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**ICTs within HRM. From technology-enabled guest experience to
technology-enabled staff experience within the hospitality domain. The
case of *Hoxell*.**

Master dissertation

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Table of Contents

Abstract	4
Acknowledgements	5
List of abbreviations	6
1. Introduction	7
2. Literature review	9
2.1 The service concept in the hospitality industry.....	9
2.2 HRM in hospitality: the empowerment concept.....	11
2.3 ICTs and TAM in hospitality	14
2.4 E-HRM in the hospitality industry	17
3 The case study: Hoxell	19
3.1 The platform	22
4. Research questions.....	26
5. Methodology	27
5.1 Pre-installation interviews.....	28
5.2 Pre-installation findings	31
Hotel 1 (Appendix 3).....	31
Housekeeping.....	31
Hotel Manager	33
Hotel 2 (Appendix 4).....	34
Housekeeping.....	34
Hotel Manager	35
5.3 Pre-installation conclusions.....	36
5.4 Post-installation interviews	37
5.5 Post-installation findings.....	41
Hotel 1 (appendix 6)	41
Housekeeping.....	41
Hotel Manager	43
Front Office Manager	44
Hotel 2 (appendix 7)	46
Housekeeping.....	46
Hotel Manager	48
5.6 Post-installation conclusions	50
6. Answers to research questions	58
7. Research limitations and discussion	60
8. Conclusions	62
Appendices	64
Appendix 1.....	64
Appendix 2.....	66
Appendix 3.....	68

Appendix 4.....	74
Appendix 5.....	81
Appendix 6.....	86
Appendix 7.....	100
Appendix 8.....	115
References	119
Webliography.....	126

Abstract: in the hospitality industry, companies' competition to promise and guarantee unique experiences to their guests is constantly increasing and getting more difficult. The hospitality sector today relies more and more on technologies to be competitive on the market through online booking engines, websites and email marketing. However, hotel managers cannot successfully manage guest-experiences without taking into consideration the other important element within the hotel structure, namely their employees. In fact, the only perfect integration between guest-experience and staff-experience can truly guarantee a long-term competitive advantage for business. A good guest-experience derives from the right service delivery that is composed of face-to-face interaction and information exchange with staffers. Human resources in the hospitality industry play a key role in service deliveries, which rely on the way the personnel behaves and serves the guest. Therefore, a strategic HRM can be the key enhancer for a hotel competitive advantage. Nowadays, technology integrated with HRM is playing a consistent role. E-HRM aims at supporting general HRM goals such as cost-effectiveness, service improvement and the achievement of strategic business objectives but their achievement has been rarely explored. Starting from this literature review, this thesis aims to enrich the assessment of the HR-oriented ICTs by bringing the case study of a communication multi-level digital platform called *Hoxell*. The research aims at evaluating the perceptions of *Hoxell* as E-HRM tool; therefore, a set of interviews with the main stakeholders of hotels that recently decided to adopt the above-mentioned technology will take place before and after the platform installation.

Acknowledgements

I would like to thank my supervisor Prof. Luca Solari and Second Reader Nadzeya Kalbaska for having accepted me as thesis student. Their guidance, support and suggestions during these months were significant.

Infinite gratitude goes to Dr. Carlo Fontana, for having introduced me to the hospitality industry and turned my internship into a diversified and dynamic first professional experience. Thank you to the whole Hoxell team: Paola, Davide, Pietro, Giorgio, Alberto, Fabio, Marc, Lorenzo, Alex and Alex W., who were great colleagues and helped me to collect important material and contacts for my researches.

My acknowledgements also go to Antonio Zacchera, Adrian Stalder, the hotel managers of Eurotel Montreux and Nidwaldnerhof and their housekeeping departments for having patiently answered to all of my questions that allowed me collecting helpful information.

This is the last step of an academic path I was lucky to find and choose when and where I wanted thanks to my parents and my brother, who have been supporting me both financially and psychologically in every decision I made so far in my life. Martina, my sister by heart: thank you for always being by my side.

I feel blessed for having met Loredana, Elide, Aurélia and Jan in Lugano, you made this Master experience worth to be reminded with nostalgia. Thanks to Giulia, for having given me her whole support during these months and shared with me nights and weekends at university. Thank you to Giulia B., Bea and to all my friends in Monza, who make the most of my time every time I am home.

List of abbreviations

CRM: Customer Relationship Management

E-HRM: Electronic Human Resource Management

H1: Hotel 1

H2: Hotel 2

HGRM: Happy Guest Relationship Management

HK: Housekeeping

HRM: Human Resource Management

OTA: Online Travel Agency

PMS: Property Management System

PU: Perceived Usefulness

PEOU: Perceived Ease of Use

TAM: Technology Acceptance Model

Keywords: hospitality, technology, guest-experience, staff-experience, empowerment

1. Introduction

Over the years, the rise of technology and internet has been revolutionizing the hospitality industry. Thanks to the CRM technology (Customer Relationship Management) and user-generated contents, hotels have a bigger visibility, simpler accessibility and a stronger two-side communication. Still, the delivery of a great guest experience - the attention to the thousands of interactions occurring between the staff and the guest in any place and at any time on site - represents the key step to turn people into loyal guests.

Hotels represent dynamic realities where an infinite number of unforeseen requests and interactions from both the hotel departments and guests follow one another. In such a context, a receptionist may get lost while managing hotel needs, answering to the phone and listening to guests' requests at the same moment. On one hand, receptionist's confusion is understandable; on the other hand, the guest is waiting for a service and may not be so comprehensive. However, guest's dissatisfaction becomes risky once back home, where s/he can complain about it on the web and indirectly affect the decision-making process of other online potential customers. According to the e-tailing group in fact, 92% of travellers indicate that their decisions are highly influenced by reviews and other user-generated content (www.e-tailing.com). In the hospitality industry, back-office activities such as administration issues and operational processes represent the core of services but they are not visible to guests and they are not consequently valued. In the end, what the guest judges is what s/he can see and perceive, that is why smiling and being constantly helpful are crucial aspects in a service-designed environment. The hospitality industry is about "people who serve people": the end-customers' experience is highly affected by employees' approach whose attitude to work is a wise mix between their own personality and working conditions; in this context, human resource management plays a crucial role.

During my internship at Hoxell, a start-up that created an on-cloud platform to improve communications within the personnel of hospitality structures, I had the opportunity to discover how technology can contribute to facilitate workflow

among employees and to improve the guest experience on site. For this reason, I decided to investigate its perceived impact on the working conditions of two hotels that recently adopted this technology. The research aimed to analyse the perceived changes that ICTs can bring in a sector that highly depends on people.

2. Literature review

The definition and meaning of the hospitality industry will be introduced by emphasising its service-driven dimension, whose success relies on the relationship between the hotel personnel and the guest, namely on people. For this reason, the role covered by HRM within the industry as key element for high quality service will be underlined by mentioning the empowerment concept as strategy to enhance employees' commitment to work. The second part will focus on the integration of ICTs in the operational processes of the hotels; in this context, the Technology Acceptance Model as measure of acceptance and successful implementation will be considered. Finally, ICTs oriented to support the HRM programs and objectives within hospitality-related businesses (E-HRM) will be analysed.

2.1 The service concept in the hospitality industry

Hospitality is a growing industry in the service field that plays a representative role in the tourism productive chain (De Carvalho, 2016). Looking at the meaning of the term "hospitality" on the online dictionary, it is firstly defined as "the friendly reception and treatment of guests or strangers" and secondly as "the quality or disposition of receiving and treating guests and strangers in a warm, friendly and generous way" (Heuristic (n.d) Online Dictionary. Retrieved from: <http://www.dictionary.com/browse/hospitality>). Hayes and Ninemeier (2009) describe the hospitality industry as the provider of accommodations including food services for people when they are out of their residence. The accommodation concept within the hospitality industry includes hotels, conference centres, destination resorts, camp/park ground facilities and inns. Hospitality is a people-business industry, based on a labour-intensive dimension; therefore, technology is unlikely to provide the service level expected by customers (Hayes & Ninemeier, 2009). Consequently, the authors believe that hospitality staffers represent the most important resource and their work management directly influences the performance of the company (Hayes & Ninemeier, 2009).

In terms of service, the hospitality industry is mainly composed of rooms, F&B, minibar, check-ins and entertainment (Kandampully & Suhartanto, 2000). Nowadays, all these facilities are present everywhere, namely they are easy to imitate for any hospitality business. That is why, competition among hospitality structures has become higher and higher (Kandampully & Suhartanto, 2000; de Carvalho, 2016). In order to tackle competitors, Kandampully & Suhartanto (2000) suggest two alternatives: cost-leadership strategy or customer loyalty through unique benefits. In addition to these two, it is worthwhile to include De Carvalho (2016)'s research about the importance of quality service as competitiveness increaser in the hospitality industry.

