Delegate Views on Face to Face and Online Conference Attendance

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ABSTRACT: Research has confirmed that F2F conferences generate significant benefits for destinations, communities, industries and economies. In addition to the immediate economic effect of a contribution to the visitor economy of the destination, F2F conferences build knowledge economies and networks, driving industry innovation and trade and investment. There has also been significant criticism of F2F conferences, particularly in terms of their negative environmental impacts, inequity of accessibility, and the ineffectiveness of traditional event design. The travel barriers associated Covid19 pandemic disrupted F2F conferences and accelerated the global move to online conferencing. While F2F attendance is returning, there is a growing trend for conferences to offer both modes of attendance; the hybrid conference is becoming the norm. Drawing on recent literature and a survey of international delegates, this study explores the advantages and disadvantages of both F2F and online modes of conference attendance and discusses ways in which we might leverage better outcomes from hybrid conferences in order to maximise outcomes for all stakeholders.

KEYWORDS: *Conferences, F2F, Online, Hybrid, Benefits, Covid-19*

1.0 Introduction

It is well known that face to face (F2F) conferences lead to a range of benefits for delegates, industry sectors and destination communities (Edwards et al., 2017; Foley et al., 2021). For delegates, conferences are fundamentally learning/training experiences (Oester et al., 2017) that expand knowledge and collaborative networks and drive innovation in research and praxis (Foley et al., 2021). Industry sectors are invigorated when their members gather, debate issues, access cutting edge knowledge, techniques and technologies, and take these back to their workplaces, thus benefitting the communities they serve. Destination economies benefit from the immediate economic gains

of the tourism contribution generated through visitation to a city, region and/or country to attend a conference (Foley et al., 2014; Foley et al., 2021; Mair, 2013). More significant benefits that conferences have generated for destination economies include increased trade and investment, global talent attraction, fundraising, and building future research capacity, amongst others (Foley et al., 2013; Foley et al., 2021).

Networking is a particularly attractive feature of F2F conferences because it enables attendees to improve career prospects by developing relationships with other attendees (delegates, sponsors, exhibitors, conference organisers) (Edwards et al., 2017; Foley et al., 2021; Jago & Deery, 2005; Oppermann & Chon, 1997; Severt et al., 2007). Research indicates that personal and professional relationship development are key motivations for attending conferences (Foley et al., 2013; Foley et al., 2021; Jago & Deery, 2010; Mair & Frew, 2018; Mair & Thompson, 2009). Furthermore, these positive outcomes are intrinsically connected to the process of decision-making in conference participation (Mair and Thompson, 2009; Severt et al., 2007). Networking and its many benefits are triggered by F2F communications during (and after) conferences. As Mair & Frew (2018, p. 2153) state, "meeting face to face allows people to get to know each other on a more personal level, and thus leads to better cooperation and collaboration". The intense interactions that occur during F2F conferences enable processes of bonding and building trust amongst attendees, which is necessary for the exchange of knowledge (Edwards et al., 2017).

F2F communication is fundamental not only for networking and creating relationships but also for tacit knowledge exchange (i.e., know-how). While explicit (or codified) knowledge is easily transferred in a systematic formal language (e.g., keynotes and presentations), the subjective nature of tacit knowledge means it is more likely to be exchanged in informal environments like coffee break gatherings, hallway conversations, shared meals, and other activities held in the context of the conference.

These findings suggest that the continuation of F2F conferences is vital to the advancement of science, knowledge and human endeavour. However, the fast spread of the Covid-19 pandemic since early 2020 has disrupted F2F conferences. Almost every part of the world experienced some sort of isolation as governments and health authorities worked to halt the spread of infection, via, for example, community lockdown measures and the closure of international borders. Limited mobility within and across countries meant that conferences were cancelled or rescheduled. Many associations pivoted rapidly to the new circumstances and moved the delivery of their events to online formats. Falk & Hagsten (2020) found that almost one-third of international academic conferences (out of a sample of 587, in diverse fields) planned for the first semester of 2020, changed to online formats. Moreover, this proportion grew as organisers had more time to plan and online conferencing technologies improved. Given this pivot to online conferences and the likelihood that online attendance options will be more frequent in the future, it is important to question whether the impacts of conferences will change.

In this study we draw upon recent literature and a small survey of international conference delegates to understand the advantages and disadvantages of F2F and online conference attendance. In our view, delegates are the stakeholder group from which most of the benefits of conferences emanate. If we can find ways to maximise the opportunities and minimise or eliminate the risks associated

with each attendance mode, we may be able to better leverage the many benefits of conferences previously identified.

2.0 Literature Review

The academic community, prior to the pandemic, were already questioning traditional modes of F2F conferencing and were looking for alternatives to "address the problems related to geopolitics, continuing colonialism, the soft politics and power hierarchies in academic societies, and the alleged need for extensive and excessive physical mobility" (Goebel et al., 2020, p. 813). There were growing concerns from researchers about the shortcomings and negative elements of the traditional F2F conference model (Hischier, 2002; Reay, 2003). These concerns were largely centred on aspects related to accessibility, social inclusion, climate change, and event design.

2.1 Accessibility

F2F conferences are not accessible for all. Cost of registration fees, travel expenses, and the time required to plan, organise and undertake travel are some of the constraints that can prohibit F2F conference attendance (Achakulvisut et al., 2020; Borth et al., 2020; Carrigan & Elder-Vass 2020; Chan et al., 2021; Etzion et al., 2021; Gao et al., 2020; Goebel et al., 2020; Niner & Wassermann, 2021; Saliba, 2020; Schwarz et al., 2020). In particular, time away can be a significant source of stress on one's family and often leads to increased workload on return (Kalia et al., 2020). Early career academics and professional staff can be underrepresented at F2F conferences due to limited access to funds (Achakulvisut et al., 2020). People with physical disabilities, long-term illness, or chronic pain may be constrained by long haul travel requirements and/or conference venues that are not equipped to support their needs (Donlon, 2021; Niner & Wassermann, 2021; Rich et al., 2020). Carer responsibilities (child-care, breastfeeding, caring for the elderly etc.) can make it difficult to attend F2F conferences, and carer constraints impact women disproportionately (Achakulvisut et al., 2020; Henderson & Burford 2019; Kalia et al., 2020; Woolston, 2020).

2.2 Social exclusion

Many conference delegates have positive experiences yet for some F2F conferences can be uncomfortable to negotiate. Delegates can face sexual harassment and assault, slights (Barr, 2017; Burford, 2017; American Historical Association, 2018; Jaschik, 2018) and microaggressions because of one's lower career or professional status, (deliberate and accidental) (American Historical Association 2018; Etzion et al., 2021; Flores, 2020; Jaschik, 2018). F2F conferences can reinforce patriarchy, status markers, or boundary policing thereby enforcing unwanted conformity (Etzion et al., 2021; Flores, 2020). Etzion et al. (2021) noted gendered inequalities of participation and representation, and that some F2F conferences remain inertial and mimetic, replicating the past.

2.3   Climate change

The impact of conferences on climate change was of significant concern for a number of academic associations, some of which are measuring the impact of their reduced carbon emissions as a result of less travel by members (Chou & Camerlink, 2021; Dunn et al., 2021; Donlon, 2021; Fraser et al., 2017; Goebel et al., 2020; Niner & Wassermann, 2021; Rissman and Jacobs, 2020; Schwarz et al., 2020; Woolston, 2020).

2.4   Event design

Additionally, there were concerns that the design of the F2F model was not realising its promise as delegates were tired of speakers monotonously reading their papers and "questioners" delivering a mini-talk rather than an actual question (Elder-Vass, 2020; Kalia et al., 2020) as well as delegates not able to see/hear speakers in large rooms (Gao et al., 2020).

While these issues were circulating in the literature pre-pandemic, Covid-19 accelerated the critique of F2F conferences. Associations, academics and the scientific community are questioning "the role of conferences, including their intellectual, social and personal aspects – and their price for our planet" (Goebel et al., 2020, p. 813), arguing that a transition towards online conference models may help address some of the challenges. Thus, with a significant number of conferences moving online or to hybrid modes, the global health crisis presented an opportunity to push a rethink of the concept of conferences (Abbot, 2020; Niner & Wassermann, 2021; Pacchioni, 2020).

