ABSTRACT. Software piracy, the illegal and unauthorized duplication, sale, or distribution of software, is a widespread and costly phenomenon. According to Business Software Alliance (2008), over 41% of the PC software packages installed worldwide were unauthorized copies. Software piracy behavior has been investigated for more than 30 years. However, after a review of the relevant literature, there appears to be two voids in this literature: a lack of studies in non-Western countries and a scarcity of process studies. This study contributes to literature by developing a software piracy model to better understand the decision-making process that underlies this unethical behavior. The model was tested using data collected from a sample of 323 undergraduate business students. Consistent with the Theory of Reasoned Action (TRA), attitudes toward software piracy and subjective norms were significant predictors of intention to pirate software. Also, the results suggested that ethical ideology, public self-consciousness, and low self-control moderated the effect of these variables on intention to pirate software. The results have important practical implications for the software industry and governments hoping to curtail software piracy. Limitations of the study and recommendations for future studies are discussed as well.

KEY WORDS: software piracy, Theory of Reasoned Action, religiosity, ethical ideology, public self-consciousness, low self-control, developing countries, Jordan

Introduction

Computer technology has become an integral part of our daily routine. This has promoted a widespread use and ownership of personal computers. Though beneficial, several problems have accompanied the explosive growth of this technology, such as “unauthorized use, duplication, distribution or sale of commercially available software” (Moores and Dhillon, 2000, p. 88). Software piracy is the term used to describe this behavior.

Software is protected by laws (e.g., Copyright Act 1976) that give purchasers a license for personal use only. Despite these legal protections, software piracy is a serious problem facing the software industry. Studies have indicated that the amount the software industry lost to software piracy in 2008 was about $53 billion, up from almost $48 billion in 2007 (Business Software Alliance (BSA), 2008). The same study reported that the global software piracy rate went up from 38% in 2007 to 41% in 2008. The study also indicated that the 25 countries with the highest piracy rates were developing countries. Among these countries, the lowest piracy rate was 80% and the highest was 95%. This increase in software piracy may be the result of a high growth rate of personal computer usage and subsequent use of software in developing countries (Anonymous, 2007; BSA, 2008). These statistics clearly show that although no country is immune to software piracy, the rates of unauthorized copying of software are much higher, and they pose a more serious problem in developing countries than in developed countries. This can cause tremendous losses to both the software industry and societies in general.

Despite these facts, surprisingly few studies have examined the determinants of software piracy in developing countries. In today’s global arena, companies are expanding their business beyond domestic and regional markets. Doing business in other countries has created new challenges for managers with extensive anecdotal and empirical evidence persuasively showing that cultural differences affect people’s ethical decision making and attitudes.
(Smith and Hume, 2005; Sue, 2006; Tan and Chow, 2009; Teoh et al., 1999). Thus “more and more emphasis should be placed on the potential influence of culture on ethical decision-making because of inevitable globalization” (Sue, 2006, p. 147). Tan and Chow (2009) argued that research of this kind has considerable practical value. In order to succeed in an increasingly globalizing business environment, managers need to recognize and understand how values and ethics differ as a result of cultural influences. Only then can they formulate and introduce well-considered management practices that provide effective safeguards against unethical behavior (p. 198).

Hence, the quest to understand consumers’ ethical behavior in developing countries with respect to software piracy and the decision-making process that underlies this behavior cannot be underestimated. As an initial step, we start by exploring software piracy behavior in one of these countries; the Hashemite Kingdom of Jordan.

Previous studies

Software piracy was first classified as unethical and a major issue in the information age by Mason (1986) in his seminal article “Four ethical issues in information age.” Since then, research has investigated demographic, social, economic, motivational, and individual factors that predict software piracy intention and attitude (Kwong et al., 2003; Mishra et al., 2006; Peace et al., 2003; Yang and Sonmez, 2007). These studies have improved our understanding of software piracy; however, a closer look reveals several limitations in this stream of research. First, the research produced segmented, isolated, and inconsistent results. For example, Limayem et al. (2004) found that social norms significantly affected software piracy decisions, whereas Cronan and Al-Rafee (2008) did not confirm this result.

Second, previous studies have focused on testing the impact of independent factors on a dependent variable (Al-Rafee and Cronan, 2006; Gan and Koh, 2006; Siegfried, 2004). A review of studies conducted on software piracy over the last 30 years found that “compared with the substantial empirical literature on what factors affect software piracy, the literature that examines how these factors influence individuals’ piracy behaviors is relatively limited” [emphasis is original] (Liang and Yan, 2005, p. 122). Third, these studies are typically skewed toward Western cultures. Theories and models developed and tested in Western cultures may not be applicable in other cultures due to differences in values, beliefs, and histories (Carlin and Strong, 1995). Thus, this would “restrict our understanding of software piracy problems… in the world” (Liang and Yan, 2005, p. 128).

These limitations point toward a need for process models that incorporate the previously investigated variables, and more studies that investigate software piracy behavior in non-Western cultures. This study proposes a behavioral process model that should provide a better understanding of software piracy behavior in a non-Western country, Jordan. The results should enhance our understanding of software piracy and enable us to provide recommendations to curtail this unethical act in developing countries.

Context and domain of the research problem

Unauthorized copying of software is illegal in Jordan. Yet, software piracy rates in Jordan were estimated at 58% for 2008 (BSA, 2008), and revenues lost due to software piracy in Jordan were estimated at $22 million during that same time period (BSA, 2008). Focusing solely on law enforcement, though important, is insufficient to eliminate or reduce this unethical act. A highly cited article by Logsdon et al. (1994, p. 849) questioned the effectiveness of “the software industry’s strategy of concentrating exclusively on institutional compliance with copyright rules” to undermine software piracy behavior. Rather, they suggested that a better alternative would be to develop a deeper understanding of the ethical nature of this action.

It is widely believed that human behavior is determined by both social influences and dispositional (attitudinal) factors (Banduri, 1991; Deci and Ryan, 2002; Funder, 1982; Funder and Ozer, 1983). Therefore, we utilized and extended the Theory of Reasoned Action (TRA) to develop a process model that links social influence, attitude, and intention to