The impact of COVID-19 on professionalism in practice and future directions

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The Impact of COVID-19 on Professionalism in Practice and Future Directions

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1.0 Introduction

The changes since March 2020 caused by the pandemic have altered the means of providing Continuous Professional Development (CPD).

The restrictions over this time have, for some, provided the opportunity to upskill for all levels of professional from student to retired (Uhomoibhi and Ross, 2019; Ghallab et al, 2020; Gottlieb et al, 2020) or as cited by Eastman to " tick off items on the their perennial to-do list" (Eastman, 2020). The main problems being associated with the lack of suitable equipment, lack of good connections and for certain countries the uncertainty of power supply [Odero, 2020; Hooper and Uhomoibhi, 2019; Odhiambo and Hooper, 2020; Uhomoibhi and Hooper, 2019). The wider population has also had to adapt to remote communications not only for e-shopping, the use of e-cards, business meetings, for meeting friends and families remotely. In most ways everyone everywhere has seen what is perceived at the normal way of life give way to a "new-normal" way of doing things and living life. This has meant adjusting to living life online and making technology a part and parcel of everyone's everyday life everywhere in the world This has and remains the way for the foreseeable future.

2.0 Professional Events

The professional bodies have adopted the webinar as a means of providing communications to their members. An example of this is an engineering society that has been holding regular Zoom meetings. To improve networking, some of these meetings have been followed by regular dinners with different "break-out rooms" for each course.

Some organisations, such as a science society, have changed from physical weekly meetings to a regular weekly evening Zoom meeting with a fifteen minute free chat before and an extended discussion after the presentation. This format has attracted some additional new members, Current plans to continue with a combination of

physical and virtual regular events are being considered once the physical meetings are possible.

One maritime institiute, on having to move to virtual events, has found the attendance increasing to an average of over one hundred and twenty per meeting including members joining from Japan and India. Their thoughts currently are to continue with a mixture of physical and virtual events in the future.

2.1 The BCS Events

The BCS Branches and Specialist Groups have adopted webinars particularly with events that are jointly between two or more of these groups. This has the advantage of sharing the effort of organisation and providing a much wider range of webinars for the attendees whether they are BCS members or not. The geographic range of attendees is naturally much more widely spread than at conventional physical events, but the majority are from the UK. An example of this was a breakout for a Branch event during a Zoom presentation where in one virtual "room" there were four attendees that were geographically situated at Bournemouth, Bedford, London and Glasgow.

The need was felt by many BCS Specialist Groups to actively provide remote CPD for its members for all stages of their careers (Uhomoibhi and Ross, 2019; Ghallab et al, 2020). Examples of this were the AI series provided by the BCSWomen Specialist Group, and the series of webinars by Tom Gilb HonFBCS (Gilb, 2020) presented from Norway, organised by the BCS SPA and the BCS Quality Specialist Groups. The need to provide wider training in adapting to virtual based learning was provided by BCS branch sessions such as by Jill Clarke (Clarke, 2020) on the effective use of Zoom for the BCS Hampshire Branch.

3.0 Professional Conferences

The pandemic has affected both national and international conferences, regardless of size, not only the presenters, attendees and exhibitors of their products but the local economy. The cancellation of these face-to-face conferences, even the small ones, affect local economies such as hotels, restaurants and shops. An example of this is the estimated loss of more than 30 million dollars to Philadelphia of the American Chemical Society's meeting (Evens, 2020).

The change from physical to virtual conferences requires serious decisions concerning the digital platform (Gottlieb et al, 2020), the use of expensive dedicated conference specialist software or the the low cost or free alternatives. Decisions need to be made whether a conference fee should be charged for non-physical events and if so, at the same rate or lower. A variety of options have been in place for professional conferences since March 2020. Many organisations use the free access to increase their awareness within the marketplace, such as the 4-day World Congress on Software Quality conference, in April 2021, attracting attendees from

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thirty countries, and over eighty presenters (WCSQ, 2021). This included a virtual marketplace where organisations could have a virtual booth, to present information or talk to people. This means of providing interaction with the audiences, both in large and in small groups, within a conference need to be addressed (Gottlieb et al, 2020) whether by using breakout rooms in Zoom or more sophisticated systems.

