhance Halal integrity throughout the supply chain, they impact the expansion of the Halal ecosystem. However, according to HDC, only 8,000 SMEs are certified as Halal, and only 2,000 can export (Kaur, 2023). The false belief that the Halal application process is difficult, time-consuming, and expensive is the source of the low uptake. Since most SMEs still sell self-described "Halal" goods without holding a Halal certification, this false perception has hurt the Halal market and the integrity of the Halal designation. Thus, the secret is to provide industry participants with technology support and training, particularly with regard to the Malaysian Halal application process.

The situation is dire since, as of 2021, JAKIM had only formally recognised 32 institutes to offer Halal training to reduce the dishonest activities of some training institutions. Figure 1 of Dale's Cone of Learning illustrates that trainee retention rates in traditional classroom training are only 20% to 50%. However, when trainees actively engage in a simulated environment, their memory retention rises to 90%.

The Halal2U Simulation Halal Game was created by researchers from Universiti Sains Islam Malaysia. It offers more dynamic and interesting training materials as well as an inclusive and easily accessible learning environment. Figure 4 displays screenshots from the Halal2U Simulation Halal Game, which replicate the steps a candidate must take to apply for JAKIM Halal certification. The goal is to introduce trainees to the application process in a fun and engaging way. Note that the difficulties trainers have in guaranteeing trainee understanding and retention of Halal information in the workplace are also covered in this simulated Halal game.

Amidst the COVID-19 pandemic, there has been a rapid advancement in the digitisation of education and training. Therefore, to reduce hazards, there is a strong push to enhance the simulation game by transitioning from experience learning to immersive learning through AR technology and mLearning. This innovation will minimise disruptions in Halal training and maintain the sustainability of the Halal business.

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Figure 4: Halal2U Simulation Halal Game

The Importance of Immersive Learning in Halal Training
Incorporating immersive learning, AR, and gamification into Halal training programmes offers multifaceted benefits. Through immersive experiences, employees can grasp complex concepts and scenarios more effectively, as visualisations and realistic environments facilitate better understanding and retention of knowledge and skills. Additionally, AR technology enables remote

collaboration, allowing businesses to leverage expertise worldwide and foster international cooperation in Halal certification and compliance efforts. Furthermore, gamification further enhances engagement by making learning enjoyable and motivating, leading to improved knowledge retention and participation among trainees.

Moreover, the hands-on approach fosters critical thinking and problem-solving skills, aligning with adult learning principles and enhancing employees' ability to apply their learning in real-world Halal certification processes. The data and analytics generated from these immersive experiences inform the continuous improvement of training programmes and serve as valuable insights for policy-making decisions.

By leveraging the power of immersive learning, AR, and gamification, Halal training programmes can become more engaging, efficient, and impactful. This ensures that employees are equipped with the necessary knowledge and skills to uphold Halal standards with confidence and competence. Additionally, this integrated approach enhances the learning experience and contributes to organisational success by reducing costs, improving compliance, and fostering a culture of continuous learning and innovation.

METHODOLOGY

This study intends to investigate novel approaches for delivering Halal training material in light of limitations on mobility, with a specific emphasis on utilising digital technologies like AR and gamification. Hence, it is imperative to thoroughly examine and emphasise suggestions for effectively addressing the notion of transforming Halal Training by incorporating gamification and immersive technology to empower individuals in the industry. The study employed a content analytic approach to collect qualitative data, using an inductive strategy to track and gather essential materials related to gamification and immersive technology in Halal training. Moreover, a diverse range of sources was also employed, encompassing papers, academic journals, articles, material sourced from Malaysian agencies, and mainstream media outlets. The researcher performed a comprehensive examination of existing literature and scrutinised the viewpoints of scholars, researchers, and journalists. This aims to obtain valuable insights and cultivate a comprehension of Halal training utilising gamification and immersive technology. In addition, the analytical technique was employed to gain insight into Halal training in Malaysian business by examining the viewpoints of scholars, researchers, and reporters involved in information dissemination.

FINDINGS AND DISCUSSION

The global Halal industry is of enormous importance; nevertheless, many industry actors do not have a thorough understanding of Halal-toyyiban, which results in difficulties in gaining the trust of Muslim consumers and maintaining that trust. The prohibitions that are given in the Qur'an regarding what is deemed permissible (Halal) and what is considered forbidden (Haram) are followed by Muslims with utmost devotion (Qur'an 5: 1, 4, 5, 8, Qur'an 6:157, and Qur'an seventh verse 145). For this reason, it is absolutely necessary for anyone involved in the sector to obtain a Halal certification that is recognised by institutions in order to build trust among Muslims. The steadfast commitment to the commandments of the Qur'an concerning what is considered Halal and Haram highlights the importance of accredited Halal certification among the many stakeholders in the sector. Not only does the failure to secure such certification pose a danger of losing market share, but it also prohibits businesses, particularly small and medium enterprises (SMEs) in Malaysia, from effectively capitalising on the lucrative international halal market, which is estimated to be worth three trillion dollars.

