Meeting Designers Where They Are: Using Industry Events as a Research Venue for HCI and Design Methods Development

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ABSTRACT

There is much work in the CHI community about the ‘industry-academia divide’, and how to bridge it. One key crossover between HCI/UX scientists and practitioners is the development and use of tools and methods—boundary objects between academia and practice. Among other forms of collaboration, there is an underdeveloped opportunity for academics to make use of industry events (conferences, meetups, design jams) as a research venue in the context of tool and method development. This paper describes three cases from work in academia-industry engagement over the last decade, in which workshops or experiments have been run at industry events as a way of trialling and developing tools directly with practitioners. We discuss advantages of this approach and extract key insights and practical implications, highlighting how the CHI community might use this method more widely, gathering relevant research outcomes while contributing to knowledge exchange between academia and practice.

Author Keywords

practitioners; design tools; industry-academia engagement; method development; industry events.

CCS Concepts

• **Human-centered computing~Interaction design process and methods**

INTRODUCTION

There is lots of work and debate in the CHI community about the ‘industry/academia divide’ [7, 26], and many initiatives to try to address this and explore the factors involved [e.g. 7, 8, 26, 28, 33, 34]. One key ‘crossover’ point between HCI or interaction design academia and interaction design, UX, and service design practice is the development and use of tools and methods. The notion of ‘translating’ theory into practice,

or ‘extracting’ theory from practice, makes these kinds of tools and methods a form of boundary object between academia and practice. The “relationships between professional interaction designers and their tools”, as Stolterman and Pierce [33] put it, are a significant area of enquiry for HCI research. Many research projects involve the development of tools for practitioners [e.g. 5, 18, 19], and while some are developed solely within academia (with concerns related to their practicability and cost-effectiveness [36]), others involve industry practitioners being invited into the method development process, [e.g. 22], through workshops, focus groups [e.g. 23] or round tables.

Involving industry practitioners in method development

The intentions of involving practitioners (whether from ‘industry’ or ‘non-commercial’ sectors) in research studies are numerous. They can include the validation of the utility of methods in a practical context, as well as their time- or cost-effectiveness. Researchers might also want to iterate and refine tools on the basis of experience trying them out with the intended users (if the tools are aimed at practitioners), which include the clarity of instructions and best practices on how the tools fit into concrete design projects. A third reason to involve industry practitioners is to study actual design practice: in this case academics are learning about how practitioners work. Other arguments in support of this approach relate to other academic duties, for instance helping align teaching better with industry practice or concerns, improving the job-readiness skills of students [8], and disseminating tools developed in academia to industry (public outreach and impact) [16, 17].

As a counterpart to inviting practitioners into the academy, there is also the notion of academics going into industry contexts to do this kind of research. Secondments, fellowships, and research projects embedded within design teams are not uncommon (e.g. 77 Design Heuristics cards [38] tested during an in-house training at a company [39], Emotional Granularity Cards tested at a design consultancy [40], or Usability Testing by observing design teams at several companies [27]). In a social or community context, and the public sector, there is increasing cross-sectoral

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collaboration with embedded academics from design disciplines [e.g. 1].

The Opportunities of Industry Events

Similar to major scientific conferences, professionals' associations in the fields of UX, interaction design, and service design (e.g. UXPA, IxDA, SDN) organise regular events where practitioners share their expertise and learn from each other. These events take different forms, from local meetups, design jams, webinars, workshops, to large-scale annual international gatherings or promotional worldwide initiatives (e.g. World IA Day, World Usability Day). In the last decade, it has been suggested that practitioners have slowly deserted the scientific conferences they have attended, in favour of practitioner-focused events, "justifying the expenditure to attend these conferences through real and tangible gains in applicable methods" [8]. This phenomenon has unfortunately contributed to reinforcing the industry/academia divide, with few opportunities left for shared venues where academics and practitioners could meet.

Based on our own observations, being often the only, or one of very few, academics attending these events among large groups of practitioners, we suggest that there is an underdeveloped opportunity for academics to make use of industry events as a research venue, in particular, in the context of tool and method development. The relative lack of academic papers reporting studies using this approach tends to confirm this assumption. As we illustrate throughout this paper, running workshops, activities or experiments at industry events, can be a worthwhile way of trialling and developing these tools directly with practitioners.

The advantages of using industry events as a research venue are numerous and include:

- It allows access to many more practitioners (and a more diverse sample) as participants than would be possible to recruit for a study in a university setting.
- It matches one reason that practitioners go to these conferences—to learn new methods. Sometimes conference attendance is paid for by employers as part of a training budget, with the explicit intention that attendees will return to their team familiar with new methods or tools. The participants are thus usually motivated to try out new methods, but also to understand the rationale and to question all details behind their use.
- There are powerful group dynamics where designers discuss the strengths and weaknesses of the method, the mismatches with the reality of the field, and suggestions for improvement, which would not be so fruitful or efficient with one expert at a time or smaller groups.

