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'When You Get What You Want, But Not What You Need': The Motivations, Affordances and Shortcomings of Attending Academic/Scientific Conferences

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Abstract

Conferences are generally felt to facilitate knowledge exchange and interactions between delegates, and to support formative higher education and continued professional education. However, the motivations and needs of conference delegates are sparsely researched and subjective in nature. This paper presents a mixed method analysis of the needs and motivations of the delegates of academic, scientific and professional (ASP) conferences. A series of 16 mixed method expert interviews were conducted with a randomly selected international sample of established academic faculty. The results were cross-referenced with the findings of a preceding pilot survey (n=37) that included student as well as established researchers. When examined together, the research shows that whilst ASP delegate needs and expectations seem to be met on a superficial level, delegates are divided as to the long-term worth and benefit of conferences, particularly when they consider how their activities and contributions were viewed and appreciated by others. Although the empirical findings are representative of the participants' perceptions of conferences, they offer an advancement on the opinion-based literature on conference motivations. Importantly, this research helps to explain why delegates hold mixed perceptions of conferences, and identifies key areas where added value is needed to meet contemporary delegate need.

Introduction

Conferences play a major part in the professional activities of many sectors (Rowe, 2017a). They are to be found in all of the major disciplines of science and academia, many trades and professions, and also in the activities of societies and associations. These fields form a sub-sector of the meetings industry that can collectively be termed as the Academic, Scientific and Professional (ASP) community. Across academic and scientific disciplines, higher education is a consistent reference point, and many ASP conference delegates will be either employed or enrolled in higher education institutions, or follow professions that are grounded in higher education and training. Even though conference events may not directly address education as a content topic, the broader concepts of disseminating and generating academic and scientific knowledge indicate that the examination of ASP conferences logically falls within a higher education purview. Looking closer, issues such as the generation of science, dissemination of knowledge, research as a public good and related public policy, the economic implications of scientific inquiry, peer review, the academic community, networking, scientific gatekeeping, academic careers and the preparation of scholars, and disciplinary knowledge communities, all link conference activities strongly to the fields of science and education. Yet despite all of these issues having established foundational theories and knowledge, none have been examined in any depth relative to the conference setting. The logistical and economic factors of conference provision have been discussed in meetings industry literature, but there is little research of delegate need. A previous attempt to identify delegate need (Mair, 2010, p. 191) found difficulty in producing generalizable results, but recommended that the meetings market should be segmented to better understand and cater for the needs of conference delegates. ASP conferences form a significant share of this market, yet until recently there has been little research that identifies the scope of the sector, the mechanism and efficiency of its events, or the needs and motivations of its delegate body. Given the service provision nature of conference hosting, this is a particularly unusual observation.

Literature review

The place of conferences in science and academia is both established and significant. Rowe (2017a, p. 113) demonstrated that conferences are a multi-disciplinary practice and conducted on a global scale. Given the lack of centralised data on conference numbers, we do not know the exact extent to which conferences feature in our professional and educational activities. However, by applying published figures of conference attendance and cost to a reasoned base of global conference providers (HEIs and learned/scholarly societies), conferences have been shown to incur annual costs in the region of 8.9 – 39.9 billion USD at minimum levels (Rowe, 2017b, p. 16-19), and rising significantly with the application of global researcher populations and meetings industry published figures (*ibid.* 43, p. 132).

From an educational perspective, the concepts of networking and knowledge exchange at conferences are widely acknowledged, and are supported by established theories of experiential learning (Kolb, 1984), legitimate peripheral participation (Lave & Wenger, 1991) and communities of practice (Wenger, McDermott, & Snyder, 2002). However, there is no specific work which examines how conference activities such as lectures, poster sessions, round tables etc., actually achieve the aims of knowledge development in the conference setting, although recent work has begun to look at this from a communities of practice perspective (Kordts- Freudinger, Al- Kabbani, & Schaper, 2017). This is particularly concerning given that at large-scale events, we demonstrably lack an individual capacity to consume any significant proportion of the information which is on offer (see Rowe and Ilic 2015, p. 3661-3662; Rowe, 2017a, p. 115; 2017b, p. 15, 48-50). Furthermore, mainstream conference practices have been shown to rely on the linear (mainly uni-directional) communication form of podium presentations, which have poor potential for interaction and transactional exchange (Rowe, 2017b, p. 21-28). Time and place restrictions further limit our potential to access and share information (e.g. the need for physical conference attendance and the issues of concurrent sessions), and the information we miss is not consistently made available after the actual event. As such, our potential for effectively sharing knowledge at conferences is clearly unpredictable, and the limited conference audiences we encounter at a physical event is by no way representative of our potential global peer community.

ASP conferences are evidently popular, but delegate attendance may have more to do with professional rejuvenation and networking, and less with the conference content itself (Vega & Connell, 2007). Rowe (2017a) revealed that whilst a massive quantity of work is presented at conferences, only a relatively small proportion is visible outside the actual conference event. At academic conferences, work chosen for presentation is assumed to be of an expert level and of potential use to the academic community. Such work merits considerable degrees of public and private funding, and institutions are increasingly making presentation a pre-requisite for supporting conference attendance. However, as far back as 1963, the supra-national body UNESCO highlighted problems with work stemming from national and international conferences (UNESCO, 1963). These included matters of lost research, poor distribution, inaccessibility, language restrictions and poor archiving, and even went so far as to suggest that conference work was being created with a main aim of legitimising conference attendance, and not because of any intellectual motivation (*ibid.* p. 16). In a contemporary context, conference concerns have continued to go largely unaddressed (Rowe, 2017a) and the issues identified by UNESCO (1963) still persist. Specifically in the conference literature (see Appendix 1 for a full list): Grant (1994) noted that no motivational studies had been conducted prior to 1993. In 2006, Breiter and Milman noted that motivational and behavioural studies had so far taken a meeting planners perspective, and no user group studies had been conducted. Neves, Lavis, and Ranson (2012) conducted a scoping review on conference objectives and evaluations, and found most work on the topic to be at "opinion level" and failed to meaningfully address participant perspectives. Although considerable research has looked at the factors which motivate, assist or prevent delegates from attending conferences and conventions (see Appendix 1), this has been from an event organiser's, and not a user's perspective. However, all of the meetings industry papers that have looked specifically at conference motivations have found education to be the most important attendance motivation, and this calls for the higher education and science sectors to become more involved in research into conferences as a specific educational domain.

