

A UX Community of Practice: Design Goals, Practice Motivations and Values

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Abstract:

This research report provides an intuitive insight into the design goals, practice values and the motivations why practitioners involved in a community of practice are motivated to practice user experience design in industry. A survey approach with instrument having closed ended questions was utilized. The results indicated that the practitioners' design goals followed a hierarchy, in the order: usability, functionality, security, pleasure and customizability. The strongest motivation driving respondents who attended the user experience (UX) gathering was performance oriented, hinged on classic competitiveness. In addition, the highest values among the respondents (UX designers) were to make users happy, followed by a focus on clients' happiness.

Keywords: Community of practice, user experience design

I. INTRODUCTION

Several researches targeted at human computer interaction (HCI) and user experience (UX) have been done in the past by Malaysians. Hisham (2009), practising UX methodology in her research, published a paper entitled "Experimenting the Use of Persona in a Focus Group Discussion with Older Adults in Malaysia". Hisham and Edwards (2007) published their work on cultural issues in user interface among older adults in Malaysia at an ACM conference in Manchester in 2007. Ashraf and Ghazali (2010) investigated the values of physicality principles evaluation in a laboratory setup. There was however no systematic use of participant recruitment in the sample as the objective of the study was to evaluate the principles for tangible products. Nonetheless, participants requested them to repeat their evaluation as they had gained a lot from the

experiment. Another publication worthy of mention is the research by Seng et al. (2010) who reported on the constraining characteristics in the form of hierarchism, egalitarianism, individualism and fatalism. Their research calls for a greater understanding of the human, social and cultural issues involved in the acceptance of IT by all stakeholders. While the central focus of the thesis was to describe and discuss the work practices of IT professionals in Malaysia, it also identified several "wicked problems" which could be solved by empowering UX designers in design goals and decision making. Empowerment is identified as the ability to make decisions while gaining trust from other developers (Bach & Carroll, 2010). Most problems experienced by UX practitioners were related to design authority, as designers need to listen to clients in a project, and to the team leader and/or front-end developer at the group

level. UX professionals should have the authority to make decisions based on design, subject matter and form (Tessem, 2011). The degree of design decision making should include the processes involved in UX analysis, design and implementation. The range of subject matter includes identifying people involved in user studies, the kind of activities, context, technology and design strategy. The form of design decision making includes design principles and techniques, specific design guidelines, design cases, design inspections and design metrics.

User experience (UX) should be recognised as a particularly important field in Malaysia, where people are obliged to use many public systems that rely on automatic user interfaces (UI) (see Hussain et al., 2016; 2017a; 2017b; 2017c; 2018). However, the inclusion of citizens as end users during the deployment and integration of automation has been absent. With this disturbing picture of a developing country's reality, frustration has become a common user experience, for example with long queues to buy LRT tickets during peak hours, when the machines fail to work effectively, efficiently and satisfactorily. The problems escalate as government continues to install products, systems and services that ignore the context of use, people and activities in situ. For example, the AirAsia website offers no human contact and expects end users to deal with mistakes and errors when using online booking systems. This approach is unacceptable, and the UX community of practice should be willing to respond to it to protect Malaysian citizens. On the other side of the world, the term user experience has become a part of life in Silicon Valley, USA (Beth, 2014), although it is still in its infancy in developing countries such as Malaysia. Even though some researchers think that UX should stand on its own, it would not be a good idea to add yet another independent

strand to the already crammed curriculum in Malaysia. The proliferation of HCI and UXD in Malaysia should be explored from both academic and industry perspectives. Successful practice is not determined solely by researchers, and academics should be fully aware that what is taught on HCI in the classroom should accurately reflect workplace practices (Buie et al., 2010). This includes the knowledge and skills that HCI graduates should possess when they enter the industry setting, either locally or globally (Dayton et al., 1993; Dillon et al. 1993; Jerome & Kazman, 2005). HCI courses have been offered for some time at different levels and in different departments in Malaysian public universities (Yeo et al., 2011). Chiu et al. (2008) surveyed how the HCI subject was being addressed in Malaysian universities and a further survey on HCI courses being offered at public and private universities was conducted in 2011. It was found that 85% of Malaysian universities offered HCI courses, under various names. There have also been approaches to foster the uptake of HCI knowledge in the design of software products by the inclusion of Agile programming in the software engineering (SE) curriculum (Hislop et al., 2002; Hazzan & Dubinsky, 2007). Agile is an example of applying UXD methodology in the software development process. However, although it allows iteration and intensive testing, it is not necessarily a UXD tool; the Agile programmer must apply wider HCI knowledge in practice. Perhaps the best evidence of the current status of HCI and/or UX in Malaysia can be found by identifying the growth of publications by HCI researchers affiliated to Malaysian institutions, from the Scopus database. For example, the ACM CHI Conference on Human Factors in Computing Systems is the leading international conference on HCI, and among the first Malaysian academics to have given papers there was Yeo in 1998. As part of his PhD work, Yeo (1998) highlighted how culture