These kinds of workshops or activities are differently ecologically valid in comparison with actually having a design team use a new tool on a real project, but the context of learning or trying out a new method is at least analogous

to how new tools might be adopted within a company or team through training programmes, and in this sense it is more valid than inviting practitioners into an 'in-university' setting. Designers attending workshops often act as participants applying a method, but workshops can be structured in order for them (or some of them) to act as experimenters administering the method. As described later in this paper in Case 2, each participant adopted both the role of interviewer and interviewee.

So, how can HCI / interaction design academic researchers make use of this 'industry events approach'? In this paper, we offer details of three cases from work in academia-industry engagement over the last decade. These are short illustrations of the contexts and diversity of the industry event workshop approach in practice, across a range of events in Europe. We extract insights and implications about what can be learned through this kind of approach—what sorts of research questions are going to be addressable? We consider which sorts of tools or methods are most suitable for these contexts, how to initiate and approach the events (many of which are competitive in terms of submissions, curated by practitioners), how to frame or pitch the level of engagement and explanations of the tools, and how the CHI community might more strategically use this approach more widely, going forward, to help bridge the industry/academia divide. We are not claiming these as universally applicable recommendations, but rather situated contextual insights, with the hope that they are of value to the CHI community, and perhaps a call for more work, or reporting of existing work, taking this kind of approach.

METHODOLOGY

In this paper, we provide three example cases from our work in academia-industry engagement over the last decade, in which academic researchers have run workshops at industry events as a way of trialling and developing tools directly with practitioners. For each case, we briefly introduce the project context, the research questions and how the opportunity to conduct the research came about. We also describe the participants, the structure of the activity conducted and the results, with an emphasis on how these findings then fed into larger academic projects. Our aim is not to go into great detail about the specifics of the research questions involved here in the context of the original projects themselves, but rather to use these cases as examples to illustrate the worthwhile use of industry events for academic practice.

ILLUSTRATIVE CASES

Case 1 - The UX Needs Cards

Project Context

Amongst relevant theories in UX research, the psychological needs-driven UX approach [12] is a well-explored area [9, 12, 35]. It has been shown to be a powerful framework for the design of optimal experiences with systems and products. Nevertheless, the transfer from UX research to practice is difficult and slow [24] and this specific approach is not yet widely used by practitioners [16], who tend to underuse the

existing body of knowledge produced in UX or design research [10]. To bridge the gap between research and industry, practical UX methods need to be developed and current methods need to be adapted to the requirements of industrial UX development [17].

As part of Lallemand's PhD project, the UX needs cards [17] were created as a pragmatic tool able to support psychological needs-driven UX evaluation and design. The UX needs cards set is composed of: a cover card, seven UX needs cards and instruction cards. The cards were designed to support three main purposes: (a) the exploration of users' needs during user research, (b) the generation of ideas and (c) UX evaluation. More and more frameworks and methods developed in academia have great practical value, yet they are regrettably underused by professionals in the field. Card-based tools, used to translate theories into tangible and pragmatic design supports, have the potential to bridge this research-practice gap.

Research Question RQ1: Can a card-set be successful at embedding an academic UX framework, and stimulate the generation of ideas following this framework?

Research Question RQ2 and RQ3: In which part of the design process are the UX cards more relevant and insightful? Does using the UX cards result in richer design concepts, "embedding" part of the theoretical knowledge conveyed through the tool?

Opportunity

With RQ1, the second author, who designed the UX cards, got in touch with a local UXPA chapter (FLUPA), which she knew was regularly looking for volunteer speakers. They organised the UX cards workshop as a specific event and advertised it as a professional UX meetup. Successful in a first city, another branch of the association asked for a replication of the workshop in another location a few weeks later. Twenty-five UX designers from various levels of seniority took part in each of the 2-hour sessions (N=50 in total). This was the first time the tool was confronted with its target audience of professional designers, outside of the facilitator's own acquaintances.

Regarding RQ2 and RQ3, the author of the UX cards was invited to give an inspiration talk at a Global Service Jam (GSJam). During a weekend, people interested in service experience meet at locations all over the globe. Teams have 48h to develop and prototype new services or products inspired by a common theme. Interested in using this context as a testbed to address research questions RQ2 and RQ3, the researcher asked the organisers, in return for her talk, if they would allow her to provide the GSJam participants with the UX cards to be used during the event. To introduce the cards, she would organise a brief activity using the cards to kick-off the jam and then observe their design process during 48h. This was a unique opportunity to see professionals using a tool at every stage of their (rapid yet complete) design process. Being a rather open event in terms of ideation

activities proposed to participants, the organisers accepted without hesitation. 56 participants, divided in 6 teams, took part in the field experiment. GSJam participants are not necessarily designers: this was however the case for a vast majority of them, while the remaining part were studying or working in a related field. To cope with the high number of participants to observe and the duration of the event, the facilitator was accompanied by a research assistant.