The International Conference on ICT for Sustainability (ICT4S) organised their virtual seven-day conference in June 2020 (ICT4S, 2020) in the same manner as their previous six physical conferences, with presentations in a virtual auditorium as well as poster areas where you could click for the appropriate poster and have a discussion with the authors. In addition there were chat areas to increase networking and to welcome and encourage new attendees.

Professional bodies also moved from physical to virtual conferences with the same fees to previous years while others provided free access, as did the Institute of Science and Technology (IST, 2020), which provided free access for their 2020 conference with increased attendance numbers from 380 at the physical 2019 conference to 460 for the virtual 2020 conference, with an increase of over 20%. This also provided easy access for remote members including those from overseas. Their decision was then made for the 2021 IST conference to be held virtually in September 2021.

3.1 BCS INSPIRE Conferences

The BCS e-Learning Specialist Group (eLSG, 2019) held their twenty fourth physical INSPIRE conferences before 2020 at which just a few pressenters had joined remotely. These remote links were usually via Skype and the conference timetables were organised so that the remote presentations were usually positioned immediately after a refreshment or meal break to allow extra time for the connection to be established. In addition the remote presenters were required to send their slides in advance and if possible to add audio attached to each slide or to provide a script with each slide. This was to provide backup if there was a technical problem.This allowed the presentation to continue and if necessary for the question session to be conducted by telephone. The limited number of remote presentations were from various countries including Finland, Greece, Spain, Nepal, Nigeria and the UK.

The presenters at the BCS e-learning 25th INSPIRE 2020 conference (eLSG, 2020) came from a range of countries including Armenia, Bosnia-Herzegovina, Cyprus, Denmark, Eire, Finland, Greece, Ireland, Kenya, Nigeria, Northern Ireland, Russian Federation, Slovak Republic, Spain, Sri Lanka, UK, and the USA. The only technical problems were experienced from London, Northern Ireland and Greece. There were problems which were addressed by changing the order with the following presentation to allow time for the issue to be fixed. Any questions relevant to a particular presentation were typed into the "chat area". In addition to the various conference session Chairs, there were also two dedicated committee members, one from the UK and the other one in the USA. These two committee members would monitor the questions and ask them at the end of the various sessions. This was very successful as relevant questions could be combined, the order of the questions could

be re-arranged, and if necessary, the committee member could clarify the wording of the question with the attendee that typed it into the chat area.

In the past INSPIRE conferences, when payment was required, we expected a number of late withdrawals, but with the 2020 virtual conference, where the fee was not required, there were rather more presentations than we expected. It had been necessary to remove the planned breakout sessions. As the BCS could not allow us extra time, it was necessary to move the early evening presentations to a change to Zoom. These two points were the problems experienced with our first totally remote conference. These were the main lessons learnt and taken into account for future remote conferences.

4.0 Surveys of Attendees and Organisers of Events

Two surveys were undertaken using Google Forms (Google, 2020) to identify the change of behaviour of attendees at BCS meetings and the experience of those organising professional events.

4.1 Views of Attendees of Events
An anonymous questionnaire asked attendees of BCS meetings their views on webinars compared with conventional physical meetings. These questionnaires were open to all regardless of BCS membership. Identical questions were asked about Branch events, which might have been jointly with other Specialist Groups or Branches, and also for events organised by Specialist Groups that themselves might be jointly with other Branches or Specialist Groups.

Participants in the survey were asked to estimate the attendance since March 2020 of these BCS webinars compared with those during the previous year, when almost all the events were face-to-face. The participants were then encouraged to identify both the positive and the negative aspects of these virtual events. Information was also sought on the preferred start time for webinars. Identification of the main Branch or of the main Specialist Group were requested and an open-ended space allowed for comments, that included ideas for post virus events. Participants could request copies of the summary of the results by providing their contact details. Responses were received from attendees who all came from many different BCS Branches and a wide range of different Specialist Groups.