might have a strong influence on the perception of usability. Thirteen years later, Wong (2001), during her postgraduate studies at Loughborough University in the UK had her poster accepted at the CHI 2001 Student Posters session; however, her published poster did not specifically represent Malaysia. In 2010, Malik and her PhD supervisor Alistair Edwards from the University of York, published their work at CHI 2010 (Malik, 2010), studying elderly patients and focusing on cultural issues in mobile technology.

Hedonomics theory had not to date been tested empirically, especially by people who are involved in any system- and product-development process. There may be some guidance in the order of importance of needs to be fulfilled outlined in Maslow's (1968) hierarchical model. The traditional idea of avoiding what is dangerous to the users is linked to Normative Pleasure (Helander & Khalid, 2006; Benyon, 2010, p. 104). The avoidance goal is more explicit than the approach goal, which is a good indicator that frustration is a common user experience known to the user experience (UX) community of practice (CoP). This is in line with Hertzum's (2010) study of frustration in computer use. Knowing what to avoid precedes what is best to practice. The avoidance goal explicitly influenced motivation to practise UX, while the approach goal implicitly influenced it. Usability is ranked the most important by the UX CoP and had taken the place of security, followed by functionality, security and pleasure. Indeed, security was even less important than functionality. The lower level is found to be different in designers, but the upper level of hedonomics was consistent with the Hancock theory (2005). The theory of frustration is applicable in assessing the problem areas in which UXD should be incorporated. The community of practice (CoP) plays a vital role

as a platform for learning and improving a practice. It is seen as important to the development process leading to the formation of disciplines, even though they are not explicitly teachers by nature (Hobbs et al., 2010). This study assesses a UX community of practice (particularly, UX Malaysia) to determine their design goals, practice motivations and values using a survey approach.

II. METHODOLOGY

A survey with closed ended questions was conducted to assess practice among user experience design (UXD) practitioners. Survey could be an appropriate method to study explicit practice. However, a survey may report what practitioners think they practice, rather than their actual practices. A survey questionnaire (with closed ended questions) was distributed as part of the study concerning the practice of UXD in industry. The questionnaire was distributed among participants who attended a monthly UX Malaysia (a CoP) meeting, following the advice of Lazar (2006).

Respondents: The questionnaire was distributed among participants of the UX Malaysia Forum held in the Mindvalley office on 19 February 2013. The event was a monthly gathering organised by a few people who labelled themselves as UX practitioners. The programme included a forum with three internationally known UX professionals from the UK, and a discussion of how to get support from managements to practice UX in organisations. The target respondents were UX practitioners and people who considered themselves responsible for usability and user experience within their organisation, or for a particular system/product, regardless of their job title. The respondents were promised anonymity for themselves and their organisations, but were not asked to avoid

certain information that might portray their organisation negatively.

Questionnaire: The survey questionnaire consisted of two sections. Section 1 first requested demographic information by closed questions: (1) age range; (2) gender; (3) highest education; (4) ethnic group; (5) level of proficiency; (6) current position in their company; (7) department attached to; (8) company type; (9) company's main activities; (10) local or internationally owned; (11) size of the company. These were followed by 19 Likert-scale questions, 15 closed questions where respondents had the option to tick more than one answer, 2 yes/no questions, 1 order of importance question. In Section 2, participants were asked to identify whether they considered themselves as "UX practitioner" or "IT development practitioner" (Ji & Yun, 2006). An option for "others" was also available. Respondents were then asked how many times they came to the gathering, in order to identify frequent attendees. The attendance figures were to show the level of motivation towards practising UX. Questions regarding why they attended the UX meetings were answered on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), as were four items investigating respondents' knowledge and beliefs. The distribution of the questionnaire was done by first identifying the organisations and affiliations of the participants in UX Malaysia. The reliability of the close-ended questions was tested using Cronbach's Alpha. To reiterate, Cronbach's Alpha is a useful coefficient for assessing internal consistency especially when answers to questions in an instrument use a Likert scale measurement (Creswell, 2012; Lazar et al., 2010).