Structure of the Activity

RQ1 at FLUPA Nice and Paris: To address RQ1, the two workshops were structured as a design challenge activity supported by the use of the UX cards. After a 20 min introduction about experience design, participants were invited to address one of two challenges: designing new experiences for a bus stop or for a bike. No specific instructions nor templates were provided to structure the ideation process. The expected deliverable had to be presented in the form of a product box. The facilitator observed the groups and video recorded the final pitches.

Figure 1: Participants using the UX cards to design a new bike concept fulfilling the need for security at FLUPA 2014.

RQ2 at Global Service Jam: Due to the event's special nature and the freedom offered by the organisers to experiment with the UX cards over 48h, the researchers had the opportunity to deploy a rigorous field protocol involving a brief workshop activity to kick-off the jam (Figures 1 and 2), observations (using grids) at several key stages of the design process, and finally a questionnaire and 35 guerrilla interviews about the use of the tool with participants at the end of the event. Participants filled out a demographics survey and consent form at the start of the event. On Friday evening, the organisers did a 'pressure cooker' and 'first ideas' pitches in order to create teams of participants. On Saturday morning, as the teams only had a draft idea about the direction of their project, a workshop activity using the UX Cards was conducted with each group. They thus discovered the tool and had the opportunity to ask questions. The outcome of the activity was a ranking of the seven needs cards by relevance for the design project and the selection of two priority needs to focus on (Figure 3). After that, participants were told that they were free to use the UX cards at any time during the process, yet also free not to develop

this approach further if they did not deem it relevant. Observation grids were used to report when and how each of the six teams used the cards during the 48h. With only two researchers present to observe 6 teams, the event organizers (who had a team of facilitators, one per group) have been involved as co-observers, equipped with an easy-to-use observation grid (with a rapid training beforehand to ensure consistency) to report when the UX cards were used or mentioned by each team during the process. At the end of the event, before the final pitches, participants filled out a questionnaire about their use and perception of the UX Cards. Forty-four of them were interviewed using a guerrilla approach. Final pitches in front of the jury were videotaped and an assessment of the concepts of several dimensions (i.e., innovativeness, UX, business potential) was collected.

Figure 2: Participants using the UX cards at the Global Service Jam 2016.

Sélection des cartes
Ranking individuel
N° Badge: H48

1. Lire les sept cartes besoin UX
2. Classez-les ensuite de 1 à 7 par ordre d'importance pour votre service
(1 = plus important / 7 = moins important)

Utilisateurs cibles de votre service (si déjà définis):

Classez les cartes de 1 à 7

Autonomie Indépendance	Compétence Efficacité	Influence Popularité	Plaisir Stimulation	Réalisation de soi Soin	Relationnel Appartenance	Sécurité Contrôle
1/2	4/7	5/7	6/6	3/2	5/5	2/4

ENT ETUDIANT

Expliquez brièvement votre choix des 3 cartes les plus importantes (classées en 1ère, 2e, et 3e position ci-dessus)

Carte besoin UX

1. Autonomie/Indépendance pour être bien dans son projet / être reconnu par soi-même
2. Relationnel/Appartenance pour que la personne / relation produise d'apporter valeur à l'ent.
3. Sécurité/Contrôle pour avoir chose bonne personne, bien accueillie

Explications de votre classement:

1. Autonomie/Indépendance pour être bien dans son projet / être reconnu par soi-même
2. Relationnel/Appartenance pour que la personne / relation produise d'apporter valeur à l'ent.
3. Sécurité/Contrôle pour avoir chose bonne personne, bien accueillie

Figure 3: Ranking activity template filled out by a participant at the Global Service Jam 2016.

Results and Value for the Research Project

In the case of RQ1, the facilitator analysed the storyboards and concepts presented in order to understand if they embedded the psychological needs concepts presented in the cards. The discussion was led around the understanding of the theoretical framework through the card-set and the

supportive role of the tool in generating novel and richer ideas. Attendees commented on the actionability of the card-set and gave recommendations to improve both the design and the content of the cards. This exploratory workshop was used as the basis to create a second version of the UX Cards.