4.2 Results of the Attendees Survey
The results of the survey from the seventy seven respondents, from a wide variety of Branches and over thirty Specialist Groups, that attended BCS events indicated that the change to webinars might have increased the participation of members. This was shown by comparing those that did attend any Branch webinars since March 2020, which was 76.6% compared to those that did attend any of the previous physical Branch events prior to that date which was 51.9%. A similar change was shown in the Specialist Groups with an attendance of the webinars since March 2020

of 67.2% compared to those that did attend any other physical Specialist Group events at 40.3%

The survey was concerned with the number of attendances of member group activities and particularly related to webinars the attendance prior to March 2020 for both Branches webinars and Specialist Group webinars were similar. Following March 2020 all branches and specialist group activities had to be conducted by webinars the survey investigated the change of attendance of both branch and of specialist group webinars since March 2020 and compared with the Year prior to March 2020 the number of branch and specialist group events which could have been physically or combined with webinars.The results from this limited survey of responses appeared similar for both branches and specialist groups. Table 1 indicates the number of attendances of zero, one, two, three or four or more prior to or post March 2020 for Branches and for Specialist Groups.

Table 1: Attendance as a Percentage Post and Prior to March 2020

Attendance as %	Zero	One	Two	Three	Four or more
Branch after March 2020	23.4	15.6	9.1	2.6	49.3
Branch before March 2020	48.1	10.4	6.5	7.8	26.2
Specialist Group after March 2020	32.8	14.9	9.0	7.3	36.0
Specialist Group before March 2020	59.7	10.4	3.0	3.0	23.9

Participants were asked if they attended webinars prior and post March 2020 which are shown on Table 2.

Table 2: Views on attending webinars prior t0 March 2020

Attendance as %	Never	Very Rarely	Regularly
Branch	46.1	46.1	11.8
Specialist Group	44.1	41.2	14.7

The results in Table 2 are possibly attributed to the lack of webinars available to members prior to March 2020, although some physical events were also provided as an online option.

4.2.1 Advantages and Disadvantages Identified

The same positive and negative choices together with options to add additional comments were offered to both attendees of Branches and of Specialist Groups.

The positive aspects of these webinars offered were:
        a. no travel time
        b. no travel cost
        c. no parking issues
        d. refreshments of your own choice and at your own time
        e. no baby or childcare arrangements

f. no other person or animal care sitters needed
g. no risk of going out late at night
h. wider range of speakers
i. joint events with other BCS Branches and/or Specialist Groups
j. more recorded events
Other:

The negative aspects of these webinars offered were:
a. no or poor networking
b. no opportunity of visiting different locations
c. already too many remote meetings through work
d. not meeting face-to-face
Other:

The results of these from the Branches were shown in Figure 1 and Figure 2 for the advantages and disadvantages of the webinars,

Additional comments with regard to those that attended Branch events, as shown in Figure 1, were as follows:

- Although there were no travel cost for me, my internet charges became too expense
- It doesn't matter where the branch is geographically, so can attend no matter where they are
- Easier to take a chance- if it is uninteresting, leaving is easy and un-embarrassing without investing travel time
- Didn't attend any BCS webinars
- Access to webinars which are held in locations which are too far away to attend under normal circumstances

3 Concerning the webinars, tick all that apply, of the positive aspects of these webinars
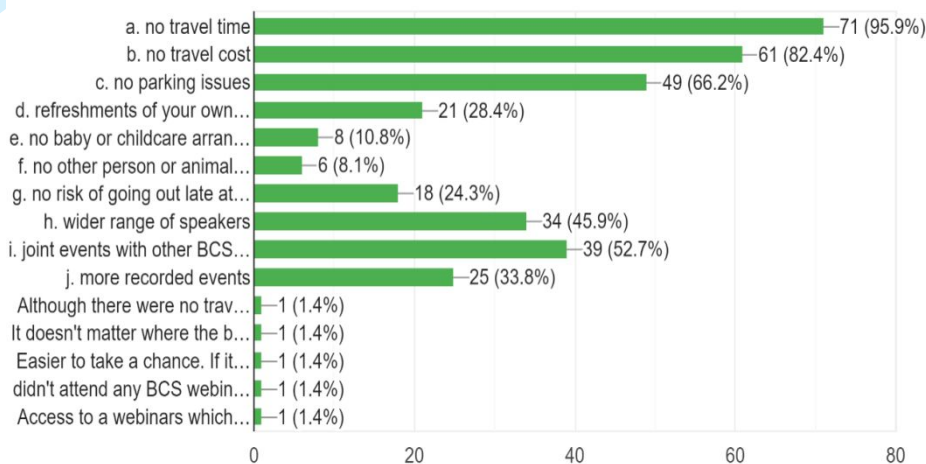74 responses

