Chapter 13
Davis' Technology Acceptance Model (TAM) (1989)

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ABSTRACT

This chapter reviews the literature about the Technology Acceptance Model (TAM), which is an information systems models theory that explain how users come to accept use a technology determined. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. While TAM is one of the most influential models used in the studies of the technology acceptance and empirically proved to have high validity, it must be used to a certain extent with caution, because with the internationalization of companies, there is a growing need to understand how cultural factors can affect the ability of a multinational organization to adopt and use information technologies. This model provides a foundation for further research to understand why users accept or reject information technology and how to improve the acceptance.

INTRODUCTION

Studies and research on technology acceptance by individuals and organizations, have been written in recent years under the most diverse approaches, with strong growth in these initiatives from the second half of the 90s. Such studies have been conducted with the aim of seeking constant improvements, and identify intrinsic and extrinsic factors involved in decisions, intentions and satisfaction of individuals, on the acceptance and use of information technology through various tests and evaluation methods (Day, Zwicker & Vicentin, 2003; Venkatesh, Morris & Davis, 2003; Silva, 2005; Löbler, 2006). The growth of research is justified by the significant use of information systems in various activities, modifying the relationship in all spheres of society.

The number of information circulating today by computerized systems is so vast that it is difficult to manipulate such information without the aid of technology, but according to Davis (1989), will not do an information system of high technical performance, if you are for some reason not adopting and not accepting the available technology. For Davis (1989) we need to understand the reasons why users accept or reject certain systems, to further predict, explain and modernize them.

DOI: 10.4018/978-1-4666-8156-9.ch013

The acceptance and use of information technologies is a subject that has received attention from researchers and practitioners in the field of Computer Science, Information Science and Information Systems, as they work from the perspective that a nice developed system will be used because the assumption of that good software solutions, can bring competitive advantages to companies and/or individuals (Bueno, Zwicker & Oliveira, 2004; Saleh, 2004). However, a perceived problem that disturbs the activities of management information systems, is the inability to measure the quality of delivered systems as well as in the attitude of users to use it (Bueno, Zwicker & Oliveira, 2004). Understanding and creating the conditions under which information systems are adopted by human organizations remains, however, an area of high priority research (Venkatesh & Davis, 2000).

Several theoretical models have been developed and applied to study the acceptance and usage behavior of information technologies, but among the various theories proposed, the Technology Acceptance Model (TAM) is considered one of the most influential and most widely used by researchers to describe the acceptance of a particular technology by individuals, studying the influence of human factors in the adoption of new technologies (Dillon & Morris, 1996; Lee, Kozar & Larsen, 2003; Silva, 2005).

TAM has been the focus of several studies that examine individuals' beliefs, intention to use, and technology use. TAM employs perceived ease of use and perceived usefulness as the determinants of intention, which in turn determines use. Thus, the current chapter focuses on explaining the theory. It discusses the TAM and two other theories of technology acceptance, which served as a basis to substantiate the model and ending with the technological importance of cultural acceptance. The choice of studying the model was derived by its strong theoretical base, beyond the broad empirical support through validations, applications and replications, as it has already been tested with different samples and in different situations, proving to be valid and reliable, and providing a solidity to map the impact of external factors on internal in those individuals with regard to acceptance or rejection of information technology (Santos & Amaral, 2004; King & He, 2006).

THEORIES ABOUT ACCEPTANCE OF TECHNOLOGY

Carvalho (2006) says that the literature of computer science has more common studies related to the technical components of systems. Moreover, Information Science has come to change this approach, giving more importance to the effective use of systems and attributes qualities perceived by users. Understanding why people use or reject computers has become one of the most challenging issues in research on information systems (Davis, Bagozzi & Warshaw, 1989).

Silva (2006) emphasizes the importance of not having just one technical eye, ie, directing the attention to the requirements offered by technology, to understand the use of information technology, but rather seek to understand the behavior of those who will use it. In the literature, it is possible to identify several theories that attempt to predict the impact of technology on human behavior. However, this research go more deeply into in the Technology Acceptance Model (TAM), to be specific to the users of information systems and have the advantage of having a strong theoretical basis, beyond the broad empirical support through validations, applications and replications. However, we will briefly review the literature on two theories that stood out as theories of technology acceptance. They are: Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB)

Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA) has its genesis in social psychology, which seeks to identify the determinants of consciously intended