Since it is not reliable to count on price strategies, differentiation represents the only opportunity (Kandampully & Suhartanto, 2000) together with the delivery of good quality services (de Carvalho, 2016). As underlined by Barrington & Olsen (1987), it is important to remember the importance of face-to-face interaction and information exchange within a service. This aspect implicitly requires the presence of people who, as many authors stated (Becker & Gerhart, 1996; de Carvalho, 2016), represent a unique source of sustained competitive advantage if strategically managed. Kaharizam, Azmi and Ahmat, who are mentioned by De Carvalho (2016), state that quality represents a key matter that needs management attention as leading impact on the organizational performance. Given the simultaneity and residuality as characteristics of hotel services, human factors are key elements in performance and quality. Castelli (2003) emphasizes that the quality of processes is directly connected with the quality of service delivered; therefore, he underlines the importance of communication between departments (especially reception, telephony and governance) to achieve units' goals. He furtherly deepens the topic by highlighting the importance of employees in a hospitality structure as those people who are constantly in contact with customers: staff in a hotel has the control over the results of service by managing their own way to behave and serve. Petrocchi (2002) considers the successful integrity of some technical (reception, governance, reserves) and administrative functions (planning, human resources, and operational controls) as essential to provide service effectively. He also reminds that administrative

functions are often distributed in many positions and it is therefore necessary to guarantee a fluent communication between them to reach guest satisfaction. Lewis & McCann (2004) developed a research study to analyse the quality factors that guests value when staying in three or four-star hotels and discovered it was about the cleanliness and comfortability in bedrooms; this result demonstrated the crucial role played by housekeeping in hotels, a theory previously supported also by Kandampully & Suhartanto (2000).

2.2 HRM in hospitality: the empowerment concept

Communication-oriented personality, spirit of initiative, delivering customer service and willingness to learn are highly demanded skills by managers in the hospitality industry because of the emotional concept embedded in the service industry itself (Baum, 2002). In fact, showing a constant joyful mood and being able to manage emotions are part of service employees' work (Burns, 1997; Hochschild, 1983). However, despite the strict connection between the success of a service delivery and its human factor, the hospitality industry as employer did not improve in comparison with other sectors so far (Boella & Turner, 2013). In 2002, Baum wrote a paper about the hospitality's "low skills" economy aspect, where the term "low skills" implied two meanings: the professional requirements of the job and the value that society gives to it. To support his studies, he mentions Keep & Mayhew (1999)'s hospitality work characteristics' list, which enumerates its main struggles: low wages, predominance of unsocial hours and family unfriendly shift patterns, few equal opportunities policies, managerial roles mainly covered by males, lack of career structures, high turnover, struggles in retention and unsuccessful attempts to establish standardized HRM models. On one hand, some unattractive aspects cannot be changed (e.g. working evenings, weekends and bank holidays); on the other hand, other problematics such as split-shifts, irregular working time and lack of staff involvement in issues related to their working lives could decrease or even disappear by applying a strategic management (Boella & Turner, 2013).

Boella & Turner (2013) emphasize the importance from employers' side to recognize that most employees do not commit unless there are incentive tools

that enhance a natural motivation to work. As examined in a study led by Yee, Yeung and Cheng (2008), employee satisfaction plays a key role in operational performances to achieve quality and profitability in the service industry. Employees' positive attitude influences customer satisfaction and finally brings financial returns. Therefore, organizations in high-contact service industries should improve employee satisfaction to get consistent ROIs. Tsau & Linn (2013) emphasize the same concept in a research conducted among hotels in Taiwan; hospitality competition turned the increase of service quality through increased employee performance as a key competitive advantage.

In this context, the empowerment concept finds space. Its definition: "a management practice of sharing information, rewards, and power with employees so that they can take initiative and make decisions to solve problems and improve service and performance. Empowerment is based on the idea that giving employees skills, resources, authority, opportunity, motivation, as well as holding them responsible and accountable for outcomes of their actions, will contribute to their competence and satisfaction" ("empowerment", n.d., Business Dictionary Website, retrieved from <http://www.businessdictionary.com/definition/empowerment.html>). Lashley's studies (1995) confirm that staff who feel committed to please the customer and do their best to satisfy her/his needs are key elements in determining an excellent service and a competitive advantage. Furthermore, Dickmeyer and William's article cited in Erstad's paper (1997) speak about the empowerment's impact on six performance measures within the service sector: less turnover, more sales per employee, higher profits, lower material cost and lower labour cost. Employee empowerment both encourages the necessary involvement into the organizational goals and provides the required carefulness and independence to create a satisfactory level of customer service (Lashley, 1995). **Figure 1** shows some of the advantages of empowerment vs. disempowerment.

Table I. *Empowerment and disempowerment in hospitality operations*

Benefits of empowerment	Problems of disempowerment
More responsive service	Limited authority to meet service needs
Complaints dealt with quickly	Complaints dealt with slowly through senior manager
Greater customer satisfaction	High level of costs in generating new customers
More repeat business	Low morale and poor motivation
Well-motivated staff	High labour turnover
Improved labour stability	Low productivity
Increased productivity	Low wages but high labour costs
Lower labour costs	Low quality
High quality	Low profits
High profits	

Figure 1 : Lashley, C. (1995) Towards an understanding of employee empowerment in hospitality services *International Journal of Contemporary Hospitality Management*, Vol. 7 Iss pp.27-32

According to Lashley (1995), empowerment is an employment strategy that has to do with control and commitment, namely employers shift from an external control on employees to one that creates internal self-control in each employee. Human resource management studies in the hospitality industry reveal different forms, which engage employees in several ways and are differently described. In fact, empowerment means different things to different managers as it is strictly connected with the purpose of the organization itself. Above all, beyond a management designed to improve communications, commitment and employees' contribution to the organization, employee empowerment tries to involve employees at an emotional level by considering employee feelings as central to significant enrichment to the company. Lashley (1995) identifies four typologies of empowerment: empowerment through participation, empowerment through involvement, empowerment through commitment and empowerment through delayering. All of them can be adapted to different realities. However, Bowen and Basch (1992) believe that the degree of empowerment in an organization rely on the customer relationships, the volume of sales, the technology adopted, the level of environmental turbulence and the types of people who work in an organization. Finally, the success of an

empowerment programme will occur when the empowered employees will feel effective, able to define outcomes and have a certain control over relevant aspects of their work.

Salanova, Agut & Peirò (2005) emphasize another aspect: organizations should create a “climate for service” that makes the most of service employees’ skills to deliver service quality for a positive customer experience as well as a customer perception of customer quality. Salanova, Agut & Peirò (2005) define “climate for service” as those practices, procedures and behaviors that employees perceive as rewarded, supported and expected toward customer service and customer service quality. If staffers perceive that they got rewards when they deliver quality service, their organization’s climate for service will be stronger. Perceiving that customer service matters at a managerial level will also contribute to a stronger climate for service. Schneider and Bowen (1993) support the idea that when employees’ work is facilitated (e.g. via auxiliary mechanisms and supervision), they can dedicate more time to meet their customer needs. Struggling against organizational policies decreases the ability of employees to content customers and reduces the possibilities that a service-oriented climate can emerge.

2.3 ICTs and TAM in hospitality

Above, service quality, differentiation and human resource management within hospitality has been discussed. Now, it is time to insert a fourth area: integration of ICTs in HRM for hospitality. For the purpose of this study, ICTs are “any hotel technology that handles information, aids communication and contributes directly to profit optimisation either internally or externally”(Varini & Murphy, 2006 p.2). The main ICTs present in the hospitality industry are the property management systems (PMS), central reservation systems (CRS), global distribution systems and revenue management systems (RMS) that are usually integrated with PMS (Varini & Murphy, 2006). ICT has mostly been designed to achieve effectiveness in operational tasks via more valuable data management and analysis, by increasing service levels, intensifying (internal and external)

communication and extending the range of products available via the use of internet (Varini & Murphy, 2006; Piccoli, 2004).

In this context, the technological and human sphere intertwine. As stated in Law, Buhalis & Cobanoglu's paper (2014), ICT implementation in tourism and hospitality businesses is both a challenge and an opportunity. In fact, ICT has enabling benefits for supplier industries within hospitality but the full adoption of its capacities can be affected by management's ambition, attitude and financial situation rather than technological constraints. Legacy systems, inadequate planning, bad strategic fit, slow enforcement, low stakeholders' investments, unsteady business models, lack of budgets and financial metrics may lead to the so-called "technology productivity paradox", namely the technology installation does not reduce transaction costs or it does but the gains do not cover the IT incurred costs (Varini & Murphy, 2006). In the hospitality sector, wrong ICT implementation at any stage may result in multiple risks like failing the right marketing target, narrowing distribution and being unable to forecast demand and revenue (Varini and Muphry, 2006). Technology successful adoption relies on the strategic management of the company itself: Spencer et al. (2012) empirically demonstrated that managers who delivered positive leadership in a firm experienced a higher tendency to adopt technology; Cobanoglu et al. (2013) showed that in hotels with ICT steering committess, a higher level of ICT planning, culture, integration, control and organizational structure was revealed. Briefly, a proactive managerial strategy toward the integration of ICT into the daily business functions and business mission is required to maximize the technology return of investments.

Due to the company background that an ICT successful installation seems to require, the technology system acceptance and rejection analysis has been an area of interest for many researchers (M. Chuttur, 2009) since long time. In 1985, Fred Davis tried to answer this need by proposing the Technology Acceptance Model (TAM), which supports the idea that the system use is linked with user motivation that is influenced by the actual system's features and capacities (Davis, 1985).

