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Impacts of Human Computer Interaction (HCI) on Translation in the Hospitality Industry

by

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## **PART ONE**

### **Introduction**

More than ever, globalization affects the hospitality industry with tremendous growth of international travelers—in the United States, inbound international visitation rose from around 25 million in 1985, to almost 67 million in 2012 (Mowforth & Munt, 2016). The concept of globalization, according to Robertson (1992), associates the integration and connectivity of culture and communities, while minimizing preformed boundaries. Half of all United States visitation comes from overseas travelers, with the largest share of foreign visitors coming from Japan, China, Brazil and South Korea (U.S. Travel Association, 2016). The United States predicts visitation from Brazil to increase by 70% from the years 2013-2018, while in that same time period visitation from China is expected to increase by 220% (U.S. Department of Commerce, 2014).

The United States, however, is not prepared to fully accommodate international visitors; Korean and Japanese travelers to the U.S. find few on-property adaptations relating to their cultural behavior, while other visitors struggle to communicate with staff untrained in multiple languages (Heo, Jogaratnam, & Buchanan, 2003). Despite advances in speech translation technology, there still remains limits to language, recognition, and simultaneous interpretation in such tools (Nakamura, 2009). International visitors to the United States rank language barriers as a high area of continued frustration and generally look for hospitality services that communicate in their language, understand local customs, and that have a familiarity with their culture (Li, Lai, Harrill, Kline, & Wang, 2011). Despite such issues, little to no research exists on the implementation of technology-based hospitality solutions.

## **Purpose of Study**

The purpose of this paper is to present a four-part implementation plan for North American hotels in utilizing advanced technology-supported translation efforts as a tool in adapting to and attracting international visitors.

## **Objectives of Study**

Focusing mainly on U.S. hotels, this exploratory study attempts to understand how the translation of words, numbers, and culture may be affected by progresses in human-computer interaction to provide technical translation support for the expanse in inbound, international tourists. For the purposes of this study, translation refers to the elements of communication, not merely the language. Further aspects of translation will be examined, considering culture and cultural adaptations, as well as how the industry is coping with demands from a more varied, more diverse international clientele. The potential impact of translation in enhancing the hospitality experience cannot be ignored. From 2009 to 2013, spending of Brazilian and Chinese travelers to America increased from \$8 billion to over \$20 billion (U.S. Travel Association, 2015). In a competitive market, the properties that neglect international visitors may cause conflict between staff and guests which may result in frustration, bad reviews, and lost customers (Ramage, 2013).

Aside from revenue generation, hospitality enterprises might find this information useful in order to expand training initiatives and develop guest relations. Unwillingness to change translation practices may cause issues in the future, as globalization continues to rocket forward, creating a divide among properties who truly understand and cater to clientele via customization versus properties who only provide the bare minimum in translated services and keep a non-personalized approach.

Although translation is defined as “the process of translating words or text from one language into another” (English Oxford Living Dictionary, 2015) and generally associates itself with language, this paper attempts to understand translation and its necessity in hospitality in a more developed vein. Language is undoubtedly at the core of translation. The service of hospitality is not just about communication however, but also about the desire to please, generosity, and behavior that allows the guest to feel welcomed and understood (Lashley & Morrison, 2001). The recent phenomenon of User Experience, loosely defined as user understanding and performance during interaction with human technologies, has potential to address service issues that stem from translation deficiencies (Law, Roto, Hassenzahl, Vermeeren & Kort, 2009). Through an understanding of hospitality’s relationship to human-computer interaction and the user-experience, this study will attempt to examine how such technological advances alleviate translation error and promote the core values of service, providing hotel corporations with tech-focused strategies.

### **Justifications**

As the focus on international travel to American cities becomes more prominent, the necessity of advanced translation services should not be ignored. However, in providing for such a culturally and linguistically diverse clientele, training and education can only do so much to support staff knowledge. The implementation of Human Computer Interaction (HCI) technology, paired with strong user experience may assist guests in their on-property experience by decreasing common language barriers. However, with such variation in the world of HCI, properties may be unsure of how to move forward with implementing tech-translation solutions. In order to use technology that not only serves guest needs, but also fits with the property image, criteria and strategic plans must be developed for this otherwise less-researched topic. In order

to change the issues that are certainly present within the industry, it is significant to assess how to topple language barriers by utilizing technology.

### **Constraints**

Although HCI exists, there is little to no documented research on its applicability within translation and hospitality. Because of this, the research collected is predominantly secondary, with focus on how specific tools already utilized within the hospitality industry can be further explored to account for translation.

Additionally, it should be noted that the research analyzed focuses on the developments needed to adapt for the major visiting international tourists to American tourist destinations. However, this does not regard the fact that certain language and culture adaptations are different for certain American locales. This means that analysis will only be relevant for the major visiting demographics, noted as Chinese, Japanese, South Korean, and Brazilian, and for the hotels that cater to these foreign visitors.

