Penerbit Akademia Baru

Journal of Advanced Research in Technology and Innovation Management

Journal homepage:
http://www.akademiabaru.com/submit/index.php/artim/index
ISSN: 2811 - 4744

Technology Innovation in Event Management

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ABSTRACT

The phases of event management are filtering technology applications due to the expansion, development and viability of numerous events. Due to improvements and developments in event technologies, the format and procedures have evolved as technology plays an increasingly dominating role in society and the events sector. Technology innovation is currently a relevant factor in both the business world and the research field. It is more significant when it is linked to factors like competitiveness and its impact is greater because it is thought to have a longer-term impact on business development. This research aims to investigate the impact of technological advancements in event management by defining events and event technologies. Besides that, it also has examined the understanding of knowledge and important reasons for technology used in event management. This study also discussed the theoretical framework of the relationships between technology and event management. Moreover, the SWOT analysis found event planners such as strengths, weaknesses, opportunities and threats. However, there are some recommendations listed in this study to solve the weaknesses and threats by using technology in event management.

Keywords:
Technology Innovation; Event Management;
Theoretical Framework; SWOT Analysis

Received: 4 Jan. 2024 **Revised: 16 Feb. 2024** **Accepted: 14 Mar. 2024** **Published: 30 Mar. 2024**

1. Introduction

Event is a planned social gathering that is organised by an individual or group to celebrate a particular occasion or to share the moment with each other. Examples of events include small local festivals, enormous international trade fairs, and significant international sporting events like the Olympic Games and the FIFA Football World Cup. Every event serves a function, which is often to unite people and allow them to exchange experiences. Many organisations regularly conduct several types of events as part of their business operations as shown in Figure 1 below.

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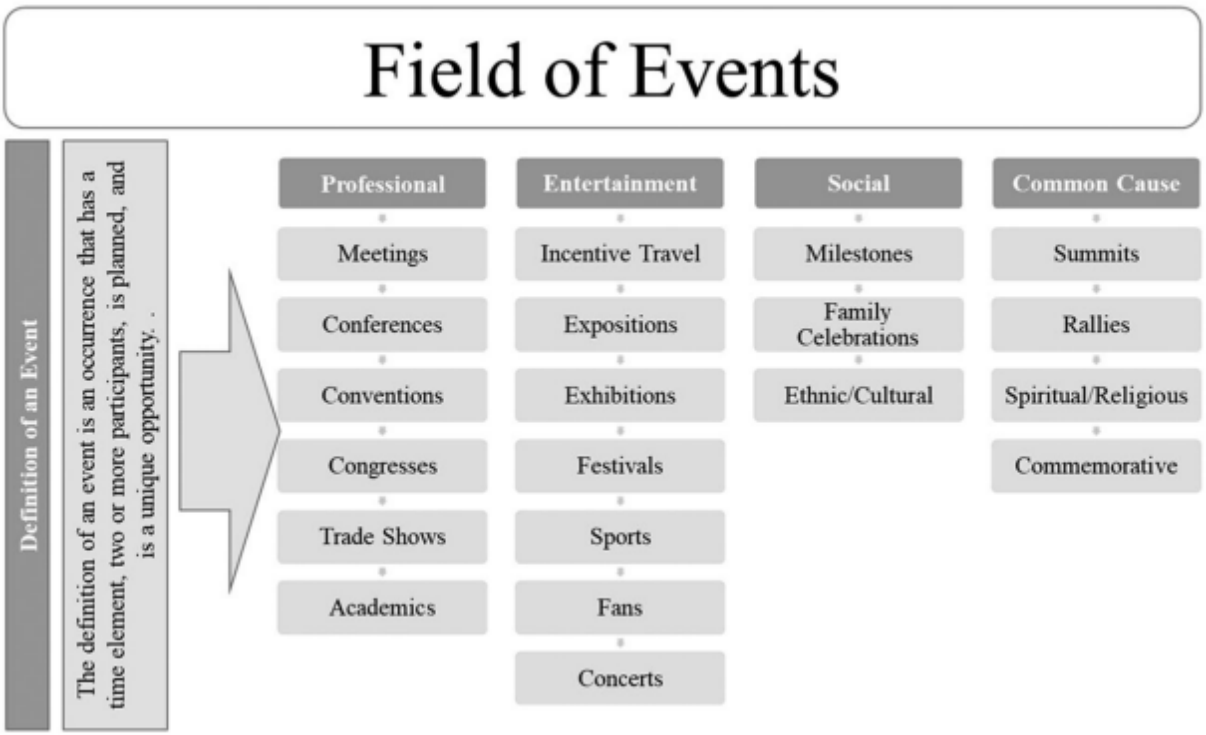