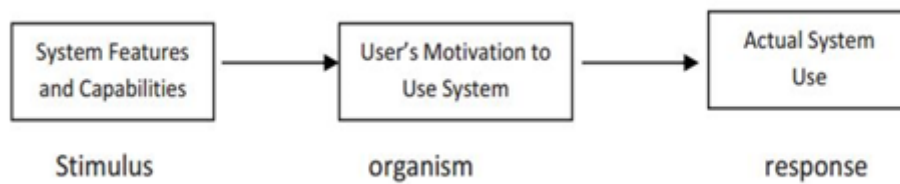


Figure 2 : Davis, F. (1985) Conceptual model for technology acceptance, p.10

Davis suggested that three factors lie behind user's motivation: perceived ease of use, perceived usefulness and attitude toward using the system. In fact, the attitude of a user toward a system mainly determines if the user will use it or not. The attitude of the user itself depends on the level of perceived usefulness (PU) and perceived ease of use (PEOU), where perceived ease of use directly impacts perceived usefulness. These beliefs were hypothesized to be influenced by the system design characteristics: x1, x2, x3 (Davis, 1985). The perceived usefulness (PU) is the degree to which an individual regards a system as able to enhance his job performance by using it. The perceived ease of use (PEOU) stands for the degree to which the individual who is using the system would not struggle in working with it (information retrieved from https://en.wikipedia.org/wiki/Technology_acceptance_model).

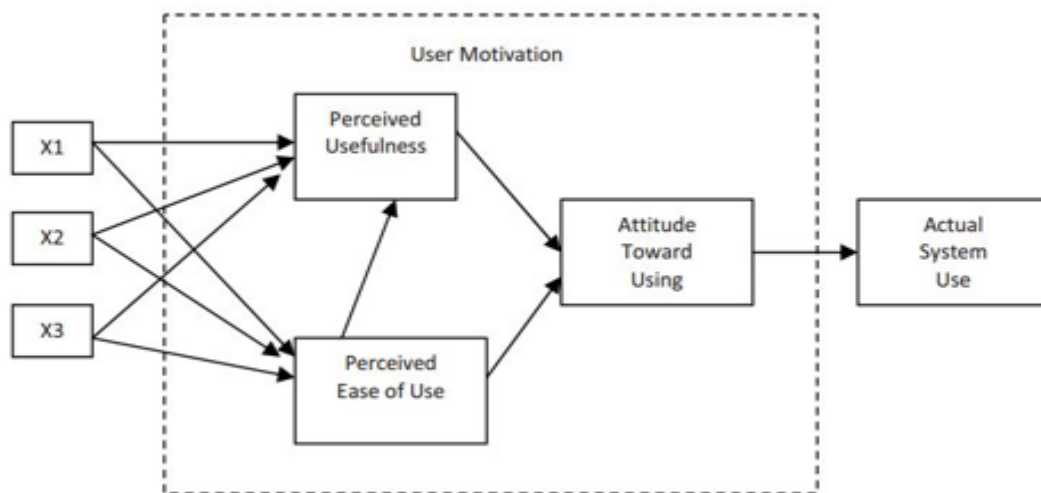


Figure 3: Davis, F. (1985) Conceptual model for technology acceptance, p.10

“PU directly influences the attitude toward use of the system and indirectly influences behavioral intention to use. Even if an application is perceived as useful, it will only be used if it is perceived as easy to use, that is, benefit of

usage outweigh the effort of using the system. PEOU influences attitude toward use of the system. These two determinants, PU and PEOU, directly influence the user's attitude toward using the new information technology, which in turn leads to the user's behavioral intention to use. PEOU influences perceived usefulness (PU). PU also has a direct impact on behavioral intention (BI). Behavioral intention to use leads to actual system use" (Bradley, 2009, p.3). As analyzed in 1992 by Bagozzi, Davis & Warshaw, complexity in new technologies is high and decision makers demonstrate uncertainty toward their successful adoption as people shape attitudes and intentions toward trying to learn to use a new technology prior to start making efforts to use it.

2.4 E-HRM in the hospitality industry

Looking through the literature, many case studies focus on the impact of new ICTs in the hospitality differentiation and service quality, especially when it is about hotels but still a few mention the consequences of this specific technology when adopted as supporting tool for human resource management. Human resource management (HRM) departments applying ICTs is becoming a more and more frequent phenomenon which is commonly known as e-HRM. E- HRM includes a range of HR activities: recruitment and selection, performance management, compensation and benefits, training and development, health and safety, employee relations, retention, work-life balance policies and it can also be adopted to manage employee information across the entire employment circle (Mohd, Ramayah and Haslindar Ibrahim, 2010). As mentioned by Florkowski and Olivás-Lujan (2006) in Parry and Tyson's study (2011), HRM moved from a labor-intensive approach to a technology-intensive one over the years; in fact, many transactional operations are now managed through software instead of HR administrators. The increasing use of technology went hand in hand with the augmented use of outsourcing and shared-service centers. E-HRM aims at supporting HRM goals in a general way and these goals can be divided in three main categories: operational, relational and transformational goals. In other words, e-HRM can turn to be a supporter of cost-effectiveness, service improvement and strategic business objectives. Also other authors (Ruel *et al.*, 2004; Marler, 2009), supported the idea that E-HRM

improves efficiency and reduces costs (operational goals). Gardner et al. (2003) Bondarouk et al. (2009) mentioned in Parry & Tyson's studies (2011), noticed improvements to HR service delivery thanks to increased accuracy of data entry and simplified processes together with positive perceptions of general HRM effectiveness among employees at any level (relational goals). On the contrary, the achievement of business objectives through e-HRM (transformational goals) is still in debate: even if some connections between e-HRM and the business strategies were found, this technology is not fully perceived as an effective supporter (Tansley et al., 2001). Authors like Burbach and Dundon (2005) described e-HRM as a tool used for administrative rather than strategic plans, even if they noticed that some companies with e-HRM had better information compared with those who did not have it. Finally, Parry and Tyson (2011) confirmed Ruel theory (2004) about e-HRM as enabler of HR process standardization across an organization, namely an improvement of the managerial processes. However, E-HRM goals cannot turn into effective outcomes without the successful implementation of the following factors: HR skills, training in e- HRM use, engagement with e-HRM, design of the e-HRM system and familiarity with technology.

In the hospitality industry, studies focused on the acceptance degree of users toward E-HRM tools are not many and it was rarely demonstrated the achievement of objectives through ICTs within this sector. Starting from the literature review related to the effective fulfilment of the above-mentioned objectives, this thesis aims to enrich the assessment of the HR-oriented ICTs by bringing Hoxell as example of successful technology in the HR management in hospitality.

3 The case study: Hoxell

Both primary and secondary data contributed to collect information about the origins and development of Hoxell as startup, product and philosophy. In addition to Piccoli's case studies and interviews ("Hoxell, l'eccellenza nell'ospitalità", 2014), hands-on information was acquired thanks to the internship experience in the startup itself. Hoxell team's knowledge and feedbacks, together with the face-to-face interviews conducted with the training coach Adrian Stalder (October, 2016 – Appendix 1) and the Hoxell client Antonio Zacchera (January, 2017 – Appendix 8) significantly enriched the needed research material.

Hoxell is a digital platform designed for the hospitality industry that already changed the business activity of several hotels, camping and serviced apartments around Europe. Initially, it all began with a set of problems personally experienced by Carlo Fontana, hotel manager of Hotel Dante in Lugano, Switzerland and Hotel Berna in Milan, Italy. While working at the reception, he soon noticed that back office activities such as printing, administration, communication and information exchange were taking over those aspects representing the real competitive advantage of a hotel: smile, a positive attitude and attention to guests' requests. This imbalance extended to all the other hotel departments and risked to ruin the guest experience since generally, guests can only see and value the final service performance and not all those "behind the scenes" activities. That is why Carlo Fontana wanted to understand how to help employees to manage daily working tasks in a simplified way by improving the interactions within the staff and between staff and guests.

After having evaluated the purchase of other existent software, he decided to create a personal one to integrate all those requests he never found together in one system. He aimed at having 360° control over the whole hotel structure and its operational processes, both on the staff and guest side. That is how Happy Guest Relationship Management (HGRM) software application started to be used on November 2009 in Hotel Lugano Dante with the reservation confirmation module. This first function allowed guests to see and check all the

details of their reservation; in fact, they could add preferences to their future rooms as soon as they completed their booking (notifications about specific allergies or requests for special drinks in the minibar). The HRGM aimed to be a user-friendly application for all its stakeholders; however, the platform usage was faster and easier for some departments rather than others. In the case of the reservation module, that first affected the reservation and front-desk department, employees did not face many difficulties in terms of technology usage since already used to hi-tech tools. Still, they experienced the dramatic increase of communication and they consequently had to focus on its quality. For example, a mail template had to be translated and ready to be sent in multiple languages. Moreover, customer accessibility to data increased the transparency in the relationship between guests and hotel and pushed employees to be more attentive to details.

The first challenge arose when the housekeeping module was installed in 2010 but this step was necessary to guarantee the excellence of the whole customer journey. In fact, the management of “rooming lists” of housekeepers still relied on paper at that time and with the introduction of preferences in the HGRM that allowed the guest to customize their rooms online, papers multiplied. Furthermore, the unpredictable guests’ last-minute adding preferences and cancellations made the housekeeping work even more stressful and difficult than before. The only paperless solution to paperwork was a tablet for each housekeeper on which they could check out the beginning and the end of their shifts. The creation of the housekeeping module paved the way for other options such as the internal messaging system with the front desk and the use of HRGM through iPhone for bellmen and maintenance to receive real time updates about room troubles. From that moment on, the spread of information changed: housekeepers knew which rooms were occupied and the name of each guest; Hotel Dante turned this knowledge into a service by asking housekeepers to greet people by name when meeting them in the aisles of the hotel. After one year of installation, Hotel Dante employees felt more empowered and competent and their comments and suggestions were implemented for further developments. Guests started recognizing staffers’ individual efforts by positively reviewing them and the hotel on the web. Nevertheless, the new system was also a source of initial stress since most housekeepers were not

used to technology and many of them perceived the paperless shift as a gradual substitution of human presence in a daily working routine. Despite these fears, substitution of human touch with hi-tech did not happen but improvement of human touch through hi-tech did indeed (Piccoli, Applegate, 2010).