Thanks to the unique opportunities offered by the GSJam format, RQ2 and RQ3 could be addressed in a very rigorous way. Both qualitative (observations, verbatims, interviews) and quantitative (demographic survey, workshop activity, user survey) analyses were conducted to understand when the UX cards were used during the process. Unsurprisingly, the card-set has mainly been used during the ideation stage, and 5 teams out of 6 did use the cards or refer to them even after the defined activity, which resulted in selecting priority needs to address through their design concept. Some insights in the use of the cards were collected at this stage, with participants reversing certain needs in surprising combinations (e.g. a service concept for people to disappear and start a new life, without letting one's relatives know, where the absence of 'relatedness' was the mechanism to reach 'autonomy' and 'self-fulfilment'). The exercise also brought interesting data on the supporting ranking activity, with participants stating that the needs reaching consensus too easily would not be as interesting to design for ("the low hanging fruit and cliché view") as the borderline ones with contrasting opinions that could bring more innovativeness. Four of the teams referred to the selected needs during the whole weekend, yet without going back to the card-set itself. One team made an unexpected use of the cards at the end of their process, when creating their business model and marketing material to pitch their concept. One participant suggested to use the content on the cards "to have compelling words to sell the idea. After all, the cards represent universal needs and the content truly resonate with anyone, including business angels!". Through the survey and during the interviews, participants declared finding the UX Cards very useful to focus their designs on human needs and to get inspired. The majority however declared that, once the first activity was done, they did not feel the need to use the card-set again because "they knew what the needs were about and had internalised the ones they had to focus on". Some teams mentioned the UX needs during their user testing sessions, trying to enquire if their participants felt that the targeted needs could be fulfilled through their service.

Published online under a Creative Commons licence in 2015, printed UX cards have also been distributed at practitioners' events (TLMUX 2015, Flupa UX-Days 2016). Further efforts of disseminating the tool to the general public have been made through blog posts and on social media. These initiatives have been successful, and some practitioners are sharing their experiences of using the UX needs cards online, along with customised ideation or evaluation techniques. A reasonable sample of practitioners also agreed to fill out a survey about their use of the cards across the years. Recently, the cards have even been used during a large-scale design workshop involving 400 participants in Canada (Figure 4).

Figure 4: UX cards used by an insurance company during their annual employee design hackathon (image credit: Loic Nunez-Desjardins, with permission)

Case 2: Retrospective UX Evaluation Using UX Curves

Project Context

Recent methodological developments in the field of UX emphasise the need for lightweight long-term evaluation methods [11]. Although UX temporal dynamics are recognized in UX research as an essential factor [30], cost-effective methods supporting the capture of experience over time are scarce. The cost and time associated with longitudinal research methods such as diary studies seem to constrain their widespread use [15]. The development of retrospective elicitation methods appeared as a first answer to cope with this issue [11, 13]. These methods usually combine an interview with a sketching task, asking the participants to draw the curve(s) of their experience with a product or service over time [11]. The authors of the UX curve method published guidelines and templates as supplementary material [14] to support the administration of the method. These guidelines, based on the authors' experiences using the method, briefly cover topics such as the use of the templates, the suitable usage period, the instructions given to the interviewee, the drawing session and the analysis of the results. However, just as a majority of UX methods, UX curves methods are still in early phases of development and need to be further developed to maximize their potential and scientific quality [15]. This project thus aimed at optimising the administration of the UX curve method.

Research Question: How to optimise the administration of the UX curve method, in order to collect numerous and in-depth user experience narratives?

Opportunity

The opportunity arose when the second author of this paper has been invited to run a workshop to experienced UX practitioners during UXinsight 2019. Currently working on methods to assess the dynamics of experiences, the objective for the academic facilitator was to optimise the use of retrospective evaluation methods, more specifically an adaptation of the UX curve method developed by [13]. Two sessions of the workshop, each of them lasting 3h and involving 25 participants (N=50) were conducted within the same day. Participants all self-identified as user researchers,

the part of UX exploring users' needs, motivations and behaviour which typically involves interviewing, observation and user testing methods. Despite being trained and working in the field of user research, and covering a variety of educational and geographical background, none of the participants had heard of retrospective evaluation methods before the workshop. When asked about which techniques they used to assess the temporal dynamics of UX, most of them cited diary studies as the only known technique.

Structure of the Activity

On the program of the event, the workshop was introduced as a way for practitioners to “discover innovative methods to evaluate the dynamics of UX” and “the ever-growing UX toolbox developed in academia”. After a 10-min introduction on the temporal aspects of UX, we invited participants to recall their last holidays experiences during a 5-min warm up exercise. The objective was to start triggering the memory of experiences, while also illustrating two theories of human memory underlying the use of retrospective evaluation methods: the constructive approach (i.e. reconstruction happens in a forward temporal order) and the value-account approach (i.e. reconstruction takes place in a top-down fashion). The facilitator then explained (20 min) the principles behind retrospective methods in more detail as well as the variety of retrospective techniques [11, 13]. This introductory part was followed by a longer hands-on activity using the UX curve technique. Participants were teamed up by pairs, one playing the role of the interviewer while the second one was interviewed on his/her long-term experiences using a system or product. This first round of UX curves interviews lasted 40 minutes. After a 15 min break, participants shifted roles and went for another round of 40 minutes. During the activity, the facilitator observed each pair for a few minutes and took notes on their practices. She also answered questions and wrote them down for discussion. The hands-on activity was followed by 20 min Q&A and group debriefing, where participants shared their experiences and struggles. After that, the facilitator explained how to analyse the results of the UX curves (20 min), including a brief 5 min activity to illustrate the creation of averaged curves. The remaining 20 min were again reserved for Q&A and discussion, both on the data analysis part and on how they envisioned the use of the method in general within UX projects.