Against this backdrop, this study sets out to answer the following research questions:

1. What are the principle delegate motivations to attend ASP conferences?
2. What do delegates need from their attendance?
3. What value and importance do they place on conferences and conference outputs?
4. How well do conferences meet the needs of delegates?

Methodology

This presented study forms part of a wider investigation into the effectiveness of academic and scientific poster presentations and how academics perceive their importance in knowledge transfer. A previous study (Ilic & Rowe, 2013) revealed no evidence-based studies that demonstrated the capacity of posters for knowledge transfer in the conference setting. However, it was clear that posters were being presented in large numbers (see e.g. Rowe, 2017a, p.106-107), and the general presumption expressed in literature was that the main objectives of poster presentation were to share or access information, and to facilitate networking and discussion. Further investigation showed that at anything other than small events, our capacity to purposefully select presentations to engage with is limited by our reading capacity (see Rowe, 2017a, p.115 for a full analysis), and also by our inability to process overwhelmingly large volumes of presented information (Rowe & Ilic, 2015). Given these limitations, it is assumed that poster presentation offers concurrent affordances, and these relate to our motivations to attend and present at conferences. The impact and effectiveness of conferences has received very little attention outside of the events industry literature (Rowe, 2017c), despite 'education' being a prime stated motivation (see Appendix 1). Therefore, an investigation was launched into how poster presentations fit into our conference activities, and how conference delegates perceive their importance in knowledge transfer.

Theoretical framework

From a theoretical perspective, this investigation follows an interpretivist paradigm, and adopts mixed-method approaches to data collection and analysis. Researchers using an interpretivist paradigm and qualitative methods are often investigating the experiences, understandings and perceptions of individuals, in order to uncover the reality of a situation, rather than rely on statistical representations (Thanh & Thanh, 2015, p.24). The ontology and epistemology of conference activities are yet to be established, but as a contribution towards this, this study attempts to portray 'what is', reflecting the views and perspectives of those who attend and present at conferences. It is acknowledged that the needs and motivations of different groups will differ, and a light hearted attempt has been made to categorize conference delegates and their motivations (Gupta & Ali, 2014). Their designations include: 'Wandering Delegates' who enjoy travel; 'Stallion Delegates' who accrue conference 'freebies'; 'Socialite Delegates' who thrive on the entertainment aspects of events; 'Scholars' who include 'star speakers', 'presentation only', and 'learners' (who the authors view as being destined for disappointment); 'Standard Delegates' who are relatively selfless, ego free, easy going; and finally, 'Certified Delegates' who need to attend in order to gain certificates of attendance (used to reclaim expenses) or credit hours. It is this particular type of opinion-based literature that offers an insight into what we think of conferences and the motivations we have to attend, and indeed, many of these issues arose in the presented study. However, Scotland (2012) views that "Researchers need to take a position regarding their perceptions of how things really are and how things really work". As there is little foundational research in the fields of conferences or poster use, then original research (on whatever scale) represents a transition from opinion-based perspectives, to evidence-based understandings. In this way, the subjective understandings we have of conferences and conference motivations can be collated and developed into more generalizable statements as to how such events feature and function in our professional lives.

An initial pilot survey (n=37) investigating poster presentation at conferences was conducted at a large international scientific conference in 2014 (for full details see: Rowe & Ilic, 2015). The survey did not yield a sufficient amount of generalizable data, but the results were interesting and offered a good motivation for an expanded study to be undertaken. In order to obtain a richer body of data, it was decided to adopt a structured interview format that explored the survey items in greater detail. Especially, the interview format offered the potential for discussion and expansion of emerging issues.

Sampling

A series of web-based interviews were conducted with experienced ASP conference goers. Potential interviewees were randomly selected from users of the Research Gate professional social media platform. The selection was purposive in nature (Tongco, 2007) in that individuals were targeted who were believed to be typical of the general population of international academic conference attendees, and to have potential experience and expert opinion regarding academic/scientific conference activities. Research Gate members are required to have a confirmed institutional affiliation or be manually confirmed as an established researcher in order to join the platform. In terms of users, it is the world's largest academic social network (Van Noorden, 2014). None of the interviewees were directly known to the researcher. Potential interviewees confirmed their familiarity with conferences and conference presentation prior to commencement. Although the overall investigation focused on conference poster presentation, a significant part of the interviews addressed the

subjects' general perspectives and experiences concerning conference attendance, and this material provides the focus for this paper.

Interview format and ethical considerations

The interviews were conducted directly via the Research Gate message platform or by reciprocal email messages, depending on interviewee preference (see e.g. Meho, 2006; Stieger & Göritz, 2006 for methodological discussions). Individuals were identifiable to the researcher, but their anonymity was assured on the message platform (which could only be accessed by the interviewer, the interviewee, and conceptually the site administration), and also in regard to any publication or dissemination of the research findings. Participants were provided with full written information as to the purpose of the research and the voluntary nature of their participation.

Interviews were text-based, with no focus on language or grammar. Participants were able to give as much or as little information as they chose, and were able to contact the researcher by email or message at any time. Acceptance was taken as formal consent to participate and participants were able to withdraw from the interview study at any time. The study process was conducted in accordance with the principles of the Declaration of Helsinki (WMA, 2013). The overall research was approved by the Research Ethics Committee of the University of Lapland on 19.08.2014 (dnro 187/00.05/2014).

The interview approach was mixed-method. This has been seen as especially suitable when examining communities of practice (Denscombe, 2008; Eckert, 2006; Wenger, 2009), and therefore suitable for the study of academic conferences. In total, the interview contained 32 quantitative questions where items could be selected, importance could be scaled, or levels of agreement could be indicated (Likert type responses). Responses were also qualitatively explored using 36 open ended questions. As with an oral interview, individual points were discussed through reciprocal message exchange.