Thanks to this ICT introduction, Hotel Dante started receiving several awards: IFITT Outstanding industry contribution award 2012, HTNG Award for Hotel Technology Innovators 2013, Prix Bienvenu 2013 Most Welcoming City Hotel and HSMIA Europe 2014 Best in class Technology. Last but not the least, it reached the podium of Tripadvisor recognitions 2013, 2014 and 2015 as one of the top 25 hotels for service. It also became a case of interest for Universities in Tourism for Harvard Business School, Bournemouth, Cornell, EHL Lausanne and Bocconi Universities (product presentation, 21st October 2015). By mid-2012, Carlo Fontana and his sister Paola decided to sell the HGRM technology to other hotels but they changed its name in *Hoxell*: a combination of the terms “hospitality” and “excellence” (Applegate, Piccoli & Peinado, 2014). According to the last updates from the Hoxell team, the system sale expanded to Switzerland, Italy, United Kingdom and France. Hoxell puts together all staff and guests’ interactions by taking into consideration the whole journey, which also includes the pre-arrival, in-stay and post-departure phase. The system takes control of hotel operations such as reservations, reception, housekeeping, breakfast, maintenance, bar, marketing, welcome, sales and revenue (Neuhofer, 2013).

So far, researches and projects mainly focused on Hoxell as service differentiation enabler and start-up (Piccoli & Applegate, 2010; Applegate, Piccoli & Peinado, 2014; Piccoli, 2014) but no paper has yet deeply discussed the potential of Hoxell as E-HRM tool. Through the analysis of the work-life change experienced by the personnel of hotels after the installation of Hoxell as communication digital platform in the housekeeping department, this research aims at answering to the research questions related to the perceived effectiveness of E-HRM tools within the hospitality industry. In other words, if this specific ICT can be not only an enabler of guest-experience but staff experience too.

3.1 The platform

Hoxell describes and sells itself as an online platform designed for the hospitality industry that allows managing all the interactions among the hotel departments and between staff and guests throughout the pre-stay, in-house and post-departure phase of the journey (www.hoxell.com). It provides a database of guest stay information that can be seen by both employees and customers to co-create experiences. The whole staff uses the platform through tablets and phones while guests access it through a website called MyPage that allows them to communicate, customize the stay, meet and speak with staffers and choose personal preferences. Briefly, a more customized guest experience is possible thanks to the involvement of the customers themselves in the creation of their stays (Neuhofer, Buhalis & Ladkin, 2013).

As written in its website, the system is composed of three main modules: housekeeping, maintenance and guest relationship (MyPage). Within these modules, several areas such as reception, breakfast, bar, restaurant, booking and quality control are included. The system can be also used for resorts, serviced apartments, camping sites and agritourisms. Below, the functionalities included in each module:

- The Housekeeping module allows managing room assignment, room cleaning, breakdown notifications, lost & found, hygienic product purchase, courtesy kit management, minibar and linen usage, room standards and assessment. How it works: each housekeeper has a tablet and every morning, the head of housekeeping assigns via the platform the rooms that each servant should clean; the housekeeping department gets real-time information about the number of assigned rooms to clean and guest check-in/out along the day. Once the housekeeping module integrates with MyPage, housekeepers also access guest preferences (e.g. room temperature, mini bar drinks) and the so-called “front-office traces” e.g. “add a third bed” or “moody guest”. While working, each member of the team can communicate information through an internal chat and if s/he needs to speak with a colleague, it is possible to know where other people are located within the structure.

In case of breakdowns, they can directly send a message to the maintenance department. When a new housekeeper enters the team, s/he can control quality standard guidelines on her/his own via tablet. Language gaps are not an issue thanks to the instant translator function embedded in the system itself: one housekeeper may write in e.g. Serbian and the colleague will receive the message in her/his other mother tongue. Moreover, housekeepers record the number of used linen and products per room so that updated statistics about storage are always available for the hotel manager. With the housekeeping module, the hotel manager has the possibility to control the management of this department through updated statistics that record data related to the management of products, cleaning room standards and housekeepers' operational efficiency (internal information derived from internship). According to the Hoxell client Antonio Zacchera (hotel manager of the Zacchera Hotel chain), the module allows receiving analytical statistics, standardizing HR procedures and better controlling the cleaning methodology. These outcomes brought cost saving and higher quality in his hotels and room quality control statistics are contributing to a new reward system planning within the department.

- The maintenance module manages the ordinary and extraordinary maintenance work by pointing out breakdowns in real time with the entire staff, assigning and planning regular tasks with the creation of to-do lists and keeping everything under control in real time through graphic reports. Breakdowns can be listed in detail so that it is possible to control the frequency of each kind of breakdowns and consequent import.
- MyPage is the module dedicated to the guest relationship; it covers the communication between the hotel and guests before, during and after their stay. Particularly, it includes the quick online check-in option, room customization (e.g. temperature, pillow type, minibar products), booking update, weather forecasts and information for the arrival, contact form, archive of past and future bookings, sight-seeing tips, special offers, direct booking, multilingual interface. After the guest completed the reservation and received the OTA's confirmation email, the hotel sends a second mail where the guest is informed about the possibility to check-

in online by clicking the login button present on the page. Through this action to call, the guest is moved the so-called “MyPage”, that gives him multiple hotel-related information and options like the possibility to change the reservation dates.

For the housekeeping module, a training is required and the coaching lasts 4 days in the hotel where it is installed. The first day, housekeepers are taught about the platform and its use, the rest of the time they are encouraged to work with the tablet during their daily shifts to start practicing and ask for help in case of need. As previously experienced during the Hoxell training led by the coach Adrian Stalder, some housekeepers may not be happy with the idea of working with such a platform. Reasons are linked with the nature of the department itself: housekeepers usually choose this work because of money necessity and not for passion. Additionally, most people are not familiar with technology and they fear their knowledge and skills could be replaced. That is why, the platform is installed only after having convinced the hotel manager of its potential and benefits (Adrian Stalder, 2016) and a Hoxell member is always present during the training on site to assist housekeeper for any queries. Change management plays an important role in the training process of Hoxell, first at a psychological level. Norris (2008) defines change management as a set of strategies aiming to soften transitions and help employees to accept and embrace change. Other authors (Kale, 2005; Lee, 2008) state that organizational change must reach the outcome set during the change-making decision but it is not possible to know in advance how change will impact the reality and its consequent outcomes. However, the success of change management mainly depends on its primary stakeholders. In the case of change management in hospitality, employees represent the end consumers of the process. Sometimes, change decisions neglect the human aspect, which is necessary to positively accomplish the process and the change agent may not be able to prepare for effectively reacting to employee resistance (By, 2005; Lee, 2005). Employee resistance to change is due to a lack of communication about what the change process and its outcomes are. Therefore, working on the preparation for change under its psychological aspect may be a competitive advantage when a company decides to change its operations (Welch & McCarville, 2003).

In terms of competitors, there are many technologies that manage the hotel operational processes and guest relations but they unlikely develop back office activities and guest relationship together. Moreover, the main ones do not have headquarters in Europe.

- Guestfolio is a Canadian system mainly composed of three products: guest engagement, guest conversion, guest retention. It is mainly focused on the guest relationship; the guest engagement product's characteristics are similar to MyPage (www.guestfolio.com).
- Alice is an American digital platform able to connect and manage the different hotel departments, namely front office and back office (housekeeping, maintenance, reception). It allows interactions between reception and guest through website, mobile app (Alice GuestApp) and telephone (www.info.aliceapp.com)
- CheckMate (USA) is a CRM system focused on employees' communication and interactions between guests and staff. It was recently acquired by TrustYou, the worldwide biggest feedback platform. (www.checkmate.io)

4. Research questions

Based on the literature review and the case study described below, the following research questions want to be investigated:

1. Is E-HRM an effective supporting tool to increase motivation and efficiency within the housekeeping department?
2. Can E-HRM facilitate workload and workflow of the housekeeping personnel?
3. Does E-HRM have an impact on HRM programme within hospitality structures?

5. Methodology

To analyze the perception of Hoxell as technology-enabled staff experience, two new hotel clients (H1, H2) were asked to be interviewed before and one month after the installation of the housekeeping module in each structure. Specifically, housekeepers and hotel managers were involved during the research process via one-to-one interviews. Based on the information provided by the Hoxell project team, housekeeping represents the most popular installed module among the last clients. Probably, because this module provides the basis of high quality in the hospitality industry (as previously mentioned in the literature, cleanliness stays the first criterion of guests' selection and satisfaction). Furthermore, the Hoxell project team considers the housekeeping department as the most sensitive hotel segment to perceive changes once the platform is installed. Therefore, it is expected that a research focused on feedbacks collected among the members of this department may provide helpful and reliable information about the potential technical improvements and developments of the platform itself (ICT) together with evaluations about the perceived impact of this technology on the operational process accomplishment and working condition improvement (HRM).