Industry and academic interest in online conference attendance understandably peaked during the pandemic when we were constrained by border closures and other health restrictions, however, the model has been used on a smaller scale for many years (e.g., see Johnson, 2003; Reay, 2003). Online conferences have been described as "structured discussion that takes place via a computer-mediated form of communication [...] they are carefully planned, take place within a clear time frame around a specific topic or topics and are generally moderated" (Johnson, 2003, p.2). Online conferences use the World Wide Web as the infrastructure to hold meetings through videoconferencing, teleconferencing, virtual chat rooms and intranet discussions (Falk & Hagsten, 2020). Currently there is a wide variety of conferencing software available (e.g., WebEx, GoToMeeting, GoToWebinar, Zoom, Vimeo livestream, Youtube streaming, Google Hangouts, etc.).

Recent literature provides strong arguments for providing online attendance options at conferences, and the arguments for holding an online conference in place of the F2F model are well made. Inter alia, benefits reported included reduced costs, reduced waste, reduced travel time, flexible participation, increased inclusivity of knowledge exchange, increased access for a greater diversity of participants, and better work-life balance (Banerjee et al., 2021; Chan et al., 2021; Falk & Hagsten, 2020; Fleming, 2020; Foramitti et al., 2021; Gao 2020; Goebel et al., 2020; Johnson, 2003; Kalia et al., 2020; Labella et al., 2020; Lan et al., 2021; Niner & Wassermann, 2021; Pacchioni, 2020; Power et al., 2020; Raby & Madden, 2021; Rekawek, 2020; Saliba, 2020; Schwarz et al., 2020; Thaler, 2017; Viglione, 2020b; Woolston, 2020; Wu et al., 2021). Researchers argued that online conferences flattened some of the hierarchies inherent in F2F conferences by democratising accessibility (in its

broadest terms), and by improving inclusivity and diversity (Achakulvisut et al., 2020; Goebel et al., 2020; Sarabipour et al., 2020).

It was also argued that online conferences provide improvements in event design. These improvements include a wider pool of online volunteers, videos that can be re-watched, screenshots of slides, and increased opportunities for more comments and discussion through the online chat function (Abbott, 2020; Banerjee et al., 2021; Case t et al., 2018; Fraser et al., 2017). Their ability to contribute to reduced greenhouse gas emissions from flights and ground transportation is seen as a highly beneficial feature (Achakulvisut et al., 2020; Klöwer et al., 2020). Although some articles refer to F2F conferences as 'legacy' conferences, this term was not used when discussing online conferences. No papers reported on the broader impacts of conferences such as knowledge outcomes, innovation, economic development, or the lack thereof, as a result of going online.

It is clear though that online conferences are yet to meet one of the most important aspects of F2F conferences – the forming of social bonds between delegates that emerge from physical interaction at conferences (Edwards et al., 2016; Foley et al., 2021; Foley et al., 2014). Some beneficial outcomes of physical interaction (e.g., networking, and tacit knowledge transfer) are difficult, although not impossible, to emulate in virtual settings. Though some articles mentioned that there are a growing number of technological tools for more interactive online conversations, the lack of opportunity for networking F2F is seen as a shortcoming of virtual gatherings (Chan et al., 2021; Epstein, 2020; Etzion et al., 2021; Fleming, 2020; Gao 2020; Kalia et al., 2020; Levitis et al., 2021; Niner & Wassermann, 2021; Pang et al., 2020; Power et al., 2020; Raby & Madden, 2021; Reshef et al., 2020; Stamelou et al., 2020; Viglione, 2020b; Weber & Ahn, 2020). As Pacchioni (2020, p. 163) argues, "after all, most of the fruitful discussions tend to happen outside the conference room, and it's not unusual for new collaborations to be sealed over a walk or a meal". F2F conference attendance allows two-way and multi-way exchanges through which people make "genuine impressions" that cannot be achieved in the same manner by virtuality (Oester et al., 2017). Notable omissions from the literature include the impacts of online conferences on the broader (beyond tourism) social and economic legacies that F2F conferences bring to destinations (Edwards et al., 2016).

An option proposed for addressing some of these concerns is the hybrid conference format which combines online with F2F attendance (Dousay et al., 2021; Fleming, 2020; Schwarz et al., 2020; Kalia et al., 2021; Woolston, 2020). Hybrid conferences are believed to improve the capacity of conferences to meet climate imperatives while meeting many of the inequities in F2F conferences (Niner & Wassermann, 2021). They are considered to provide flexibility and options for delegates when weighing a variety of considerations (including ethical, financial, social, and academic) (Donlon, 2021), and offer the opportunity for diverse and more intimate, physical events complimented by virtual sessions (Newman et al., 2021).

Covid-19 has significantly challenged the business events industry. As the sector restarts business under a new normal it is important to understand delegates' perspectives of how they have been impacted and what they may want from their future conference experience. With this in mind, in 2020, we undertook research to examine delegates' experiences of conferences during the pandemic and what they missed most about not attending F2F conferences.

3.0 Research Design

Since 2009, the authors have been gathering data from delegates of international conferences, held in Sydney, Australia, on the impacts of conferences. In 2016, we began asking respondents if they would agree to participate in future studies. Over the period 2016-2020, 742 respondents opted in. This subset of respondents from previous studies formed the population for the current study.

The study was designed to gather data on delegates' initial conference plans and expected cancellations, their Covid-19 circumstances, the effect of Covid-19 on their conference attendance, how they were impacted by not attending F2F conferences and the level of this impact, their opinions on F2F and virtual modes of conferencing, future conference attendance, and demographics.

Data were collected using an online survey. The research team were mindful that the questionnaire should not be too long. Therefore, a subset of previously used conference legacy questions were selected for use in the study. A link was sent to 742 people who had previously attended an international conference in Sydney, had completed a previous conference survey, and had indicated that they would be willing to participate in future studies. The survey link was distributed on June 5, 2021 and a reminder was sent June 11, 2021. Forty of the 742 emails bounced resulting in 702 valid emails.

Overall, 74 responses were received. Four of those responses were excluded, three of them originated from the same IP address but did not include any answers. So overall, there were 70 valid responses (10%). The data were analysed with SPSS. Open-ended questions were manually categorised into themes and cross-checked by the investigating team. Due to the nature of the survey, not all respondents answered every question. Where appropriate the number of respondents answering each question is noted.

4.0 Findings

Sixteen per cent of 70 respondents live in Australia, while 84% live outside of Australia. Of the respondents who live outside of Australia, 44% live in the Americas, 28% live in Europe, 7% live in Oceania (New Zealand), four percent live in Western Asia (Turkey, Bahrain, UAE), five percent live in South Asia (India, Sri Lanka, Nepal, Bangladesh), and five percent live in East Asia (HK, Philippines, Thailand, Japan). The largest group of respondents (47%) had last attended a conference as a practitioner delegate, followed by academic delegate (34%), and member of the organising committee (13%). There was one sponsor, one exhibitor, one delegate – patient/carer/advocate, and one respondent who identified as "other".

Sixty-eight per cent of the respondents were male. Thirty per cent of the respondents were aged between 50 and 59, 28% were aged 60 years and older, 19% were aged between 30 and 39, 19% were aged between 40 and 49, and 4% of respondents were aged below 30. In line with this age distribution, 58% of respondents identified as being "late career" while 25% identified as "mid-career", 12% as "early career", and 6% as "other". An almost even percentage of respondents live in a multiple person household without children under the age of 18

years (41%), or in a multiple person household including children under the age of 18 years (39%). Seventeen per cent of respondents live in a single person household, and 3% in "other" arrangements.

4.1 Covid-19 context and perceptions

Fifty-seven per cent of respondents worked primarily from home during the Covid-19 crisis while 37% did not. An additional 3 respondents explained that they split their working time between working from home and at work. Respondents' feelings regarding the Covid-19 situation were complex. While 41% of the respondents were happy to have time at home, others indicated feeling frustrated (40%), stressed (37%), and anxious (27%). Twenty per cent felt the COVID-19 disruption provided opportunities with one respondent saying, "worked as usual, but happily had more time at home with family too as no shops etc.". Other feelings voiced by respondents included feeling "frustrated at not being able to travel for leisure", "frustrated at not being able to work efficiently with a young child at home", "stressed as a doctor in the hospital system", "optimistic", "realistic", "sad", and feeling the pressures of a "double workload".