Analysis

In the preparation phase, interview responses were anonymised and collated according to question. The quantitative data was tabulated and mean scored. The data is reported in mean average terms ($\bar{x}$), as used in both the preceding pilot study (Rowe & Ilic, 2015) and a corresponding motivations study by Mair (2010). In so doing, a direct comparison between the three studies can be made, and this is used to contextualise the results presented in this paper. The qualitative responses were analysed using inductive content analysis, which is especially suited to this type of examination, given its potential to "derive meanings, intentions, consequences and context" (Elo & Kyngäs, 2008). The responses were analysed for key elements, categorised into recurrent themes, and abstracted with reference to the findings of previous research (Elo & Kyngäs, 2008). The qualitative open response questions gave interviewees an opportunity to explain their position, and to express their own experiences and perspectives.

Saturation

A total of 16 interviews were conducted. As a proponent of interpretivism, Willis (2007 p.194) acknowledges that different people and groups will have different perceptions of the world. So, in this research, multiple perspectives were sought in order to offer a baseline understanding that might reflect the wider ASP community. In isolation, small scale surveys and interview series may seem inadequate to represent the beliefs and opinions of such a large target population. It is not disputed that a greater number of responses diminishes the potential for data to be missed, and lends greater reliability to the study findings, however, the global population of potential academic/scientific conference delegates comprises approximately 7 million (UNESCO, 2010) to 8.4 million researchers (Ware & Mabe, 2015), and 11 million graduate students (Price, 2011). Given their differences in demographics and discipline, it is unrealistic to assume that any study of this type could be conducted which would result in an agreed and unequivocal answer as to the needs and motivations of all conference users. However, the results of this interview study correlate with those of the preceding pilot survey, and also with previous literature (e.g. Rowe & Ilic, 2015; Mair, 2010; Rowe & Ilic, 2009). The responses offered by this interview sample also reflect views expressed in contemporary literature (albeit mainly opinion-based), and may be seen to reflect the general perspectives of a typical cross-section of expert ASP conference attendees. Some differences of opinion were seen, but this is also a feature of the limited existent literature. In light of these observations, after conducting 16 interviews it was felt that a suitable level of data saturation had

been reached, and that further interviews would be unlikely to provide any additional information that would have a meaningful impact on the study's overall results. As an additional point: in qualitative research, pre-mediated approaches to sampling are discouraged (e.g. Mason, 2010), and expertise in the chosen topic can further reduce the number of participants needed in a study (Jette, Grover, & Keck, 2003). Thus, the 16 interviews conducted in this study provide a reasoned body of data that, in conjunction with previous findings allow sufficiently robust conclusions to be drawn.

Results

The interviewees stemmed from 14 different countries (Table 1) and represented a variety of professional specialisms [interviewee quotes are labelled with interviewee #, gender, age, country of origin].

Table 1. Interviewee demographics by gender, age, country and specialist field.

1. F >50 T&T Workforce Education and Development	2. F 30-50 ESP Architectural Studies	3. M ?? IND Business Management	4. F 30-50 EST Business Studies	5. M >50 USA Reproductive Biol./Physiol.	6. M >50 HUN Interdisciplinary Geoscience
7. F 30-50 CRO Educational Science	8. M 30-50 UK Medical Informatics	9. F >50 USA Nursing Science	10. M >50 NIG Social Science	11. M >50 AUS Nursing Science	12. F <30 GER Health Psychology
13. M 30-50 TUR Medicine	14. F >50 ITA Environmental Biotechnology	15. M 30-50 GER Materials Science	16. M 30-50 SWE Analytical Chemistry		

Experience

The interviewees were all very experienced and qualified to doctoral level. Most of the interviewees (12/16) had attended >10 international conferences, with a minimum of 5. Most (11) had delivered >10 oral presentations, 11 had delivered >10 poster presentations, and 13 had published >10 peer-reviewed articles/texts. 15 of the 16 interviewees classed themselves as educators in their respective fields. In the pilot survey (n=37) (Rowe and Ilic 2015), 51% of the respondents were students (post-graduate) aged <30 years of age. They were generally less experienced than the interviewees of this study, although their experience went with age, and some 40% of the respondents were 30–50 years of age and comparable to the expert interviewees who feature here.

Attending Conferences

The interviewees felt that it was very important to attend conferences ($\bar{x}$ 8.75/10), which was only slightly different from the results of the pilot survey ($\bar{x}$ 8.3). The main needs identified for attending conferences were identified as disseminating & sharing work, discussing work with colleagues, and getting feedback on presented work. This indicates that *interaction* is a key element of conference attendance, although one interviewee commented that: "*Many say the 'networking' is important. I like 'sociable' events - but the networking never really comes off*" [11. M >50 AUS]. There were also indications of more personal motivations to attend conferences, and interviewees looked to "*find new opportunities and relationships to nurture and develop*" [9. F >50 USA], develop reputation [12. F <30 GER], and even to "*sell results*" [15. M <50 GER].

Presenting Vs. attending

Over 80% of the interviewees stated that they were motivated to present at conferences, rather than just attend. The interviewees gave this a very high level of importance ($\bar{x}$ 8.81), as did the respondents of the pilot survey (also $\bar{x}$ 8.81), 51% of whom were students aged < 30 years of age. So, it is fairly clear that attending ASP conferences is not just about passively receiving information, but also about making an active contribution. Sharing knowledge with others was not just seen as a philanthropic activity, but also allowed delegates to increase their visibility. This was important to "… *show that you are adding to the body of knowledge in your field*" [1. F >50 TAT], to "*become noticed*" [4. F 30-50 EST], and to "*create/influence the show*" [6. M >50 HUN]. "*Attending is*

useful to learn and meet others, but presenting is more of a challenge and gives a higher level of visibility" [14. F >50 ITA].

Making a visible contribution was not only of personal importance, but also of practical importance: "*Colleagues that see you and know you are more likely to engage with you and your students in collaborative work, more likely to give a positive review to your manuscripts, more likely to give you better scores on your grants, and more likely to hire your students*" [5. M >50 USA]. So, from this perspective, conference presentation is seen as helping with a range of other professional activities. Interviewees also felt that their conference presentations and activities were seen by fellow conference delegates, and therefore contributed favourably to their professional reputation.

