

## Chapter X

# Virtual Teams in Practice: Tales from the Battlefield of the Fuzzy Front End of the Innovation Process

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### ABSTRACT

*A growing number of enterprises are building virtual teams to assist in crafting new opportunities in the fuzzy front end of the innovation process. Using the tools of design thinking, these creative virtual teams have different management requirements than virtual teams used in the more routine efforts of product development. This chapter uses examples from industry to examine the challenges of managing customer expectations, explore the membership dynamics of virtual teams, and suggest a new framework for assessing the progress of creative virtual teams, concept maturity. An example from the creative virtual team at Synaptics, the Red Dot Award winning Onyx mobile phone concept, is used to delve deeper into these concepts. Finally, trends for the diffusion of creative virtual teams as well as potential challenges in bringing such teams into your organization are investigated.*

### INTRODUCTION

The first decade of the 2000 millennium could easily be called the decade of design. Design is on the lips of all the business pundits and has been the target investment of many funding agencies for academic research. The classic path to bringing design thinking into your organization is the hiring of a design firm, such as IDEO

or SparkFactor. These engagements range from complete turnkey interactions to the inclusion of these firms as members of your virtual innovation team. Utilizing these firms can be expensive both in time and money. The benefits can be significant, especially to firms that are new to design thinking and are committed to acting on the paths such firms recommend. One of the hidden costs of working with these firms is the time

and personnel resources consumed in educating the firm on the client's core competency. The design firm must take the time (on the client's purchase order) to understand enough of what ever technology, market, and business issues face the client for the design thinking strategies to be effective. Unfortunately the economics of consulting engagements do not support using these firms to deploy these methods throughout the firm. As a result, a growing number of businesses are building internal design services to support creative engagements with customers, end users, and other critical stakeholders of the innovation process. In March of 2005 Hitachi announced the establishment of five design centers worldwide. The formal goal of these centers is to assist customers "integrate hard drives into consumer electronic devices." (<http://www.physorg.com/news3210.html>) Synaptics, maker of human interface devices, has had some form of design services group since 2001. Recently they consolidated the human factors, usability, and product design functions into one team focused on creating and validating new user experiences that leverage Synaptics interface technology. These new in-house design services groups are themselves virtual teams, bringing together resources from internal and external resources to support rapid concept creation and validation.

These virtual innovation teams bring with them a mixed bag of challenges and opportunities. They can be used to create new 'sandboxes' for the enterprise to experiment with advanced concepts. Utilizing these teams can also generate an overwhelming management overhead as their leaders work around the organizational policies and procedures that typically prevent, albeit by accident, virtual innovation teams from existing in the first place. To complicate the matter further, traditional project management metrics fail to represent the value of these teams. Couple the nuanced style required for managing creative teams and the resulting situation seems untenable at first; yet many companies have been success-

ful at utilizing these teams to drive innovation, both internally and externally. This chapter will explore in more detail the challenges faced by these teams and their management, along with a few suggested paths of inquiry that promise to reduce the overhead requirements for such teams. A detailed case from Synaptics will also be used—the Red Dot design award-winning Onyx Concept Phone.

## **BACKGROUND**

Virtual teams are a growing part of how businesses operate today. They offer benefits of reduced fixed personnel costs in a single location, potential for work across time zones, or outsourcing of functions that can be fulfilled more effectively outside the firm such as some human resource functions. In the past, virtual teams have been used in places where the process and procedures are mature and well understood. The concept prototyping team at Synaptics focuses its efforts in the 'fuzzy front end' of the innovation process—the early stages where the majority of challenges are met due to high levels of uncertainty; see for example, Khurana and Rosenthal (1997), Reinertsen (1999), Koen et al. (2001), Trygg and Nobelius (2002). It is also the most important given the influence decisions at this stage have on downstream performance. Poskela et al. (2004) propose the use of road-maps to aid in structuring the fuzziness of this early phase yet more tools are needed, especially in a virtual context. Increasingly, enterprises are using virtual teams to address the challenges of this fuzzy front end and Synaptics is no different.

Synaptics is a supplier of human interface solutions to the consumer electronics industry. It was founded in the late 1980s to leverage the parallel developments in CMOS semiconductors and the maturing artificial intelligence domain of neural networks. The company sought to develop neural network analog chips in an effort to possess

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