Hotel managers should also be interviewed as they play a key role in making the whole hotel personnel accept and learn to use the platform (Adrian Stalder, Interview 2016). Managers' interviews aim to evaluate if the management objectives to reach within the housekeeping department may vary before and after the installation of the platform, namely to see if Hoxell can impact also on a managerial level after its installation by enhancing new goals to achieve (e.g. reward systems, quality standards). Furthermore, interviews aim to understand the level of control they perceive to have over the housekeeping department before and after the introduction of Hoxell.

Qualitative research method was chosen as able to provide information related to the human sphere, namely the frequent inconsistent attitudes, beliefs, ideas, feelings and relationships of individuals (Mack, Woodsong, MacQueen, Guest & Namely, 2005). The content of questions for the housekeeping department

and the hotel manager was different as different was the final goal of the two interview typologies. The pre-installation interviews aim to discover housekeepers' working routine before the introduction of this technological tool by listing their daily tasks, the cleaning time perceived and analyse their perceptions and expectations toward the perceived ease of use and usefulness of Hoxell. The post-installation interviews are designed with the aim to outline what they perceive to be changed with the introduction of Hoxell in their working routine (list of tasks, cleaning time perceived, ease of use and usefulness) and working conditions (workload and workflow perception). Finally, pre- and post-interviews want to be compared to analyse if changes occurred in terms of motivation and efficiency within the housekeeping department and to analyse the gaps between expectations and realities between the perceived ease of use and usefulness of Hoxell in the two phases.

The decision to interview two hotels derives from different issues: privacy concerns toward the research project goals, geographical distances of hotels, last-minute business agenda installation changes (due to the seasonality issue, many hotel clients closed for the winter period and postponed the training process to the springtime). Moreover, the Hoxell interface needs the data transfer from the hotel PMS (Property Management System) to work in real time but PMS can differ from hotel to hotel and since software companies consider it as a time-consuming request, the procedure can take longer than expected and necessarily delays the Hoxell installation cycle (information derived from internship). First interviews were planned before Hoxell started to be used within the housekeeping department, to investigate the way housekeepers were used to work and communicate without this technology.

5.1 Pre-installation interviews

The pre-installation interviews took place in mid-November 2016 (H1: from 15th to 18th November 2016/H2: from 23rd to 26th November 2016), they were conducted via video-calls that proposed to identify some intangible factors such as socioeconomic status and ethnicity (Gill, Stewart, Treasure and Chadwick, 2008). Nine questions were asked to housekeepers, eight questions were

structured for hotel managers. One part of the interview schedule was unstructured: it started with an opening question that aimed to progress based on the initial response e.g. “Could you describe me your working routine?”. This question aimed to start a conversation about the communications among people within the department and the rest of the hotel. Since some housekeepers may have different language and cultural backgrounds, another part of the interview was structured with predetermined questions to prevent literacy problems (Gill, Stewart, Treasure and Chadwick, 2008) e.g. “On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with technology?”. This approach was designed to let interviewees feel at ease and express their views and motivations.

Literature about Technology Acceptance Model (TAM), the hospitality industry and the approach to human resource management applied by the Hoxell pioneer (Hotel Lugano Dante) contributed to structure the questions for the housekeeping personnel. Perceived usefulness as well as perceived ease-of-use was analyzed by asking to housekeepers the following questions: “On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell will facilitate your working routine?” (Perceived Usefulness) and “Do you think it will cost you a huge effort to learn its use?” (Perceived Ease Of Use). In this context, it was also important to know their degree of familiarity with technologies both at work and home. Later, housekeepers were also asked to list the perceived practical advantage of using Hoxell in their working routine: “Do you think that a new technological application might be helpful in your working activities?”. E-HRM and HRM literature suggested the introduction of new reward systems after the introduction of new technologies in the processes, that is why similar investigations were also included. Generally, housekeepers’ questions would like to investigate if the concept of “shared service climate” mentioned by Salanova, Agut and Peirò (2005) could be applied to this context. In fact, the authors believe that when employees working in team perceive that the organizational structure (i.e., training, autonomy and technology) eliminates obstacles at work, they feel more involved in their role, which brings to a better climate for service. These facilitating conditions exert a strong influence on

collective engagement and this has in turn a positive influence on shared service climate perceptions.

Questions for the hotel manager were based on the experience as hotelier of Carlo Fontana, who often released interviews about the impact of Hoxell on his staff experience. Carlo Fontana is a so-called “operational hotel manager”, this means that he personally follows and controls the management processes of his hotel from the administrative tasks to the guest-relation activities, passing through the housekeeping and maintenance operations (knowledge derived by the internship). These questions were designed to address effective operational hotel managers. Antonio Zacchera’s feedback (Interview, 2017) provided material about the establishment of efficiency and quality objectives and the potential adoption of evaluation performance measures. On the basis of the coaching led by Adrian Stalder in the eight hotels participating to the Swiss Quality Hotels project by Innotour (Interview, 2016), questions related to previous communication approaches adopted by the head executives toward the housekeeping department were made.

In the end, questions provided to the housekeeping department for the pre-installation interviews were nine (appendix 2).

In the end, questions provided to the hotel manager for the pre-installation interviews were nine (appendix 2):

The two hotels (H1; H2) were interviewed in November 2016 for the pre-installation analysis, when a member of the Hoxell team was present in the two hospitality structures to conduct the first housekeeping training. The presence of a Hoxell member as intermediary to introduce the research project was essential to build trust with the audience and to recover last minute changes and meeting cancellations.

H1 is a 4-star hotel located in the French-speaking part of Switzerland. In Winter (low season), it hosts business events thanks to the important industrial area located in the nearby; in Summer (high season), leisure tourists is the main

guest segment. It has 157 rooms distributed on 16 floors whose cleaning is assigned to 9 housekeepers, 3 apprentice and 2 “random” porters who help the housekeeping department in high-season by making beds and checking the missing items in the rooms during the cleaning phase. In the low season (winter), the number of staff members is reduced and people responsible for housekeeping are 4. Housekeepers come from Switzerland, Albania, Kosovo, Bosnia, Serbia and Portugal, meaning that they speak different idioms and differently master the French language. Their French fluency represented a struggle in understanding questions and expressing themselves during interviews. Together with the head of the housekeepers, only two other people were interviewed for the pre-installation investigations. The “sample” was composed of two young women (30 years old) and a middle-aged lady (48 years old).

H2 is a 3-star hotel located in the German-speaking part of Switzerland. Winter is low season, business events represent the main income source thanks to the important industrial area present in the nearby; high season is in Summer, when the hotel mainly hosts leisure tourists. It has 23 rooms whose cleaning is assigned to 4 housekeepers. Since the head of the housekeepers speaks only Swiss-German (65 years old), the intervention of a translator was necessary; the other two housekeepers (19 and 29 years old) speak English fluently, therefore it was possible to directly interact with them. Thanks to the small size of the hotel itself, almost the whole department (3 out of 4 housekeepers) was interviewed.

5.2 Pre-installation findings

Hotel 1 (Appendix 3)

Housekeeping

Housekeepers’ answers outlined the following facts:

- (1) The housekeeping schedule starts at 7 a.m.: two housekeepers clean the public space of the hotel such as the lobby, the restaurant and the toilets. At 8.30, the head of the housekeeping department distributes the

room-checking list, where each housekeeper reads about the rooms she should clean that day according to the last check-ins and check-outs of guests. When a guest is still checked in, it means that a room must be quickly re-cleaned (mainly, the bathroom) as the guest will come back later and all his belongings are in the room. When a guest checks out, the room should be cleaned, prepared and controlled for the arrival of a new guest by following the guidelines related to the hotel cleanliness quality standards (information derived from the internship). In-between, housekeepers refill their carts with the cleaning products they need for their shift. In case of missing detergents, they write them down on the room-checking lists, they call by phone or they personally inform the head of the housekeeping.

- (2) Time perceived to clean each room varies according to the dirtiness and the number of people who are assigned to clean each room (during high-season, housekeepers get the help of porters, who make the beds and check the missing items while they clean the rest of the room). Normally, it takes between 8/10 minutes to clean one room, 15 (if dirtier) for the occupied rooms, new rooms take 30 minutes plus 3 minutes dedicated to the quality control managed by the head of the housekeeping.
- (3) The main communications happen between housekeepers themselves and the reception; in both cases, word of mouth, written messages and phone calls are the main tools to interact. In their private life, they all have and use a smartphone.
- (4) The degree of familiarity with technology was equal among housekeepers: the highest rate in their private life (5) and the lowest at work (0/1) since the main technological tool while working is represented by the telephone.
- (5) (6) (7) Feedbacks about the perception of Hoxell as a supporting tool to everyday working tasks was positive, together with the absence of efforts in its use and the highest rate to its perceived usefulness.
- (8) Housekeepers' answers about the practical consequences of the perceived usefulness were straight and concise. Fastness and easiness represent the main expectations.

(9) Relationships between housekeepers and guests do not always take place. When they do, it is by chance in the aisles of rooms, at the beginning of the housekeeping shifts. They do not perceive to know hotel guests' needs apart from checking lists' directions.