III. RESULTS

Demographics of Survey Respondents: Thirty five (35) participants responded to the survey. The demographic data of the respondents was divided into gender, ethnicity, age, highest education level, practitioner level, role level, work duration and experience level. 80% (28 out of 35) respondents were male and 20% (7) female. More males than females had attended the meetings. This accords with previous studies, identifying that men dominate decision making and creative design sectors as venture capitalists, computer scientists and engineers producing startups, new software and hardware designs (Rosser, 2005). UX is considered as a new venture, a startup and a new way of designing applications. The majority of respondents (63%) were in the 20-31 age group, with 31% in the 47-65 group and one person over 65. The majority of the respondents belong to the Gen-Y age category. The age groups represented the four cohorts known as the Silent Generation (more than 75 years old), Baby Boomers (over 65 years old), Generation X (47 – 65 years old) and Generation Y (20 – 31 years old) (Tay, 2011; Bolton et al., 2013). Each demographic group has its own work values, attitudes and behaviours, aspirations and expectations (Tay, 2011; Gursoy et al., 2013). Gursoy et al., (2008, p.450) stressed that "... members of generations who come of age in lean times of the war years tend to think and act differently than those born in peace and abundance". In this study, the age differences were categorised according to different generations, but insufficient numbers of respondents representing each group meant that the data was not analysed further. In summary, the highest number of respondents came from Generation Y and was of Chinese ethnicity.

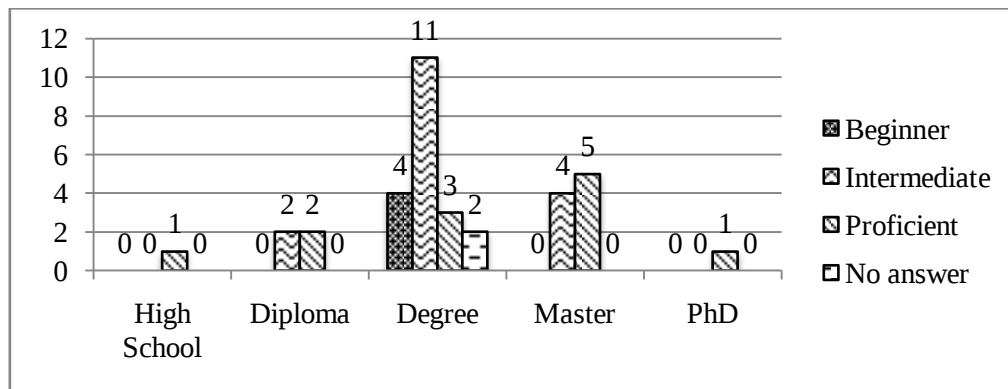


Figure 1: Education categories and UX proficiency level

Figure 1 points out the highest frequency of respondents (57%) had a first degree as the highest level of education, followed by master's (26%), diploma (11%) and one respondent each for high school (3%) and PhD (3%). In terms of the level of proficiency, both the high school and PhD respondents claimed to be proficient in UX, the latter because of research experience gained during doctoral study. It is rare for a high school leaver to claim to be proficient in UX, although school leavers do gain experience by starting up companies and having their own android apps running online. The majority of first-degree holders claimed to be at an intermediate level, and diploma holders were either intermediate or proficient. Master's holders claimed to be at proficient and intermediate levels. Four degree holders styled themselves as beginners, perhaps because their formal education was in different fields. Two degree holders chose "no answer" without specific explanations provided. 54% (7 out of 13) respondents gave various occupations as their company's main activities (UX testing,

branding and marketing, digital design illustration, finance and banking, online advertising, web development, consulting and training, publishing and research design strategy), while one simply wrote "diversified" in response to the open-ended question "other main company activities". 49% (17) of respondents claimed that IT development was the main activity of their company. Three worked in an IT development company, but not in the IT department. Two were from education-based organisations and 37% (13) were from other industries. Three respondents provided no answer as they were students. Twelve respondents positioned themselves as top management, three each as senior executive, team leader and individual contributor, and two each as middle management, technical/operation, and project leader. Figure 2 shows the positions of respondents by type of company.