4.2 Perceived Impacts of Non-Attendance

Respondents were asked if not attending F2F conferences had any impact on them. If respondents answered yes, they were then instructed to indicate the level of the impact and the timeframe in which they consider the impact to occur (Table 1). Reduced opportunities for networking, making business contacts, generating business leads, gaining recognition in my field, professional development, new knowledge acquisition, securing business deals, hearing about the latest research, showcasing their latest research, and closing business deals were considered short or medium term impacts from not being able to meet F2F. These variables were considered to have average impact except for networking and securing business deals which were considered to have a high impact.

Table 2 provides an analysis of the no responses (i.e. respondents not impacted by the variable) and the level of this impact. Respondents did not agree that missing F2F conferences had given them more time for teaching and research or enabled them to focus on their publication output, and they rated these impacts as low and in the short term.

Table 1: Impact of not attending F2F conferences (yes responses)

Statement	N/A	Yes	Unsure	Low Impact	Average Impact	High Impact	Short Term	Medium Term	Long Term
Reduced networking opportunities	0	**87%**	4%	15%	26%	**59%**	**58%**	48%	21%
Lessened opportunities to make business contacts	12	**84%**	5%	26%	38%	36%	**52%**	50%	21%
Reduced opportunities to generate business leads	24	**75%**	5%	41%	24%	34%	**52%**	45%	17%
Reduced my opportunity to gain recognition inmy field	11	**68%**	11%	24%	47%	29%	47%	**58%**	14%
Reduced opportunities for professional development of early career researchers /professionals	22	**66%**	11%	14%	41%	45%	**56%**	**56%**	30%
Lessened my new knowledge acquisition	1	**60**%	12%	27%	**54%**	20%	**60%**	45%	13%
Reduced my opportunities to secure business deals	29	**60**%	10%	30%	15%	**55%**	**50%**	**50%**	20%
Reduced my opportunity to hear about the latest research	4	**58**%	8%	13%	**55%**	32%	45%	**63%**	8%
Reduced my opportunity to showcase my latest research	16	**57**%	7%	21%	41%	38%	**71%**	36%	18%
Reduced my opportunities to close business deals	31	**55**%	11%	41%	24%	35%	**47%**	35%	29%
Reduced my research collaborations	21	48%	17%	13%	**57%**	30%	41%	**59%**	18%
Reduced opportunities to obtain research funding partner	30	41%	23%	44%	44%	13%	**56%**	**56%**	19%
Enabled me to focus on my publication output	20	39%	8%	29%	**53%**	18%	**56%**	44%	6%
Limited my opportunities for investment	36	39%	12%	**50%**	8%	42%	**50%**	42%	25%
Given me more time for research	16	34%	11%	35%	47%	18%	**77%**	23%	8%
Limited my ability to obtain grant funding	28	34%	27%	21%	36%	43%	**50%**	**50%**	20%
Given me more time for teaching	30	33%	8%	33%	33%	33%	**75%**	17%	8%

Notes: Automatic rounding applied. Multiple impact duration responses allowed.

Table 2: Impact of not attending F2F conferences (no answers)

Statement	N/A	No	Unsure	Low Impact	Average Impact	High Impact	Short Term	Medium Term	Long Term
Given me more time for teaching	30	**59%**	8%	**83%**	11%	6%	**79%**	14%	7%
Given me more time for research	16	**55%**	11%	**60%**	30%	10%	**56%**	39%	11%
Enabled me to focus on my publication output	20	**53%**	8%	**74%**	22%	4%	**75%**	20%	10%
Limited my opportunities for investment	36	49%	12%	**50%**	8%	42%	**78%**	-	22%
Limited my ability to obtain grant funding	28	39%	27%	**100%**	-	-	**83%**	17%	33%
Reduced my opportunity to showcase my latest research	16	36%	7%	**79%**	21%	-	**69%**	23%	15%
Reduced opportunities to obtain research funding partners	30	36%	23%	**100%**	-	-	**89%**	11%	-
Reduced my research collaborations	21	35%	17%	**100%**	-	-	**75%**	-	25%
Reduced my opportunity to hear about the latest research	4	34%	8%	**88%**	12%	-	**73%**	33%	7%
Reduced my opportunities to close business deals	31	34%	11%	**100%**	-	-	**75%**	25%	-
Reduced my opportunities to secure business deals	29	30%	10%	**100%**	-	-	**100%**	-	-
Lessened my new knowledge acquisition	1	28%	12%	**83%**	17%	-	**100%**	27%	18%
Reduced opportunities for professional development of early career researchers/professionals	22	23%	11%	**100%**	-	-	**50%**	38%	13%
Reduced my opportunity to gain recognition in my field	11	21%	11%	**92%**	8%	-	**86%**	-	14%
Reduced opportunities to generate business leads	24	20%	5%	41%	24%	34%	**100%**	-	-
Lessened opportunities to make business contacts	12	11%	5%	**78%**	22%	-	**100%**	-	-
Reduced networking opportunities	0	9%	4%	**75%**	13%	13%	25%	75%	-

Notes: Automatic rounding applied. Multiple impact duration responses allowed.

Networking was, by far, the most frequently mentioned aspect respondents missed in not attending conferences and was expressed in diverse ways. They missed "meeting new people", "maintaining existing relationships", "discussing ideas with speakers and other delegates", "feeling part of a community", being "exposed to new ideas and equipment", and "intellectual stimulation". They missed the "global networking opportunities" in which they can make "business contacts" and grow their "new knowledge bases".

Respondents stressed the importance of being physically in one space and having the opportunity to socialise to develop and maintain relationships between "human beings". "I miss being able to talk F2F with people I only know via email, and our relationships are harder to maintain with no personal contact and without being able to showcase our technology". Indeed, they see conferences as important environments in which people can build trust (Edwards et al., 2017), as one respondent explained: "F2F meetings provide a space for meeting attendees to bond with one another before, during, and after meetings. This bonding experience fosters feelings of trust and empathy, which are essential in any successful business relationship".

The ability to interact and discuss issues F2F was missed by many respondents. They missed making new "meaningful contacts" or having the "opportunity to present their new research findings". Respondents missed the "broader discussions with scholars and experts from different countries" the opportunity to "stay up to date" with the "latest developments", opportunities to "spontaneously break away discreetly with a small group", understanding the "specifics of a customer's concerns" and "talking informally with colleagues in conversations and discussions that occur outside sessions".

4.3   Covid-19 and the Future of Conferencing

Eighty-six per cent of respondents noted that the domestic and international F2F conferences they were planning to attend had been cancelled as a result of the Covid-19 lockdown. Of these respondents, 30% indicated that one domestic conference they planned to attend was cancelled while 60% indicated that two or more domestic conferences they had planned to attend were cancelled. Twenty-seven per cent of respondents indicated that one international conference they had planned to attend was cancelled, while 57% of respondents indicated that two or more international conferences they had planned to attend were cancelled.

Respondents were expecting a return to F2F domestic conferences with 71% not expecting to miss any domestic conferences in 2022. The mean number of domestic conferences respondents expected to miss in 2020 and 2021 were 3 and 2, respectively. Similarly, respondents expected a return to F2F international conferences over the following two years with 70% not expecting to miss any international conferences in 2022. The mean number of international conferences respondents expected to miss in 2020 and 2021 were 2 and 1.3, respectively.

4.3.i Perceived benefits of online conferencing

The majority of respondents engaged in alternative online modes of conferencing during the pandemic including Webinars (84%), Zoom (77%) and online conference (56%). When it came to what respondents liked most about these alternative online modes of conferencing four themes emerged: travel and cost, time, convenience, and flexibility. These themes are interlinked in that they are all underpinned by time. Less travel gives respondents more time, allowing them to attend from home, which is more convenient, flexible, and efficient use of their time.

Travel and Cost

Many responses were linked to savings in time and costs with online conferences being free of charge or low-cost and not incurring travel costs. Respondents said online modes of conferencing meant they could save "time and money", allowing them to "avoid the cost, stress, and hassle of travel", which also meant "no jetlag" and they could be more "efficient with personal time".

Time

Time was considered an important commodity by respondents and refers to saving time by not travelling and "receiving information from home in their own time" enabling the respondent to have "an increased focus on being results orientated", improve their "efficiency with [their] personal time", and not "wasting [their] time by completing other tasks".

Convenience

Thus, online modes of conferencing were considered convenient for respondents. Respondents explained that as no travel time was required, that they could join from home, and stressed the convenience of this. Online modes accorded respondents convenience because they could attend when they "are unable to get time off work", could multitask by doing "other things simultaneously" while listening to "sometimes irrelevant conference presentations", and be able to wear more comfortable attire.