Figure 1: Positive aspects of webinars for a Branch

4. Concerning the webinars, tick all that apply, of the negative aspects of these webinars
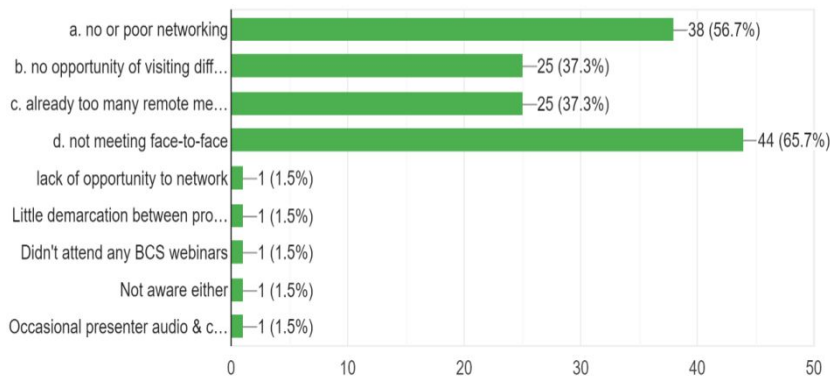67 responses

Figure 2: Negative aspects of webinars for a Branch

Additional comments with regard to those that attended Branch events, as shown in Figure 2, were as follows:

- Lack of opportunity to network
- Little demarcation between professional and home life - noise and disturbance from home life during webinars
- Didn't attend any BCS webinar
- No aware either
- Occasional presenter audio and connectivity issues

Similarly the results of these from the Specialist Groups were shown in Figure 3 and Figure 4 for the advantages and disadvantages of the webinars.

Additional comments, with regard to those that attended Specialist Group events, as shown in Figure 3, were as follows:

- Able to access meetings a long way away, so the range or meetings available to me is much larger when they are remote access
- It doesn't matter where the group is geographically, I can attend if I am free and want to
- Easier to take a chance - if uninteresting, can leave without out leave without investing travel time
- I didn't distinguish between branch and SG webinars

11. Concerning the webinars, tick all that apply, of the positive aspects of these webinars
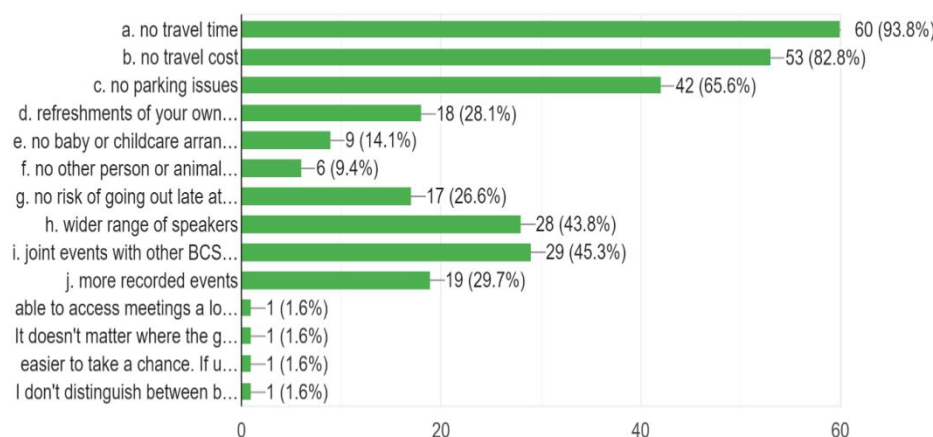
64 responses

Figure 3: Positive aspects of webinars for a Specialist Group

There were no additional comments, with regard to those that attended Specialist Group events, as shownin Figure 4.

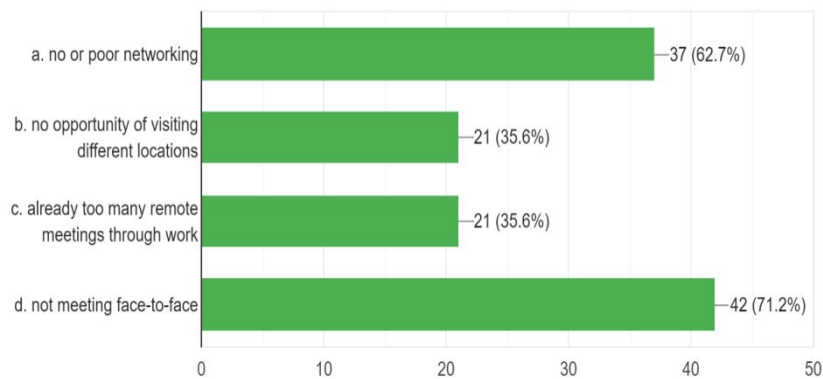12. Concerning the webinars, tick all that apply, of the negative aspects of these webinars
59 responses

Figure 4: Negative aspects of webinars for a Specialist Group

The availability and cost of parking close to the venu can affect attendance at BCS events.

