Chapter 17
Research Methodologies for Multitasking Studies

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ABSTRACT

The research on multitasking is scattered across disciplines, and the definitions of multitasking vary according to the discipline. As a result, the research is not coherent nor consistent in the approaches taken to understanding this phenomenon. In this chapter, the authors review studies on multitasking in different disciplines with a focus on the research methodologies used. The three main research paradigms (empirical-analytical, interpretive, and critical) are used as a framework to understand the nature of the research. The strengths and weaknesses of the research in each of the paradigms are examined, and suggestions are made for utilizing different research methodologies to bring clarity to the research in this field. Such an endeavour will help to build interdisciplinary and multidisciplinary research and help guide future research and theory building.

INTRODUCTION

Research on multitasking has a long history. In the 1930s, researchers found that Americans often performed more than one activity at the same time (Cantril & Allport, 1935). Two decades later American households became enamored with television as a source of entertainment. The sight and sound of televisions playing in the background at all times of the day in millions of households became an all too familiar sight. Families ate, played, read, and congregated around television sets as a precursor to other forms of multitasking. By the end of 1980s, personal computers and portable music devices became common fixtures at home and work. The next decade saw a meteoric rise of portable devices such cell phones and laptops. Consumers became adept at pairing their daily

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activities with media use whether they were at the office or in the park.In many ways, technological innovations have become the catalyst to the modern phenomenon of multitasking.

Multitasking has been defined as doing several things at the same time or as switching quickly between several different tasks (Baddeley, 1996; Meyer &Kieras, 1997). Different terms have been used to refer to this phenomenon in different disciplines. For instance, the terms *dual tasking* and *task switching* have been used in cognitive sciences, psychology and neurosciences (e.g., Baddeley, 1996; Rubinstein, Meyer, & Evans, 2001; Logan & Gordon, 2001; Monsell, 2003). The terms *multitasking*, *media layering and media multitasking* have been used in information sciences, human-computer interaction, communication, psychology, and media studies (e.g., Meyer &Kieras, 1997; Rideout, Foehr, & Roberts. 2010; Spink & Park, 2005). The term *polychronicity* has been used in anthropology, organizational learning, and human performances (e.g., Bluedorn, Kalliath, Strube, & Martin, 1999; Hall, 1959). The literature across different disciplines has led to comprehensive but often times confusing arrays of knowledge on the topic of multitasking.

Knowledge about multitasking has not been shared well, especially not across disciplines. As a result, many scholars claim that little research has been done on multitasking, as they do not look at the research from other disciplines; or when they do, they cannot find the terms they have in mind. Additionally, the studies conducted have used the methodologies prevalent in particular disciplines, often without recognizing or accepting other types of methodologies. When research in a field becomes fragmented through the language used, the disciplines involved, and more pertinent to our chapter here, the variety of research paradigms and methodologies involved, communication among scholars breaks down and our knowledge of the involved issues suffers as a result.

The purpose of this chapter, therefore, is to review studies on multitasking in different disciplines with a focus on the research methodologies used. We use the three main research paradigms and their accompanying methodologies as the framework to examine the existing literature on multitasking. Such a review, we hope, will help researchers see the strengths and weaknesses of studies in different fields, help build interdisciplinary and multidisciplinary research, and help guide future research and theory building. First, we examine the way multitasking is defined in different disciplines.

TERMS AND DEFINITIONS OF MULTITASKING IN DIFFERENT DISCIPLINES

A number of definitions have been proposed to explain people's preferences for tasks and how their attention may be affected when they perform two or more tasks. Table 1 summarizes some common definitions of the multitasking phenomenon.

A number of issues need to be unpacked with respect to what is happening within the research field. First, it is quite clear that one word may mean many different things to researchers working in different contexts. This is understandable, as the foci of various research efforts differ given the body of knowledge being sought. For instance, the concept of "polychronicity" introduced by anthropologists and scholars in organizational learning focuses on how people in different cultures perceive time or prefer to use their time (Bluedorn, 2002; Hall, 1959), while the concepts of "dual task" or "task switching" introduced by psychologists and neuroscientists focus on brain, executive control and cognitive processes (Just et al., 2001; Meyer & Kieras, 1997; Rubinstein, Meyer & Evans, 2001). These scholars were looking at the same phenomenon, but they examined it from different angles: time versus brain, and preferences versus cognitive abilities. As a result, the same vocabulary may refer to different issues; different vocabularies emerge to describe the same