Flexibility

Moreover, they explained that online conferencing allowed them more flexibility regarding when they chose to view the recordings and which sessions they were attending. Online conferencing offered respondents ease and flexibility in terms of "timing and ability to go back and revisit recordings", being able to "view sessions on demand", and do things in their "own time".

For some respondents, small group webinars fostered a "one on one element of contact" allowing them "to be more involved in group discussions" and "to be heard", which may not occur in "a big group setting". Some even considered online modes to have "more engagement, higher audience participation", and to be "more fun" with "interactive chat sessions" and an interesting way to share information with "more productive exchange of ideas". They could hear from "experts all over the world" at low cost while staying at home. One respondent felt "it was possible for more clinicians to be involved" and another felt that they could be "organized much quicker and with more people". Finally, for one respondent being online meant there was "no risk of infection".

4.3.ii Perceived challenges of online conferencing

Respondents made several comments on what they liked least about alternative online modes of conferencing, and these were grouped under four themes: lack of sociability, lack of engagement and interaction, no networking, and technical issues. It is not surprising that sociability was missed in online conferences. Conferencing from home means limited or no social interactions, and respondents found online modes to be "impersonal", particularly as there was a lack of "personal interactions, no spontaneous corridor chats, no opportunity to speak with colleagues and follow up at social settings or during meals" and it was difficult to have "side discussions". One respondent summed it up by commenting that "when it was done, everyone went their separate ways".

A lack of engagement and interaction meant that respondents found it difficult to interact with delegates and experts, to network and "engage" in the online event, which they felt limited the generation of new ideas. Online modes of conferencing were considered to not be as interactive and just like "another day at home". They also stated that the "ease and opportunity" of asking questions was missing, and they would have to wait to "ask or answer questions". They commented that online was "a boring environment", it was "difficult to maintain concentration for long periods", and they became tired from prolonged screen time. Some would restrict themselves to "the essentials, thereby missing happy accidents". For others it was difficult to immerse themselves in the online event, and so their "learning was decreased".

Online modes of conferencing "scarcely replicate the powerful connections that are often made during F2F conferences" and the ability to "network with colleagues or chat with colleagues that I don't see often, and that may spark new ideas and collaborations" is limited.

For some technical issues were a problem, including no connectivity, bandwidth limitations, difficult to hear speakers, technical glitches that were disruptive, slow internet connection and awful sound quality.

Other elements that respondents were critical of related to the nature of online conferences, including not hearing questions from other delegates, time zone issues and organising correct time schedules, and no opportunity to travel as "something about getting away from the incessant job is therapeutic". In contrast to those who said that they liked not having to travel, others missed this element particularly "not being able to travel to fun places or see different opinions and cultures".

4.3.iii Re-evaluating Conferences

Next to respondents' experiences, the questionnaire asked respondents if not attending F2F conferences made them re-evaluate the value/importance of such conferences. Sixty-two per cent of respondents stated that not attending F2F conferences made them re-evaluate the value/importance of F2F conferences while 38% did not. Explanations for re-evaluating the value/importance of conferences were grouped into the themes of resources, connecting with other delegates, and serendipity and innovation. Apart from resources, there was an overall feeling of a greater appreciation for the social benefits that can be realised from attending a F2F conference.

Resources

Many respondents became more aware of the ecological footprint they have by attending F2F conferences, with one respondent stating "an intercontinental flight emits more CO2 than what I emit in the whole year". A majority of respondents indicated that they are now aware that there is more to a conference than simply imparting knowledge, that they can achieve "70% of what I need without travelling" and it has "made me think about alternative ways of re-connecting or establishing new connections with people in my field", particularly as virtual conferences are a "good alternative to imparting knowledge".

Connecting with other delegates

Many missed the F2F interaction with other delegates, "I'm an extrovert and have always valued meeting people in person, I miss it desperately now", and asserted that with no interaction or networking they find being online for more than an hour a day as "draining and tiring", and "boring". One respondent questioned "how can I trust people online"?

Serendipity and innovation

Other respondents had a new appreciation for the new ideas and opportunities afforded by serendipitous F2F meetings and social events. A key value of F2F conferences is all "the informal/ serendipitous hallway conversations" and interactions with other attendees that spark new ideas, new collaborations, and generally make F2F conferences exciting and fulfilling events.

No need to re-evaluate - I know the value of conferences

Thirty-eight per cent of respondents stated that they had not re-evaluated the value of F2F conferences. Many explained that they were already aware of the value and so did not need to re-evaluate. For example, "I needed the difference of being out of my normal environment to be able to switch gears and focus on taking in the information, and if I stay home, I just keep working, and never relax".

Others had not re-evaluated for different reasons. One respondent noted they had already been "telecommuting for 20 years so … I haven't changed much of how I operate". Another noted "I don't currently attend many meetings, so the loss hasn't impacted me as much as some other colleagues". This raises an important point. Many have not had much experience prior to COVID-19 with online conference attendance and so may not be aware of the different skills and behaviours required to leverage benefits. Those with more experience may have developed ways to interact meaningfully with other participants. Some stated that they would take up more opportunities to attend F2F conferences in the future.

Others said they would take more advantage of opportunities at F2F conferences in the future to enhance their networking. Yet others stated that they would consider online options rather than F2F for some of their future conference attendance to minimise their ecological impact and health risks associated with travelling.

Many of the respondents who had re-evaluated F2F conferences positively agreed that this re-evaluation would impact their future attendance at F2F conferences with the hope of attending as soon as possible.

4.3.iv   Resumption of conference travel

Eighty-four per cent of respondents looked forward to a return of F2F conferences, and an additional 10% said they did not know. Only 6% negated looking forward to F2F conferences. Based on the current outlook, almost half of the respondents were positive in their outlook and expected to undertake short-haul international conference travel again in 2020 while only 11% thought it would take until 2022 or later before they would resume short-haul conference travel. Respondents from the Americas and Europe had a more favourable outlook than those from Australia and New Zealand.

In contrast to short-haul travel, only 17% of respondents expected to resume long-haul conference travel in 2020 and 54% of the respondents stated that they thought it likely to resume long-haul travel by mid-2021. However, a longer timeframe was considered likely for other respondents regardless of where they live, with 19% expecting to resume long-haul conference travel in 2022 or after. Fifty per cent of all respondents indicated that they are more likely to travel sooner to destinations that were less impacted by Covid-19 than those that were severely impacted. Another 34% did not know, and 16% negated that this would be the case.

4.3.v   What future conferences should do differently

Respondents were asked if there is anything that they would like to see conferences do differently. A typical comment was, "if we have learned anything …it is that normal common-sense hygiene practices are not normally given enough attention". Overwhelmingly the concern for respondents regarding future conferences were health and hygiene issues. They would like to see activities which ensure safe F2F conferencing including hygiene measures such as provision of hand gel, regular toilet cleaning, capacity control Remeasures, no buffet-style meals, emergency response plans, health care facilities in the conference venue, handwashing, facility hygiene, etc. The sentiment is summed up by one respondent who stated, "coronavirus has been very emotional as have been the political responses. Yet in fact there are milder pandemics every few years that remain invisible to many people even though they present real dangers. High touch surfaces should be cleaned often. Crowded areas should be kept ventilated and clean. Provisions should be made to keep hands sanitary". Yet, for some, social distancing was perceived as "counterproductive to the efficacy of conferences". Thus, conferences in the future will be challenged to create an atmosphere that is conducive to networking, socialising and engaging whilst ensuring the safety and wellbeing of delegates.

Other comments focused on improving functional elements of conferences such as re-focusing a conference to be "more on skill transfer and networking opportunities" and networking sessions made "fun and easy". Technical upscaling (video ability, etc.) of F2F conferences to facilitate hybrid functionality, a hybrid functionality to ensure delegates from countries that might be experiencing a higher burden of Covid-19 can attend, and assurance that the host destinations are COVID-19 free, i.e. no new cases in last 60 days.