**PART TWO**  
**LITERATURE REVIEW**

**Introduction**

The following will serve as a review of the significant factors that compose translation within hospitality as well as a review of Human Computer Interaction (HCI) and User Experience (UX) and their applicability in redefining hotel translation based on a thorough understanding of their concepts. Because the state of North American translation error within hotels is still present, and because there is indeed technology that may be applied to better certain circumstances for international guests, this section will synthesize the published scholarly research that details translation in hospitality, HCI, and UX.

Although translation is loosely understood within the world of hospitality, the first portion of this review will attempt to pinpoint the most relevant facets of translation within hospitality as a way to better understand what defines the term translation. This section will also cover the current state of translation error in American hotels. Through understanding what translation is for hotel properties, a better understanding of how technology can be utilized may emerge.

Following this understanding, the review will look at HCI as a tool and how it has developed. Using this definition, an understanding of how HCI has been utilized in hospitality will be presented, as well as HCI as a tool in the world of languages. Because UX is undoubtedly tied to HCI, the literature review will provide an understanding of this expression as it relates to HCI and as it relates to language.

Through an understanding of the definitions of translation, HCI, and UX, the literature will attempt to answer questions regarding how such technological tools can mitigate the errors

brought about by cross-cultural travel. Further, by understanding the physical tools that are developed through technology, the review will assist in a plan that will allow hotels the benefit of these technologies with minimum negative affects regarding a property's pre-defined image or culture.

### **Review of Translation within Hospitality**

This section will use published research to identify what translation means for hospitality. By understanding the core concepts of translation and language, as well as translation through culture and through marketing, this section will detail what considerations must be present in adapting language, ideas, and images for international guests. Through an understanding and definition of hospitality translation, a stronger base for technological integration may be formed.

### **Translation and Interpretation**

The first element of translation hotel properties generally assess are words. Because language cannot be translated directly without alteration to make it understandable in a new language, translators generally interpret the meaning and transpose it into the target language so that the message can be received and understood by a new party (Van Nes, Abma, Jonsson, & Deeg, 2010). Guides, brochures, and websites have been the first focus of hospitality businesses when it comes to translation, as it provides guests with accurate information about a particular business or provided service (Ramage 2013). Additionally, translating disclaimer and liability forms, maps, tour itineraries and restaurant menus help to create a welcoming atmosphere (Hurley Hall, 2014). Language barriers are at times equated to service barriers and can be broken down or eliminated by appropriately translating content directly related to a hotel's property (Hurley Hall, 2014).



Translators, when translating content, are generally supplied with a verbal or written text and are expected to transfer that text into another language (Rike, 2013). This linguistic transfer is generally understood not to be translated word for word, but rather takes into account the patterns and structure of the new language (Rike, 2013). Although technology in enhancing spoken and written translation has made immense strides in recent years, there are still limitations to such technologies that not only translate incorrectly, but cause guest confusion (Hurley Hall, 2014). Large corporations generally utilize multiple translation sources as a way to provide benefits from both modern technology, and the expert human who understands a certain language's nuances. Rike (2013) explains, however, that it is not enough to utilize excellent verbal translations for any corporation, but that various "semiotic" (understood here to mean relating to the text through image, signs, or symbols) sources should be used as a means to bolster and strengthen any verbal translation.

### **Culture and Hospitality**

Understanding how culture differs for the guests being cared for is extremely pertinent in a world where global economies are connected unlike any other relatable period in history (Heo, Jogaratnam, & Buchanan, 2003). The development of culture management (Shames & Glover, 1989) was created for hotels to better understand their international guests and to adapt policies which would more appropriately serve such guests. As Korean and Japanese travelers have been one of the greatest presences in American tourism and business, these have been the groups most frequently studied in international tourism in America (Heo et al., 2003). However, as of the mid 1990s, few to no Korean-focused adaptations were being made in the American hospitality and tourism market to address cultural behaviors and subtleties that differed between Americans and Koreans (Ahmed & Chon, 1994). To provide to customer's needs, culture is one of the most

effective tools in addressing customer satisfaction, yet at the same time is one of the most complicated elements of internationalism hotels are asked to translate (Ueltschy, Laroche, Eggert, & Bindl, 2007). As furthered by research, Ueltschy, et al. (2007) understood that preferences, behaviors, and emotions are different around the world, and for service-providing businesses such as hotels and restaurants, identifying customer preferences and adapting business practices and standards for specific customers will influence business success.