Moreover, 11/16 interviewees felt that their activities were conceptually noticed by administrators, employers and funders. This was enhanced by the inclusion of institutional logos on posters [10. M >50 NIG; 15. M 30-50 GER], citing funding institutions and grant numbers [4. F 30-50 EST], the size of the conference [5. M >50 USA], and its international reach [8. M 30-50 UK]. Visibility, publicity and even advertising were frequently mentioned, and it was felt that the dissemination of research was one way to achieve these objectives.

> In general, funding agencies like to see products of their funding presented at conferences. It is a way for them to show-to-the-world that they are funding projects for which results are being presented to peers and interested parties in large settings (conferences). The presentation or poster typically lists the funding agencies [5. M >50 USA].

However, the visibility of work during and after conference events is hindered by a number of factors which prevent people accessing or appreciating conference contributions (Rowe, 2017a; 2017b). Whilst one interviewee thought that "… *the Uni and Department can claim some kudos from the total number of people attending [their] conferences* …" [8. M 30-50 UK], it was also felt that conference activities could "*just become data in a statistic chart or bar*" [13. M 30-50 TUR]. The concept of visibility is therefore an important issue to be explored within conference practices, especially as it impacts not only on the communication of subject information, but also on the needs of individual presenters, their employing institutions, and those that fund their work.

Conference abstracts, papers, oral presentations and posters

A very high level of importance was placed on publishing in mainstream media such as peer-reviewed journals and books ($\bar{x}$ 9.73). The pilot survey showed an even higher value ($\bar{x}$ 9.94), and this reflects the view that "*peer reviewed publications are the gold standard for presenting scientific results to the scientific community*" [5. M >50 USA]. In effect, they are "*academic currency*" [11. M >50 AUS]. The pressure on researchers in this sector to write is not particularly contentious, but the venue in which they publish is important. "*I really like writing articles about my work and related topics, but I feel also being under pressure to have an output as high as possible (on the application for a professor position you have to declare your impact factor)*" [12. F <30 GER]. One interviewee said "*All of my career is evaluated on the number and quality of publications in refereed journals*" [14. F >50 ITA], and mainstream publishing is the primary way by which we show our "*scientific activity and productivity*" [15. M 30-50 GER].

External visibility and perceptions of quality

Whilst attending and presenting at conferences are judged to be very important (C$\bar{x}$ 8.78), conference publications themselves are deemed considerably less so ($\bar{x}$ 6.63). They are valued on a personal basis [2. F 30-50 ESP; 8. M 30-50 UK], and one interviewee felt papers included in specialized international conferences were typically published as a supplement or issue of a respectable journal, and that "*the papers are often cited frequently in the literature and are a reliable source for keeping up-to-date*" [5. M >50 USA]. However, less visible outputs are not given value for accreditation [2. F 30-50 ESP] or evaluation purposes [14. F >50 ITA]. There was a belief that when research is published, "*we have achieved a mile stone* [and] *the knowledge becomes universal*" [3. M ?? IND], but there is no data to support this concept. Because conference publications are often "*not refereed, nor indexed in repositories (web of science) […] they have no usefulness in our evaluation processes*" [15. M 30-50 GER]. As such, they are treated very much as an inferior source of information. However, previous research has looked at the quality of conference abstracts and found no noticeable deficiencies in methodology, validity or rigor (e.g. Rothstein 1990; Ha et al. 2008; Dossett et al. 2012). There is also evidence to show that not all peer-reviewed literature has undergone an effective review process prior to publication (e.g. Mahoney, 1977; Suter, 1994;

Benos et al., 2007), but as one interviewee put it: "*tenure and promotion depend on the gold standard of publication in peer reviewed literature*" [9. F >50 USA].

Oral presentation is commonly perceived as the most appreciated form of conference presentation, but interestingly, almost one third of the interviewees found it to be only somewhat or quite important (see Figure 1). There was also differentiation between invited presentations and the oral presentations which delegates had submitted themselves, with invited talks being seen to offer "*kudos*" to universities and departments [8 M 30-50 UK]. Another interviewee [5. M >50 USA] viewed that "*Being seen and heard at conferences creates opportunities that may be greater than those that occur from journal publications alone*", and "*… invitations to speak at international conferences are a bit of icing on the cake for the CV and certainly reflect one's accomplishments*", so it seems that oral presentations that are more visible offer increased value for institutions and individuals alike.

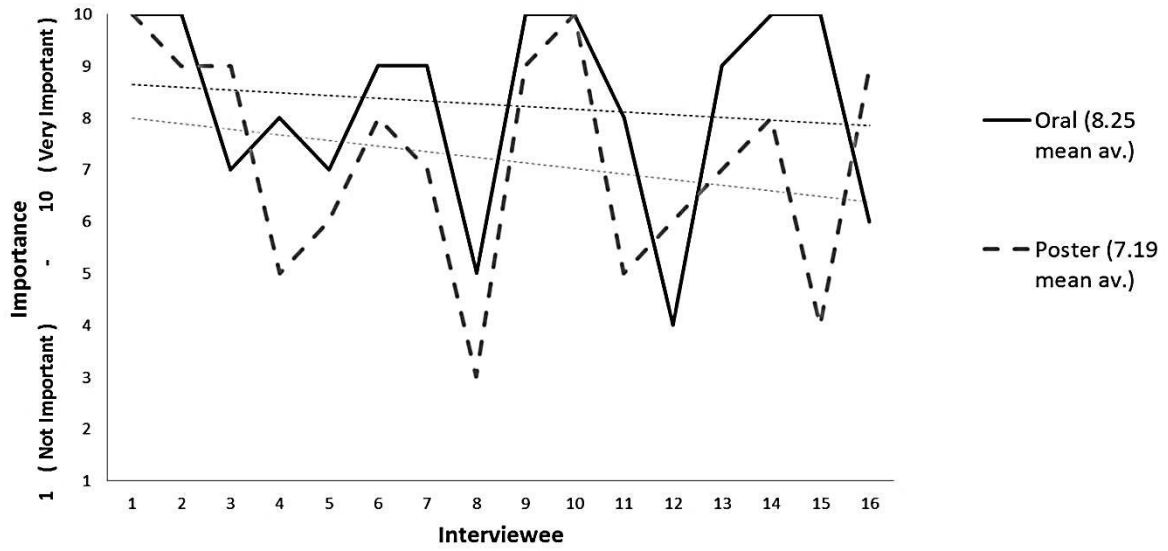

Figure 1. The importance of oral & poster presentations at conferences

Delegate perceptions of oral and poster presentation

Oral presentations are often assumed to be more effective than their audience in fact perceives. However, people tend to forget orally presented material (e.g. Lupia, 2013), and the interviewees also felt that conference presentations in general seem to be quickly forgotten [8. M 30-50 UK; 11. M >50 AUS].