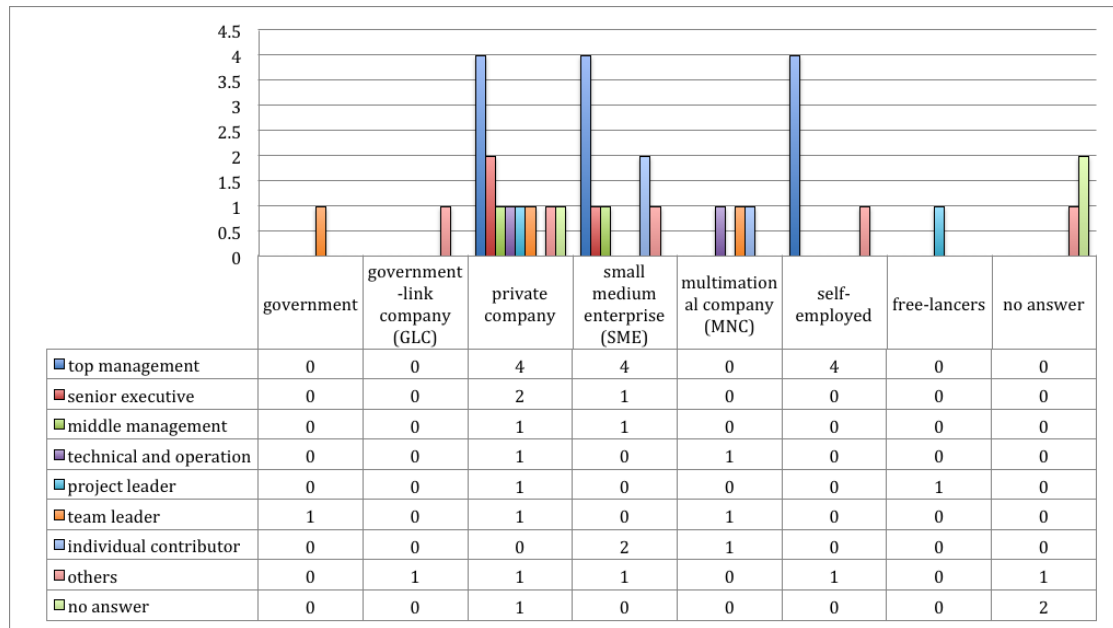


Figure 2: Distribution of respondents' positions across company types

In Figure 2, four respondents were from top management in private companies, and four in small-medium enterprises (SMEs). Four were self-employed. Two were senior executives in a private company and one in an SME. Middle management positions were held by two respondents, each in a private company, one of which was an SME. Technical and operation positions were held by two respondents, at a private company and a multinational company (MNC). The project leader position was also held by two respondents, from a private company and a freelancer. Finally, one team

leader was from the government and one from a private company. Two respondents from SMEs and one from a MNC claimed to be individual contributors. Five respondents chose "other position" as government-linked company (GLC), private company, SME and self-employed were not in the list. One respondent from a private company chose not to answer the question, three chose "no answer", these three respondents are identified as not being attached to any given industry; they might be students.

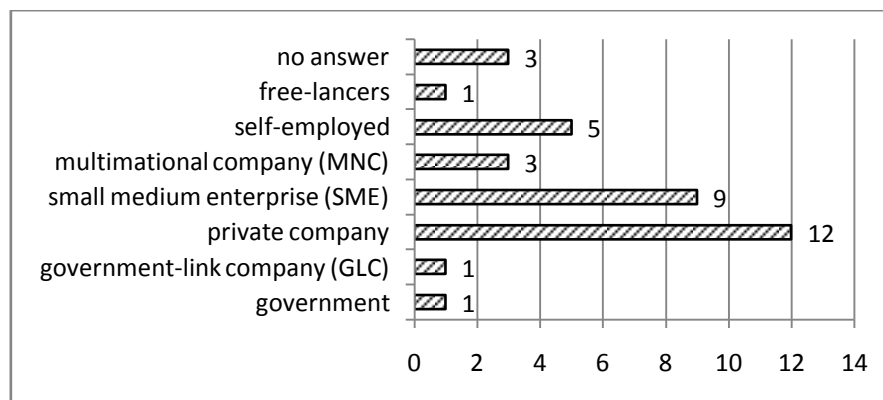


Figure 3: Distribution of companies among UX Malaysia respondents

Figure 3 shows the distribution of companies. The largest group of respondents worked for private companies (12), followed by

SME (9), self-employed (5) and MNC (3). Only one was a government employee, and one worked for a GLC.