### **Low and High Context Communication**

In terms of communication, various cultures interact utilizing a differentiating scale of high-context and low-context communications (Hall, 1989). Myriad problems may arise when dialogue takes place between those from different cultural context backgrounds (Korac-Kakabadse, Kouzmin, Korac-Kakabadse, & Savery, 2001). High-context cultural communication relies on indirect or nonverbal speech or action, whereas low-context communication is conversely quite direct and forward (Heo et al 2003). Communication itself is the process of two parties or more sharing information, sometimes through interpretation and understanding of more than just the verbal language used (Wierzbicka, 1991). Cultural patterns that shape communication additionally live in a world not so easily defined as simply high and low context (Korac-Kakabadse et al., 2001), therefore contributing to the miscommunication and misunderstandings that take place through the introduction of people from different communication context backgrounds. Hall (1976) explained this concept through introduction of the “low to high information processing continuum” which asserts that cultures do not live in either extreme, but rather fell somewhere on a scale. Such scaling assessed that even cultures that had similar contexts of communication could still interpret words, phrases and physicality differently.

This research was further examined by Jafari and Way (1994) in their analysis of communication. The authors found that deep and thorough understanding of cultural differences develops true understanding and reception through communication. This explains that differences, when better understood by the parties in communication, can lead to greater understandings of one another. Asian cultures tend to use non-verbal cues, hand gestures, and body positioning as a way to address feelings or develop a message (Jafari & Way, 1994). Americans however, are more vocal when it comes to communicating needs or ideas creating an interaction of low and high context communication confrontation when these two cultures come together without an understanding of the other's cultural proclivities (Heo et al., 2003). As a way of avoiding this clash, Americans may utilize nonverbal communication when dealing with Asian customers (Heo et al., 2003), under the assumption that nonverbal communication, as well as specific gestures and movements are universally understood. However, this is not necessarily true, as gestures and body language common to one culture in terms of meaning may be understood completely differently in another culture (Heo et al., 2003). It is these underlying cultural communication misunderstandings that may cause tourists confusion.

### **Transcreation**

Transcreation is a marketing tool defined by recreating marketing materials in order to speak both the literal and emotional language of the intended audience, while still maintaining the original intent of the brand (Lionbridge, 2014). Transcreation can be understood as taking the broad concept of translation and moving it one step further, blending translation tools with an understanding of cultural and linguistic nuances (Lionbridge, 2014). As explained by Ray (1995), translation has a practical use that provides meaning, albeit a limited meaning that only provides an image or exoskeleton on the original writing. Although Ray's research focuses on

the translation of poetry, the art of emotive writing can be used to draw understanding of the pictures drawn through advertisement and tourism prose. Transcreation then takes more than just the meaning of words but considers the sensibilities of the culture group the translation is being directed toward (Ray, 1995).

When it comes to transcreation through the internet, translators have a responsibility to assess text and images in congruence in order to create material that addresses a target audience (Rike, 2013). Although, as Rike (2013) assesses, translators of earlier age have been expected to look at text and transfer text into a new language only, today's interconnected world has created greater need to translate more than just words. Words and images are directly connected and compose with one another, therefore meaning is derived from more than just the words. Because of the imagistic play that happens with hotel websites, combining pictures and words, translators must "adjust the verbal message in the target language so that it would be consistent with the imagery provided with the source text" (Rike, 2013, p. 70).

Transcreation differs from translation in the sense that as opposed to translation which starts with the words, transcreation starts with the creative image. That creative image is developed into a new message that maintains the original ideas of the initial message (Kelly, 2014). Further into this assessment, Kelly (2014) explains the desire for action from the recipient of a transcreated message. If it is with regard to a hotel website, the action would be for the recipient to book, and therefore indicators such as the website models, the supporting brands, and even the color schemes would be translated into those more closely associated with the audience the transcreated message is meant to reach.

## **Localization**

Localization is directly paired with transcreation, but as opposed to focusing on images and nuanced phrases, localization looks at the functionality of a transcreated message (Kelly, 2014). Localization is concerned with the translation of measurement units, currencies, and formats for date and time, which are different around the world (Kelly, 2014). Because globalization infers for many companies that their product will be transcreated and localized, LISA (Localization Industry Standard Association) recommends internationalization, the process of ensuring a product be easily localized (McDonough, 2006). The modification of currencies, maps, time zones, as seen on websites and within pamphlets or information booklets is all tied to the process understood as localization (McDonough, 2006). Localization is not only about numerical units however, and additionally is focused on making sure products or experiences are available and appropriate for the market of interest (Kelly, 2014).

### **Review of Human-Computer Interaction (HCI)**

The goal of this section is to analyze Human-Computer Interaction from a very broad, workable definition of the concept, to a narrower placement of HCI within the hospitality world. Once a workable definition of HCI is explained, this section will review how HCI is being utilized within the industry. An understanding of the technology-driven practices, and how they are currently functioning, will build a bridge to connect the tools of HCI to language translation.