Fig. 1. 20 types of events in all shapes and sizes

Organisers often start planning events by using few months because events are rarely planned months in advance to run successfully [1]. Jackson [2] identified that all events have a certain duration, which is typically specified and made known in advance for planned events which are called event management. Each of these events is distinctive due to the interaction of the management, program, environment, and participants. Bladen and Kennell [3] discussed that design should be viewed as crucial to an event's success in the practice of event management because it enhances the event on every level.

The majority of event buyers' yearly income comes from conventions, exhibits, and meetings, with corporations reporting 48% and associations reporting that 32% of the annual income comes from business events. Events are a field that is always evolving and growing. Events will undoubtedly continue to change because of the introduction of alternate reality, virtual reality, and other technological advancements. In the last century, technological progress has increased at a phenomenal rate relative to earlier periods [4]. Digital disruption is defined as an influence that uses digital capabilities, channels, or assets to change the fundamental beliefs and practices of a culture, market, industry, or process. Consumer engagement with the events sector has changed dramatically over the past ten years because of the rise of social media, allowing for more immersive experiences [5]. Meanwhile, some people question its overall good contribution has brought some negative repercussions. The aim of this paper is to discuss the impact of technological advancement on event management. Event technology has demonstrated its capacity to enhance the event's engagement and dynamics in a variety of creative ways.

2. Literature Review

The world's increasing reliance on technology is being reflected in current events. Technology is essential for producing effective events. This is because consumer expectations and technology are always changing, making it difficult for venues and event planners to keep on top of the newest trends. Due to the pandemic accelerated the industry's use of software and technology, events that are entirely virtual or hybrid rely on technology. Many event planners began to recognize the advantages of event technology when they were compelled to enter the technological era of event planning [6].

2.1 Concept of Event Management

Borbon [7] defined that the event management industry is expanding consistently as more shows and events are produced both domestically and internationally. Event management is known as the process of organising various public and private events for social or professional goals. Numerous tasks are included in event management to carry out large-scale events, such as conferences, concerts, conventions, festivals, and so on. It comprises managing the event's general coordination, collaborating with workers, and managing the project [8]. The 5C's of event management is crucial to approach event management with a strong strategy that allows event managers to handle difficulties such as concept, coordination, control, culmination, and closeout [9].

Event management is crucial because it may assist guarantee that events go smoothly. Successful event management can give the company a lot of exposure to new customers and foster new connections with various vendors or businesses. Therefore, a successful event increases credibility in the industry and broadens more clientele [10]. Kuiper and Smit [11] stated the experience is a psychological process that the experiencer goes through within. Biaett and Richards [12] mentioned that although experiences are essential to events, evaluating and contextualizing their significance is still a challenging task for the profession of event management. The Event Experience Scales (EES) are suitable for the event manager to evaluate generic dimensions of event experience. The EES can be used for several event types and measures the four core event experience qualities of novelty, emotive engagement, physical engagement, and cognitive engagement. Each attendee has a different experience on how experiences affect results or implications of the encounter is crucial [13]

2.2 Technologies in Event Management

Iyanna *et al.,* [14] defined that technology is viewed as the source of all development, the answer to most societal issues, and a tool for releasing individuals from the control of a sophisticated, highly organised society. Traditional management techniques are still changing because of technological breakthroughs, especially in the event industry. The way that events are hosted has changed dramatically because of technological innovation in the event management business. Innovative technology is needed to organise the intricacy and scale of events, which are quickly becoming more complicated and grandiose. However, every element of life has been impacted by technology [15]. Technology has improved event planning efficiency, reduced costs, improve creativity and provide useful insights into attendee behaviour. This includes event planning software, online registration and ticketing, event apps, social media, and live streaming. Event managers stay abreast of technological advancements and use modern technologies to improve the attendance experience to produce successful events. Event organisers will be able to engage audiences in novel and exciting ways as well as elevate the level of the events [16].