Results and Value for the Research Project

The workshop provided valuable insights to optimise the UX Curve method administration. During the discussion, the facilitator intentionally compared viewpoints of interviewers who were satisfied with the outcome of their session (both in the depth of user data they collected as well as their experience with the interviewee) and those who were unsatisfied. This allowed to identify key variables influencing the effectiveness of the method. For instance, the facilitator learned about the process of sketching the curves: Who should draw the curves? In the original instructions [13,

14], the users are asked to draw the curve themselves and to annotate the changes by numbering them on the curve. However, none of the participants adopting this approach while being the interviewer was satisfied with the depth of users' curves and annotations. This was blocking the narrative flow, and almost all groups decided autonomously to reverse roles (the interviewer taking notes). On a similar topic, one can either ask the interviewee to go through the curve without details, by first focusing on the generic elements of their UX; or on the contrary asking detailed questions about each reported narrative, thus collecting data in-depth first before collecting it in a broad fashion. Additional issues were raised, like the report of mixed feeling: should the reported narratives be placed on the middle part of the timeline—as a neutral experience—or should one allow the interviewee to split the curve and add 2 points here, to represent the positive feeling and the negative separately? Quick votes by show of hands were used to get a sense of the number of participants sharing a specific concern or adopting a specific interviewing technique. The well-defined workshop structure, observations and discussion guide allowed the collection of relevant feedback to address the research question.

Figure 5: Workshop at the UX Insight 2019 conference.

Case 3: Design with Intent Toolkit Development

Project Context

The Design with Intent toolkit [19] is a card deck comprising a set of 101 interdisciplinary design patterns grouped into multiple 'lenses', cataloguing and illustrating ways in which the design of interfaces, products, and environments can influence people's behaviour. The toolkit thus fits into the broader behavioural design, design for behaviour change or

persuasive technology fields, though intended not so much to give answers or 'prescriptions', but to provoke designers with different disciplinary 'worldviews', challenging the immediate frame of reference suggested by the brief (or a client), and helping with transposing ideas between domains. As a prompt for exploring problem-solution spaces, drawing on examples and insights from different disciplines, it is essentially an ideation or brainstorming tool, part of the mainstream of the inspiration card workshop format [2] well-known within HCI and design practice. The general focus is on design for more sustainable or socially beneficial behaviour, but the patterns are applicable to a variety of contexts in digital and physical design. As an academic research project (part of Lockton's PhD), the toolkit was developed both through exploring use of prototype versions in teaching contexts and through inviting design practitioners 'into the academy', and going into industry contexts to work with design teams directly. These engagements were used to devise and refine the format and contents of the toolkit itself, but two further related research questions arose from this work which were particularly suitable for exploration through workshops at industry events where a larger number of practitioners would be participating.

Research Question RQ1: How do designers model people when designing with the intention to influence their behaviour? As Froehlich et al [6] put it, "Even if it is not explicitly recognised, designers approach a problem with some model of human behaviour"—but what are these basic models, and could the use of the toolkit cards be a way to investigate questions of the initial assumptions designers may have about how users think and behave, and how to influence this? Would it be possible to characterise some of these models through the kinds of design patterns chosen or considered? Is this stage of reflecting about modelling something designers would find useful during design processes around behaviour?

Research Question RQ2: Can designers deconstruct (or reverse engineer) the assumptions or models encoded in existing examples of systems known to be designed to influence user behaviour? Would it be possible to use the toolkit cards as part of a structured process, to uncover simple behavioural heuristics which people are (potentially) assumed to be following for the intended behaviour to occur? Could using real-life examples be a way into characterising designers' understanding of how other designers are thinking? Is this process of deconstructing existing examples something designers would find useful during design processes around behaviour?

Opportunity

In the case of RQ1, an opportunity was presented when staff at Clearleft, an interaction design and user experience agency, whom the toolkit's author had met at an informal meetup group, invited him to run a workshop at UX London, "three days of inspiration for UX designers... bring[ing] engaging industry leaders from around the world to present

a combination of inspirational talks and lively, hands-on workshops” [4]. Two half-day workshops, each with 65 participants who had chosen the session from three or four options, were run on subsequent days at UX London, giving N=130 participants in total. Participants self-identified as user experience designers, interaction designers, human factors designers and information architects—primarily dealing with web, software and the digital touchpoints of service design. (There may have been some student participants, but the vast majority were practitioners.) With RQ2, the cards’ author responded to an open call for submissions to Interaction, the annual international conference of the Interaction Design Association (IXDA). A half-day workshop was accepted (Figure 6), with 41 participants signing up. It ran alongside other workshops on topics such as sketchnoting, ‘gumshoe’ user research, mobile prototyping, and designing for touchscreens. The IXDA conferences attract a larger proportion of mostly Master’s students in interaction design and HCI alongside practitioners, including through discounted entry for volunteers, but of the 41 participants, no more than 10 were students and the remainder included user experience designers, product managers, user researchers, information architects and service designers from a number of countries.