5.0   Discussion

The findings concur with previous studies that noted the importance of conferences as places to escape day to day routines (Foley et al., 2013; Foley et al., 2014). There is no doubt that F2F conferences provide a social glue (Foley et al., 2021) that creates serendipitous, unplanned encounters which create new ideas and opportunities (Edwards et al., 2017). Consequently, delegates were looking forward to attending F2F conferences again as they missed catching up with colleagues and friends (Foley et al., 2016) along with the ideas and opportunities that can arise through serendipitous F2F meetings and social events. "The formation of collaborative relationships (particularly in the early stages) is sensitive to physical distance" (Foley et al., 2021, p. 69) and trust and familiarity are important elements required to underpin collaborative legacies (Edwards et al., 2017; Foley et al., 2021). As F2F connections were reported missing in online interactions, whether a person could be trusted online was questioned. Attendees can find it more challenging in online mediums to discern the more unique "aspects of one's personality" (Foley et al., 2021, p.69). Hence, these aspects underpinned delegates' reasons for attending conferences again.

Attending F2F conferences, however, was dependent on flights being resumed, the destination countries having favourable government travel advice and national protocols around safety and hygiene, and venues demonstrating they had appropriate hygiene practices in place. Future conferences may need to refocus their offering to facilitate the transfer of skills and be more inclusive by facilitating hybrid functionality to enable those with personal challenges and commitments to attend online. It will be important for conference organisers to ensure the smooth running of online sessions to ensure technical glitches are minimised. This may include test sessions with online presenters to ensure any potential problems with an attendee's own technology set-up are identified and rectified.

6.0   Conclusion

It seems that the pandemic will herald a permanent change in the nature of meetings (Barral, 2020; Fleming, 2020). It may still be too early to ascertain what the post-pandemic scenario will look like for conferences, but the many benefits associated with online conference attendance support the case for online and hybrid conferencing (Dousay et al., 2021; Pacchioni, 2020).

This small study has provided insights into the impact of Covid-19 on delegates attending F2F conferences. Given the low number of responses, the results cannot be generalised. However, they are reflective of the wider literature. While socialising, networking, and opportunities for serendipitous moments were missing in online conferences, delegates valued the` reduced travel, cost, and time savings, along with convenience, flexibility, and staying home with family from meeting online - the very aspects that the literature considered to be challenges to attending F2F conferences. Though virtual conferences might lack the intimacy of F2F meetings (Woolston, 2020), this limitation may be significantly improved in the future with ongoing technological innovations in virtual conferencing (Abbott, 2020; Achakulvisut et al., 2020). Finally, new activities created for online conferences could also present opportunities for F2F conferences. The knowledge and skills gained in delivering online modes can be used for future advantage in delivering interactive and engaging hybrid conferences (Weiniger & Matot, 2021).

Attracting delegates to be physically present may require marketing strategies that offer benefits negating those which can be gained from online conferences. One size will not fit all, and programming will need careful consideration. As well as ensuring immaculate technical delivery, optimal programming may require understanding of personality types to address the differences in delegates' perceptions of what they like least and most about online and F2F modes of conferencing. Hybrid conferences can have flow on implications for conferences globally in terms of managing a change in their physical and virtual size, conference delivery, and a potential reduction in bed nights, food consumption, and tourism.

The broader social legacies that can be realised from online and hybrid conferences are still unknown. Further research is imperative, not only to help delegates, associations and conference organisers maximise benefits from online conferences for a range of conference stakeholders (communities, industries, destination economies) but to support the conference industry itself, which for many decades, has etched out its worth on the basis of the tourism contribution generated by conferences.

Acknowledgement

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The Legacy Impact Of Business Event – Case Study Of ICEdDE 2019

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ABSTRACT: The definitions of legacy and various tools of measuring legacy impacts from different perspectives were reviewed. Sarawak Convention Bureau's initiative to enhance business events with a legacy programme as catalysts to the Sarawak Government Development Plan towards 2030 along the seven key focus areas and the United Nation17 Sustainable Development Goals (SDGs) has established five pillars of legacy impacts. Using the BESLegacy Initiative Guideline, the strategic pursuit of measuring the legacy impacts of the 1st International Conference on Education in the Digital Ecosystem (ICEdDE) 2019 were mapped. Methodologically, this paper is based on a case study. Both qualitative and quantitative data were collected supplemented by official documents. In the framework of planning to measure immediate outcomes, short, medium and long-term legacy impacts, the legacy plan provided evidence of being able to function as a model for forecasting the tangible and intangible impacts of the ICEdDE 2019. The immediate outcomes and short-term impacts were assessed using a questionnaire gathered from Sarawak participants. The respondents agreed to strongly agreed to the immediate impacts that the conventions had on them based on the eight domains. From the perspectives of convention host and the delegates, it was still very much traditionally perceived that the biggest value from conventions came from Knowledge Expansion. This was the main reason for wanting to attend the convention to listen to the deliberations of knowledge that was new or created through collaborations and shared from presenters particularly the keynote, plenary and invited speakers. They agreed networking and relationship building was also a motivator. In a broader outlook, only the host indicated other domains of Fundraising and Philanthropic support, Raising Awareness and Profiling and Trade though exhibitions as immediate and long-term impact which could be quantified and measured. However, the delegates pre-conceived such domains as secondary. The case study on ICEdDE 2019 measuring the short, medium, and long-term legacy impacts was able to show significant contribution to the development of Sarawak digital economy in education and service development industry towards achieving 5 United Nation SDGs.

KEYWORDS: Business events, legacy, impact, legacy impact pillars, tangible evidence, measuring legacy indicators

1.0   Introduction

Business events have been recognised to have great legacy stories to tell through showcasing the real value of their meetings associated with economic development, intellectual capital related to advancement of future leaders, transfer of knowledge and impact on society, according to the International Congress and Convention Association (ICCA) stated in 2017. The founder of Caravelle Strategies, Canada, Genevieve Leclerc (Dévé, 2018) stated that legacy of an event is something left or handed down by a predecessor; a notion hard to measure, as it implies changing the lives of the attendees and the community which may not be what an association had set out to do in the first place. Impact as she stated makes a significant change by addressing an existing challenge, social, economic or other type which is durable and deliberate.

1.1   Legacy Impact of Business Events

All events have impacts and legacies which include cultural, environmental, social and economy impacts (Sadd & Jones, 2009; Raj et al., 2017). The sustainability of events depends on the direct and indirect effects of the events (Richards & Palmer, 2010). The evidence to the sustainability of the event is the legacy of the events which provide evidence to gain public support, to justify the use of public resources and to motivate others to bid for hosting the future events (Liu, 2018).

According to Raj et al. (2017), the cost benefit analysis for the return of investment was the main purpose among various purposes of impact studies for events. Many legacy studies in literature are associated to sport events, particularly in mega events. Preuss (2007) defines legacy all planned and unplanned, positive and negative, tangible and intangible structures created for and by a sport event that remain longer than the event itself irrespective of the time of production and space. In addition, Puronaho (2013) defines it as a systematic event planning work with the help of relevant data collection to maximize the benefits and minimize the negative effects of an event to all the stakeholders. Li & McCabe (2013) offer the definition of legacy as tangible and intangible elements of large-scale events left to the future generations of host country where these elements influence the economic and psychological well-being at both community and individual levels in the long-term. Lowe (2017) describes legacy of an event is the long-term positive impact it has on the host area culturally, economically, and physically such as the improvement of infrastructure. Despite the differences in the definitions, the legacy is believed to be multifaceted and to encompass tangible (hard) and intangible (soft) outcomes (Kaplanidou & Karadakis 2010) as adapted from Preuss (2007, p. 208) in Table 1.

Table 1: Soft and Hard legacies of a mega sport event

Soft Legacies	Hard Legacies
Knowledge: organisational, security, technological	Primary structure: sport infrastructure, training sites
Networks: political, sport federations, security	Secondary structures: Athletes' village, technical officials and media
Cultural goods: cultural identity, cultural ideas, common memory	Tertiary structures: security, power plants, telecommunication networks, cultural attractions

Edwards et al. (2010) described benefits and outcomes of non-sport business events have impact in five broad areas. The legacies are not mutually exclusive, and a benefit or outcome may have multiple legacies as listed:

(i) Intrinsic legacies are the personal outcomes delegates gain to develop their knowledge and skills.

(ii) Social legacies represent the camaraderie that develops around the conference, the appeal of engaging with other like-minded people, the relationships that are enhanced and developed, and the broader benefits that accrue to the communities in which the conference is held. Business events develop a social space that is important as it facilitates and reinforces social interaction and, in turn, influences the effectiveness of collaborative learning. Tacit knowledge can be spread through informal interactions with current and new colleagues.

