Defining Hotel Managers Attitudes toward Biometrics

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Abstract

Biometrics is an emerging technology that faces resistance by hotels to embrace possibly due to its connotations to being based only in the context of security issues, guest's perceptions and acceptance of biometric technologies, the costs and reliability of biometric technologies, protecting the privacy of guests and the use of the data for discrimination, the international trading of biometric data, cancelable biometrics, government involvement, deployment and regulation of biometrics and the lack of a stable worldwide integration of biometric processes.

This research will endeavor to define a hotel manager's attitude of biometrics by examining these issues and what hotels understand of biometrics and its implication for their hotel. The study will examine, test and validate factors which influence biometric technology acceptance by hoteliers.

Keywords: biometrics, hotel, security, technology, guest, privacy

Introduction

Biometrics although not a new industry, is an emerging technology that faces resistance by hotel managers to embrace due to its connotations to being based only in the context of security issues. Such issues as privacy and discrimination, the danger to owners of secured items, cancelable biometrics, the international trading of biometric data and how governments deploy biometrics are just some of the issues and concerns that surround this emerging technology and concern hotel managers (Blank, 2006). Yet biometric implementation in hospitality contexts continues to grow. It offers benefits to hotel operations and the guest experience.

Recent and current biometric research focuses on its use in security, business, technological and government applications. However, hospitality applications are researched usually from the viewpoint of only the hotel guest. What previous and existing research does not show are the attitudes of hotel managers toward biometric technology. Those attitudes are influenced by guest perceptions of the technology and other factors this research will attempt to identify.

Literature Review

Several types of literature relevant to this project were reviewed. One area concerns guest perceptions and acceptance of biometric technologies as-well-as their concerns over personal and physical privacy, convenience and data security. Another explores the technologies that comprise biometrics, their implication for hotels and hotel security and investigates current hotel systems and processes and their relation to biometrics and the contrasts and variations between them. Finally, the literature review looks at biometrics outside of a hotel setting was explored such as the growing pressure and legislative compulsion by government and also its use by hotel partners. There is little relevant past or current research existing that specifically addresses hotel manager's attitudes toward biometrics in any measureable quantitative or qualitative method.

Biometrics is the method for the unique recognition of human beings based on one or more multiple intrinsic physical or behavioral traits. Physiological traits are related to the shape of the body and examples include, but are not limited to fingerprint, face recognition, DNA, hand and palm geometry, iris recognition, odor and scent recognition. Behavioral or sometimes known as behaviometrics are related to a person's behavior and examples include, but are not limited to typing rhythm, gait (pattern of movement of the limbs) and voice recognition (Pike 2007).

Biometric systems operate in either of two modes- a one-to-one or a one-to-many comparison of captured biometric data. Both systems are very applicable to hotel systems. Hotel processes are defined as confirmation of identity, information request, booking/reservations, activation, payment and access control (Murphy & Rottet, 2008) all of which are traditionally vulnerable to fraud and identity theft that require newer, advanced authentication systems hotel managers must consider that includes biometrics.

Technology, as a means of identification, is an important strategic tool for hotel managers now and in for the future. Accurate (technological) identification/recognition of guests could lead to service quality enhancements and thus to an overall sustainable competitive advantage especially in service-driven organizations. The advancement of technology is ever increasing and hotels have historically lagged behind other industries in the implementation of technology and spending. Capital investment is directed toward adding better amenities or renovating the property in efforts to remain competitive or drive occupancy.

Many hotels of different sizes and types lack the right culture, management commitment and systems interface ability. Hotels today have crucial partnerships with other hospitality providers such as airlines, resorts and car rental agencies and travelers are booking complex packages demanding smoother connections. As hotel partners implement more biometric technology, hotels must incorporate the same technologies into their operations in order to maintain customer satisfaction (Murphy/Rottet 2009).