Figure 6: Scenes from workshop at IXDA Interaction 12 conference.

Structure of the Activity

The workshops were, from participants’ perspectives, about introducing them to design for behaviour change (at the time a relatively new field) and research, examples, and debates from different disciplines which could enable them to incorporate this thinking into their practice. The cards were introduced as a tool which participants could use to do this, and a relatively conventional inspiration card workshop [2] structure was followed in which participants, in groups, generated a variety of ideas for influencing people’s behaviour in relation to different topics chosen by the groups. The specific engagement with the research questions came through different mechanisms in each case. During the workshops at UX London 2010, participants were asked to write down statements, individually, about ‘what users are like’ in the form ‘users [verb] [rest of statement]’ on Post-It notes. It was suggested that these could be explicit assumptions that the participants may have heard while working on projects, such as ‘[Our] users won’t read instructions’ or implicit assumptions embedded in project briefs, such as ‘reduce the number of options available [because ‘users are bad at making decisions’]’. The statements could be assumptions that participants themselves had made (and/or indeed believed) or ones which they had felt were being expressed by others during the design process (which they may have agreed or disagreed with). Participants placed the sticky notes on the walls (Figure 7), and collectively attempted to create an affinity map [31], followed by a group discussion about some of the ‘models’ revealed.

Figure 7: A cluster of sticky notes around the assumption that “Users don’t / won’t read”, created by participants at UX London.

In the workshop at IXDA Interaction 12, in Dublin, following an example deconstruction of elements in Amazon’s recommendation process (chosen to be familiar), groups, examined and deconstructed examples of interfaces from Codecademy, OPOWER, and Foodprints, which seek to influence people’s behaviour around continued engagement in learning programming, electricity use, and food choices in an organisation’s canteen, respectively. The process

involved a ‘ladder of abstraction’ or ‘Five Whys’-type process, focused on extracting statements of simple behavioural heuristics, drawn into rough tree or fishbone diagrams, and implications for design choices as expressed through the examples. The groups then went on to assemble sets of heuristics into fictional ‘behavioural personas’, for whom they generated design concepts using the toolkit cards.

Results and Value for the Research Project

In both cases, following the workshops, the facilitator was able to use the artefacts created by participants—the clustered sticky notes, and the diagrams—as data for qualitative analysis, particularly in relation to the use of the toolkit cards. Further clustering and extraction of common features from the heuristics examples was carried out as part of this. The large number of participants in the UX London workshops led to 492 statements, of which 124 were not clusterable/generalisable, leaving 368, grouped into 25 clusters and then subsequently further reduced to three main ‘models’. With the Interaction diagrams and notes, there was a greater variety of formats which were redrawn into a consistent format where possible (e.g. Figure 8).

Figure 8: A redrawn behavioural heuristics tree around social proof, derived from a group’s work at the IxDA Interaction 12 conference.

Both pieces of analysis, with examples from the workshops, were included in subsequent articles published in academic design journals [20, 21], which have subsequently been cited around 80 times collectively. For the Design with Intent toolkit, published online under a Creative Commons licence, the three models developed from the UX London workshop were included as extra introductory cards, and have been used by a number of projects since although the concepts have not found widespread adoption outside of academia. The behavioural heuristics and behavioural persona concept from the Interaction workshop, with examples, were included in a leaflet to accompany the card deck, and have since been developed further as an in-house method by one of the workshop participants, a UX leader at a US bank.

DISCUSSION

Based on the insights provided by the three examples reported in this paper, we discuss several implications of the approach of using industry events as a research venue for HCI and design method development. To maximise the potential of this approach, it is useful to reflect carefully on how to set up this type of research, in order to achieve research objectives while also satisfying the expectations of

participants and conference organisers. We thus discuss major elements to be considered and provide actionable recommendations as a starting point for academics interested in engaging in this form of practice.

What Can Be Learned Through this Approach?

In these cases, the kinds of research questions addressable are mainly related specifically to the tools being tested themselves, and how those tools are used and understood by practitioners. The research questions in Case 1, the UX Needs Cards, related to testing the cards and finding at which part of the design process they could be most relevant and useful. However, there is also the opportunity for material or ways of working arising from the workshops to enable the (academic) creators of tools to iterate and improve their tools, or how to deliver them, via exploring how they are used in practice, and indeed to set up the workshop sessions explicitly to aim for that outcome. Case 2, the UX Curves, enabled procedural questions such as “Who should draw the curve?” to be investigated and resolved, which then means that subsequent uses of the tool can be optimised. In Case 3, the Design with Intent cards, one of the results of the workshops was to introduce extra elements to the toolkit derived from work done by practitioners at the conferences. While not explicitly ‘co-design’ here, one can imagine that a well-structured workshop at an industry event could be used in this way to co-design a new tool with practitioners. Case 3 also points towards a way of using this method to address research questions beyond the tools themselves: can these kinds of workshops at industry events be used to generate data for more generalisable questions, such as “How do designers model people?” In this type of question, the tool is really a kind of Research through Design *probe* [3, 37], designed to enable larger questions about how practitioners work to be explored.

