Chapter XVI

Using Narratives To Convey Knowledge in Decision Making Support Systems

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ABSTRACT

Information systems, and specifically decision making support systems, present information to users in a variety of modes—raw data, tables, graphs, and others. Rarely, if ever, does an information system present information to users in a narrative or story-based format. The last three decades have seen a variety of research articles that have presented an argument, an example, or a reference to what can be termed narrative-based information systems (NBIS). This chapter traces this history as they contribute to the development of NBIS. Previous work has come from multiple disciplines and multiple streams within Information Systems. To date, there has been very little work done in this area, and it is hypothesized that the reason is in part due to the multi-disciplinary approach and the lack of a unified effort. In order to further the efforts of this area of research, a conceptual model of the history is developed. The paper concludes with areas for future research.

INTRODUCTION

Information systems present information to the user in a wide variety of modes. Rarely does an information system present information to the user in a narrative or story-based format. However, every one of us uses stories and anecdotes when we speak with our colleagues and friends. These stories allow us to explain or talk about
We use examples and asides to provide details and necessary explanations of the main point that we are trying to bring forth. Our listeners can relate to these examples and small stories in a way that gives them more information. For example, if a person were to tell us about her trip to Europe by stating the names of the cities she visited, followed by the names of the museums she visited, and then the names of the hotels at which she stayed, we would have the necessary data to know what she did on her trip. However, there is no meaning to this data. Traveling in Europe is an event that occurs over time and it can be better represented through the use of one or more stories that tie the relevant pieces of data together to create meaning and context. So, if she were to describe her three days in Copenhagen, followed by her four days in Paris, and then her two days in Rome, we would have a much better understanding of her trip. This would be in part due to an increase in our interest level as a result of her descriptions, but also due to an increase in meaning as we are able to visualize her experiences and relate to the details and events. The story provides much more than sequencing logic; it provides details and the meaning to the data.

Another example, and one more appropriate to that of decision making in a managerial setting, may be as follows. A sales manager must reallocate his sales personnel in a changing customer market. Through the use of charts, graphs, and tables filled with sales data, comparisons, trends, and projections, he is able to gain an understanding of the nature of the market and determine where to put his sales personnel for the upcoming year. Many, if not most, sales managers make these and similar decisions in just this manner. However, if the same sales manager were to receive a written, prose-like report that describes the current market, the historical market, and the projected market, taking into account the data, comparisons, trends, and projections previously shown via other presentation formats, deeper explanations and meaning could be conveyed in order to give him the ability to make the best decision possible. The data can all be assimilated and organized into a very clear description of the entire situation, without the need for the sales manager to read and interpret numerous charts and tables, as well as compare them to each other.

The question then arises of why information systems do not present information to the user through the use of stories, narratives, or anecdotes. Information systems have been around for decades and technological capabilities are growing almost by the day. Information Technology (IT) is the backbone of today’s economy, and the availability of and access to information is a necessity in business. It follows, then, that organizations desire accurate and useful information, for inaccurate information can be very costly and useless information wastes valuable resources. This is particularly the case with information systems being utilized for decision support—decision support systems, expert systems, executive information systems, etc. If greater meaning can be conveyed through stories in normal conversations, shouldn’t they be used in these information systems?
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