HCI BUSINESS BENEFITS: 
CASE STUDIES ON AND SUCCESS FACTORS FOR MANAGING HCI FUNCTION IN ORGANISATIONS

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1. ABSTRACT

The human-computer interaction (HCI) function can be useful to any organisation that undertakes purposeful activity. However, to exploit the potential of the HCI function, the organisation must adjust its structure and the staff must come to a new understanding of their roles and learn to place greater priority on working together and giving feedback on their experiences into the improvement cycle.

Information is needed on understanding the critical success factors for the management of HCI functions within organisations, addressing the issue of what value efforts in HCI provide to the overall organisation, and the competitive advantages the skills and activities performed by an HCI function might give to business operations. The researchers investigate areas such as a redefinition of business processes, the suggestion of new markets, the creation of new products and services, improved productivity due to better understanding of application systems and the influence of HCI on corporate strategies.

2. INTRODUCTION

Organisations are structured in a way that they consist of the traditional functions such as finance, operations, marketing and sales, administration and human resources. Employees within the functional divisions of an organisation tend to perform a specialised set of tasks, for instance the engineering department would be staffed only with software engineers. These specialised traditional functions contribute towards the overall survival of an organisation. Nowadays, almost all sizeable organisations have information technology (IT) departments (functions) embedded within the traditional organisational structure tasked with various roles related to technology that affect and may bring about efficiency, cost reduction, quality and productivity within the organisation. Above all, in most organisations, IT departments focus
mainly on the supportive role given to an organisation in meeting its strategic business objectives.

In this paper the researchers investigate the benefits of having an HCI function incorporated in the traditional functions in an organisation, and particularly the corporate strategic benefit of this. Also, the researchers look into how HCI can have an impact on the basic principles of management as in planning, organising, leading and control; leading the way into areas such as redefining business processes, suggesting or creating new markets, creating new products and services, and improving productivity due to better understanding of application systems (interface design) and the influence of HCI on corporate strategies.

3. THE HUMAN-COMPUTER INTERACTION FUNCTION

HCI, as a field, relates to the study of how humans interact with computers, and how to design computer systems that are easy, quick and productive for humans to use (Sharp et al., 2007). Interaction design simply is about creating user experiences that enhance and augment the way people work, communicate and interact in their everyday and working lives (Sharp et al., 2007). Having an HCI function would definitely have some of the following tasks accomplished in the function: user interface design, software design, user-centred design, product design, web design, experience design and interactive system design. Some of the HCI concepts are quite vague to a layman’s understanding but, according to Wild (2010), HCI has both produced and adopted rich theoretical tooling in its efforts to understand interaction with and through IT artefacts. Whilst seemingly diverse with ontological and epistemological differences, they share a common concern to represent the structure of individual and collective activities in a manner that informs the design of new IT artefacts and activities. This key role of activity representations in HCI is often background in favour of a view centred on the technology being developed. However, it is the activity and latterly the experience of that activity being supported or enabled by technology that is one of HCI’s key methodological outputs.

People interaction with products or systems can be investigated from different perspectives and various domains (Chamorro-Koc et al., 2008). Many studies have focused on the assessment of the difficulties that people encounter when using products during daily activities, and on ways to enhance the design of user–product interactions. Usability
techniques assist designers in the assessment and improvement of the functionality of end products; these techniques have not aimed to appeal to the user's emotional or experiential needs (Battarbee & Koskinen, 2005). Thus, exertions to heighten product design and user–product interactions evolved from usability based studies that included the role of experience and emotion in design (Green & Jordan, 2002).

Nonetheless, a question dodging these lessons is the association between human experience, its influence on people's understandings of a product's use and the benefits brought into an organisation as a whole. Managing an HCI function within an organisation would, of course, aim to have user experiences that enhance and augment communication easily, quickly and productively within the organisation.

However, putting into place the HCI function within the organisational structure is just not enough. There are important critical success factors to consider.

Critical success factor (CSF) is the term for an element that is necessary for an organisation or project to achieve its mission, in this case, the HCI function. It is a critical factor or activity required for ensuring the success of an HCI function within an organisation. Over all, the concept of success factors was developed by D. Ronald Daniel of McKinsey & Company (Daniel, 1961). Years later, the process was reviewed by Jack F. Rockart. The term was initially used in the world of data analysis and business analysis. For example, a CSF for a successful IT project is user involvement (Rockart, 1979). CSFs are those few things that must go well to ensure success for an HCI function within an organisation, and therefore they represent those managerial or enterprise areas that must be given special and continual attention to bring about high performance. CSFs include issues vital to an organisation's current operating activities and to its future success. CSFs are applied to many sector settings, including health care (Johnson & Friesen, 1995).

4. RESEARCH OBJECTIVES

Information is needed on understanding the CSFs for the management of HCI functions within organisations. These factors bring about HCI function effectiveness, leading to addressing issues of what value efforts in HCI provide to the overall organisation, and what
competitive advantages the skills and activities performed by an HCI function might give to business operations.

4.1. Case study of a Travel Services Firm

The researchers undertook a simple research study of a travel services organisation based in Johannesburg, South Africa for the purpose of determining how HCI can have an impact on the basic principles of management, i.e. planning, organising, leading and control. HCI leads the way into areas such as redefining business processes, suggesting or creating new markets, creating new products and services, improving productivity due to better understanding of application systems (interface design) and the influence of HCI on corporate strategies. This travel services organisation acts as an intermediary between airline companies and corporate organisations. It arranges travel for corporate needs and charges a small fee in return. For the airline companies, it helps sell specific products [promotions]. This firm has an IT function [business information systems (BIS) department] divided into business applications and technical staff that all carry out support related services [duties]. All development related activities are outsourced.