Hotel Manager

The hotel manager (40 years old) revealed he does not cover an operational manager role; in fact, he delegates most tasks and responsibilities to the heads of the departments. However, his answers provided the following results:

- (1) He did not know if front-office takes over the back-office or vice versa. He is not directly responsible for hotel operational processes.
- (2) The final aim of the housekeeping department is room cleaning, quality control and cart refill.
- (3) The creation and strengthening of a quality culture and a closer guest-relationship were mentioned as designed objectives to reach through Hoxell but he admitted he did not yet think about the housekeeping objectives seriously and in depth.
- (4) The hotel is currently using an evaluation quality system to assess room cleaning. Recently, they called an American society to control the housekeeping processes and understand how to be more efficient and effective: the system measures the quality of rooms by checking if they reflect the quality standards but it does not evaluate the efficiency and effectiveness of housekeepers themselves as the hotel manager does not want to make them feel under judgement.
- (5) No specific HRM system is applied. They leave some note cards in rooms and guests can fill them by mentioning people they perceived as added value for their guest experience. Reward distribution relies on this method.
- (6) Normally, communications happen through paper letters and the heads of the departments as spokesmen; it also happens that the hotel

manager exchanges short information orally, when present in the hotel structure.

- (7) When he was asked about the perceived degree of control over the housekeeping department, the rate was high (4). However, he also added that the department management is mainly given to the head of the housekeeping.
- (8) Hoxell introduction in the housekeeping department was facilitated through a forum (discussion group), which is the communication strategy usually adopted by the hotel for the most important information.
- (9) Perceived housekeeping reaction toward the new installation was skepticism due to a lack of familiarity with technology.

Hotel 2 (Appendix 4)

Housekeeping

Housekeepers' answers outlined the following facts:

- (1) The housekeeping schedule starts every morning at 7 a.m. by cleaning the public spaces of the hotels such as the lobby, the reception, the public toilets and the restaurant. They move to the laundry where they take the tablecloths to iron and they prepare the products within their carts by signaling the missing detergents on the room-checking lists or by directly re-filling them on their own. From 8 a.m. to 2 p.m., housekeepers are busy with cleaning hotel rooms: every morning they receive information about guest check-ins and check-outs by phone from the reception or they read through the room-checking lists they received from the head of the housekeeping department.
- (2) All the housekeepers agreed in establishing 30 minutes as standard time to clean one room after the guest checked out and the room is cleaned by one person. The head of the housekeeping specified that 20 minutes are enough when they work in team of two people to clean.
- (3) In general, the main communications happen among housekeepers themselves and with the reception; in both cases, word of mouth, written messages and phone calls are the main tools to interact. The front-office

responsible covers a double role since the reception is in the restaurant area and records the room numbers of people who have breakfast in the hotel. Consequently, housekeepers refer to the reception when they both need to communicate with the front-office and the restaurant.

- (4) The degree of familiarity with technology was differing between private life (5) and work (2.5) for two housekeepers (younger generation) while the head of the housekeeping stated 2.5 for both dimensions.
- (5) (6) (7) Feedbacks about the perception of Hoxell as support to their working tasks was positive but they perceived efforts in the initial learning process. Perceived usefulness rate was between 3 and 4.
- (8) Through Hoxell, they expect to know more about guests' needs and wants and to communicate problems and information more quickly either within the housekeeping department and the reception. Especially, they are curious to see if communications with the front-office will be easier, less stressful and efficient during the high-season.
- (9) Interaction with guests usually happens at the beginning of their shift, when they meet each other in the aisles of hotel rooms. Guests' majority is composed of loyal guests and housekeepers perceive to know their habits and needs, though they do not know their names.

Hotel Manager

The hotel manager (40 years old) is an operational manager: he both delegates and directly intervenes in the everyday activities of the hotel. His answers provided the following results:

- (1) He does not perceive an imbalance between back and front office (He perceived it before the arrival of advanced technology).
- (2) The housekeeping department's goal should be room cleaning.
- (3) Higher motivation, working upgrades and guest relationship were mentioned as designed objectives to reach through Hoxell. However, he admitted he did not think about the housekeeping's goals in depth so far.
- (4) The hotel is currently using OTA's rates as evaluation quality system to assess room cleaning together with direct guest feedbacks.

- (5) No specific HRM system is applied within the housekeeping department.
- (6) Information exchange occurs via phone and handwriting.
- (7) He perceives to have a total control over the housekeeping management (5).
- (8) Hoxell introduction in the housekeeping department went through different steps: firstly, the staff was informed about Hoxell' s identity and functionalities, then the whole team took the decision to install it; especially, the head of the housekeeper's opinion was crucial. Finally, they went to Hotel Lugano Dante to see the practical use of the platform in order to implement its functionalities at its best.
- (9) Perceived housekeeping reaction toward the new installation was dual: on one hand, skepticism due to a lack of familiarity with technology (old generation): on the other hand, excitement (younger generation).

5.3 Pre-installation conclusions

The expected number of interviewees differed from the actual one. Probably, this was due to the low season and the nature itself of the hotel reality: a dynamic dimension characterized by last minute changes and unexpected requests (information derived from the internship). During the days of the scheduled interviews, scale of priorities changed and interviews got postponed to a non-specified time. Moreover, as stated by Adrian Stalders (Adrian Stalder's interview), motivation to work in the housekeeping department is merely led by money necessities and it is possible that Hoxell has not yet been accepted by the whole department. It is deduced that the interest in participating to a related research was not high. Finally, video-calls limited the possibility to personally search for candidates (the Hoxell member present on site was also busy in starting the intensive training for the department, meaning that additional time was difficult to find for interviews both for interviewees and interviewer's mediator).

According to the literature, negative feedbacks toward the perceived ease of use and usefulness toward Hoxell was expected among housekeepers. On the contrary, perceptions were almost positive. However, H1's housekeepers were

not able to provide in-detail information about the practical advantages of the platform, using general terms to identify them (faster, easier) in comparison with H2's housekeepers who were keener in providing their expectations about the advantages brought by the new technology in the hotel. All in all, Hoxell is perceived as a support to operational tasks rather than an obstacle, with some limited skepticism toward an initial learning phase in H2.

Both hotel managers of H1 and H2 expect to improve a quality culture, upgrade the housekeeping department and motivate housekeepers. In fact, they both recognize the underestimated but still important housekeeping role in the guest relationship. They both perceive a high control over this specific department, even if both prefer delegating most of the responsibilities and management to the head of the department; in this context, it will be interesting to analyze their feedbacks in the post-installation phase by asking to outline perceived improvements in the management and control of the housekeeping sections in case of positive feedbacks to the question: "on a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how far do you perceive to control/know of your hotel housekeeping operations?". Furthermore, since hotel manager of H1 is not an operational manager, it will be necessary to interview his front office manager to provide missing and further information about the hotel processes and management.

Pre-installation H1 and H2 housekeepers and hotel managers' answers will contribute to structure the list of post-installation interviews. On one hand, pre-installation questions will be repeated by adapting them to the new context and time; on the other hand, interviewees will be asked to provide further information related to the usability of the platform (ICT) and its impact on motivation, empowerment and operational efficiency (HRM).

5.4 Post-installation interviews

Post-installation interviews were scheduled one month and a half after the introduction of Hoxell within H1 and H2's housekeeping departments. According to the Hoxell team project's guidelines, the housekeeping departments of

previous customers were able to give feedbacks about the perceived impact of the platform shortly after its introduction (15 days). Since installations occurred 15th November (H1) and 24th November (H2), end of January was chosen as the ideal period to analyze the effects of the new technology within the two housekeeping departments.

Post-installation interviews were conducted face-to-face instead of via video calls, so that interviewer's presence in the structure and flexibility could allow to collect a broader sample of interviewees and therefore, information. Some of the pre-installation questions for the housekeeping department were repeated to compare the housekeepers' perceived ease of use and the perceived usefulness between the two-time phases and to see if changes occurred in the accomplishment of their working tasks, in their internal communication and in the guest relationship. Some pre-installation questions for the hotel managers were made again to compare the perceived control level over the housekeeping department and the list of expected objectives to achieve with the installation of Hoxell. Other questions were adapted in terms of tense and content.

Additional investigations were inserted to examine aspects connected with both ICTs and Human Resource Management. ICTs questions focus on the usability and usage of the platform. HRM questions focus on the perceived impact of the technology on its users in terms of empowerment perceptions and working condition improvement perceptions.

Below, the list of additional questions for the housekeeping department.

Additional ICT-related questions:

- 1- How long did it take to learn the functionalities of the platform and how they work?
- 2- Which difficulties you found in learning its use?
- 3- On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how easy is to use it for you?

- 4- On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how useful do you think it is in your everyday routine?
- 5- What is the option you use most frequently?
- 6- Do you think that some sections could be simplified in terms of both design and content? If yes, which ones?
- 7- Do you have any suggestion about additional functionalities that are not yet present in the platform and could help you to facilitate your working tasks?

Additional HRM – related questions:

- 1- Thinking about your daily work in the hotel, what did you stop doing since you have started using Hoxell in your everyday work?
- 2- Thinking about your daily work in the hotel, what did you start doing since you have started using Hoxell in your everyday work?
- 3- Would you prefer coming back to the previous system (before Hoxell)?
- 4- Do you perceive a change in terms of workload?
- 5- Do you perceive to know more about hotel guests?
- 6- How often do you use Hoxell everyday?
- 7- Would you suggest Hoxell to a housekeeper of another hotel?

Below, the additional HRM-related questions for the hotel managers:

- 1- Are housekeepers happy to use Hoxell at work, in your opinion? (Way to know the relationship between the general management and the housekeeping department)
- 2- Which sections of the department you can follow with Hoxell?
- 3- On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how often do you use Hoxell to interact with the housekeeping department?
- 4- With whom do you mostly interact through the platform?
- 5- Does Hoxell help to control the housekeeping department in your opinion? Did it impact your way to manage it?