### **Definitions of HCI**

HCI becomes an important aspect of technology to assess when developing appropriate tools to alleviate the miscommunication and error that comes along with translation. HCI itself has multiple definitions considering its use, but the most basic and straightforward understanding may be that HCI concerns humans and computers interacting to perform some kind of work

(Long & Dowell, 1989). The benefits of the process of humans and computers interacting comes from the ability to carry out and complete tasks in ways that may be hindered without the assistance of a technological device (Te'eni, 2007). The communication that is driven by the human is cognitive, and is received by the computer's software which can react to or understand the user's thinking process (Long & Dowell, 1989).

Although HCI finds its origins as a study of human factors, within the past thirty years, the study of human-computer interaction has developed into an interdisciplinary field bridging science, sociology, psychology, and product design together (Sari & Wadhwa, 2015). HCI in action looks at three components in order to create what Long and Dowell (1989) title an interactive worksystem. The formation of this worksystem entails creating a program or system that identifies user behavior and computer behavior with an end result of developing an interactive working center providing the intended results (Long & Dowell, 1989).

Because of HCI's connectivity within the world of computer science and behavior science, its definition has been unclear or debated (Thuseethan & Kuhanesan, 2014). According to Newell & Card (1985) HCI is a science, providing engineer-centric theories and tools for those who design the technology. However, researchers Carroll and Campbell (1989) detailed HCI as a design science, a science meant to utilize research from existing systems as a way to inspire and educate designers developing the next wave of technologies. Despite this, the primary objective of human-computer interaction is to improve the interaction between human and computer system, while expediting or enhancing tasks (Thuseethan & Kuhanesan, 2014).

### **HCI Defined Within Hospitality**

As HCI develops, it also develops within specific industries. Hospitality has adopted human-computer interaction as a tool to speed up check-ins, assist in scheduling, and allow

customers to better engage with the property they have booked. As the reliance and inescapability of technology increases in modern societies, daily life computer interaction could be used to benefit the hospitality industry. Sharma, Pavlovic and Huang (1998) explain that natural communication between humans is generally multimodal and is carried out concurrently. This means that communication, as evidenced in the analyses of translation, occurs not just with spoken words, but runs in tandem with body language, imagery and activity. When humans interact with one another, they utilize their five senses to have fuller, more complete interactions with one another (Sharma et al., 1998).

As HCI advancements in hotels are made, the guests are then better equipped and cared for when presented with HCI devices that are multimodal: tools that recognize facial features, body language, and understand vocal cadence (Sharma et al, 1998). Up to this point, hotel properties have generally utilized tools that are unimodal: kiosks or computer systems that rely on the movement of a mouse, the press of a button, the wave of a hand, or the sound of a voice (Sharma et al., 1998). Yet, till now, few integrated alterations have been made to equip hotels with HCI devices that are multimodal.

Because the hospitality industry concerns itself with service directly related to the human, HCI within hotels should be looked at with a human-centric focus. Yet there still remains the computer that interacts with the human, and the very specific style of interaction or communication that takes place between human and computer.

For the purposes of this understanding of HCI in hospitality industries, the human and computer can be outlined by the host-guest relationship defined by Lashley & Morrison (2001) which notes hospitality service as a relationship defined by the visitor or guest and the host that receives the visitor and caters its services toward them. This interaction between host and guest

is more culturally defined than the interaction of a commercial manager-customer relationship (Hemmington, 2007) and therefore the interaction is altered. The interaction then, that takes place in HCI for hospitality, reflects the culturally nuanced and social rules (Hemmington, 2007) that distinguish this type of human-focused service from other services. The way computers are used to interact with human guests in hotels must take on different operative practices to ensure the guests are still experiencing effective and satisfactory service that they would expect (Te'Eni, 2007) when engaging with a hotel.

### **HCI Utilization in Hospitality**

Human computer interaction is being utilized in various hotels to improve services and expedite the lengthier practices that are necessary upon guest entry. To begin with, check-ins can now be done at many properties through an automated kiosk (Robinson, 2016) which limits the amount of wait time guests are faced with when arriving on-property. The implementation of self-service technologies (SSTs) has created “high-tech, low-touch” systems meant to give guests more choices with regard to how they receive certain services (Kim & Qu, 2013). The SST development has created HCI systems that allow consumers more options with regard to how much employee service versus how much independent service they receive, or if they prefer a combination of both (Kim & Qu, 2013).

Still, there remains a fear that full removal of guest and employee contact may limit the interpersonal connection inherent in hospitality, and limit service recovery efforts, known to create repeat business in hospitality (Curran & Meuter, 2005). Others argue however that outfitting hotels with HCI devices such as kiosks not only improve customer experience, but also the experience of the staff, who now have the ability to work on less trivial, time-consuming tasks (Avery, Good, Harper, Fincher, & Grove, 2008). As the kiosk option has spread



throughout various American properties, so have other HCI tools. Detailing a Hyatt Place limited service hotel, Avery, et al. (2008) identify the modern features used: check-ins and guest key retrieval come from a kiosk, ordering food occurs through touch screen tablets, and ordering cable television and new movies happen directly from one's room.

