Chapter 12
Relationship between Calendar Tool Design and Temporal Structure Usage: A Small Longitudinal User Study

INTRODUCTION

This chapter supports the argument that began in Chapter 4 for the need to design and implement electronic time management/calendar tools that incorporate more temporal structures than the limited ones that are now being used. The support is based upon the survey data analysis, upon the pilot interviews, and upon a small longitudinal study that was conducted. This chapter first describes the correlations between perceived time management tool usefulness and individual time management quality. It also documents a few significant correlations that occurred between perceived time management tool usefulness and the four temporal structure constructs investigated in this research. The longitudinal study is presented in this chapter. It examines whether capturing and utilizing temporal structures in an electronic time management tool improves individual time management quality. This chapter also summarizes and extrapolates the results presented and combines this data with salient results from the interviews presented in this book. The results that are used and summarized are those that apply to the arguments being made that designing better electronic time management tools that make it easier for people to capture a wider range of temporal structures will lead to better time management. Explicit suggestions are made for design opportunities that would capture currently unavailable or difficult to capture temporal structures.

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CORRELATIONS AMONG TIME MANAGEMENT TOOLS, TEMPORAL STRUCTURES AND QUALITY OF INDIVIDUAL TIME MANAGEMENT

The survey collected additional information on perceived time management tool usefulness. Six questions formed a construct labeled perceived usefulness of time management tools (see Table 1 -- Table 17 in Chapter 8 presented in Appendix D). For the three subject samples, the construct reliability was found to be satisfactory (Cronbach’s Alpha: Student = 0.83, Faculty = 0.77, Staff = 0.85). A correlation analysis was run to examine the relationship between perceived usefulness of time management tools, quality of individual time management and the temporal structure constructs.

Significant correlations were found between perceived usefulness of time management tools and quality of individual time management (See Table 2). Only Sensing a Lack of Control was not significantly correlated for the faculty sample. This data contains more significant correlations than we found between time management quality and the temporal structure constructs investigated. These correlations are interpreted as follows: if users perceive time management tools to be useful, it is very likely that they are using time management tools. Thus, the implication is that users of time management tools are better time managers. This will be addressed further in this chapter.

Significant correlations were also found between perceived usefulness of time management tools and all temporal structure constructs except understanding of implicit temporal structures and understanding of temporal structure relationships for faculty (See Table 3). Again, the argument can be made that if individuals perceive a tool to be useful, they are very likely to use it. In this case, if individuals are using a time management tool, they are, by definition, recording explicit temporal structures and creating new temporal structures. They are not working with implicit temporal structures or temporal structure relationships because current time management tools do not support these activities.

A LONGITUDINAL STUDY ON THE IMPACT OF TIME MANAGEMENT TOOLS ON TIME MANAGEMENT QUALITY

To examine whether incorporating temporal structures into current electronic time management tools will improve individual time management, a small five-month longitudinal study was conducted with two student subjects.

Subjects were first interviewed about their current individual time management practices, and then introduced to an electronic online time management tool called Yahoo™ Online calendar. Following this introduction, each subject met weekly with the experimenter for two months and then biweekly after that. During the first meeting, the subjects were asked about their daily activities, which were used to identify the temporal structures constraining their lives. For example, explicit temporal structures impacting students are university academic schedules, individual course schedules, and so on. The subjects were also aware of implicit temporal structures that affected them, for example, the need to register early to avoid late fees, awareness of computer lab peak times for scheduling their computer usage, etc. In addition, they were asked whether any time management tools were utilized to support individual time management. At the beginning of this study, each of the subjects relied mainly on personal memory (90%) to remember their schedules while occasionally using an additional paper calendar or a cell phone (e.g., for birthdays). They complained of frequently missing deadlines. In the second meeting, each subjects’ temporal structures were explicitly explained by the experimenter, and the Yahoo! online calendar was
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