What Makes a Tool or Method Suitable for the Industry Event Context?

As illustrated through these cases, a variety of tools or methods are suitable for the industry event context. If ideation cards and design toolkits (Case 1 and 3) appear as particularly appropriate, Case 2 shows that research on HCI/UX evaluation methods can also benefit from this approach. Workshops given by academics can also tackle more transversal tools on timely topics, such as ethical design frameworks. Overall, suitable tools or methods are the ones that are designed to support design processes, not just for academics or students, but which have design practitioners as the main target users even if they can also serve an academic purpose. Would theoretical frameworks or non-methods-related research be appropriate? It would probably depend on participants’ (and conference organisers’) expectations. Depending on the event format an academic has the opportunity to access (local meetup versus international event), one can experiment with different types of methods. If local events may allow for testing early versions of an idea or tool, larger venues expect more mature methodologies in order to safeguard the quality of their

programme. This of course should not be misinterpreted, as it still leaves a lot of room for methods and toolkits which have not yet been the object of extensive field research. They should, however, be presented with a clear storyline and rationale, attractive supports and preliminary findings supporting their relevance for practice.

How to Prepare and Structure a Successful Activity?

This paper does not aim to discuss or compare the merits or affordances of specific aspects of workshop activities, since the research questions and goals will have a significant influence on this. But there are some generalisable insights about the way that activities can be prepared and structured.

When considering the suitability of a method for the industry event context, a fundamental consideration is that the tool must be applicable in 90 min to 3h, including explanations and discussion. While some industry events do offer the chance to run whole-day workshops, it is likely that these need to involve a range of activities, and the commitment required for a participant to sign up is substantial. So, the industry event context is best suited to tools which can be learned or explored relatively rapidly, and especially which can be introduced through questions ‘everyone’ can engage with (e.g. Case 1’s use of inviting participants to recall their last holiday experiences) as a way into exploring the tool.

While some events will allow workshop facilitators to contact registered participants to give pre-work, many do not (for data protection reasons, or simply because people choose the workshop to attend on the day) and so it is often not feasible for the facilitator to ‘know’ their participants beforehand. This also leads to a point about planning the activities: the facilitator has to work on their own knowledge of the field of practice (or talk to the conference organisers about who the participants, in general, will be), and structure activities which work for everyone in the room. Activities need to be structured to allow a ‘way in’ for participants of different skill or experience levels, valuing the contributions that all can make whether or not they have specific domain expertise in the topic. Group activities help alleviate this obstacle, while also creating a positive social dynamics and valuable networking opportunities for the attendees.

The facilitator should be aware that they won’t be able to adopt an experimental setup involving a control group (e.g. participants ideating without the card-set). If it does not decrease attendees’ experience, one could compare several techniques. While it might be possible to distribute a short survey about the tools tested, at the end of the workshop, that might not be well perceived. The best strategy is to rather rely on other metrics that can be collected through the activity or to structure the discussion time in a way that is addressing those questions (as done in Case 2 for instance). Preparing attractive templates for participants to generate ideas or sketch storyboards is also a way to standardise data collection (while also being appreciated by the audience): it is easier to analyse numerous ideas when presented on a predefined template than to collect flying sticky notes. You

can even easily assign participants or teams an identification number to link template sheets: in Case 1 for instance, the ranking of the cards with the subsequent ideas generated.

Even though Case 1’s 48h design jam differs from the more common workshop cases described in our paper, it is relevant to highlight the involvement of practitioners/organizers as research partners. One could of course involve more people from one’s research team as observers while the main researcher facilitates the workshop. While this is a viable approach for local events, it is unfortunately often not realistic—budget-wise—to send more than 1 or 2 scientists to national or international industry events. However, industry events can offer the opportunity to get extra help on-site. Just as academic events, they for instance use volunteers to help out with logistics during sessions. With simple observation tools and metrics, and by asking beforehand, it is thus possible to get useful support.

Finally, a perhaps obvious point: activities should be designed to be enjoyable and social, both to engage and motivate participants in the activities themselves, but also to fit with the conference atmosphere. For many participants, the conference may be a highlight of their working year, a time to be exposed to new ideas while meeting new people and catching up with friends. Activities can support this through building in plenty of opportunity for group collaboration. For example, in Case 3 the groups acted out the behavioural personas they created, which meant the workshop built up to a fun, partly improvised set of performances.

How to Have Access to such Industry Events?