Considering that such progress has been made, HCI technology is ripe for increased development between human and computer, especially in hospitality, where the human visitor tends to have different cultural tendencies. As humans interact not only through speech, but also through physical gestures, eye contact, and sound, the interaction with these operating systems is different for different users (Lew, Sebe, & Huang, 2007). As international travelers are no doubt prone to interact with such devices, tools that include the aforementioned multimodal abilities (Sharma, et al., 1998) may better serve and cater to guests, while still providing advanced services, unique to the property the computer serves.

### **Review of User Experience (UX)**

This section of the literature review will serve to provide a detailed definition and review of user experience. Following an understanding of the term user-experience, the analysis will focus on how user experience and human-computer interaction work together to successfully fulfil the task that the human and computer sets out to complete. User experience will then be assessed from its scope of use within full service hotels to understand its significance within bettering hospitality processes and interactions in translation.

#### **Definition of UX**

User experience, much like human-computer interaction (HCI), has a multitude of definitions not widely accepted or shared by the community studying it (Law, Roto, Hassenzahl, Vermereen, & Kort, 2009). The study of UX has become embedded in the study and

understanding of HCI, however, whereas HCI is the main focus of how the human and computer interact to produce work, UX focuses on the sensations, user affect, as well as the value of such interactions on the user's life (Law, et al., 2009). Although it is hard to completely define what the "something" is that makes experiences desirable, UX attempts to track the measure of good versus bad when detailing an experience (Hassenzahl, 2008). Experiences can be measured and balanced utilizing what Hassenzahl (2008) describes as a "psychological currency". This currency then allows a personal scale to identify experiences as either good or bad.

Defined succinctly by Hassenzahl (2008), UX is understood as the fleeting or momentary feeling that a user receives while interacting with a service or product. Additionally, UX is understood to be a transcendence of the physical machine. User experience is not about the technology, interface, or machine design, but rather about the experience that is created for someone through the use of a device (Hassenzahl, 2013). The emotional experience is what user experience intends to highlight, as it gives meaning and weight to the interaction between human and computer (Hassenzahl, 2013).

Part of the complexity in UX's definition, however, comes from the complexity of experiences users have when interacting with products at various levels (Desmet & Hekkert, 2007). UX is also detailed by its interrelation between human behavior, experience, and cognition. Because these human qualities are quite unique to each product user, they define user experience differently for each participant in product interaction (Desmet & Hekkert, 2007). What can be understood is that UX acts as a conceptual idea that gives rating to products through emotional response (Law, et al., 2009). Another important defining factor of UX is that it is of the moment—UX is understood to be temporal, that is it is the experienced feeling or sensation in the user's present, although it does not exclude the information of the user's past in order to

draw conclusion (Hassenzahl, 2008). The way users interact with machines may be guided by emotional response or intelligence from past interaction, but the experience the user receives will be specific to the moment an experience takes place (Law, et al., 2009).

### **User Experience related to HCI**

UX is tied to human-computer interaction as it deepens the understanding of HCI with concern for both users and corporations who implement computer systems. UX employs the understanding of emotion to better realize how a user and corporation interact with one another through the interaction with machines (Kuniavsky, 2007). The user experience with regard to product interaction is emotionally different for each user and also physically different for each user: as outlined by Desmet and Hekkert (2007), there are three categories of interaction:

1. instrumental,
2. non-instrumental, and
3. non-physical.

Instrumental interactions deal with the direct usage or operation of the product. This instrumental interaction establishes emotional experiences such as anger or frustration if the system fails to work for the user, or pleasure or joy under the assumption that the experience with the product is easy to use. Non-instrumental interactions are the interactions with the computer or product that do not serve necessary functions in operating the device. For example, engaging with a product through viewing or touching it, can produce emotional experiences either negative or positive. The non-physical interaction is understood to be the anticipatory or memory phase of interaction with a specific system that in turn produces an emotional experience. Non-physical interaction attempts to understand how the user feels with regard to a product based on memory and perceived image (Desmet & Hekkert, 2007).

This categorical observations of the various interaction with product helps to explain how UX integrates with HCI. The user's decision-making process, paired with emotional intelligence is enacted when the user interacts with any computer system (Kuniavsky, 2007). The sociological and psychological factors unique to the user impacts decisions and emotions, resulting in an overall emotional experience garnered from the human and computer interacting (Kuniavsky, 2007). This powerful interplay creates a continuous ecosystem where experience and interaction work hand-in-hand (Hassenzahl, 2013).