According to a range of different experiential levels, knowledge and engagement with technology at events coexist satisfactorily as shown in Figure 2 below.

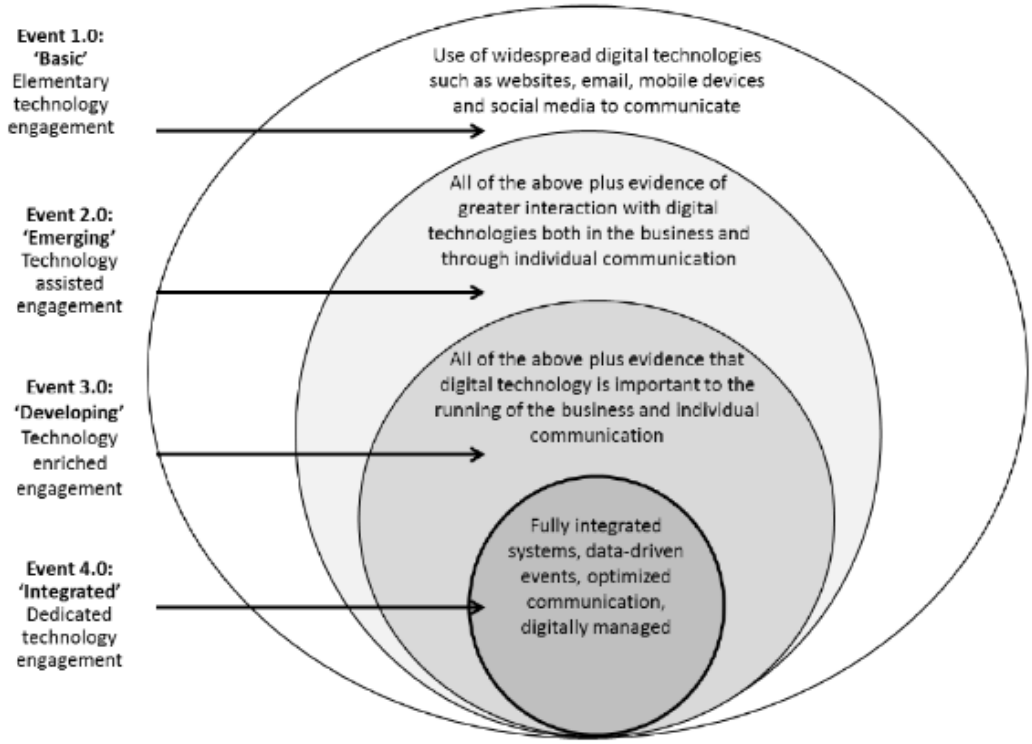

Fig. 2. The various levels of digital maturity in events

The digital maturity of event management is to provide companies to have a better grasp of how events interact with digital technology and the level of digital maturity. The success of an event determines the event's performance, and engagement data collected during the event must be assessed [17]. The ability of an organisation to successfully use technology to further its objectives and maintain its competitiveness in the modern digital environment. The company can now offer data throughout an event in real-time thanks to increasing technological advancements, as the motions and participation are being recorded as data because events can optimize each step of the delivery process because of digital maturity [18].

2.3 Theoretical Framework on The Relationships Between Technology and Event Management

2.3.1 Cost-benefit analysis (CBA)

Jimenez *et al.,* [19] defined Cost-Benefit Analysis (CBA) as a thorough and adaptable tool for evaluating the socioeconomic effects of significant event initiatives. Besides, CBA can help evaluate socioeconomic implications resulting from the events that become a crucial tool for those in charge of the organisation's decision-making. Benefits are calculated as an increase in residents' consumption, whereas costs are associated with the production factors required to plan the event. This is because CBA is required to gather data on residents' spending to calculate the consumer surplus, but it is also vital to calculate the impact of crowding out on nearby businesses. Therefore, CBA is better suited to evaluating the value of an event and helps decision-makers with their judgment regarding the chance to submit a bid for an event [20]. Dwyer *et al.,* [21] stated the ideal

method of event assessment is CBA since it is comprehensive and, in theory, considers all costs and benefits in the impact on welfare related to an event. Additionally, CBA strengthens the information foundation for decision-making in the public sector and assists in establishing relative priorities.

