Design Leadership in the Context of Emerging Technologies

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INTRODUCTION

While the topic of leadership in the business world has received a great deal of attention over the years and resulted in substantial literature, design leadership is not well explored and leadership in digital design even less so. This is troubling. Much of the world continues along the curve of exponential technology growth and emerging technology is becoming the catchphrase of the present time, and likely to be in decades to come. As organizations seek to stay afloat or even ahead of the game in tumultuous and competitive times, they are beginning to turn to design as one important strategy for their survival. Increasingly organizational literature is being concerned with design thinking, design leadership and design lead innovation. Furthermore, technology is now ubiquitous and so design, business and technology intersect such that more traditional design positions are effectively digital designer roles, albeit often under various titles such as graphic designer, interaction designer, user experience designer. Given that business is now deeply engaged in the technology space, whether by virtue of selling/providing goods and services online or marketing, a great portion of designers operating in organizations may be considered digital designers, and with the recognition of design as being of strategic value, digital designer leadership is valued and sought. Business and organizational interests aside, practitioners in technology are keen to explore the technology and how it may serve human needs; they are constantly searching for new means to make a more efficient and effective world. In their pursuit of innovation, design leadership is being increasingly recognized among technology practitioners as imperative.

It is thus purpose of the present chapter to not only make the case for the importance of digital design leadership in the context of emerging technologies but also to add to the understanding of what are the desired attributes or capacities of an effective digital design leader.

To provide some background, the meaning of the term design is first discussed before the role definition of a digital designer is developed by considering graphic design, visual communication, human computer interaction. The impact of technology on design roles is described before attention is directed to a brief discussion of literature surrounding design leadership. Finally, by considering both leadership literature, design leadership and design principles for emerging technologies, some capacities or attributes of digital design leaders are identified.

The Role of Digital Designer

Most simply "design is seen as the manipulation of visual or tangible aspects of physical matter or information at the point of output" (Celi & Rudkin, 2015, p. 61). At the core of the design is the imperative to meet the needs and desires of users; design provides some solution to a problem in a user-centred way such that users are able to effectively and efficiently meet their goals. The advent and subsequent

ubiquitousness of the personal computer and the accompanying graphical user interfaces, provoked the emergence of the field of digital design. From a historical perspective, the field of digital design can be seen to have evolved from the field of Human Computer Interaction (HCI) as well as the more traditional pen and paper field of graphic design. Thus, to understand the role of digital designers it is helpful to briefly consider both HCI and graphic design before defining the role of digital designer as used in the present chapter.

The beginnings of HCI may be traced back to the National Bureau of Standards conference called Human Factors in Computing Systems which took place in 1982 (Carroll, 2001). This conference, together with the foundation laid by earlier work in the cognitive science in the 1960s and 1970s (which related to areas such as software engineering, prototyping, user interfaces) inspired the subsequent growth and popularization of the field of HCI (Carroll, 2001). HCI is concerned with usability (i.e. the ease with which humans are able to interact with a system in order to achieve their objectives) and has subsequently spawned the fields such as user interface design (UID), user interaction design (UxD), human centred design, and most recently User experience design (UX).

Graphic design is founded in visual communication design or the way the visual language of images (i.e., drawing) can be used to communicate to individuals, communities and societies. Traditionally graphic designers worked with pen and paper to produce images designed for effective communication of ideas, whether it was for educational, industrial, entertainment or business purposes. Digital tools are changing graphic design, not only from the point of view of the tools used to produce the images, but also to the breadth of design undertaken. Whereas traditional graphic designers produced almost exclusively images for communicating via a single media (usually paper and print), graphic designers are now being asked to move into the broader area of digital design – a necessity arising from the fact that people are now regularly interacting with multimedia interfaces on digital devices for many different reasons.

Under the umbrella of digital design, graphic designers undertake not only traditional graphic design but also work in the HCI domain including UID, UxD and UX. Although the job title of graphic designer continues to exist, the role has broadened significantly. A search of seek.com (one of the largest job seeking databases) using the keywords "graphic designer" yields a large number of positions requesting both graphic design skills using digital tools as well as technical skills for web, social media and mobile apps, and understanding of HCI and the user experience. Sperka and Stolár (2005) predictions about graphic design have now been realized:

The future of graphic design rests in its ability to be absorbed into different sectors of human activity from art and sciences to entertainment. The volume of cross-disciplinary activities that affect designers today is going to grow in the future and "graphic design" will become a much more massive discipline that will include the ability to write, to design, to communicate, and to edit. To develop a useful theory of decision information processing, designer needs to further understand the process by which humans make decisions, how information affects this process, and how to construct effective interface technologies to enlarge user performance.

Thus, in the context of the present chapter the term digital designer is being used to refer to design roles which are broad and multidisciplinary, and encompass both the elements of visual communication design and of human computer interaction. Alongside these design skills, digital designers are also adept technical skills including coding for websites and mobile apps.

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