It is fair to assume that the information we present at conferences is felt to have enough merit to share with the peer community. The fact that we have taken the effort to compile and present the information, and also that it has been reviewed by the organisers and accepted for inclusion within an event reinforces this assumption. Furthermore, given the limited availability of podium space, if a presentation has been selected for oral rather than poster presentation, it indicates that it has somehow been attributed a higher degree of value. This creates a hierarchy of presentation types, and this was shown in the interviews with one interviewee commenting that "*I nearly always apply for oral - rather than poster*" [11. M >50 AUS]. However, some offered a more extreme judgement of the perceived value-gap between oral and poster presentations: "*When a senior scientist like myself does a poster presentation, this [would] be considered ridiculous. I place myself at the level of a graduate student, or below … irrespective of what other seniors will tell you*" [15 M <50 GER]. In the data of the preceding pilot survey (Rowe & Ilic, 2015), the mainly student respondents rated oral presentations slightly more highly than the experienced interviewees included in this study ($\bar{x}$ 9.3 vs. $\bar{x}$ 8.25), but their rating of poster presentations was similar ($\bar{x}$ 7.14 vs. $\bar{x}$ 7.19). However, early career researchers may have a more vested interest in their career development and exposure via any form of conference presentation, and this may explain the subtle differences in the importance attributions seen between the two groups.

Interviewees read proceedings to determine items of interest with less than a 50% frequency ($\bar{x}$ 3.25/7), although this was clearly dependent on the size of the conference. Although many felt that poster presentations were quite good as a standalone medium of presentation ($\bar{x}$ 4.9/7), it was felt that the depth of information they carried was

not consistently sufficient for direct use in practice ($\bar{x}$ 4.8). In the pilot survey, respondents offered a lower evaluation of the standalone value of posters ($\bar{x}$ 3.70), however, as the data was collected in-situ during a conference event, this may have caused responses to be less conceptual and be more influenced by their real-time experiences. When asked how effective posters were at presenting information when the author was present, the evaluation of knowledge dissemination nearly doubled to ($\bar{x}$ 6.33 and $\bar{x}$ 6.16 respectively), which shows that there is an important difference in passively displaying information for people to see, and having the possibility to actively discuss it with the author. Over 80% of the interviewees felt that presenting a poster increased their levels of conference interaction ($\bar{x}$ 5.94), however, whilst they tried to interact with poster presenters during sessions, they felt challenged by their own busy schedule, and also the problems of processing the information load of larger events. When asked whether their own posters had attracted much attention, those interviewed had less positive experiences ($\bar{x}$ 4.4), and overall, when perceiving how posters were valued by ASP conference delegates in general, the interviewees were only slightly positive ($\bar{x}$ 4/7).

The value of published conference output

Only a small difference in value was seen between conference abstracts, and full conference papers that are published in conference proceedings ($\bar{x}$ 7.06 vs. $\bar{x}$ 7.43). This is an interesting finding as 6/16 of the interviewees mentioned 'sharing knowledge' as a main motivation for attending conferences, and 8/16 said they went to learn from others. Looking at the exchange of information that is required for sharing knowledge and learning, the difference between an abstract and a full paper is substantial, as abstracts only summarise the main points of a study and do not have the capacity to carry supporting information (see Rothstein, 1990 cited Rowe, 2017a).

Conference publications may be presumed to be "*less work than a published article*" [1. F >50 TAT], or "*unfinished/unpolished*" [4. F 30-50 EST], yet apart from full papers published in conference proceedings, the majority of conference material is *only* published in the form of an abstract or title citation (Rowe, 2017a). Whilst there are definitely 'works in progress' presented at conferences, there is also plenty of completed research, so the general assumption that conference work is of a lesser standard or quality is unsupported. However, this perception may reflect that complete presentations (other than published papers) are seldom seen or heard outside the event (see Rowe, 2017a for a full discussion). If conference presentations were able to be seen in their full form and reviewed, then they would be likely to attain a higher level of value. As yet however, they "*score very low for all the effort our attendance requires*" [2. F 30-50 ESP], and this is reflected in how conference delegates see their presentations as benefiting their career.

Career benefit

Conference presentations were judged as fairly important for career development ($\bar{x}$ 6.69/10), but opinion was widely distributed [2–10]. In the pilot survey, the rating was higher($\bar{x}$ 7.48), and this may reflect the large amount of students in the sample (51%) who represented early career researchers. The finding was in-line with the general importance of conference publications ($\bar{x}$ 6.63), but whilst a certain degree of personal importance was expressed, it was generally felt that institutionally, conference publications were not given much value. However, this is not always the case, and conference exposure can lead to career enhancing benefits, far beyond the professional formation aspects that feature prominently in the literature (see Rowe, 2017a for a thematic overview).

> Oral and poster presentations all have contributed to a successful career, through both my presentations and those of my students and collaborators. Ultimately these have led to invitations to be a plenary speaker at many conferences worldwide. Being seen and heard at conferences creates opportunities that may be greater than those that occur from journal publications alone. [5. M >50 USA]

Q. Do they make a difference to your career or job prospects?

> I got my first job offer as a result of presenting a paper based on some of my Master's work at a regional conference in the USA. The job was a tenure-track position at a major USA university. I finished my PhD and accepted the job – which turned out to be a life-changing opportunity with great senior faculty mentors and tremendous support. One should never underestimate the importance being well-prepared for presenting at any conference. Many of

> my graduate students have gotten top positions because of the quality of their posters and presentations. [5. M >50 USA]

Conference presentations were given slightly more importance when considered as an addition to a CV (+0.12 $\bar{x}$ 6.81), and a similar increase was seen in the pilot data (+0.2 $\bar{x}$ 7.68). Most interviewees acknowledged that they included conference presentations on their CVs, but other than highlighting invited talks or high profile events, they were not seen as being attractive to outside parties. One interviewee observed that: "*My reservation […] is where I see long lists of conference presentations from colleagues who do not publish much in journals – and seem to be 'pretending' that they publish a lot*" [11. M >50 AUS]. So, it would seem that although conference presentations are important to ASP delegates, "*they are not as important as publications*" [12. F <30 GER].

