

## Chapter 4.17

# Investigating the Effect of Color on Memorization and Trust in E-Learning: The Case of KMCMS.net (Knowledge Management and Content Management System)

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### **ABSTRACT**

The objective of this chapter is to study the effect of the color of e-learning platforms as an atmospheric variable of the interface on the learning process. It focuses on two important variables: memorization and trust. First, it aims to explore the effect of color on the memorization of the educational content available in an e-learning platform. It investigates if the colored appearance of an e-learning system reinforces readability,

suitability, and above all the memorizing process leading to learning. Second, it investigates the effect of color on trust in an e-learning platform and in the e-learning content. The chapter offers an examination of the role of the interface and the color in e-learning and memorization and presents trust in e-learning based on an exploratory qualitative study on how trust is developed in a website, as a result of the colors of the online interface. A case of an e-learning platform has been investigated to understand how the colors of the interface can enhance student memorization of the content as well as trust.

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## 1. INTRODUCTION

E-learning enhances the speed of training people, drastically reducing costs for educational institutions and businesses facing an increasing need to train people rapidly. E-learning often relies on the goodwill of some teachers or practical approaches of companies specialized in e-learning. A growing body of literature has studied e-learning with several studies focusing on principles for e-learning design and implementation (Scott, Shurville, Maclean *et al.*, 2007; Ettinger, Holton and Blass, 2006; Siqueira, Braz & Melo, 2007). Based on 29 research case studies of organizations implementing e-learning projects, Ettinger *et al.* (2006) present key areas that should be taken into consideration. These studies point out that quality content and user-friendly technology needs to be carefully chosen, as they are even more important than for traditional learning. Among the various issues that are associated with e-learning, the interface is of primary importance. As mentioned by Weinreich *et al.* (2006), a breakdown of page characteristics shows that users often do not take the time to read the available text or consider all links. An e-learning platform cannot suffer from this type of problem, since learners have to trust a system where the information is neither hidden nor difficult to identify. The latest can be partly solved by a professional use of colors, (a) of text and hyperlinks (foreground color) and (b) of background.

The web interface is the portion of the website that is visible to the web user (Dailey, 2004). In parallel, drawing from Kotler's (1973) definition of brick and mortar atmospherics, web atmospherics can be defined as the conscious design of web environments to create positive effects in users (e.g., positive affect, positive cognitions, etc.) in order to increase favorable responses (e.g., site revisiting, browsing, etc.) (Dailey, 2004). An important user behavioral response to a stimulus such as a course presented on an e-learning platform to learners, can be the memorization

of educational content. Drawing from previous studies in e-commerce (Pelet, 2008, 2010b), the atmospherics of the e-learning interface can arguably have an important effect on memorization. However, with regard to research dealing with an element of the interface appearance, such as color, we have little information about the role in the process of memorization of e-learning content. Limited studies refer to this topic, and empirical studies dealing with the effect of interface consistency or inconsistency on learning processes for e-learning remain still quite rare.

With the large amount of information presented on e-learning websites, memorization becomes an important factor for online learning since studies are facilitated when the learner can retain information from one page to the next. This implies that memorization of information in an e-learning website may have an impact on learners ability to digest and understand the subject matter and may allow consequently for success at their exams. This can potentially be facilitated by the website colors. However, the relationship between memorization and learning online has not been investigated. In addition, there is a lack of research regarding color and its effect on memorization and learning in e-learning websites. Hence, the education industry would probably find interesting results linking color, memorization and trust, since e-learning is close to e-commerce in terms of looking for and retaining information from a screen. Results from a previous research on the effects of color have proven how important this attribute of the interface was for the perception of time for example. Gorn *et al.*, (2004) focusing on the impact of the three color components on downloading time perception demonstrate that a lengthy waiting time influences the user's appraisal of the web site and can lessen his/her desire to recommend it to others. The same could be evocated in a learning context, since learners increasingly go for "quick to acquire embrace" content.

This chapter investigates the effect of the color component on the memorization of online

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