(iii) Professional and practice legacies result from the skills and knowledge that delegates gain – such as attaining new insights, learning surgical techniques, sharing new ideas and identifying solutions to solving problems – being directly integrated into their professional practices and organisations. Professional legacies also arise for the delegate from gaining business partners, building research networks and obtaining knowledge that can solve research and business problems.

(iv) Attitudinal legacies arise from the reactions of delegates to their experiences at the conference, and from governments, the private sector and individuals who become aware of important issues that are communicated through the international and local media.

(v) Economic legacies are realised as social networks affect the flow and the quality of information. Moving in different circles from one's own group connects people to a wider world and therefore any new acquaintances can be better sources of information as delegates go beyond what their own group knows. As conferences are intense periods during which social interaction is fostered, they lead to benefits and outcomes that have both intangible and tangible economic effects, such as building knowledge and capabilities, identifying business partners, improved workforce practices, better education, new investments, enhanced funding and better industry sector policies.

1.2 Measuring Legacy Impact

The term "impact" must be distinguished from the meaning of "legacy". Preuss (2007) describes impacts are caused by an impulse, such as the consumption of event visitors, which affects the economy directly through the event and can occur prior to, during and immediately after the event. While legacy is created if an opportunity is used in a sustainable way. The measurement of legacies is a very complex process and all the changes caused by the event should be measured. Preuss (2007, 2015) indicated that the most difficult part of the measurement of legacies is the timescale when the legacies occur and, in most cases, there is no one responsible for the long-term evaluation and thus the legacies remain uncertain or cannot be related to the event. Legacy as events benefits from the conventional perspective needs to be well evaluated in short-, medium- and long term. Short term is

evaluated when everything is cleared from the event location and the event is officially closed. The economic impacts are mostly evaluated in the short- and medium-term but the sustainability and durability of the long-term objectives and possible legacies created needs to be evaluated in the long-term as those might happen years after the event itself (Masterman, 2009). According to Lowe (2017), measuring the legacy of an event is through tangible evidence involving figures that can be measured or impacts that can been seen and taken as fact.

2.0   BESarawak Legacy Impact

The Business Event Sarawak (BESarawak) of the Sarawak Convention Bureau defines legacy impacts as the positive, long-term benefitting the host destination and its communities enjoying post event. The legacy impact is intentional, starting with an impact vision, aligned programming, observations as a way to measure; and finally validation. The BESarawak legacies of business events are designed to link to Sarawak's seven key focus areas of the development plan as it drives towards the United Nations Sustainable Development Goals as shown in Figure 1. These acts as the catalysts of conventions to deliver positive legacies for Sarawak.

*Figure 1: Alignment of seven key focus areas of Sarawak Digital Economy and
United Nations Sustainable Development Goals*

There are five core areas identified as legacy impact pillars as shown in Table 2. The aspired outcomes of convention-led legacies would be a society that is socially inclusive and economically prosperous on a healthy planet.

Table 2: Five legacy impact pillars of BESarawak Legacy Impact (adapted from BESLegacy Initiative Guideline)

Legacy Impact Pillar	Description
Sectoral	Progress and development in industries/sectors because of new knowledge and partnerships; global visibility and brand reputation
Community and Social	Social benefits such as improved health, quality of life, community awareness and engagement, service to host community
Trade & Investment/ Economic	Trading among groups from products and services showcasing leading to 'new money'; total economic impact with jobs and tax revenues
Environment	Environmental awareness and sustainability including support for indigenous cultures
Political	Changes in governance, public/private services, as a result of positive policies

2.1 Case study of the 1st International Conference on Education in the Digital Ecosystem

The 1st International Conference on Education in the Digital Ecosystem (ICEdDE 2019) was in fact a legacy of 13th International Organisation for Science and Technology Education Symposium (IOSTE XIII) Borneo 2014 which was successful bided by Universiti Teknologi MARA (UiTM) and Sarawak Convention in Tunis, Tunisia in 2012 as host. The networking and collaboration research aftermath resulted in UiTM becoming a partner of the Blended Learning Courses for Teacher Educators between Asia and Europe. (BLteae) project team under the EACEA-ERAMUS+ project under KA2 programme – Cooperation for innovation and the exchange of good practices. The consortium was made up of four institutions in Europe (Aix-Marseille University in France, Aalborg University (AAU) in Denmark; Tallinn University (TLU) in Estonia and Audio-visual Technologies, Informatics and Telecommunications (ATiT) in Belgium) and seven institutions in Asia (Royal University of Bhutan (RUB) in Bhutan; Universiti Teknologi MARA (UiTM) and Batu Lintang Teacher Education Institute of Malaysia (IPGKBL) in Malaysia; University of Dhaka (DU) and Bangladesh Open University (BOU) in Bangladesh; National University of Modern Languages (NUML) and International Islamic University (IIU) in Pakistan). The conference was the final working package of the BLteae Project through cross organisation collaboration tasked to UiTM as the organiser and IPGKBL as co-organizer. ICEdDE 2019 was successfully held in Kuching, Sarawak, Malaysia. In addition, ICEdDE 2019 was also selected as one of the twelve conventions in the study on Hosting Conventions in Sarawak by BESarawak.

The conference goal was formulated to provide a creative platform for inspirational exchanges, interaction and scientific debate on practices and research related to Education in the Digital Ecosystem. This was significant for the 21st Century Education and Sarawak's direction towards a digital economy. The theme: Blended learning – Innovation and Good Practises with 7 subthemes:

- Methodology and Didactics of Teaching
- Technology Enhanced Learning and Instruction
- Advances in and Tools for Technology Enhanced Learning
- Role and infrastructure in Curriculum Design
- Quality Assurance
- Professional Retraining and Life-Long Learning
- Modelling Systems in Education

2.1.1 The Desired Legacy Impacts

The dimensions and themes had been deliberately developed to consider all global, social and technical variables of the legacy impact, reflecting the urgent need in the transformation of global Education landscape in Industrial Revolution (IR) 4.0 environment opening minds and changing lives for the betterment of the society. The instrument developed by the BESLegacy Programme was used to explore the legacy impact in the short, medium and long terms of ICEdDE 2019. Table 3 shows the desired legacy impact, goals and measuring legacy under five legacy impact pillars of BESarawak Legacy Impact programme. Each domain described the elements of how they had been achieved in the short term as an immediate impact. The sustainability of these legacy imparts to medium and long terms, the direction and the measuring legacy had been identified.

Table 3: Desired Legacy Impacts, Goals and Measurement of ICEdDE 2019

	Types of Legacy Impacts	Meeting Impacts Goals (Immediate Impacts)	Designs	Legacy Goals (Long-term impacts)	Measuring Legacy (Indicators)
1.	**Sectoral**				
1.1	**Knowledge Expansion**				
1.1.1	Delivering Knowledge	Knowledge gain; learning from others	54 papers presented with three keynote speakers and five plenary papers	Dissemination Plan with online materials and publications for participants to adopt	Numbers of participants applying knowledge gain at work
1.1.2	Professional Development	Sarawak delegates as organisers; presenters and participation	UiTM as main organisers and IPGKBL as co organizers with international affiliations; 15 speakers with one plenary paper	Availability of local speakers willing to share in their field of work related to digital education ecosystem	Number of speakers available to speak in future training/ conference.
1.1.3	Advancing Science	Latest evidence-based and current practices in blended learning; latest research and practical applications	Exchange ideas and sharing platform between the keynote speakers, invited speakers, and participants	Developing skills through online tutoring	Number of latest evidence-based and current practices