2.3.2 Social influence theory

Social Influence Theory refers to the process by which other individuals have an impact on an individual's thoughts, feelings, and behaviours. Social influence permeates every aspect of our life, from daily interactions to broader effects. The idea of social influence presented here contends that social contact serves as a mirror for the relationship between an individual and society [22]. The people and communities that connect with major events can benefit from them. As more people learn about the action, the group's influence grows stronger, forcing members to follow the majority's rules and persuading others to join. As the action spreads, it becomes more challenging to manage using conventional forms of authority, giving the group more power and influence [23]. If an event had favourable social effects, it usually meant that the citizens of the community hosting the event or the guests at the event benefited from the event in terms of social benefits. Therefore, event planners raise awareness of a certain issue and engage participants in fruitful debates, which will help the social cause's relevance [24].

2.3.3 Technology acceptance model (TAM)

The Technology Acceptance Model (TAM) is the idea that most frequently explains a person's acceptance of an information system as shown in Figure 3 below.

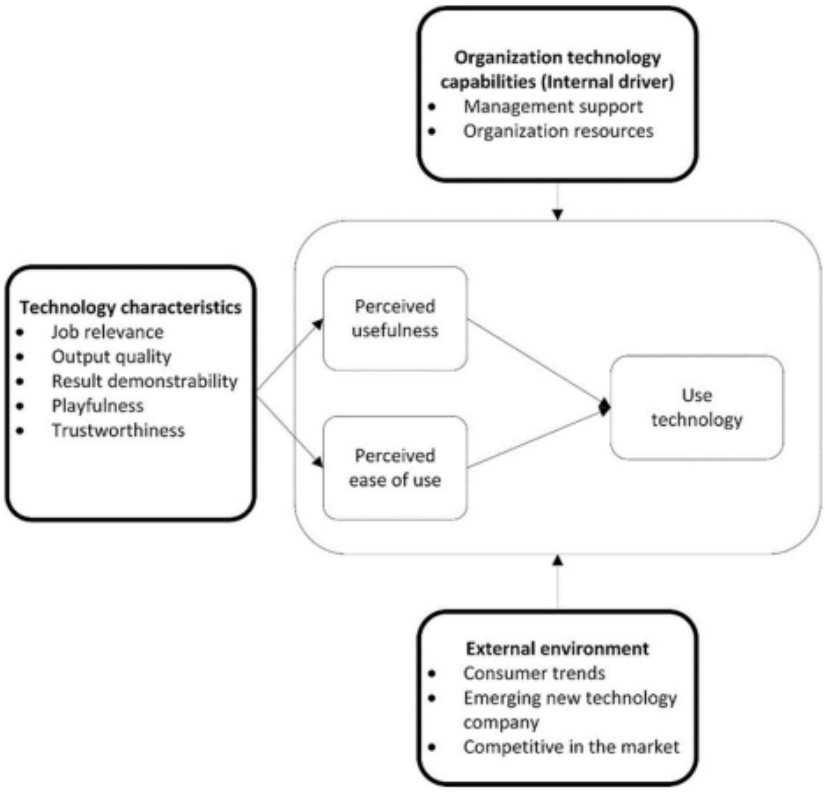

Fig. 3. The framework of the Technology Acceptance Model

The model focuses on elements influencing the users' behavioural intentions to use modern technology. TAM includes the following fundamental elements of user motivation which are perceived usability, perceived utility, and attitudes toward technology [25]. Youn and Lee [26] discussed that perceived usefulness is the users' perception of the improvement in job performance that will be made possible by utilizing a particular technology whereas perceived ease of use is defined as the user's perception of the amount of effort required to use a particular technology. Besides, TAM is useful for explaining how technology is adopted in a variety of contexts. The usefulness may boost one's productivity which will either directly or indirectly result in financial and non-financial [27]. Shen *et al.,* [28] stated that academics are increasingly using TAM to predict user's acceptance of learning technologies.