### **User Experience and Hospitality**

Assessing the HCI technologies within hospitality analyzed above help to assist in a further understanding of the presence of user experience in hotels. Self-service technologies such as check-in kiosks give hotel guests the option to check directly into their room without the need for additional human assistance (Kim & Qu, 2013). If the check in kiosk is understood through Desmet and Hekkert's (2007) categories of user experience, guests will have some emotional response to this style of checking-in. Assuming the computer is easy to use, the instrumental interactions produce pleasurable feelings. If the machine is aesthetically pleasing and feels good, non-instrumental user experience could also produce positive experience. And if considered from the non-physical interaction aspect, the experience of understanding or knowing the machine might produce positive images of knowing that the key to the guest room is accessible through these tools, which in turn produce positive feelings regarding vacation or rest (Desmet & Hekkert, 2007).

The various cultural aspects of interaction also impact the emotional experience of guests. Considering mixed languages, as speech, physicality, hand gestures, and eye-contact impact the way interactions are made, they also impact the emotional responses different guests

have to different tools (Lew et al., 2007). The user's experience is so specific to the user in that very moment, and is defined by cultural perspectives, environment, economic standings and personal lifestyle (Kuniavsky, 2007). This means that the same instrumental, tactile experience of ordering room-service from a tablet placed in-room may bring pleasure and ease to one user, but may also cause fear or stress in another guest.

Due to the fact that international hotels cater to a variety of guests, it is impossible to find standardization among UX when considering HCI technologies (Kuniavsky, 2007). The value perceived from some tool is in constant variation considering the context it is presented in and who it is presented to (Kuniavsky, 2007). With this in mind, HCI tools can be viewed through the scope of human fulfillment (Hassenzahl, 2008). If hospitality services are intended to provide a service, and utilization of these advanced technologies is meant to improve that service, the most common emotional ground for users may stem from fulfillment (Hassenzahl, 2008), a human need that can be extracted from all of the analyzed categories of UX.

### **Conclusion**

The literature review has presented a comprehensive understanding of language and translation within the world of hospitality, followed by an assessment of human computer interaction and user experience. Although little to no research exists regarding HCI and UX being used to benefit hotel translation needs, a well-rounded review of these tools can be applied to begin the process into better understanding how these expansive technological concepts can be utilized in hospitality translation.

The literature review began with an assessment of language, culture and hospitality, as well as varied communication styles. The techniques of transcreation and localization were also

presented as ways to better understand the accommodations necessary for handling a diverse group of international guests in hospitality enterprises.

The review continued to detail human-computer interaction from a broad definition, down to a hospitality based definition. Readers were also presented with a section focusing on the usage of HCI within hotels. This section was followed by a review of user-experience, defining the concept and then connecting it to HCI. Because the basis of UX is uniquely human involved, an understanding of the concept will help in determining how these advanced technological systems can benefit translation efforts in hotels.

## **PART THREE**

### **Introduction**

As the hospitality industry in North America continues to see a greater increase in international guests, translation tools and techniques become more necessary than before. As evidenced in the research regarding language and translation, there is an expansive variety of communication and translation concepts derived from various cultures. This analysis of language and understanding of cultural communication differences can be paired with modern technology to enhance the international guest's experience in an American hotel. Through the development of Human Computer Interaction (HCI) devices and through an understanding of User Experience (UX), a hotel may have the ability to thrive at enhancing a guest's comprehension and enjoyment of a property, especially for a guest unfamiliar with English language or American culture. By developing transcreation, contextual communication skills, and localization tools, both on and off property, the utilization of HCI technology has the potential to minimize the error in not just linguistic translation, but cultural translation as well.

Although the technology may be ready to tackle the issues of translation, without the proper development of these tools, and without a clear understanding of who these tools are meant to assist, such costly additions to hotel properties may be faulted. As stated in part one, this section will now provide a four-part implementation plan for North American hotels in employing HCI technologies with the goal of advancing hotel translations. As part one assessed the translation issue, and part two assessed the related concepts and structures of translation and technology, part three will provide steps to take to ensure a more successful application of these ideas into the hospitality industry.

## **Guidelines**

The plan developed for implementing translation tools has been broken down into four parts, which will more succinctly describe the necessary steps in making sure the specific clientele is catered to, while still maintaining the company image and culture of a specific property. Part one will describe steps for analyzing guests from a cultural standpoint in order to develop specifically for the main clientele. Part two will focus on how to integrate the physical technology into a specific property. Part three will detail the HCI and UX itself, and how it should be altered for specific international guests. Part four will detail trial and error testing, as these new devices may need further development after implementation.

### **Part One: Assessing Majority Clientele**

The first necessary step needed to be taken is to fully understand international guests from a cultural and linguistic background. Firstly, a property should look at their records to indicate where the majority of international guests are arriving from. Despite the American data which evidences the top five visiting countries to America, a property may not capture all of these guests. If the majority of guests, for example, are arriving from China, then the most adaptations should be made for Chinese guests. Of course, this should constantly be monitored and altered as necessary. Steps might also be taken here to understand the major visitors to the surrounding city, and how the property might change in order to attract these visitors.