We recommend taking part in a workshop at an industry event as a participant before running one—or at least, coming to know the community and its priorities beforehand through attending smaller events such as meetups. Getting in touch with local professionals’ associations, such as IxDA or UXPA local chapters, is an easy way to access industry events. Several small events (i.e. afterwork meetups) are organised each year, and the board members are often open to the idea of scheduling an event on request if a speaker volunteers to give a relevant workshop. In the first example of Case 1, the scientist got in touch (and was later involved in running it) with a local UXPA chapter, which organised the workshop for this occasion. This is the format that offers the most flexibility (date, format, number of participants) and allows to build a valuable network to get later access and to be invited to bigger events as described in Cases 1, 2 and 3.

Another approach is illustrated through the second workshop in Case 3, which came about through submission to an open call for the IxDA Interaction conference (e.g. Figure 9). The selection process is one of curation, usually by volunteers, not anonymous, and very competitive (below 20% acceptance for major events). The curators will be looking for methods and tools which are (or sound) mature enough to be transferred to industry, and so this route is not suitable for very early pilot studies. It’s important to remember here

that academics are usually perceived as credible instructors on methodology topics, and there may be fewer barriers than submitting a talk (there, we are usually considered less appealing). Speakers and facilitators can attend the event free of charge and, at major events might even receive an honorarium.

It is also worth considering that participants' satisfaction and learning objectives are the priority for the organisers and for the participants themselves; hence, while sessions started with an information section explaining that the facilitators were academic researchers and that the sessions were part of an ongoing study—they knew that they would be observed and recorded, and gave consent for their data to be used—the context was *an opportunity to learn* while contributing to research, rather than *solely* being part of a research study. How the sessions are framed in “selling” them in one or two lines in a crowded schedule or programme of events at popular conferences, or in an open call for speakers, can be important: a ‘learn a new design tool and contribute to research on how to develop it’ framing may sound more engaging—and aligned with the reasons practitioners pay to go to conferences—than ‘participate in an academic research study on a new design tool’.

Figure 9: Call for Speakers for Industry Events on Social Networks (left: UXPA 2020, right, Interaction 20 by IxDA)

Having a strategy for seeking and engaging with the practitioners' perspectives on the workshops, during (or after) the event is a good way to demonstrate that you value their participation as experts in what they do. This could involve collecting email addresses for a quick survey, but a more compelling approach might be to make it easy for participants to (for example) blog or share materials from the workshop with peers. Searching after the event will often find tweets or blog posts by participants, for example [25] from Case 2, the UX Curves workshop. Publishing work under Creative Commons licenses as well as keeping in touch with participants who seemed especially engaged can lead to feedback weeks or months after the event, from practitioners who eventually applied the method in their project and send information on what worked or not and why, which can be a useful component of an ongoing research project. Seeing practitioners adapt a method or publish on new ways to use it, is the most rewarding proof of transfer of an academic method to the field.

CONCLUSION

In this paper, we described three cases from work in academia-industry engagement over the last decade, in which workshops or experiments have been run at industry events as a way of trialling and developing tools directly with

practitioners. This paper only scratches the surface of the opportunities for this kind of work, and we believe it affords a way of doing research which, for certain tools and methods developed in the CHI community, is very appropriate. Running workshops at industry events, to enable practitioners to use new tools and methods aimed at them, matches clearly one reason that practitioners often go to these kinds of conferences—to learn new methods. As such, it allows access to potentially large numbers of motivated practitioners as participants, and allows feedback and discussion in situ from people in the process of understanding how the tools could fit into their work, drawing on their experience and expertise. It thus addresses both the ‘Bubble-Up’ and ‘Trickle-Down’ effects highlighted by Gray et al [8] in examining links between theory and practice. While the approach has shortcomings, it provides a bridge between ‘in the wild’-type studies [29] and more formal studies; write-ups will tend to be descriptive and qualitative, and the insights derived tentative. But as part of a mixed-methods approach to developing new tools in HCI and design, it can make a very useful contribution.

As one reviewer noted, what we are suggesting in this paper may not seem groundbreaking; on the other hand, we are just surprised, given the relative open door of these opportunities to work with industry conferences, that there is not more of this kind of work at CHI or in the HCI literature. So, we believe that the insights we mention, although prosaic, are perhaps not known by the community as a whole. We are interested to see how the CHI community could develop and use this approach, as part of the wider move towards bridging the ‘industry-academia divide’. Initiatives such as CHI Lites [32] point towards this kind of engagement between local practitioners and academic researchers visiting a city. We suggest that perhaps a complement to this could also be academic researchers engaging with industry events, whether local or not, and that the kinds of tool development outlined in this paper are an excellent opportunity for these forms of engagement. Perhaps traditional publishing incentives in academia have not favoured dedicating time to these kinds of ‘non-publishable’ events, but where the event itself can be used as a venue for research—and research which is very directly about knowledge transfer and practical impact—the calculus may change somewhat.

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