3. Discussion

Technologies are becoming more user-friendly, and it is essential to understand the fundamentals and establish core competencies in tool selection for event management to be successful. Thus, the SWOT analysis includes strengths, weaknesses, opportunities, and threats to examine the effects of technology on event management.

3.1 Strengths

The strengths of using technology in event management are that technology makes it possible to automate a variety of planning and management that can increase efficiency and save time [29]. This is because it can entail automating workflow procedures like check-in or booking or giving attendees real-time information on their behaviours. The best course of action in the events sector is to implement software that facilitates task automation. It relieves event planners of the pressure of repetitive chores and stay organised without using excessive mental effort [30]. Therefore, event planners can use the event registration software to automate all the procedures that were previously done manually [31]. For example, Radio Frequency Identification (RFID) can be automated for numerous procedures or stages of the event process. RFID can assist exhibitors in monitoring stall activity, measuring extra revenue prospects and automatically analysing each attendee's specific stall visits [32]. Cimbalkevic [33] stated that Tomorrowland is a larger music event that attracts almost 185000 people from different countries successfully by using RFID technology. Besides, the Tomorrowland bracelet allows festival visitors to communicate with one another and most RFID wristbands offer entrance services and mobile payment for food, drink, and merchandise.

Furthermore, technology can offer a tailored experience to make attendees feel special at events. Event technology has been improved to provide audiences with better, easier, and safer experiences [34]. Event planners can use technology to deliver personalized messages and distinctive experiences that improve the stickiness and long-term engagement of events. Large-scale events have all used online ticketing services, event software, and wearable technology to deliver remarkable customer experiences and value [35]. The Event Experience Scale (EES) aids in understanding how people perceive events differently and how these experiences impact visitor behaviour for event planners. However, the event planners will be able to gather insightful feedback and guarantee to improve the event experience for attendees [36]. For example, Virtual Reality (VR) and Augmented Reality (AR) are good technologies to increase the experience for attendees. VR and AR are currently extremely popular by fusing the event technology trend with both in-person and online experiences that elevates engagement to a new level. Attendees may experience events digitally and have a similar experience by using VR and AR [37]. TAM is more likely to be accepted and subsequently employed

as it meets the requirements of output quality, perspicuity, and dependability. Event organisers can modify tools during the technology deployment process to ensure not only a high degree of technology adoption but also to profit from the favourable effects of event attendees' engagement [36].

3.2 Weaknesses

Technology can be a big assistance when organising an event but if it is not handled properly that can be problematic which is complex and presents a skills barrier for event planners. This can be challenging as technologies have specialized knowledge and functions. There is a certain anxiety connected with it due to the development of technology when one is given the duty of learning and understanding technology for the first time [38]. Event planners might not be able to take advantage of innovative technologies like mobile apps, virtual reality, live streaming, or interactive engagement tools if they have insufficient technological abilities [39]. The technology could be automated or streamlined could take longer or be more error prone. Therefore, the ineffective use of these technologies by event managers may lead to inefficiencies, manual workarounds, and decreased productivity [40]. Unfortunately, there are greater concerns associated with utilizing outmoded technology in the workplace than just discomfort and annoyance. For example, the company's event registration tool is out-of-date and devoid of functionalities for the users. When enrolling online, attendees encounter challenges such as delayed website loading, numerous system failures, or a lengthy registration form [41].

Another negative point is technology use and access can suffer from dependence on it. Reliance on technology for news, communication, entertainment, and employment information and support can also have severe repercussions for event planners such as the event being unsuccessful due to the internet or other services going down. This is because the technology for event management is dependent on reliable software, functional hardware, and consistent internet connectivity [42]. Besides, it might become a dependency problem that prevents them from having face-to-face interactions due to dependency on technologies. A tendency to rely heavily on technology can occasionally result in a lack of interpersonal communication and human contact, which are crucial for fostering relationships and producing memorable experiences [43]. This is because a person cannot communicate through body language or facial expressions which causes attendees and event planners to result in misconceptions [44]. The event coordinator can never be certain whether the attendees understood the message correctly. Therefore, event organisers have not received consistent feedback because of the unpredictable nature of the reaction. For example, the absence of attendees' participation or activation during event activities utilizing the Zoom program is becoming a fundamental problem for event organisers [45].