Obtaining funding and demonstrating value

Presenting is often viewed as a justification for attending conferences (see earlier observations), and only 2/16 interviewees did not view it as a prerequisite of employers to justify funding. However, when asked how important they felt it was for them to present in order to obtain funding, the interviewees rated it as only fairly important ($\bar{x}$ 6.68/10). The pilot data gave this more importance ($\bar{x}$ 7.72), and this possibly reflects that senior and more established researchers have less difficulty in accessing funding to support their attendance, and are perhaps better placed to self-fund certain activities. This observation is similar to that made by Mair (2010, p. 189-190), who also found that obtaining employer funding was important to delegates ($\bar{x}$ 4.92/7: 2.4% differential). Mair (2010, p. 190) also notes that those in academic positions may find it difficult to obtain conference funding, and this was mentioned during the interviews. When asked directly if they had ever submitted an abstract just to gain funding to attend a conference, 3/16 (a quarter) of these relatively senior interviewees admitted they had, with another saying that they would if the situation arose. Although this is a challenging accusation, it is not without historical grounds, and in 1963 a UNESCO report on conference publications viewed that a delegate may compile a presentation "… because sending a paper gives him a good excuse to travel to the conference, and not because he felt intellectually impelled to write it" (UNESCO, 1963, p. 16). Justifying expenditure is therefore an important issue, and given the vast annual expenditures described earlier in this article, it is only reasonable to investigate how important it is for delegates to demonstrate the value for money or benefit which is gained from their conference activities.

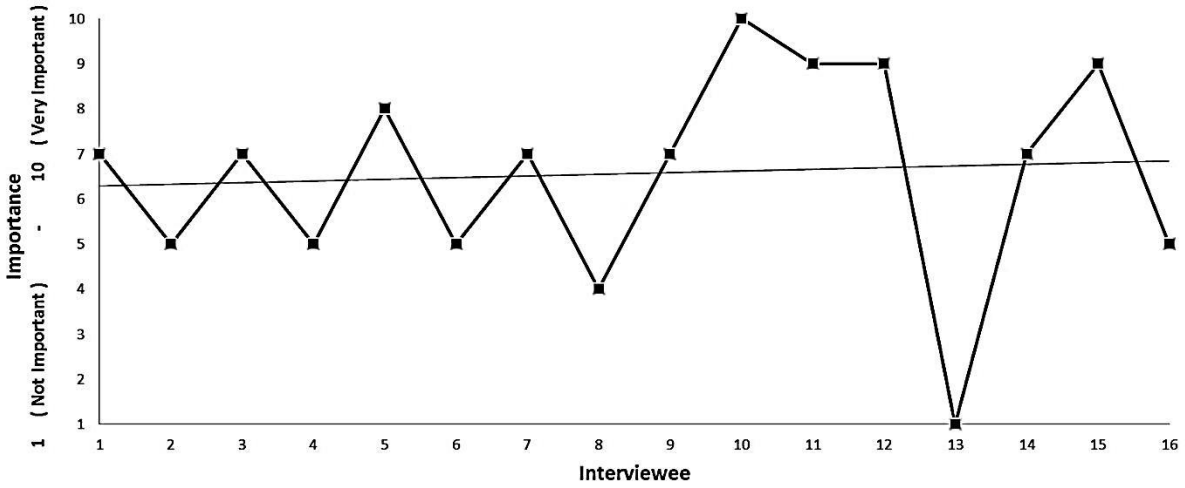

Figure 2. The importance of showing value for money / benefit gained

Whilst all of the interviewees felt that it was important to ensure that conference attendance was beneficial, this was not clearly measured or evaluated by their home work environments. One interviewee thought that without offering value for money, conferences "*are just social events*" [11. M >50 AUS], although they were seen to generate personal value in terms of self-improvement, professional practice and development.

> So far, the institutions I have worked for did not care much about such things, other than [focusing on] pure teaching and administrative tasks. They had a fixed allocated amount to attend conferences … What they really cared for was the number of days one had to get free – that is, out of duty or skipping classes […] [2. F 30-50 ESP].

None of the interviewees had needed to justify why they wanted to attend a particular conference, but if the activity was to be funded from a research grant, they gave careful thought as to how this would be accounted for in their reporting schedule. Demonstrating value after the event took various forms. Informally, interviewees discussed their activities with colleagues, shared materials on professional social media [12. F <30 GER], or provided a conference report to their institution [1. F >50 TAT; 4. F 30-50 EST, 11. M >50 AUS; 13. M 30-50 TUR; 16. M 30-50 SWE]. Conference events were discussed during staff appraisals, with emphasis on outcomes such as benefit, contacts and partnerships, student presentation rates and employment opportunities [5. M >50 USA]. Other forms of outcome measurements were whether a presentation had been developed into a journal publication[10. M >50 NIG], or whether a poster had won a prize[15. M 30-50 GER]. However, there are no current objective means of evaluating the long-term benefit of our conference activities, and so our ideas of conference value, effective dissemination and making meaningful contacts are often subjective.

Discussion and implications

It is clear that conferences form a major professional activity for scientists, academics and professionals of all disciplines. The published meetings industry figures on conference expenditure support this finding, and even the most conservative interpretations provide evidence that attending academic conferences is annually a multi-billion dollar activity. It therefore follows that conferences should offer the best possible service to those who attend them. Identifying delegate needs and motivations is the first step in this development, yet despite conferences being well-established, there has been little research conducted in the area.

What delegates want

The interview and previous survey data confirmed that the main motivations to attend academic conferences are to get together to share information, interact, and to discuss matters of professional interest (research question 1). Doing so is commonly understood to create opportunities of mutual benefit, knowledge development, and forms the core motivation for networking.