Once it is understood what group must be tended to, assess what is already in place for these visitors and then move forward from there. First and foremost, a full cultural understanding of these guests should be realized. Because growth of Chinese tourism in America is growing the fastest at over 200% (U.S. Commerce Department, 2014) Chinese visitors to America will be used for example. Before even employing technological tools, it is



significant to learn what the cultural tendencies of this group are, how their language differs from English, and how communication also differs. Through understanding Chinese culture to be high context, a staff must better understand the usage of body language, hand gestures, and other non-verbal actions unique to Chinese cultural language (Jafari & Way, 1994). It also may be important to develop an understanding of the basics of Chinese language. This does not require a staff to learn the entirety of the language, however simple greetings and directional language can assist in creating a welcoming and comforting environment. Although the translation technologies will be advanced enough to walk guests through check-in, concierge, and booking services, without personal knowledge, the risk of isolation among staff and foreign guests could present an issue.

Another understanding that must be developed is that of multimodal forms of communication. The touch, hearing, sound, and sight aspects of conversation should be clear for all staff directly engaging with international visitors. Again, this does not mean that staff must be skilled in Chinese language (or the main language of majority visitors), but it asks that front-line staff become versatile in their conversational skills. Creating fuller communication with guests allows human fulfillment, the ideal that Hassenzahl (2008) relates to interaction within hospitality services.

This analysis of main international clients, through understanding speech and culture, may be achieved through training programs designed for different departments. The more the human resources department imparts on their staff regarding their guests, the better front-of-house staff can assist guests in a way familiar and appropriate to them. This can be understood as a form of human transcreation. The property maintains its service levels and standards, while altering its communication of those standards to more fully connect with international guests.

Although requiring staff to learn a new language is unrealistic, providing the tools to translate culturally gives opportunities to avoid translation error before it begins. If for example, a complimentary welcome cocktail is offered to guests upon arrival, it would be inappropriate to offer that cocktail to guests from a majority Muslim country who may not drink alcohol. By providing non-alcoholic options, the property then transcends its services to maintain its standards without alienating guests.

Although there are numerous options to develop training programs for staff to better care for these guests, the programs cannot be developed without an understanding of cultural and linguistic tendencies. This is why the first part of adapting and translating for international guests is about understanding the guests themselves.

## **Part Two: Implementing Technology**

Once there is a clear understanding of how a property must be adapted and toward whom, the physical translation technology may be ordered and inserted. However, depending on the property and the services being offered, much has to be considered when actually designing and integrating HCI technology into a hotel.

Firstly, the physical characteristics of the machines should successfully blend in with a property. If installing self-check-in kiosks, consider how many are being installed and how large they are. If the property is boutique in size, perhaps bulky stand-up kiosks are not appropriate, and therefore other options should be considered such as wall-mounted computers or touch screens built into the check-in desk. The tools should complement the image of the property, rather than distract from it. If the style of hotel is traditional and antique, the tech tools should be minimized and even hidden to a degree so to avoid detracting from the property image. In that case, perhaps touch screen tablets are more acceptable.

Important questions to ask when assessing the addition of these technologies however stem directly from international guests themselves. Regarding majority visitors: how should the tools look? How might they need to be accessed? Where on property should they be placed? If cultural translation error is present because the tools themselves are inaccessible to certain groups of travelers, the purpose of the systems are void. The tools being integrated into the property should look and feel familiar, producing a positive instrumental and non-instrumental experience for the guest. It does not serve a property to simply install modern technology for the sake of having it. Rather, a property should be incorporating the tools designed to not only enhance the image of the property, but also make a foreign guest's experience easy and hassle-free.

It might also be questioned what services are truly necessary for international guests. If restaurant menus all have pictures, and numbers, making ordering simple, there might be no reason to install bulky, costly translation software that has to be maintained. In this instance, it must be considered what areas of the hotel truly require updated translation via the implementation of technology. If check-ins are slowed down because of constant translation error, the front office might be the first place to start. The concierge, who must provide a multitude of guest services, might also benefit from tools that use voice, sound, and language to translate words.

The tools that might best fit into hotels could be kiosks, computer screens, tablets, and apps easily downloaded to smartphones. However, as mentioned in the literature review, the major issue with many of these tools is that they are unimodal. The tech suppliers that are introducing HCI devices that have multiple languages with multimodal interface are the suppliers

that hotels should most be interested in working with. A kiosk that allows touch, sound, and vision, would best suit an array of foreign guests.

Of course the translation software itself paired with these devices is the most important. A functioning machine only truly functions for international visitors if the translation is top-notch. Not only should a property test out a variety of translation devices, it would be in a hotel's best interest to work with a native speaker to utilize each tool and assess how strong the translations are, and how easy or difficult using the machine might be from someone of their own background. If the translation itself is weak, again, the purpose of the technology is futile.