The integration of Augmented Reality (AR) and Mixed Reality (MR) technology, according to recent studies, has the potential to bridge this comprehension gap and create Halal training experiences that are more immersive and engaging. In augmented reality, digital content is superimposed into real-world situations, which enhances learning. In mixed reality, immersive

worlds are created that simulate Halal-related scenarios. Through the utilisation of these technologies, Halal training is transformed into an engaging and enriching experience, which has the ability to debunk misconceptions and increase the number of accreditation applications.

The use of gamification into Halal training further boosts the motivation and involvement of the participants. Elements of the game, such as point reward systems and leaderboards, stimulate proactive learning, which in turn fosters a deeper knowledge and passion among the participants. As a result of this technique, learning is accelerated and awareness of the Halal business is broadened, making it appealing to a larger audience and maybe boosting the number of people who take certification courses.

Furthermore, immersive technologies help to visualise the Halal certification process, which improves how well information is retained and simplifies what is sometimes believed to be a complicated operation, particularly for small and medium-sized enterprises (SMEs). Learning through hands-on experience is made easier by realistic scenarios, which also improves one's ability to apply theoretical knowledge in actual situations.

However, despite these advantages, there are obstacles to overcome when attempting to use immersive learning and gamification strategies. Initial development expenses, the requirement for technical skills, and opposition to migrating away from traditional training techniques are some of the factors that contribute to obstacles. In order for the Halal business to be successful in overcoming these problems, strategic planning, budget allocation, and proper instructor training are required.

As a result of the dynamic nature of the Halal business, which is driven by changing trends, customer needs, and behaviours, the adoption of augmented reality and mixed reality technologies is required in order to maintain relevance. Using augmented reality, training programmes can be quickly updated to integrate new Halal criteria, ensuring that they are aligned with the ever-changing needs of the industry and the expectations of learners. Furthermore, socio-economic changes have expedited the trend towards digitization in training approaches, which has made immersive technologies more relevant than they have ever been before.

In spite of the fact that the incorporation of augmented reality, mixed reality, and gamification into Halal training offers a multitude of advantages, it is essential to address implementation issues in order to make the most of their potential. Increasing the efficacy of training, satisfying the ever-changing demands of the market, and ensuring sustained growth and relevance in a global context that is rapidly changing are all things that the Halal industry can accomplish by embracing these technologies and reacting to changes in the industry.

As mentioned before, the Muslim community is undergoing significant expansion, suggesting a considerable rise in the future demand for Halal products and services. The Halal industry exhibits a dynamic nature, as evidenced by the constantly changing trends, consumer needs, and shifting behaviours. The adoption of AR and MR technologies is driven by these industrial shifts in order to stay pace with this revolution. AR may quickly adapt training programmes to include new Halal regulations. Consequently, Halal training has the potential to progress towards a more progressive approach that aligns with the changing requirements and expectations of learners.

Furthermore, the existing socio-economic changes have rendered conventional training methods unfeasible as a result of restrictions on mobility and physical closeness. As a result, there has been a shift towards more advanced training methods, placing a significant emphasis on digitization as a primary objective.

CONCLUSION

Undoubtedly, the Halal business is currently experiencing a significant phase of development and expansion, driven by a worldwide surge in the desire for Halal products and services. The expansion is propelled by the increasing utilisation of digital technology in Halal manufacturing

and services, leading to the broader accessibility of Halal products on a global scale. This is because both Muslims and non-Muslims are interested in Halal products that have authentic Halal certification.

To summarise, the fast-growing Halal economy necessitates that firms obtain and maintain Halal certification, which mandates that staff possess the requisite knowledge and abilities. However, the current application of Halal-toyyiban training and practices has substantial challenges, principally because of a restricted understanding of the idea. To address these problems, it is crucial to establish a corporate Halal training course that involves effective learning retention approaches and includes simulated experience aspects. An effective method to accomplish this is by integrating games into the training regimen. Furthermore, the swift advancements in augmented reality (AR), mixed reality (MR), and gamification have created thrilling opportunities to enhance user experience and performance in training.

As AR and VR capabilities become more widely accessible, our ways of consuming material are poised to undergo a substantial upheaval. This will facilitate the emergence of the Experience Economy. It will create a platform that enables consumers and businesses to engage in advanced innovation and experiences. Furthermore, this study suggests that the integration of augmented reality (AR) and mixed reality (MR) with gamification for Halal training is currently in its nascent phase. The primary focus is on improving experiential learning and developing immersive experiences. Moreover, these findings suggest that the use of these alternatives for forward-thinking Halal education, which can be accessible at any time and from any location, can empower Halal employees and enhance the long-term viability and expansion of enterprises.

This study, albeit theoretical in nature, has addressed the urgent matter of the Halal business, specifically in regards to Halal training. It also highlighted the importance of integrating immersive and experience learning in this field. The notion of using augmented reality (AR) and virtual reality (VR) technologies into Halal training is not merely a fanciful idea, as analogous training methods have previously been deployed in the medical sector. If the concept is implemented proficiently and Halal training becomes more easily accessible, it has the potential to significantly augment the expansion of the Halal industry.

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