Published statistics and reports (ASAE, 2015; ICCA, 2014; CIC, 2014) all show that conference attendance has grown consistently over recent decades, and this suggests that conferences provide certain affordances to delegates, and that they serve their purpose. Chemero (2003, p. 181) differentiates between the plain perceptions we have of a physical environment (e.g. the conference venue), and the meaning-conferring inferences we gather from a "meaning-laden environment" (e.g. how personally beneficial we felt the conference experience to be). This has strong ties to theories of affordance (Gibson, 1979; Chemero, 2003) that consider what we 'get' from an environment. The process of attending a conference exposes us to "environmental relata" (*ibid*) which are things like the venue itself (which gathers people together), the programme (which directs people to gather in groups for a purpose), or offering a platform from which to present. By exposure to this environment, a delegate has the *potential* to share information, interact, and to discuss matters of professional interest. There are certainly instances when this takes place, and combined with positive experiences such as travel, a break from routine and professional socialisation, this accounts for the positive perceptions of conferences. When viewed together with the continued positive trends in conference provision, it would appear that delegate requirements are being met, but this was not shown in the overall study data. Differences in opinion, value and importance all featured within the data, and although there were constant positive reflections as to the general worth of conferences, these became less predictable as specific issues were investigated.

What delegates need

There was a clear separation between the value that was placed on conferences as a whole, and the practical outcomes and usefulness of conference participation (Table 2). Of course, there will likely be differences between presenters and non-presenters, but the best available evidence suggests that across the ASP community, presentation rates are significant (e.g. Rowe & Ilic 2015; Rowe 2017a, 2017b). This is further reinforced by the observations of university websites where presentation is stated as pre-requisite to gaining funding to attend conferences, and also the opinion-based observations of Gupta & Ali (2014). As a final point, conference outputs (presentations) have been highlighted as a value product of conferences (UNESCO 1963), although their practical dissemination has caused them to be seen as 'grey literature' (Rowe 2017a). So, whilst it is necessary

for research to be conducted into other forms and aspects of conferences and conference activities, it is reasonable to look at presentation as being a major theme in conference attendance motivations.

The results of this study represented the views of a typical cross-section of experts, and had strong correlations with the pilot survey which included both expert and novice researchers (Rowe & Ilic, 2015). Although they lend substance to the range of opinions expressed in cross-disciplinary literature that support conference attendance (e.g. Hill, 2001; Kim, 2014; Otero-Iglesias, 2017; Palin, 2017), it can be observed that many of these works are still opinion-based. The findings of this study build on these perspectives, and indicate that senior and junior delegates alike need not only the affordances of a conference gathering, but also tangible outputs that offer them and their financers a return for their investments of time, effort and money. It is noted that there are different types of conferences (e.g. those targeted to graduate students and early career researchers), as well as those aimed at professional communities, however, the way information is presented and made available is still a common and pertinent issue, and will no doubt have a similar influence on the experiences different types of delegates have.

Table 2. Delegate satisfaction with conference elements

Very Satisfied ☺	**Satisfied**	**Concerned**	☹ **Dissatisfied**
• Attending	• Sharing Information	• Presenting by poster because podium space is limited	• Conference work not acknowledged by peers
• Being Seen	• Presenting Orally	• Activities not really acknowledged by institution	• Conference work not acknowledged for research excellence
• Seeing Others	• Career Benefit (Early Stage)	• Low return for effort	• Too little time to take in all the information available at events
	• Conference publications not valued externally	• Value for money hard to demonstrate	• Conference outputs not effectively peer reviewed
	• Attendance funding reliant on presentation		• Poster sessions poorly organised
			• Outputs Have Little Value As 'Professional Currency'

Within the study (interviews and pilot survey responses), delegate need manifested in a need to demonstrate effective sharing, to demonstrate the quality of their activities, to increase their levels of visibility and interaction, and a need to have their activities and contributions acknowledged by others (research question 2). These requirements of conferences are not featured in the mainstream conference literature, yet present significant issues, especially when we consider conferences from a value perspective (Rowe, 2017c; Rowe, 2018).

Individually, interviewees placed value on both conference events and their own contributions. This was also shown in the pilot data (Rowe & Ilic, 2015) and in a similar previous study (Rowe & Ilic, 2009). However, a decrease in value occurred when they considered how their activities and contributions were viewed and appreciated by others. Their conference outputs (e.g. mentions in proceedings, externally published abstracts and papers, posters and presentations) were compared to the main 'academic currency' of the peer-reviewed journal article, but were considered to lack external visibility, and visible markers of quality and impact (research question 3). This presents a dichotomy, where publicly we support and approve conference activities, yet we fail to address or investigate the shortcomings we encounter on an individual basis.

Suchman (1995) viewed that "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate" implies the legitimacy of our socially constructed systems of norms, values, beliefs and definitions. This can be said of conference practices, and the concepts of getting together to discuss professional issues, sharing information, maintaining one's own knowledge, demonstrating expertise etc. are all markers of secondary professional activity (Dent & Whitehead, 2013; Dent, Bourgeault, Denis, & Kuhlmann, 2016). Thus, it is not surprising that ASP conferences are viewed favourably and maintain a high level of popularity. However, given the vast range in conference sizes, types and quality, and our proven ability to consume only a finite amount of information in a set time (see Rowe, 2017a, 115; Rowe, 2017b, 48, 73-74), there will always be

those who have successful experiences, and those who do not. As such, the positive and negative opinions regarding conferences may each be legitimate, even though they appear to be contradictory.

As far back as 50 years ago, UNESCO (1963) recognised the waste of valuable conference information, and urged for better dissemination and publication practices. This study indicates that these issues have gone unaddressed, and this is possibly due to the subjective appreciation of conference benefits. An auto-epistemic 'self-knowing' argument suggests that because our overall conference experiences are positive, then these must outweigh any negative issues and they are therefore given little significance. However, the interviews show that whilst we generally seem to have a 'good time' at conferences, we need more reliable ways to give our conference work wider visibility, meaningful reach, and external value and appreciation (research question 4). Kordts- Freudinger, Al- Kabbani, & Schaper (2017, p. 29) asked how learning at conferences can be conceptualized and supported, and the findings of this study offer clear indicators of how this may be approached. This has specific impact on how we address the concrete return on conference investment, and re-emphasises the fact that organizing and funding conferences is just too expensive if they are not oriented towards the participants' desire to learn. As such, the higher education sector is the most appropriate body to lead developments in this field.