4.2.2 Additional Comments
A selection of the general comments with regard to Branches are shown, the first ones rather concerning:

- I'm new to BCS, I didn't know branches existed
- Difficult to find out what events are on, would like an email. This is the first one I've received
- Work has been very busy so I haven't been looking out for events. Emailing details of online events would be good for me
- Don't seem to get meeting notifications anymore.
- There were no webinars available. Very useful for specialist groups
- I have not historically attended branch meetings but do intend to start doing so hence answering this survey.
- I cannot recall hearing about Branch webinars, I probably did but don't remember. Part of this issue is that the BCS is no longer relevant to my day job, it does seem to be more service delivery orientated and I'm now working on land platforms in the defence environment, not "just" on computer systems. I keep my membership of the BCS because (i) my employer pays for it and (ii) through that I maintain my Engineering Council registration.

A further selection of the general comments with regard to Branches were as follows:
- I would like more physical Branch visits when possible
- The trick (and it's a difficult one) would be to offer remote access to a physical meeting when covid restrictions are lifted. Ie have simultaneously the best of both worlds.
- I would still like to see physical rather than web based presentations. There is a role for the webinar, but we loose something. I work in …., so struggle to get back in time for …….. and ………. based events, however it's important that we still have some physical meetings.
- I have attended Bournemouth meetings some times in the past. Life just seems so busy now!
- Most of my BCS activity is through ……… SG, rather than the regional branch
- Would like to continue with webinars.
- Personal commitments have prevented me from attending many events in recent years, but I hope to start more-regular attendance. Zoom has been useful in this respect.
- Whilst online "meetings" are helpful, one of the main reasons for being active in the Society is networking with fellow professionals. On-line interfaces really offer very little compared with the standard face to face meetings of yesteryear
- I have only just qualified in January and become a member, which is why I have not attended any meeting during 2020
- Please continue with hybrid webinars
- Being hard of hearing I sometimes have problems with the clarity of the speech.
- Webinars tend to increase the reach , participation and contribution of diverse audiences.
- I've really enjoyed the webinars. Going online has made them a lot more accessible.
- Remote webinars have given me the opportunity to attend a much wider range of branch talks which I coudn't otherwise attend because the physical location is too far away. I will continue to attend my local branch meetings when the situation normalizes but I hope remote presentations continue. I'd go further and suggest that meetings are arranged with affliate branches and organisations in other countires

A selection of the general comments with regard to Specialist Groups follows:
- I would like more SG webinars rather than physical events
- Specialist group seminars, when face to face, tended to be several hours (& many tens of pounds) travel away in London - so I only attended if they happened to be when I needed to be there anyway.
- Would like to continue with webinars.
- I hope webinars continue.
- I hope that we decide to continue with hybrid meetings in the future

- Going forward the use of online resources and webinars has made life a bit easier albeit with increased workload for organisers. However, with continuous improvement in the processes greater and more positive impacts would be the results of current practice. Going forward would require coming up with creative and ore innovative use of technologies to bridge the digital divide as not everyone has access to or are proficient in the use of all of these technologies. This would enable as many people possible to participate in the new normal mode of living and working online.

4.3 Views of Organisers of events and Results of that Survey

An anonymous questionnaire was provided for those involved in organising BCS and other professional activities, identifying both the positive and the negative aspects of these webinars, compared to the pre COVID-19 virus activities, from the perspective of Branch and of Specialist Group activities. Responses were received from eight who all came from different BCS Branches and Specialist Groups.

There was a 100% support for that "since March 2020, the attendance at the Branch events" was on average larger than before March 2020. Whereas the attendance at the Specialist Group events was felt to be by approximately 83.3% larger and 16.7% about the same as before March 2020.