	Types of Legacy Impacts	Meeting Impacts Goals (Immediate Impacts)	Designs	Legacy Goals (Long-term impacts)	Measuring Legacy (Indicators)
1.2	**Innovations**				
1.2.1	Technologically innovative practices	Improve and synergize innovative skills for teacher educators	Two days' video workshop conducted for the 30 teachers selected from Kuching, Samarahan and Serian Division conducted by Consortium partners from Belgium	Dissemination of ERASMUS+ BLteae module through training courses	No of training courses conducted
1.2.2	Education Innovation	Sharing of latest education innovation from experts and teachers - BLteae ITC modules	Reflective sharing from BLteae partners through forum discussion on the theme, 'Blended learning in Teacher training – Innovation and Good Practices'	Documentation of best practices scenarios and didactical materials for online training, teaching and learning	Numbers of publications
1.2.3	Innovations	Introducing using social media to enhance teaching and learning	One Plenary paper from UiTM lecturers on 'Incorporating Social Media in Blended Learning Courses at Higher Learning Institutions' and four presentation on use of social media in teaching and learning	Dissemination of ERASMUS+ Social Media module through training courses	Number of training courses conducted
1.3	**Networking and Relationship**				
1.3.1	Global Networks	Building a reflexive community on teaching practices	International Scientific Committee and the Review Committee were established among members of the BLteae consortium partners; Invited Participations of international and national, local organisations/ institutions/ government agencies/individual	Continual communications with existing partnership and establishing new partnership	Number of global networks
1.3.2	Stronger Local Association	Participation of BLteae consortium partners	'Blteae Talk' on reflection of the three years' partnership of the project and future directions with 100% participation from members	Long term partnership and future collaboration among co-organisers	Numbers of partners with continual association
1.3.3	Talent Attractions	Forum of renowned educators in blended learning	Invited three keynote speakers from outside BLteae consortium partners	Engaging specialists as consultants in digital education programme development	Numbers of specialists
1.4	**Collaboration and Future Research Capacity**				
1.4.1	Research Links	Collaborative research at international and national levels	Networking with international and Malaysian experts	Research on education	No of research projects conducted

	Types of Legacy Impacts	Meeting Impacts Goals (Immediate Impacts)	Designs	Legacy Goals (Long-term impacts)	Measuring Legacy (Indicators)
1.4.2	Clustered Development	Attendance from BLteae consortium members; International educators and specialists/ policy makers organisations/ individuals	Target delegates education professionals/ policy makers/ Ministry officers	Planning and implementing clustered development through collaborations in research and strategy getting national/ international funding and provide access to funding sources through convention contacts to accelerate process	Number of national/ international fundings
1.5	**Raising Awareness and Profiling** Able to influence a wider audience and shift public and media perceptions. Able to position the convention host as a hub of innovation in specific industry sectors.				
1.5.1	Global Visibility / Brand	Building a reflexive community on teaching practices	International Scientific Committee and the Review Committee were established among members of the BLteae consortium partners; Invited Participations of international and national, local organisations/ institutions/ government agencies/individual	Continual communications with existing partnership and establishing new partnership	Number of global networks
2	**Community and Social**				
2.1	**Education Outcomes**				
2.1.1	Improved Standard	Number of participants enhancing educational skills in blended learning	Exchange ideas and sharing platform between the keynote speakers, invited speakers, and participants	Increase in teacher educators adopting blended learning and improve quality of graduates;	Numbers of teacher educators
2.1.2	Improved Quality of Life	Focus on education teaching culture in need of reform to the technology savvy learners	Exchange ideas and sharing platform between the keynote speakers, invited speakers, and participants	Teachers needs to be equipped with the proper training to be able to provide good education to the students	Number of teacher educators
2.1.3	Talent Attractions	Exposure for local specialist speakers in different areas of education related to digital ecosystem	Sharing the good work done in Sarawak in this area allowed local speakers to speak and share with participants from West Malaysia and overseas	Inspiring university students to enrol as postgraduate students under UiTM supervision or as internal/ external examiners for thesis	Number of postgraduate student enrolment Number of external examiner appointment
2.2	**Community Awareness**				
2.2.1	Profession of Teacher Educators	Community awareness of issues important to teacher educators' profession in Sarawak	News coverage in the newspaper, featured interviews of speakers by RTM Radio and reporters and Astrowani	Dissemination and Exploitation Activities through UiTM website, ERASMUS+ BLteae website	Number of newspaper articles, interviews and published

	Types of Legacy Impacts	Meeting Impacts Goals (Immediate Impacts)	Designs	Legacy Goals (Long-term impacts)	Measuring Legacy (Indicators)
2.3	**Fundraising and Philanthropic Support**				
2.3.1	CSR programme	Use of local products for conference kits, souvenirs, and sales of local handicrafts	Purchase the products as souvenirs for speakers, and lanyard, setting up booth for them to sell	Supporting business set up by the SMEs	Sales and invoices
2.3.2	Fundraising platform and philanthropy activities in Sarawak	Cooperation with Business Events Sarawak by Sarawak Convention Bureau in the Chumbaka Junior Innovate Fund for purchase of 74 digital learning kits for 1,000 students in rural Sarawak	Getting participants from Sarawak to actively respond to the project	Development of digital community projects	Number/Amount of fund raised
3.0	**Trade and Investment/Economy**				
	Face-to-face access with industry leaders to develop new business relationships, investments, research, and priority sector innovations; Commercialize those ideas much more intentionally, aggressively, and systematically for the benefit of the local communities.				
3.1	New Business	Bring new business to Sarawak companies dealing with education products to demonstrate their items	Invitation of business sector in exhibitions booth	Establishing resources for the community in terms of preschool inclusive education	Number of new businesses
3.2	Export/Trade	Exhibitions of home grown special education tools	Promotion of home grown special education tools	Business link with overseas marketing industry or companies	Sales and invoices
3.3	Foreign Direct Investment	An opportunity to secure international investment	Synergic collaboration with teachers and business sector	Foreign companies deals through partnership or direct investment to produce home grown special education tools	Number of partnerships established
3.4	Job Opportunities	Opportunities for Career Advancement	Sharing best practices about teacher educators' practices among participants	Provision of innovative teaching practices	Number of digital technological teacher educators/teachers
4.0	**Environment**				
4.1	Research Links	Collaborative research at international and national levels	Networking with international and Malaysian experts	Research on education	No of research projects conducted
4.2	Support for indigenous cultures	Visit to Sarawak Cultural Village	Organising the Post Conference Tour	Experience and learning about the local culture and lifestyles of the various tribes	No of participants joining the tour

	Types of Legacy Impacts	Meeting Impacts Goals (Immediate Impacts)	Designs	Legacy Goals (Long-term impacts)	Measuring Legacy (Indicators)
5.0	**Political**				
5.1	Government awareness	Issues important to teacher education profession in Sarawak	Invitation of the Honourable Chief Minister to officiate and address the Convention	Continual dialogues with government policy makers	Number of research projects or training courses under Sarawak Government grant
5.2	Policy improvement	Provision of a platform of feedback/dialogues for support of teacher educators training curriculum on pedagogical and technological practices	Invitation of government and organisation officials to attend and speak at the Conference	Acting as catalyst to change the overall policy on education and developing strategies	Number of policy change
5.3	Infrastructure	Platform for discussion on issues on availability and efficiency of internet coverage	Sharing of technological need appropriate to the target sector	New academic research/teaching facilities in the educational digital ecosystem	No of upgrading of digitalisation technology in schools/ research institutions

2.1.2   Alignment to Sarawak's Key Focus Areas and UN SDGs

The conference contributed to Sarawak's Key Focus Areas in the Digital Economy and Service Industry Development in education. Education is a driving force and a catalyst towards the development of the Sarawak Digital Economy. The theme and subthemes of ICEdDE 2019 formulated addressed the issue of deficiency of knowledge for adoption of efficient Information Communication Technologies (ICT) education raised by Sulaiman & Halamy (2021) in the role that ICT education which plays an important role in bridging the digital divide between the urban and rural education. In providing a forum of stakeholders from academicians, teachers, investors to government policy makers, it also addressed the needs of innovations and new practices of learning and teaching with ICT use in the classroom giving opportunities to students to learn and apply the required 21st century skills. This echoed the review by Ratheeswari (2018) that ICT improves teaching and learning and its importance for teachers in performing their role of creators of pedagogical environments. ICEdDE 2019 in related to the United Nations Children' Fund (UNICEF) encompassing 5 dimensions which states that Children have a right to an education, a quality education. ICEdDE 2019 had propel discussion on educational quality establishing understanding of new challenges and to embrace change from the local, national and international contexts.

The contribution towards the UN SDGs were identified in:

Goal 4 – Quality education
Goal 8 – Good jobs and economic growth
Goal 9 – Innovation and Infrastructure
Goal 10 – Reduced inequalities
Goal 16 – Peace, justice and strong institutions
Goal 17 – Partnership for the Goals

2.1.4   Measuring the Immediate Legacy Impact

The outcome of the immediate legacy impact using a set of valid questionnaires with 5 domains (Table 4), aimed at Sarawak participants as delegates attending the conventions as respondents. Hard copies were distributed during the conference. In addition, a google link form consisting the questionnaires was also made available with an QR code to provide access. The respondents to the study made up 63.2 % of the Sarawak participants totalling 120 from 190. Eight domains of the quantitative data were analysed.