Conclusion

It is clear that members of the academic, scientific and professional communities are well motivated to attend conferences, and do so in vast numbers. These events meet their basic desire to congregate, interact, share work and to network with their peers. Conferences entail significant financial commitments and these are often met with external funding. Conceptually, both delegates and funders gain reputation and visibility by presenting work at conferences, but this is limited by unpredictable exposure both during and after the event. Currently, conferences seem to cater well to what delegates *want*, but in order to address the disparity of opinion regarding their overall value, conference organisers and the higher education sector as a whole need to give more attention to what delegates *need*.

Recommendations

There is a clear lack of research into conference activities, which is surprising given the significant position they hold in formative and continuing education, and also their cross-disciplinary reach across the sciences and professions. As conferences enjoy massive levels of engagement and expenditure, it should be considered whether improvements in quality, visibility and output may allow our conference activities to become an additional 'currency' which holds value not only for conference attendees, but also their institutions, funders, and the ASP community as a whole. To underpin such developments, conference learning should be considered as a specific educational domain, and researched to an appropriate level.

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Appendix 1. Conference Attendance Motivations: 1993-2017 Literature

1994 MICE [Meetings, incentives, conferences and exhibitions, or Meetings, Incentives, Conferences, and Events]	Grant, Y. N. (1994a). 'Factors that contribute to the selection process of meetings from the perspective of the attendee.' 1994 Annual CHRIE Conference July 27-30, 1994 Palm Springs California.	No motivational studies conducted prior to 1993
MICE	Grant, Y. N. (1994b). 'Factors that contribute to the selection process of meetings from the perspective of the attendee.' (Doctoral dissertation, Virginia Tech).	1. **education**, 2. leadership / professional activity, 3. networking, 4. reputation, 5. presentation
1996 MICE	Grant, Y. N. & Weaver, P. A. (1996) 'The meeting selection process: A demographic profile of attendees clustered by criteria utilized in selecting meetings'. Journal of Hospitality & Tourism Research, 20(1): 57-71.	Conference groups have different needs
2001 MICE	Høyer, K. G., & Næss, P. (2001). 'Conference tourism: a problem for the environment, as well as for research?.' Journal of Sustainable Tourism, 9(6), 451-470.	Is the wish for higher professional and scientific understanding the main motive behind the growth in conference activity?
2001 MICE	Rittichainuwat, B. N., Beck, J. A., & Lalopa, J. (2001). 'Understanding motivations, inhibitors, and facilitators of association members in attending international conferences.' Journal of Convention & Exhibition Management, 3 (3), 45-62.	1. **education**, 2. networking, 3. content, 4. career enhancement
2006 MICE	Breiter, D, & Milman, A (2006) 'Attendees' needs and service priorities in a large convention center: application of the importance-performance theory', Tourism Management, 27(6): 1364-1370.	Most studies looking at conference motivations and behaviours have been conducted from the meeting planners perspective. No specified user group studies have been conducted.
2007 MICE	Severt, D., Wang, Y., Chen, P. J., & Breiter, D. (2007). 'Examining the motivation, perceived performance, and behavioral intentions of convention attendees: Evidence from a regional conference.' Tourism management, 28(2), 399-408.	1. **education**, 2. content, 3. networking, 4. travel, 5. career enhancement
2008 Management	Huang, Q., Davison, R. M., & Gu, J. (2008). 'Impact of personal and cultural factors on knowledge sharing in China.' Asia Pacific Journal of Management, 25(3), 451-471.	1. **share knowledge**, 2. networking, 3. personal/career enhancement
MICE	Yoo, J. J. E., & Chon, K. (2008). 'Factors affecting convention participation decision-making: Developing a measurement scale.' Journal of Travel Research, 47(1), 113-122.	1. **education**, 2. networking, 3. personal interaction
2009 MICE	Severt, K., Fjelstul, J., & Breiter, D. (2009). 'A comparison of motivators and inhibitors for association meeting attendance for three generational cohorts.' Journal of convention & event tourism, 10 (2), 105-119. DOI: 10.1080/15470140902949695	1. **education & holistic learning**, 2. professional socialisation, 3. networking, 4. professional engagement
2010 MICE	Mair, J. (2010). 'Profiling Conference Delegates Using Attendance Motivations', Journal of Convention & Event Tourism, 11(3): 176-194.	conference location, networking opportunities, cost of attending, social aspects, conference and association activities, personal and professional development, intervening opportunities, travelability, being directed by employer to attend: **Unclear due to complexity, non-specific focus & mix of results**
2011 MICE	Kim S., Lee J. S., & Kim M. (2011). 'How different are first-time attendees from repeat attendees in convention evaluation?', International Journal of Hospitality Management, 31(2): 544-553.	1. **education**/networking, 2. networking/education

2013 MICE	Lee, J. S., & Min, C. K. (2013). 'Examining the role of multidimensional value in convention attendee behavior.' Journal of Hospitality & Tourism Research, 37(3), 402-425.	functional/utilitarian, emotional/hedonic, social and epistemic dimensions
2012 Health Research	Neves, J., Lavis, J. N., & Ranson, M. K. (2012). 'A scoping review about conference objectives and evaluative practices: how do we get more out of them?' Health research policy and systems, 10(1), 26.	1. **education**, 2. networking, 3. career development, 4. professional engagement
2013 MICE	Lee, J. S., & Min, C. K. (2013). 'Prioritizing convention quality attributes from the perspective of three-factor theory: The case of academic association convention.' International Journal of Hospitality Management, 35, 282-293.	Re-affirms that convention attendance is predicted primarily by an opportunity for **professional education**. Prioritizes quality attributes for the management of attendee satisfaction.
2016 MICE	Pearlman, D. (2016). 'Globalization practices within the US Meetings, Incentives, Conventions, and Exhibitions industry.' Journal of Convention & Event Tourism, 17 (1), 55-69.	Emphasises value, sustainability & ROI
2017 Education	Kordts- Freudinger, R., Al- Kabbani, D., & Schaper, N. (2017). 'Learning and interaction at a conference.' New Horizons in Adult Education and Human Resource Development, 29(1), 29-38.	1. **education**, 2. networking, 3. personal/career enhancement: Emphasises the importance of interaction & ROI