### **Part Three: HCI and UX**

As human computer interaction discusses how a human and computer interact to produce a type of work, and user experience defines the feelings produced from this type of interaction, it is important to assess how the technology itself must be translated. For American hotels welcoming a range of East Asian guests, the translation systems should not be invasive or overly personal, sticking to the understanding of high-context communication. At the same time, it must be considered that although all of these efforts are meant to enhance the experience of foreign guests, an American property does not want to alienate its domestic guests either. The systems being implemented should function in multiple ways. Just as the linguistic writing or speech the machine produces can translate from English to another language, the interface should also be able to adjust itself to benefit the cultural proclivities of the user.

This may be achieved the same way hotel websites are translated and transcreated. Albeit unimodal in interaction, the strongest translated websites offer guests the option to select their country of origin by flag. This produces a website with the written language not only translated, but also images and advertisements which are transcreated to best fit the consumer

viewing the site. If this can be devised through translation technologies on-property, these devices can better serve a wide range of guests. If guests can be familiarized with easy-to-use technology that in turn provides easy and fast check-ins, pleasant bookings via concierge, and understandable room facilities, the user experience may become familiar and positive. Positive feelings will make guests want to return to that specific property. And as the growth of international visitors to American locales increases, being steps ahead in translation will be positive for business.

What needs to be addressed for any hotel adapting its services through technology, is that with advanced technology comes technical difficulties. A property must be prepared for any of its HCI systems to shut down or malfunction. What this means is that as strongly as adaptations are being made to assist international guests through technology, adaptations should also be made from the personal and living side of service. Where is computer-based information being stored? What training is in place for staff to properly assist guests when language barriers are in full-force? Part of this training stems for Part One. What this guide enforces is that even though the implementation of these tools is necessary, there must still be a balance between personalized services and computer-based services. Hospitality depends on personalized attention, however pairing it with HCI can make for an experience free from misunderstanding.

#### **Part Four: Trial and Error Testing**

Once these tools are in place, the products should be consistently tested and retested. Although a property should expect that they've installed working systems, again, when dealing with electronics and newer technology there is always the risk of malfunction. Additionally, it is imperative that the translations being presented are not just understandable, but appropriate. The devices may be tested by native-speaker employees, or by hired native-speakers who may enter

the property at certain intervals to test all of the technology. As it can be assumed that these technologies will continue to advance over time, each time a new system is installed it should be checked and rechecked. At the very core of this, the most significant aspect is that the elements of translation are strong and upheld by the HCI devices being utilized.

To further trial and error testing, hotels might develop programs to understand guest opinions. Comment cards, surveys, and personalized interaction regarding the translation systems are all beneficial methods in better understanding how and if these devices work for a particular hotel. Taking guest comments into consideration will help the redevelopment of these programs and tools to truly make communication run smoothly amongst all visiting groups. Through trial and error testing, a property can continually make sure that these systems are providing for guests and living up to their potential.

### **Discussion**

This presented system details initial steps in integrating HCI translation technologies into North American hotel properties. Although there is missing information regarding the development of this necessary software, as the technology continues to expand, these steps will hopefully assist in translation error. Additionally, by considering these steps, North American hotels will not only take care of current clientele, but have the opportunity to expand services for a wider variety of international visitors. The detailed review of what translation means within hospitality has expressed that it is not only about translating language, but also the idea of translating communication. Because communication varies so greatly among cultures, the ability to translate services for these guests sets international resorts and hotels apart from one another.

Through the literature review and the subsequent four-part implantation system, it becomes clearer that as necessary as these systems are, they cannot function alone. A better

trained staff must be part of the mix of advanced translation technology. A staff well-learned in language, culture, and tendencies can work with the machines in order to expedite services, while still adding the personalized service defined by hospitality. While the main goal is to impart technology as an advantage to properties dealing with international clientele, without focusing on staff, the industry creates bridges between tech and true human service. The hope is to integrate these tools with service in order for such properties to excel.

### **Conclusion**

The presented study intended to more fully understand hospitality translation, HCI, and UX. Through this understanding, guidelines have been created to offer hotels more clarity in the implementation and integration of translation technology. Although these guidelines remain general, they attempt to pinpoint the necessary steps in combatting the problems still present in the North American hospitality industry. Additionally, this paper hopes to inspire greater research with regard to translation technology for hotels.

Although there are varied sources detailing translation and communication, as well as HCI and UX, little exists on the blending of these tools with regard to hospitality. Such research would help direct the hotel industry more fully. Although this study examines hospitality translation and technology from a broader scope, more detailed research, both quantitative and qualitative, is still necessary in order to take the steps necessary in eliminating the existing problems. As technology continues development, and as globalization continues its increase, catering to guests through communication will hopefully lead to higher quality service standards across a hotel's comprehensive service system.

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