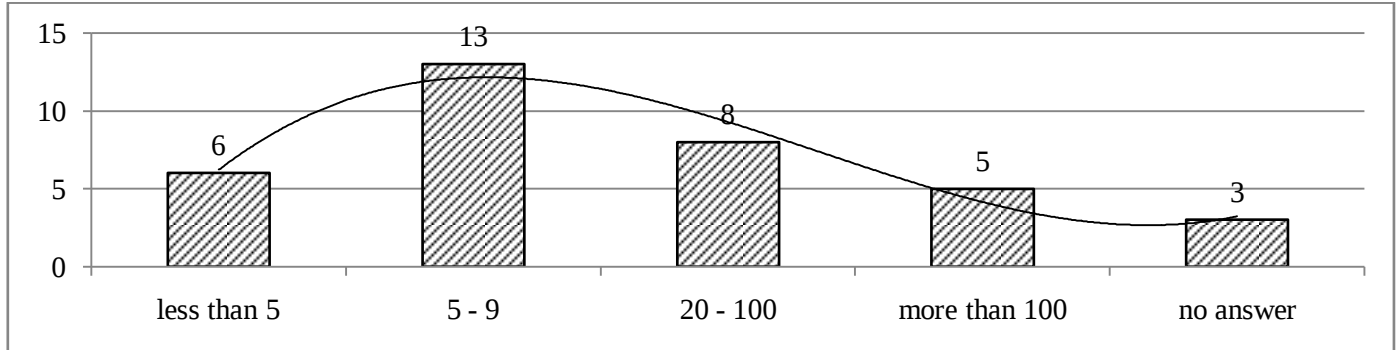


Figure 4: Number of employees in company

Figure 4 points out that the highest number of respondents were working in a small company with fewer than ten people; eight were in companies with 20-100 employees, six with fewer than five, and five with more than 100. Again, three respondents selected “no answer”. The predominance of smaller companies suggests that these might be more interested in UX, and there was an indication that startup companies were beginning to consider to

practise UXD, to a greater extent than the larger organisations. The reason may be less complication in terms of management support and organisational issues when practising UCD (Rosenbaum et al., 2000; Gulliksen et al., 2004; Mao et al., 2005; Bak et al., 2008), but further investigation is needed to determine if this assertion is true.

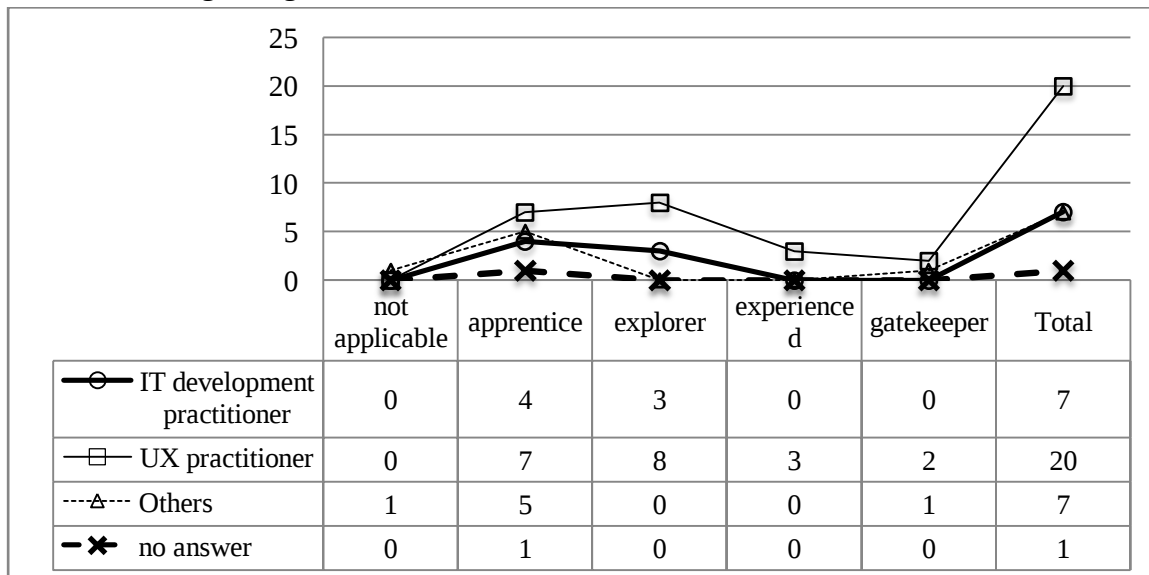


Figure 5: UX practitioner and level of experience

Figure 5 identifies 57% (20 out of 35) attendees claiming to be UX practitioners, with 20% (7) each for IT development practitioner and others. Only one selected “no answer” for

this question. UX practitioners include application UI developer, web designer and those who design front-end interfaces. IT development practitioners included developer,

project leader, project manager, planner and those who are involved in programming and

back-end development.