3.3 Opportunities

Technology advancement helps the event industry to boost competition and brand awareness. This is because event organisers use technology to strengthen collaboration between partners and stakeholders, remain in touch with clients, raise awareness through social media, and publish information on websites. The use of technology in the event industry leads to better planning, more dependable and flexible execution, new goods, services, and offerings for every client need and expectation, as well as improved transportation and the advantages of globalisation [46]. Event organisers can utilize social media and online communities to obtain a competitive edge in the market by utilizing innovative event technology. Companies may take lucrative partnerships and

sponsorships by constantly delivering excellent event experiences through technology [47]. For instance, Burger King has frequently developed extraordinary events by utilizing media marketing to extend brand awareness. Burger King offered free Whopper coupons to consumers in exchange for deleting 10 connections on Facebook [48]. CBA is more helpful for event organisers by assessing how a company or event's costs and outputs relate to one another. It determines the contribution made by attendees and participants to calculate a benefit-cost ratio. However, it is necessary to examine events in the areas where they are performed to use this information for decision-making and the production of the most revenue [19].

Another point of opportunity is to increase positive social engagement due to increased routes of communication. Technology can help people connect over shared interests and create more lasting relationships. Greater connectedness facilitates the formation of new relationships and partnerships and encourages social interaction. Virtual and hybrid events have the potential to draw attendees from many racial and ethnic origins. This exposure to a larger group of people can broaden social networks, foster intercultural dialogue, and encourage diversity in social interactions [49]. For example, technologies also enable event planners to make use of the "sharing culture" on websites like Facebook, Twitter, Instagram and others to reach a bigger audience through visual events [50]. Social Influence Theory makes event organisers understand the impact on how they behave in social situations by encouraging participants to build a digital presence and participate in online discussions. Attendees are more likely to copy other attendees and adopt those behaviours as the standard if they observe others actively using event technology elements such as posting on social media or taking part in live polls [22].

3.4 Threats

The threats to event management are the security issues, which are brought on by things like evolving technology. Organisers of exclusive virtual events must be cautious of unauthorized entry. The event's sensitive data include participant information and valuable video assets that must be protected from cybercriminals [51]. This is because there are many video conferencing systems with different cybersecurity precautions that might be difficult to overcome this problem. Event technology may use tracking tools like cookies or tracking pixels to track attendees' preferences and behaviour [52]. Even though this can offer useful information for personalizing and improving events, it creates privacy issues if participants are not made aware of such tracking activities or if it is not done in line with current privacy regulations. For example, there are thousands of recorded Zoom calls found to be accessible on the public internet, raising severe privacy concerns for the millions of people who have converted to virtual contacts. These problems might make people more susceptible to online attacks [53].

Another threat faced by event management is labour can be replaced by technology in some labour-intensive tasks**.** More innovative technology is being used to organise events as the events sector expands globally which has begun to minimize the physical work required in events. Some event management jobs might be automated which might result in employment losses or changes to the labour market [54]. There is less need for manual labour because procedures like participant registration, ticketing, data entry, and basic event coordination may all be automated. As a result, there are prospects of increased unemployment and people losing their jobs [55]. For example, chatbot converse with site visitors and users of event apps in a human-like manner. The chatbot may respond to inquiries, stay in touch with guests, and give forth details when needed. Additionally, this technology may instantaneously translate web material, web pages, and any other communications related to an event in a variety of languages [56].