The highest percentage of 91.7% respondents indicated that the reasons attending the conference was for Knowledge Expansion and Education. This converged with the organiser immediate legacy impact goal. With reference to Table 3, the expectation of the participant had been delivered. It can be noted that most of the participants are from the academic sector as the item on the Business Opportunities leading to Trade and Investment only had 9.2 % of responses.

Table 4: Reasons for Attending

Legacy Impact	%
Knowledge Expansion and Education	91.7
Networking and Relationship Building	34.2
Collaboration and expand Future Research capacities	15.8
Creativity and Innovation Opportunities	28.3
Business Opportunities leading to Trade and Investment	9.2
Other (please specify)	5.0

2.1.3.1   Measuring the Immediate Legacy Impact

The immediate legacy impact pertaining to the domain of knowledge and education was achieved based on percentage of the respondents of over 90% who agreed and strongly agreed over the five items (Table 5).

Table 5: Knowledge Expansion and Education.

Knowledge Expansion and Education	Strongly Disagreed	Disagreed	Not Sure	Agreed	Strongly Agreed
Give me new insights in my field of knowledge	1.7%	0.0%	2.5%	41.7%	54.2%
Show me current best practices in my profession	1.7%	0.0%	2.5%	42.5%	53.3%
Provide the latest research and practical applications	1.7%	0.8%	5.0%	45.0%	47.5%
Knowledge and capabilities of young people	1.7%	0.0%	4.2%	42.5%	51.7%
Quality of delivery of my profession in Sarawak	1.7%	0.0%	0.0%	50.8%	47.5%

2.1.3.2 Networking and Relationship

Table 6 reflects networking and relationship at both national and international level was established by the respondents' participation in the convention. Most of the respondents ranging from 44.2% to 50.8% agreed and 28.4% to 31.7% strongly agreed to the items relating to this domain. However, quite a notable range of percentage of 15.8% to 20.0% of respondents was not sure of the networking benefits.

Table 6: Networking Benefits

Networking Benefits	Strongly Disagreed	Disagreed	Not Sure	Agreed	Strongly Agreed
Valuable national business / professional contacts	1.7%	2.5 %	20.0%	44.2%	31.7%
Valuable international business / professional contacts	1.7%	3.3%	15.8%	50.8%	28.3%
Find new talent for our organisation	2.5%	1.7%	16.7%	49.2%	30.0%

2.1.3.3 Collaboration and Future Research Capacity

Most of the respondents accounting to more than 50% agreed the convention provided local and international collaboration as 47.5% could provide opportunity to develop future research capacity (Table 7). In addition, a substantial percentage of over 30% strongly agreed to the items under this domain.

Table 7: Collaboration and Future Research Capacity

Collaboration and Future Research Capacity	Strongly Disagreed	Disagreed	Not Sure	Agreed	Strongly Agreed
New local collaborations from the event	1.7%	1.7%	5.0%	56.7%	35.0%
New international collaborations from the event	1.7%	1.7%	11.7%	52.5%	32.5%
Opportunity to develop global research capacity	2.5%	2.5%	14.2%	47.5%	33.3%

2.1.3.4 Education Outcomes

Table 8 shows that most of the respondents either strongly agreed or agreed that the convention they have attended have education outcomes based on the first two items pertaining to new academic research facilities and capacity of the academic sector. On the other hand, more than 50% strongly agreed that this domain could improve the quality of graduates and attract outside talent in creative knowledge education indicating there was a positive relationship.

Table 8: Education Outcomes

Education Outcomes	Strongly Disagreed	Disagreed	Not Sure	Agreed	Strongly Agreed
New academic research facilities	1.7%	0.0%	4.2%	46.7%	47.5%
Capacity of the academic sector in Sarawak	1.7%	0.0%	3.3%	47.5%	47.5%
Improve the quality of graduates	1.7%	0.8%	4.2%	42.5%	50.8%
Attract outside talent in creative knowledge education	1.7%	0.0%	7.5%	40.8%	50.0%

2.1.3.5 Funds and Philanthropy

Overall, majority of the respondents agreed and strongly agreed that the convention they attended gave them opportunities on fundraising and philanthropic support (Table 9). This could be attributed to Chumbaka project of BES Event of the Sarawak Convention Bureau collaborating with the host of the convention.

Table 9: Funds and Philanthropy

Funds and Philanthropy	Strongly Disagreed	Disagreed	Not Sure	Agreed	Strongly Agreed
Opportunities to link to a fundraising platform	2.5%	0.8%	21.7%	47.5%	27.5%
Opportunities to support philanthropy activities in Sarawak	2.5%	0.8%	14.2%	53.3%	29.2%

2.1.3.6 Awareness

Two aspects of awareness were reflected in Table 10. The first two items related to extrinsic perspective in that the outside factors of community and policy makers in the government recognised the issues important to teacher educators. Majority of the respondents agreed that the strategies of the convention engaged had highlighted this awareness. There were also around 95% of respondent who strongly agreed and agreed to these two items.

From the intrinsic perspective, majority of the respondents also agreed and strongly agreed that their profile was raised nationally at 85.0% and to a greater extent of 89.5% internationally. In addition, 52.5% of the participants agreed and 35.8% strongly agreed that such awareness relating to the four items had provided opportunities for career advancement.

Table 10: Awareness

Awareness	Strongly Disagreed	Disagreed	Not Sure	Agreed	Strongly Agreed
Community awareness of issues important to my profession in Sarawak	1.7%	0.0%	5.0%	51.7%	41.7%
Opportunities to support philanthropy activities in Sarawak	1.7%	0.0%	5.8%	53.3%	39.2%
Raise my profile nationally	2.5%	0.0%	12.5%	54.2%	30.8%

2.1.3.7 Innovation

Innovation to improve teacher educators' skills, with direct and indirect implication on quality of teacher educators' skills from the consideration that the teacher role is much more complex than in the past and that teachers need new and innovative pedagogical strategies and reflective tools. Table 11 indicates that the respondents had identified the presence of this domain as almost equal percentage of majority of respondents either strongly agreed or agreed to all three items.

Table 11: Innovation

Innovation	Strongly Disagreed	Disagreed	Not Sure	Agreed	Strongly Agreed
I learnt innovative ways to handle issues in my profession	1.7%	0.0%	5.0%	46.7%	46.7%
Improve my innovative skills for my profession	1.7%	0.0%	3.3%	50.0%	45.0%
Help me to synergize innovation in my profession	2.5%	0.0%	5.0%	48.3%	44.2%
Raise my profile internationally	3.3%	0.0%	20.8%	46.7%	29.2%
Opportunities for Career Advancement	2.5%	0.0%	9.2%	52.5%	35.8%

2.1.3.8 Trade/Investment

The trend of respondents towards this domain showed a different pattern to all seven domains. Table 12 shows that there were distinguishable responses with although majority agreed to the items but there were more respondents of 30.0% who were not sure and only about 20% strongly agreed.

Table 12: Trade/Investment

Trade/Investment	Strongly Disagreed	Disagreed	Not Sure	Agreed	Strongly Agreed
Bring new business to Sarawak	3.3%	2.5%	30.0%	42.5%	21.7%
Give me an opportunity to secure international investment	3.3%	2.5%	30.0%	41.7%	22.5%

3.0 Conclusion

ICEdDE 2019 succeeded in bringing participants together with diverse national and international backgrounds of expertise in digital education. This is one of the key focus areas of Sarawak and in line with the nation Ministry of Education Blueprint (2016-2020). ICEdDE 2019 was identified by Sarawak delegates to have impacted the community and policy makers awareness on the importance of the profession of education and needed support for adopting best teaching innovative practices. The legacy impacts under five legacy impact pillars in the short, medium, and long terms of ICEdDE 2019 was mapped using the instrument developed by the BESLegacy Programme. The convergence and the match of goals of ICEdDE 2019 organizers and the Sarawak delegates' response had indicated that the short-term legacy impacts had been achieved. The medium- and long-term impacts with legacy indicators were aligned to the Digital Economy in the Education and the Service Industrial Developments, indicating the tangible and intangible benefits will contribute to the development of Sarawak. There are 5 UN SDGs identified to it. The undeniable value is that ICEdDE 2019 should be measured over two years at six months intervals.

Acknowledgements

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