Table 1: Reason for attending UX Malaysia gathering

R	REASON	Mean	SD
R2	Trustworthy group	4.31	0.758
R1	Increase UX knowledge and skills	4.29	0.667
R3	UX Malaysia was perceived to be professional	4.11	0.718
R4	Real practices	3.86	0.845

Table 1 show that the most common reason for respondents attending the UX Malaysia community of practice gathering was the trustworthiness of the group, which could provide a learning experience in the UX domain. UX Malaysia was perceived to be

professional and its members employing real UX practices. Figure 6 shows that the highest percentage of attendees consisted of first timers to a UX meeting, perhaps drawn by the prospect of invited speakers currently working as UX practitioners in the UK.

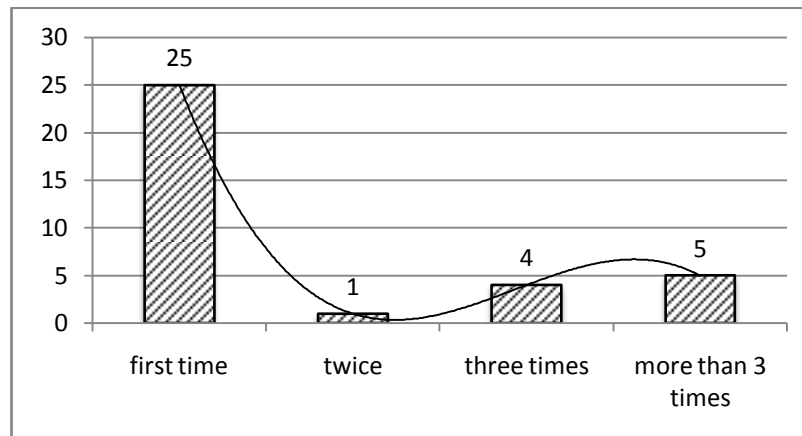


Figure 6: Attendance at UX Malaysia

Design Goals: In this section, two goal orientations and their approach and avoidance states are assessed. The respondents rated each item on a 1-5 scale for the goal (Rokeach, 1979), and the rating scores were converted into net positive values to reflect the range of assessments. A worked example of this analysis is given in Table 2. Following Sutcliffe (2002), the frequency of respondents' rating is multiplied by the +2 to -2 scale and the products summed to give a value for each goal. The goals

were the reasons respondents came to the UX Malaysia gathering.

Table 2: Net positive value (NPV) rating for belief in increasing UX knowledge

Rating	1	2	3	4	5
Scale	-2	-1	0	+1	+2
Rating Frequency/Subject	0	0	3	20	11
Product	0	0	0	20	22
Total net Positive Value (NPV)	+42				

This example in Table 2 identifies the motivational constructs applying the opposing character or use of dichotomies in the mastery

and performance goal. Four items were identified to measure goals (Cronbach Alpha = 0.862).

Table 3: Goals in attending UX Malaysia

G	APPROACH GOAL	NPV	Mean	SD
G1	Pleasure of gaining new knowledge	+41	4.51	0.742
G2	Happiness to learn UX	+33	4.20	0.901
G3	Self-fulfilment to practise UX	+30	4.11	1.051
G4	Increase in UX skills	+26	4.00	1.029

Table 3 shows that the strongest reason for respondents attending UX meetings was the pleasure of gaining new knowledge, followed by a feeling of happiness in learning UX, self-fulfilment in practising UX, and increasing UX skills. In this result, the pleasure of gaining new knowledge (G1) reflected the goal of exploration, with the highest score. The goal of happiness (G2) scored the second highest, followed by the goal of superiority (G3), reflected by the feeling of self-fulfilment in practising UX. This was followed by the goal of mastery which was reflected when UX skills were increased (G4). These general goals should apply to all areas of life and serve to characterise what individuals want or the reasons that they do something (Pintrich, 2000). The next questions were asked to elicit which goals were important when designing any digital product, in order of importance. When answering the questions, respondents were asked to consider a single, specific project in which they had been involved (Carter &Hundhausen, 2010).