The majority 62.5% of organisers of Branch events indicated that they had held more BCS Branch events since March 2020. These might have been jointly with other Branches or Specialist Groups. Approximately 37.5% had held similar number of attended activities as before March 2020. It was interesting that no respondents had reduced the number of events attended since the start of the first lockdown in March 2020. The majority 66.7% of organisers of Specialist Group events indicated that they had held approximately the same number , whereas 33.3% felt more BCS Specialist Group events since March 2020. Again these might have been jointly with other Branches or Specialist Groups. It was interesting that no respondents had reduced the number of events attended since the start of the first lockdown in March 2020 .

These results, despite coming from a small sample of experts in organising events, indicated that members of Branches and Specialist Groups were given the same opportunity of joining events and had better turn out than prior to the pandemic.

4.3.1 Advantages and Diisadvantages Identified

The questionnaire for organisers of events contained five standard possible options with the opportunity of adding further advantages of the webinars, as shown in Figure 5 and Figure 6.

These positive options were:
- a. remote located speakers more available
- b. no bookings of rooms
- c. no organising of refreshments
- d. easier to record events
- e. less cost

It was felt by the majority, ranging from 75% to 100% of those arranging Branch events that these were positive advantages; where as 100% of those organising the Specialist Group events found that they were all 100-percent positive advantages Figure 5 and Figure 6.
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From those organising the Branch events, an additional four advantages were indicated, as shown in Figure 5, which were:
- It can be set up much faster than a physical event and less red
- Breakout rooms possible
- Easier for delegates participants to actively contribute and provide feedback
- Coincidentally new committee

3. In what ways has it been easier to organise these webinars than the traditional physical Branch events (please tick all that apply)
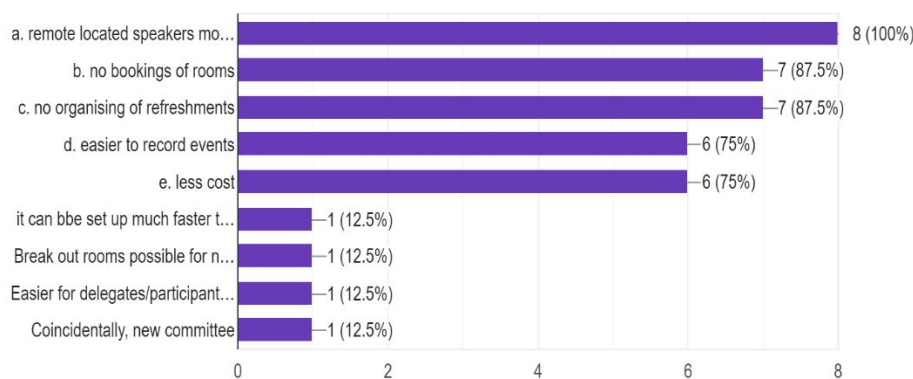
8 responses

Figure 5: Positive aspects of organising Branch webinars

As with identifying the main advantages, options of potential main disadvantages were provided ,
    a. no direct contact with the attendees
    b. less networking
    c. time zones
    d. technical problems
    Other:
The only additional comment on Branches was:
- Initial technical problems with the software - occasional problems with particular speakers

The only additional comment on Specialist Groups was:
- Speakers not used to some of the BCS software

The views of both those organising Branch and Specialist Group events were similar. The issue of the geographic locationof speakers, from different time zones, have caused change of starting timings from the more ususal times.

9. In what way has it been easier to organise these webinars than the traditional physical Specialist Group events (please tick all that apply)
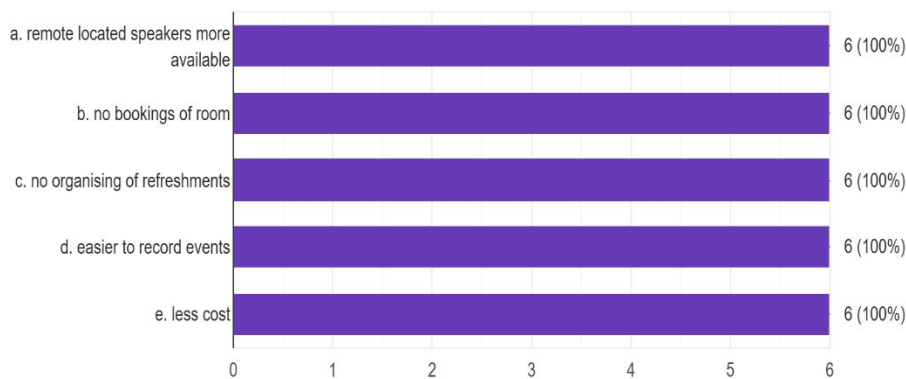
6 responses