- 6- On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how much do you think to know more about your hotel? (On the basis of the pre-installation question related to the control over the department)
- 7- Do you think your housekeeping objectives have been achieved/ will be soon achieved through Hoxell?
- 8- Do you think that the platform can enhance additional objectives? Which ones?
- 9- Did you already have any feedback from guests in terms of cleanliness on the online reviews?

Since the hotel manager of H1 does not cover an operational role and the interview structure was also based on operational process knowledge, the front-office manager of H1 was also interviewed to collect additional information about the actual use of the platform within the context. His interview took place after the installation of Hoxell within the structure; together with the aim to provide previous missing information, questions were designed to identify the problems they encountered in its implementation and those that the technology solved so far within the department. Specifically, the front-office manager was asked the same questions designed for the hotel manager with the addition of the following questions:

- Which were the main difficulties you experienced in using the platform?
- How did you solve these issues?
- Are there tasks that you perceive as easier now with the help of technology?
- Do you have any suggestion to improve or change the actual design of the platform?

In the end, questions provided to the housekeeping department for the post-installation interviews were twenty-one (appendix 5).

In the end, questions provided to the hotel managers for the post-installation interviews were fifteen (appendix 5).

In the end, questions provided for the Front Office Manager for the post-installation interviews were nineteen (appendix 5):

5.5 Post-installation findings

Hotel 1 (appendix 6)

Housekeeping

The questions of the pre-installation interview that have been re-adapted for the new research phase outlined the following facts:

- (1) By describing their working routine, the chronological order of tasks did not change but the presence of Hoxell as technological instrument used before and after the cleaning of rooms was mentioned. More precisely, housekeepers outlined the steps processed along the day by inserting the use of Hoxell as tool to get information about daily assigned rooms, guest's check-in and check-out and internal communications.
- (2) Time allocation was given considering the number of housekeepers per room. Since they often work in team, time per room changes accordingly: departing rooms (guests check out) take 30 minutes for one person alone, those in use take 15 (guests are still checked in). If in team, departure room cleaning last 15 minutes while the used ones 10.
- (3) Reception, maintenance and other housekeepers are the people with whom interactions mostly happen and they occur via Hoxell. Only in case of extreme urgency, the phone is used by the head of the housekeeping.
- (4) The rate of familiarity with technology at work was ranked between 4 and 5.
- (5) All the housekeepers perceive Hoxell as a supporter.
- (6) Perceived usefulness of Hoxell after its use is rated between 4 and 5.
- (7) In terms of advantages, they perceive to save time in communication by texting instead of looking for people around the hotel and to know more about guests' movements.

- (8) (20) in terms of guest relationship, changes were not perceived but are expected with the integration of the MyPage module.

The additional post-installation questions outlined the following facts:

- (9) Time to learn to use the platform took on average 1 day max.
- (10) In terms of difficulties in learning its use, one housekeeper struggled to orient herself on the platform while searching for the needed icons; the other two did not find difficulties at all.
- (11) perceived level of easiness to use Hoxell is 4 (one housekeeper) and 5 (2 housekeepers)
- (12) Housekeepers' perception of Hoxell's usefulness is between 4 and 5
- (13) "Rooms" is the mainly used function by housekeepers. The head of housekeeping added "mini bar" and "lost & found".
- (14) (15) In terms of design and usability, they did not give any specific feedback. Only one housekeeper would find helpful to have an option to point out when a room was not cleaned as a consequence of a guest request.
- (16) Since the installation of Hoxell, housekeepers have stopped using paper to handwrite and walk less through the hotel to exchange information as they can do it from where they are via tablet.
- (17) Since the installation of Hoxell, housekeepers have started to register breakdowns and what they are doing.
- (18) None of the housekeepers would come back to the previous system. All of them consider Hoxell as a helpful and easy-to-use tool that allows to save paper and to know where both housekeepers and guests are.
- (19) Housekeepers did not perceive a change in terms of workload but in the way the workload is managed through the simplification of information exchanges.
- (21) All the housekeepers use the platform all day long.
- (22) Housekeepers would suggest Hoxell to other colleagues as it is perceived as a easy-to-learn tool that allows to give helpful information

about guests' movements within the hotel. Particularly, the head of the housekeeping emphasized the possibility to be aware in real time where people are located together with the interactive option "lost & found" that helps to track the objects.

Hotel Manager

The questions of the pre-installation interview that have been re-adapted for the new research phase outlined the following facts:

- (1) He does not know if front office takes over the back-office or vice versa. He is not responsible for the hotel operational processes.
- (2) The final aim of the housekeeping department is room cleaning, quality control and cart refill.
- (3) The hotel is still using an evaluation quality system to assess room cleaning (an American society that controls the productivity per room and not per housekeeper).
- (4) No specific HRM system is applied. As told in the pre-installation interview phase, they leave some note cards in rooms and guests can fill them by also mentioning people they perceived as added value for their guest experience on site. Reward distribution relies on this method. However, he said that a possible reward system could be designed in the future by taking into consideration Hoxell data.
- (5) Communication channels did not change for him: forums, letters, delegation. He does not use the Hoxell platform in his every day.
- (6) He does not perceive to have a proper control on the housekeeping processes as he delegates its management to the head of the department. The perceived control over the hotel is 0.
- (13) In terms of objectives, communication content balance between reception and housekeeping has been reached. Quality culture has to be considered as always "in progress": Hoxell allows receiving helpful information to reach precision and perfection in service, to treat people as guests and not as additional clients.

The additional post-installation questions outlined the following facts:

- (7) According to the hotel manager, housekeepers' perceived satisfaction: the hotel manager thinks that Hoxell facilitated their communications.
- (8) The hotel manager perceives that Hoxell helps to control the following things: rooms status, housekeepers' status, lost & found.
- (9) He does not interact with the housekeeping department through the platform (0)
- (10) He does not use the platform to interact with anyone (on a scale from 0 to 5, he ranked 0).
- (11) In terms of impacts, the hotel manager perceives that Hoxell changed the management of the housekeeping department at a technical level.
- (12) So far, he does not perceive to know more about his hotel. However, he believes that this is due to the short time past between the installation and its actual use. In the long term, the hotel manager expects to receive important and helpful statistics by Hoxell: the most communicated contents, the most demanded services and the most frequent breakdowns.
- (14) In terms of future objectives with Hoxell, the hotel manager aims to improve online reputation and to develop a better and better quality culture.
- (15) The hotel manager did not yet register changes in online feedbacks through guest reviews.

Front Office Manager

As mentioned below (p. 28; p. 31): since the hotel manager of hotel 1 is not an operational manager, the front office manager of the same hospitality structure was asked to participate to the post-installation interview phase to provide information about the practical use and usefulness of Hoxell at an operation level.

The interview outlined the following facts:

- (1) Thanks to the front office strategical management (one half dedicated to the back-office activities and the other half at disposal for guests), the hotel is able to successfully keep a balance between the two sides. However, high season (Summer) makes back-office activities more intense, consequently they may take over the front office tasks.
- (2) Cleaning rooms, public spaces such as lobby, toilets and reception should be properly cleaned every day.
- (3) Hoxell is not used to evaluate housekeepers' performance, neither other tools are used since cleaning often occurs in team and it gets difficult to evaluate the single performance.
- (4) The office manager does not think that a HRM system should be installed as the note card method within guest rooms works well.
- (5) The office manager has a daily direct communication with all the heads of the hotel departments. Hoxell is mainly used to transfer technical information regarding breakdowns and guest movements.
- (6) The perceived control over the housekeeping operations is 2, the front office manager delegates most tasks to the head of the housekeeping.
- (7) The perceived housekeepers' reaction to the installation and use of Hoxell is positive.
- (8) The section that the front office manager perceives to control with Hoxell is the room assignment, through which it is possible to see when rooms are ready and where housekeepers are in the hotel.
- (9) The front office often uses Hoxell to interact with the housekeeping department. The given rank was 4 on a scale from 0 to 5.
- (10) The person with whom the front office manager mostly interacts with the platform is the head of the housekeeping department.
- (11) The front office manager perceives Hoxell as an help to control the housekeeping department as well as an important impact in the management approach.

- (12) The front office manager perceives to know more about the hotel (given rank was 4 on a scale from 0 to 5).
- (13) In terms of objectives, the front office manager perceives that communication improved but he perceives as too soon to understand which other benefits Hoxell will bring on the guest side. The module MyPage is expected to impact once installed.
- (14) The front office manager does not expect further objectives through Hoxell within this department.
- (15) The front office manager did not register changes in online feedbacks from guests.
- (16) In terms of struggles after implementation, the front office manager realized that Hoxell works one-way with the PMS: it exports data from it but it does not bring them back.
- (17) The front office manager solved the problem by re-introducing the data manually.
- (18) The front office manager perceives that Hoxell facilitated the exchange of knowledge by also reducing the physical distance among housekeepers, who do no longer have to walk through the hotel to speak and to get information. Furthermore, Hoxell guarantees the accuracy of each task when executed.
- (19) The front office manager considers the platform as well designed since it has been designed by an hotelier for other hoteliers.

Hotel 2 (appendix 7)

Housekeeping

The questions of the pre-installation interview, re-adapted for the new research phase, outlined the following facts:

- (1) By describing their working routine, the chronological order of tasks was the same. Now, they use Hoxell before/after the cleaning of rooms, to communicate with colleagues and to know where the other housekeepers are in the hotel.