Hotels are increasingly seen as soft targets by terrorists for being open and accessible but the industry is determined to deal with the terrorist threat in a way that is sensitive to the needs of its guests (Parton 2007). Hotel managers know that biometric technology clearly has a role to play in their operations and future developments like biometrics will bring benefits. But at the same time, to retain their appeal, hotels need to safeguard guest comfort and convenience that make them desirable places to stay. Hotels are looking more to use biometrics to improve room security, improve customer convenience, control access to restricted areas, and limit access to

customer data (Jones & Ruttenbur, 2006). Also, the reliability of biometric systems is an issue with hoteliers and according to one very recent study cost still seems to be one of the major barriers to adoption of biometric technology applications (Cobanoglu, 2010).

The United States since 9/11 has spent billions on emerging biometric technologies geared toward security and drives biometric growth in the market but does not lead the world in biometric technology for the hospitality industry where growth in Central and South America, the Middle East, Eastern Europe and Asia is greater and better regulated (Homeland Security Newswire, 2010).

By 2013 investment in biometrics will drive global spending in the field to $7.3 billion (Willis 2008). Most studies done on biometrics involve the industry, authentication and security. It has been shown that negligence of innovation technologies produces consequences that foster bad impressions from guests. Strong evidence suggests that innovation technologies and its negligence engage in a reciprocal relationship that has a short and long-term effect on the guest's future opinion regarding the service quality of hotel establishments.

The market for biometrics in the hotel industry especially in the United States is in the infant stages with only a relative handful of hotels adopting biometric technology so far. Continued security concerns, declining hardware and network technology prices, and guest comfort with the technology will lead to advances in market adoption (Jones & Ruttenbur, 2006). True business applications for the technology have yet to be demonstrated and nothing hotels are doing right now is driving any demand for the technology (Kim, 2009). This project should provide invaluable insight into how hoteliers are balancing the need for security, technology and meeting customer expectations and what they think of biometrics in accomplishing these goals.

Delimitations and Assumptions

This study will not research hotel properties with less than 50 rooms. This study will not research any cruise line operations. The hotels used for the research of this study are geographically limited to the Greater New York City metropolitan area. This study will not group data based on hotel flag chains as a means of extrapolating analysis of for each chain.

Assumptions are first, as a means to enhance security, improve operations and drive revenue the use of biometrics in the lodging industry will continue to increase. Secondly, guest acceptance of biometrics will grow as issues of privacy and security are addressed. And thirdly, biometrics will play a key role in the guest experience as guests demand more comfort, innovative technology and a more personal experience.

Importance of the Research

It follows that a study of hotelier's perceptions, attitudes and understanding of biometric technologies can be of great benefit to the entire lodging industry. The benefit is threefold. First, as a phenomenon in the industry, it warrants investigation in and of itself. Secondly, the data collected will act as a valuable resource in the future definition of biometrics in hotels.

Thirdly, a determination of hotelier's factored data serves as a valuable base upon which further research can explore the implementing effects of biometric technologies in hotels.

The Research Method of the Study

The sample survey size will be 250 to 300 hotel properties for each market price segment and class in order to gain a significant representation of the industry in a major metropolitan city where the data can be better validated. The quantitative data will be collected by means of interview technique from the hotel General Manager which will constitute the primary data. The questionnaire will consist of dichotomous questions (yes/no); ordered-category demographic questions and a typical odd-numbered 5-level Likert rating scale will be utilized. The questionnaire was tested and developed to concentrate on (4) areas of biometric hotel technology specifically the hotel property, financials, hotel guests and hotel property demographics.

Analysis of the Data

Biometric technology in the hotel industry is an ambiguous domain of knowledge with limited expertise and consensus to consider. There exists no generally accepted standard or objective standard for measuring biometrics in hotel settings. However, all the data will be analyzed using IBM SPSS Statistics model.

Since this research also explores attitudes, the link to behavior will be studied using the Theory of Planned Behavior (TPB) model (Ajzen, 2005). The study will look to reveal that a high correlation of attitudes and subjective norms to behavioral intention, and subsequently to behavior can be confirmed. From the theoretical basis and most influential extension of the theory of reasoned action (TRA) (Fishbein, M., & Ajzen, I. 2005), the study will utilize the Technology Acceptance Model (TAM) that models how users come to accept and use a technology (Bagozzi et al., 1992).

Conclusion

This study will provide the first validated empirical analysis of factors that formulate the attitudes of a large population of hotel managers from a major metropolitan area towards biometric technology.

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