The researchers wanted to find out if the top management at this firm knew about HCI and the benefits HCI activities may bring about for their organisation. However, setting up formal sessions [appointment for interviews] was unsuccessful. Informal interviews were therefore conducted with the staff deemed key in the research whenever the opportunity arose. The researchers managed to reach out to key personnel, including the national operations manager, BIS manager, the national sales manager, five travel consultants, a management information systems report writer, a human resources specialist, an applications developer [outsourced member], four accounting staff, key business development executive, the marketing manager and two sales staff.

The subject of HCI was a new issue to all the above staff, despite there being a BIS function. The researchers endeavoured to explain the concept of HCI and its associated activities. Unfortunately, it was a challenge to garner attention since HCI was continually related to IT and no hope appeared on people’s faces since they have often experienced terrible service from the BIS function. Everything that went wrong was blamed on the BIS function. Elaboration by the researchers on HCI led to an understanding of it and people were then able
to distinguish it from IT. They could also see how practically it would benefit staff in their daily duties. The BIS staff had a very narrow understanding of HCI as relating only to ergonometrics.

In conducting this case study on HCI, the researchers found the following to be critical to the success of managing an HCI function:

- **Awareness**: The awareness and knowledge of HCI related activities and the ability to distinguish them from the traditional IT related activities are crucial. This is the starting point of the critical success of HCI activities [the function] within an organisation.

- **Management recognition and involvement**: The researchers realise that having top management recognise the need for an HCI function is not enough, but that it is also very important to get their involvement in the day-to-day HCI activities. Top management recognition and involvement does not only help in understanding the HCI activities, it creates a viable atmosphere in which key decisions could easily be made that influence deployment of HCI activities. It would be easier, for example, to stress to the rest of company staff how HCI could help in achieving organisational goals should such a campaign have a top executive involved. This would be received better than it would be if it were seen as just an HCI function. For an HCI function to survive, top management involvement is vital, in addition to recognition in supporting HCI activities throughout the organisation.

- **User awareness and involvement**: Whatever HCI activities may be undertaken within the HCI function, user involvement throughout the organisation is crucial. Not only does this spread the awareness of HCI activities, but it helps in the acceptance of the products since users will have perceived that their opinion matters and the products are theirs.

- **Continued awareness and education**: Just involving the management and users may not suffice. Continued awareness and education of HCI activities and its benefits to the entire staff is worth pursuing for the survival and success of the HCI function.
4.2. Benefits of having and managing an HCI function

- Organisation culture change: HCI activities can be used to promote the change in culture within an organisation. The organisation can effectively drive new ways of how things are done without necessarily implementing drastic measures by incorporating HCI activities into the corporate culture. The interaction and involvement of people gradually leads to a change in ways of doing things.

- Publicity: HCI activities can be a source of good publicity for an organisation through the press. Innovation is the key, and every organisation yearns for innovation. HCI promotes innovation user experience. As more staff have a positive user experience, they become more productive and creative, which leads to better performance.

- Customer interaction and involvement – customer relationship management: After participating in HCI activities, customers can cite an improved, if not better, opinion of the company and offer greater loyalty in return, which is not surprising from a relationship-building perspective.

- Goals: Most companies have goals at several levels, including corporate-level goals and departmental-level goals. Incorporating HCI activities and achievements into multiple levels of goals is an effective strategy for raising awareness about the company goals such as increasing customer acquisition, retention and loyalty. HCI can be used to align departmental goals with the corporate goals.

- Value system: HCI can be used to understand the value system of the stakeholders and to translate how HCI supports their value system. This can be demonstrated through the product design.

- Improved communication: Misunderstandings and silos can occur within organisations due to different groups using different terminology. HCI activities can help in understanding the internal customer requirements and better and appropriate communication means can be deployed.
- Rewards and bonuses: Related to goals are bonuses. In most companies, bonuses are awarded based on the achievement of explicit goals. HCI activities can help determine appropriate rewards and bonuses as they will in some way help in collecting reliable data and also help improve employee productivity and performance.

5. CONCLUSION

HCI is widely misunderstood in the narrow perspective many professionals know regarding product design and usability. Many believe that HCI is only for organisations established for the IT industry [software or hardware development]. Organisations can reap the benefits of HCI when managing an HCI function, irrespective of the industry in which they are doing business. However, it is important that knowledge and awareness of HCI in the organisation be emphasised and that in the organisational structure, the HCI function be placed among the top management, or somewhere where there is access to effective influential decision making for an organisation to reap the most benefits. In addition, there is a great need for awareness of HCI activities and their distinction from those of ordinary IT practitioners such as software or application developers. Involvement of both the top management and the users across the span of an organisation has a major impact on the success of managing an HCI function within an organisation. Companies have to emphasise incorporating and using HCI activities with the traditional activities across the organisation. These activities spiral benefits that are intangible and have a wider impact on the organisation as a whole, ranging from publicity, marketing, strategic planning, user experience, product design down to employee productivity and satisfaction, and business operations or processes redesign.

6. REFERENCES