Figure 6: Positive aspects of organising Specialist Group webinars

As with identifying the main advantages, options of potential main disadvantages were provided ,
        a. no direct contact with the attendees
        b. less networking
        c. time zones
        d. technical problems
        Other:
The only additional comment on Branches was:
- Initial technical problems with the software - occasional problems with particular speakers

The only additional comment on Specialist Groups was:
- Speakers not used to some of the BCS software

The views of both those organising Branch and Specialist Group events were similar. The issue of the geographic locationof speakers, from different time zones, have caused change of starting timings from the more ususal times.

The main problems resulted from problems of networking and technical issues Figure 7 and Figure 8.

4. What do you feel are the main disadvantages of Branch webinars that have been held since March 2020 compared to the physical events
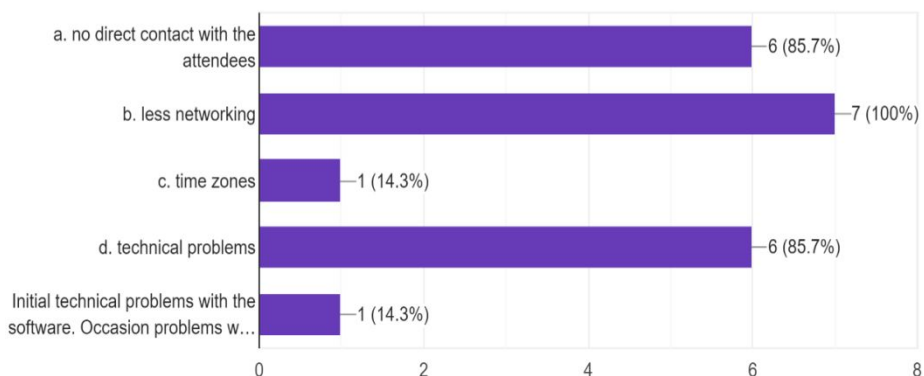
7 responses

Figure 7: Negative aspects of organising Branch webinars

10. What do you feel are the main disadvantages of Specialist Group webinars that have been held since March 2020 compared to the physical events
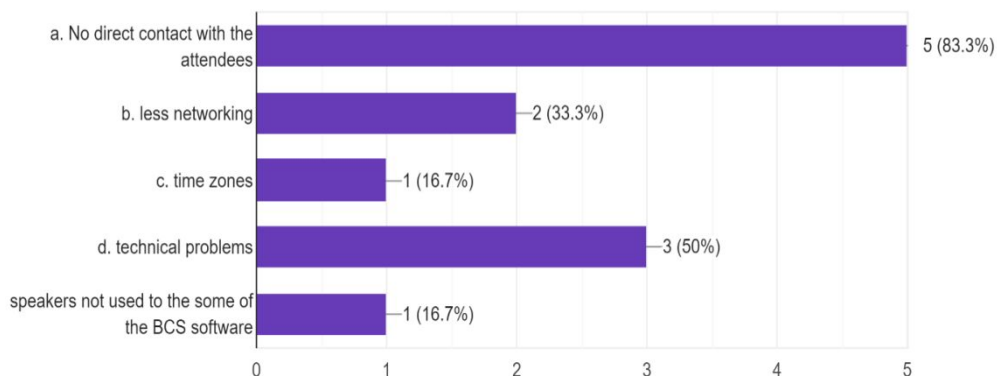
6 responses

Figure 8: Negative aspects of organising Specialist Group webinars

The limited comments concerning Branches and Specialist Groups
were as follows:
- I would like a future mixture of webinars and networking activities

- COVID-19 pandemic has challenged all aspects of organising and delivering events for branches and specialist groups. It has saved on amount of physical resources required to run these events but has called on the use of much time in preparation, delivery and post-event administration on the part of organisers. It has become easier to collate information but the challenges posed by GDPR and other related data privacy issues are some of the hurdles that organisers are struggling to handle well

The limited comments concerning Specialist Groups were as follows:
- I hope webinars continue
- The old comment about SGs being London centric does not apply to the webinars
- The impact of COVID-19 pandemic has been immense. The fact that everyone has recognised the need for being skilled to work online going forward is a big plus. However the challenges of digital divide that exist both here in the UK and in other places abroad need to be addressed to ensure we are achieving the goals we have set ourselves as professionals practicing what we preach and stand for and ensuring that IT is good for society.