4. Conclusion

In conclusion, the way that events are hosted has changed dramatically because of technological innovation in the event management business. Many companies that organise events experience losses and even event failures. Due to these circumstances, event planners are compelled to adapt and make changes in event management to stay in business. With the current technological advancement, event planners have a significantly superior advantage in event management [39]. Event planning professionals will unavoidably need to have a thorough understanding and up-to-date knowledge of the wide range of options available to work with and to achieve the desired effect because event technology is more than just the newest trend that will play an important role in future upcoming events. It has vital impact on how participants perceive events [57]. Digital transformation is advancing quickly and generating value in new revenue streams. Social media and mobile technology have integrated seamlessly into the field of event management. The demand for a less passive, more engaged event experience among conference attendees has made mobile devices the lifeblood of many successful events [58]. Successful meeting and event marketing make use of social media for communications, artificial intelligence and machine learning for target market identification, and big data analysis for market research. The emphasis on enhancing the attendee experience and innovation is essential for success given the favourable demand for the number of events [18].

5. Recommendations

Event planners must use innovation to add fresh and alluring components to their events because there is fierce competition in the event industry and shifting consumer demands. Event organisers are under intense pressure to create the most intricate and captivating events in the shortest amount of time. Even though technologies in event management have brought some strengths but also have provided disadvantages that event planners must be aware of. Thus, there are some recommendations to solve the weaknesses of technology advancement in event management that can differentiate themselves from the competition and acquire a competitive edge in the market by adopting innovative solutions.

5.1 Employee Upskilling Programme

Event planners must continuously expand employees' technical knowledge and skill sets by providing employee’s upskilling programs due to technology still fast altering how most event function. This is because workers with an in-depth technical understanding of a wide range of technology are needed in event management to make more experience event to attendees [59]. A comprehensive upskilling strategy's objective is to make sure that your workforce is technically capable of using new software and hardware and cooperating. There are some strategies to improve the technology skills of employees such as agile online training, mentorship, blended learning, and so on. A trained workforce can make use of modern technologies to execute tasks more quickly and accurately. They are also better equipped to fill higher-level positions that call for strategic thinking and capable managerial abilities [60]. The benefit of engaging the employee in the transformation process also supports organisational change management and combats any opposition. The transition to virtual and hybrid events requires technical skill upskilling for many event management professionals. For example, there are some examples of software to assist event managers in managing the upskilling programs including Learning Management Systems (LMS) and Learning

Experience Platforms (LXP). These systems help event managers create efficient learning modules and enhance worker productivity in numerous ways.

5.2 Technical Professional Support

Event organisers should have technical professional support in the event when facing some technology issues or problems. Technical support is the process of giving focused support to an organisation with a development need or problem. Technical support services typically do not offer product training, but instead assist users in resolving some common issues. Technical professional is responsible for managing every aspect of the event's facilities because every event has equipment [61]. The major goal of technical support is to manage event systems and networks across the event management and handle end-user demands such as installing software or configuring devices while resolving technical issues. Therefore, the professional event technology specialist will be on hand to assist with any technical issues at the event [29]. For example, Wi-Fi permeates every aspect of events which shows the increase in the importance of event planners making sure that the Wi-Fi offered at a site is strong enough. All event participants anticipate a reliable and quick Wi-Fi connection. This is because event planners ensure faultless wireless connectivity and enough bandwidth to accommodate thousands of concurrently connected devices using technology such as live communication including video streaming and event apps. The issue of Wi-Fi connectivity and how it affects their events and reputations is beginning to receive much more necessary technical support [62].

5.3 Data Privacy and Security

Data privacy and security for attendees are becoming top priorities for event management software providers. Data on attendees that is stored in event management software must be always secure and private. These details may contain personal information like names, phone numbers, payment information, and so on [63]. Therefore, the event organiser can use multi-factor authentication solutions, adhering to industry best practices, and employing the appropriate third-party software can all help safeguard the private data of your attendees. Event planners must exercise extreme caution while providing data protection for events in the event management sector. Security software solutions have security and privacy protections in place to safeguard personal information, foster trust, and guarantee adherence to data protection laws [64]. For example, event planners must rely on Secure Sockets Layer (SSL) Encryption-Enabled Services. Data is encoded using encryption so that unauthorized parties are unable to read it. Modern event management software protects sensitive data both during transmission and while it is stored on servers using industry-standard encryption mechanisms. This makes sure that the data is illegible and useless even if unauthorized access is gained [65].

Acknowledgement
This research was not funded by any grant.

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