Table 4: Ordinal scores of most important goals in design:

HT	HANCOCK THEORY	NPV	Mean	SD
HT1	Customisability	+30	4.46	1.197

HT3	Pleasurable	+15	4.03	1.505
HT4	Security	+9	3.86	1.498
HT5	Functionality	-16	3.26	1.704
HT2	Usability	-38	2.63	1.987

Table 4 shows the design goals to be fulfilled before proceeding to the next level. The calculated score ranges from 1 (most important)to 5 (least important). The analysis determined that usability must first be achieved before functionality and security; only then can pleasure and customisability be achieved. Overall, the practitioners believe that usability is the most fundamental goal which must be achieved before any other design goals.

Motivations to Practise UX: The strongest motivation was being the best at a task, in comparison with competitors (NPV= +31). Most respondents also believed that UX was the current design trend and possibly opened up new business opportunities. However, being outperformed by colleagues was not relevant.

Table 5: Motivations to practise UX

MOT	MOTIVATION	NP V	Me an	SD
MOT1	Competitors	+31	4.14	1.141
MOT3	Current design trend	+30	4.11	1.157

MOT4	Business opportunity	+30	4.11	1.051
MOT2	Colleagues	-1	3.23	1.437

The items in Table 5 had a high level of reliability (Cronbach Alpha=0.835). The strongest motivation driving respondents to attend the UX gathering was the performance orientation, representing classic competitiveness (Pintrich, 2000).

Values in Practising UX: Values refer to the incentives or reasons for performing tasks or

activities (Sellen et al., 2009). According to Rokeach (1979), values are defined as a set of stable, general beliefs about what is desirable; he postulated that these beliefs emerge from both society's norm and the individual's core psychological needs and sense of self. In this survey, respondents were asked if they were happy if they made their users or clients happy, or if their happiness came from impressing their management, that is, whether the stakeholders and end users or their management were more important to them during the system development process.

Table 6: Values of respondents

VAL	VALUE	NPV	Mean	Std. Deviation
VAL3	Users happy	+49	4.57	0.884
VAL2	Clients happy	+28	4.00	1.163
VAL1	Impress management	-16	2.80	1.491

Table 6 shows the highest values among the respondents were to make users happy (VAL3), followed by focusing on the clients' happiness (VAL2), with the lowest score for impressing management (VAL1). The results suggest that management support was not a high priority in practising UXD.

IV. CONCLUSION

This study provides an intuitive insight into the design goals, practice values and the motivations why practitioners involved a community of practice are motivated to practice user experience design in industry. A survey approach with instrument having closed ended questions was utilized. The results indicated that the practitioners' design goals followed a hierarchy, in the order: usability, functionality, security, pleasure and customizability. The strongest motivation to practice UXD driving respondents who attended the UX gathering was performance oriented, hinged on classic

competitiveness. In addition, the highest values among the respondents were to make users happy, followed by focusing on the clients' happiness. This study enhanced the findings in hedonomics theory by identifying the design goal rankings among people who produce the interactive systems (and possible usage/evaluative goal ranking from end users who will use the systems). However, this study has been unable to demonstrate that security should be the first criterion to be achieved, before functionality and usability. Thus, usability is proposed as the fundamental quality that must be achieved before any others. A possible explanation for this might be the roles of the respondents, who perceived themselves as the producers of systems and technology. With such a small sample size, caution must be applied, as the findings might not be transferable to the end users. The theory of hedonomics confirmed the definition of UX by

applying design goals in a hierarchical manner. However, further investigation needed to be conducted to compare the difference between end-users' and the designer's design goals. Originally, safety was seen as a mandatory requirement to be achieved before subsequent design goals could be considered. Hancock (2005) believed that once the user was ensured or assured of safe operating conditions, the next level required a functional system that enabled the user to accomplish the desired goal. However, based on the data analysed in this study, the first-priority goal among the UX CoP was usability rather than security, which ranked third after usability and functionality. The upper levels of hedonomics were consistent with the original Hancock theory (2005). The findings of this study extend the layered behavioural model used by Curtis et al. (1988) by adding emotional elements to the cognitive and motivational processes at the individual level of practice, complying with the study by Lazar (1999).

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