The issue of digital divide raises a number of potential points that might have an indication of the take-up of webinars.

The digital divide also can be caused by lack of technical experience or confidence with the most widely used online communications such as Zoom. This can apply to the older population, even those whose careers had been at their most current edge of the computing industry. The digital divide could also relate to those with lower quality hardware or software, possibly in the third world countries which could also be a result of poor access to power. The lack or poor internet and mobile phone connections can happen also in many rural places in the UK which also is another aspect of the digital divide .

5.0 Future Activities

The change in delivery and receiving professional activities has provided an opportunity to rethink the way that we would proceed. Prior to the COVIC19 virus, the Hampshire Branch tried providing live streaming of some of the physical events, but that had mixed success. It did allow those that could not attend to participate, but the technical problems experienced ,had a negative effect on some of those attending. Some BCS groups had more success with combining remote and attending events. The increased number of software licences held by the BCS had improved the ease of arranging recording of webinars.

The current thoughts of some of the Branch and Specialist Group, when the face-to-face events are again normal, are that those Specialist Groups, such as BCS Business Change, that regularly used to hold their events in London, would continue when

possible, having live streaming at the same time if possible, and with the meetings being recorded automatically by the BCS. Other Branches and Specialist Groups are considering continuing with the webinars with occasional face-to-face meetings, possibly also recorded. The benefit of the recorded presentations allows those that cannot attend to achieve the event to be able to watch at the same time or at a later date if required.

The main problem with the webinars is the lack of networking which could be provided by optional "break-out" sessions of say four people during the webinars. On returning to face-to-face options local presenters could be used, which would be followed by short discussions. Networking events could be undertaken such as those that have been held face-to-face by BCSWomen Specialist Group and by the Hampshire Branch, when attendees sit in a circle, when alternate attendees move two places, to have a one-to-one short conversation of about five minutes with another attendee. The process s repeated for approximately one hour. Alternatively the attendees could be divided into groups of four to six to discuss a given topic with feedback from each group after about forty minutes.

Subject to prior agreement, a series of visits could be arranged which are normally restricted by most many organisations to about twelve to provide excellent opportunities in the past for networking.

6.0 Conclusions

The restrictions globally since early 2020 have forced a re-evaluation of all professional bodies and for their members to reconsider the effectiveness and potential different ways of communicating and undertaking CPD activities (Uhomoibhi and Ross, 2019; Ghallab et al, 2020). The long-term effect on professional bodies could lead to an increase in membership or have the opposite effect leading to closures or amalgamation of bodies (Evens, 2020).

Although the research in this area is at a stage of infancy, there is a recognition of some of the implications of the "new-normal" way of life for individuals and organisations. There are many factors at play which requires resilience on both the part of everyone and the professional bodies while recognizing the relationship between its implementation for the organization (Foss, 2020; Renjen, 2020; Harland et al, 2005; Sommer et al, 2016). These studies have shown that individual and organisations all over the world has the capacity and ability to respond to challenges in the absence of a plan, which at times involve improvisation (Ciuchta et al, 2020; Cunha et al, 1999; Hadida et al, 2015). In the current era where there is encouragement and drive for innovation and creativity to be taught as part of education we see that the Covid-19 pandemic have brought with it the cultivation of improvisional competence and participation in online networked activities for everyone everywhere.

The advantages of virtual conferences, particularly considering the financial issues as well as time saving, need to be balanced against being able to replicate the networking opportunities of a conference. Similarly the networking features of traditional pre virus physical professional meetings also need to be addressed if moving to virtual events. The monitoring of attendance with webinars is more difficult than actual physical events, as virtual attendance with the post event access using the recording of these events, needs also to be considered.

It could be that with more virtual events, the professional membership fees would be reduced, thereby encouraging more members to join the organisation, whereas some other members might leave due to a decrease in the number of of face-to-face (f2f) events. Also the long-term effect of the confidence post pandemic, to attend face-to-face at events might change, following the virus. As Evens stated (Evens, 2020), "The most Successful societies and organisations will be planning ahead not just for the next meeting, but how to adapt and evolve their meeting format over the next decades" .

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