- (2) All the housekeepers set a different time according to the typology of room (departure room: 30 minutes, rooms in use: 15, bigger rooms such as suites 45).
- (3) Communications mainly happen through the Hoxell platform.
- (4) The rate of familiarity with technology at work was ranked as 4 for all the housekeepers.
- (5) All the housekeepers perceive Hoxell as a supporter.
- (6) Perceived usefulness of Hoxell after its actual use was ranked 4 on a scale from 0 to 5 by the head of the department. It was ranked between 3 and 4 by the others.
- (7) In terms of advantages, they perceive to have a better overview of the hotel and to have more information about guests as they know their names as well as if they checked-in and checked-out.
- (8) (20) In terms of guest relationship, housekeepers had different opinions: two of them did not perceive a closer interaction with them, while the other two enthusiastically emphasized the opportunity given by Hoxell to know the names of guests per room.

The additional post-installation questions outlined the following facts:

- (9) Time to learn to use the platform took 2 days.
- (10) In terms of difficulties in learning how to use it, two housekeepers struggle to orient themselves on the platform while searching for the needed icons, one still finds hard to remember to click when she enters and exits room. Only one does not find difficulties at all.
- (11) Perceived level of easiness to use Hoxell is 4 (two housekeepers) and 5 (other 2 housekeepers)
- (12) Housekeepers' perception of Hoxell's usefulness is between 3 and 4
- (13) Rooms is the mainly used function by housekeepers.
- (14) (15) In terms of design and usability, the head of the department would stop clicking the room quality control button as she perceives it as useless. The other housekeepers would not change anything as they perceive the platform as easy to use and click.

- (16) They stopped making calls and handwriting; all these actions have been replaced by Hoxell.
- (17) 3 out of 4 housekeepers perceive the clicking function as an additional task to accomplish during the day. They were not used to communicate these tasks to the rest of the personnel before Hoxell.
- (18) None of the housekeepers would come back to the previous system. All of them consider Hoxell as a helpful and easy-to-use tool that allows having a better overview of both housekeepers and guests' moves.
- (19) Housekeepers perceived a change in terms of workload by having more information related to the guest to insert in the platform.
- (21) All the housekeepers use the platform all day long.
- (22) One housekeeper would recommend to use Hoxell to another colleague as it provides useful information to accomplish tasks effectively and efficiently. The head of the department would also suggest its adoption but for bigger realities. The other two housekeepers did not answer the question.

Hotel Manager

The questions of the pre-installation interview that were re-adapted for the new research phase outlined the following facts:

- (1) According to the hotel manager, back and front office do not take over each other and he did not notice any change since Hoxell has been installed.
- (2) Perception of what a housekeeping department should accomplish effectively was about room cleaning.
- (3) The evaluation system for the housekeeping efficiency did not change. According to the hotel manager, the lapse of time between the installation of the platform and its effective use is too short to start using the system for this purpose. Evaluations may be possible in one year at least.

- (4) The introduction of a potential HRM system has not been considered so far.
- (5) Main communication channel: Hoxell. The hotel manager considers Hoxell as an important complementary information provider between front and back office within the structure. He does not perceive a decrease in terms of workload but an increase in terms of information quality.
- (6) The perceived control over the hotel was ranked as 4 on a scale from 5 to 0.
- (13) In terms of objectives, the hotel manager noticed quality standards improved but does not yet see any impact on the relationship between housekeepers and guests. Still, he believes changes will occur as soon as the module MyPage will be installed in the structure.

The additional post-installation questions outlined the following facts:

- (7) According to the hotel manager, housekeepers' perceived feedbacks are positive. However, the hotel manager thinks that a generational gap exists within the department: the younger employees would be more keen on using the platform than the older one (the head of the housekeeping).
- (8) Control over the department is given to the head of the department, while the hotel manager perceives Hoxell as communication tool rather than a management-enabler.
- (9) Perceived time dedicated to use the platform everyday is low: 1.
- (10) Interactions happen with all the housekeepers.
- (11) In order to understand the impact of Hoxell on the management of the housekeeping department, the hotel manager believes that at least 1 year is necessary before perceiving a change.
- (12) The hotel manager does not perceive to have more information about his hotel (0).
- (14) Future objectives to achieve via Hoxell include the improvement of the guest experience, better online reviews and a closer relationship between housekeepers and guests. He is sure that the integration of

MyPage to the actual housekeeping section will contribute to reach these goals.

- (15) He did not yet register changes in terms of online guest feedbacks.

5.6 Post-installation conclusions

Housekeeping departments: comparison between the two phases

In both H1 and H2, it was possible to interview the same housekeepers of the pre-installation interviews; this condition contributed to facilitate comparisons between the two phases. Additionally, it was possible to speak with another housekeeper of H2 and the front office manager of H1. In this way, further knowledge about the daily use and impact of Hoxell was provided. Especially for H1, the front office manager interview significantly helped to understand the perceived impact of the platform at the operational level. Due to the low season, the number of interviewed housekeepers did not vary in H1 (winter housekeepers are 4 and interviews were conducted with 3 of them), while it was possible to interview the whole department of H2 (4 out of 4).

Considering both the housekeeping departments, perceived ease-of-use and perceived usefulness was ranked between 3 and 5 in the pre-installation phase, while it increased between 4 and 5 in the post-installation phase. The list of expected advantages compared with the experienced ones significantly differed: while expectations were described in a more abstract and general way (housekeepers often referred to Hoxell as “faster” and “easier”), practical daily examples of advantages brought by Hoxell were lately described in depth. Particularly, housekeepers perceived to know more the hotel thanks to the access to guests’ updates (check-in and check-out) and rooms’ status. Hoxell is perceived as the main communication supporter and facilitator within the department but they have not experienced a workload decrease since its installation.

Below, the differences registered in the two housekeeping departments when asking the re-adapted questions of the pre-installation phase:

HOTEL 1

HOUSEKEEPING

- (1) In the working routine, handwriting on paper has been replaced by clicking on the screen and Hoxell was mentioned before and after the accomplishment of previous tasks.
- (2) Time given per room was quite specific also in the pre-installation phase but they specified time per number of assigned housekeepers per room.
- (3) Previous communication channels such as handwriting and speaking have been replaced by Hoxell.
- (4) The rate of familiarity with technology at work increased for all the housekeepers from 0/1 to 4/5).
- (5) Perception of the pre-installation phase was confirmed: Hoxell is perceived as a supporter.
- (6) Perception of the pre-installation phase was confirmed: the learning process did not take significant efforts.
- (7) In the pre-installation phase, expected advantages were usually described as “simpler” “faster”. In the post-installation phase, impacts’ descriptions were detailed and supported by practical examples.

HOTEL 2

HOUSEKEEPING

- (1) By describing their working routine, the chronological order of tasks did not change but the presence of Hoxell as technological instrument used before and after the cleaning of rooms was mentioned. Handwriting on paper has been replaced by clicking on the screen.
- (2) All the housekeepers were much more specific when asked about the time taken for the cleaning of each room, by allocating a different time according to the typology (departing room: 30 minutes, rooms in use: 15, bigger rooms such as suites 45).

- (3) The Hoxell platform is the main communication channel (telephone and word of mouth have been mainly replaced within the housekeeping department and between housekeepers and reception).
- (4) The rate of familiarity with technology at work increased from previous 2/3 to 4.
- (5) All the housekeepers perceive Hoxell as a supporter. In the pre-installation phase, some of the housekeepers revealed to have some initial struggles in using the system and admitted to have to get used to it.
- (6) Perceived usefulness of Hoxell after its actual use increased from 3 to 4 for head of the department, while stayed the same for the other housekeepers (3 and 4).
- (7) Both expected advantages and experienced ones were described in depth in the two phases.

Housekeeping departments: new findings

New questions addressed to housekeepers of H1 and H2 outlined the following facts:

- (9) Rapidity and simplicity to learn and use Hoxell every day (in the pre-installation phase in H2: some housekeepers struggled to get used to it).
- (10) During the learning process, initial difficulties in finding the icons corresponding to the needed functions was mentioned.
- (11) Perceived level of easiness to use Hoxell is high (4/5)
- (12) Perceived Hoxell's usefulness between 3 and 5.
- (13) "Rooms" is the main used function.
- (14) In terms of design, no suggestion has been given.
- (15) Potential additional functions: one housekeeper (H1) would find helpful to notify when she does not clean a room because the guest did not want to. According to the Hoxell team, this option is already present with the so-called "red card" (a timestamp) that allows the head of the housekeeping to know when a guest is in the room and the room has not been consequently cleaned. One housekeeper (H2) does not find

useful to click the “control room quality” button after checking. Probably, she is not yet fully used with the system and is still experiencing the first reaction phase to the new technology (Antonio Zacchera, 2017).

- (16) Things housekeepers have stopped doing since Hoxell's installation: all the housekeepers stopped handwriting and making calls, housekeepers of H1 walk less through the hotel itself.
- (17) Things housekeepers have started doing since Hoxell's installation: in H1, housekeepers started noting down breakdowns and lost & found (the risk to forget issues decreased). In H2, housekeepers perceived an increase of tasks due to the need of clicking buttons on the screen.
- (18) Nobody would come back to the previous system as Hoxell is perceived as both easy to learn and use. Moreover, all the housekeepers perceive to have a better overview of the department itself and guests' movements.
- (19) Housekeepers perceive Hoxell as a facilitator of workload information exchange but not as a tool able to decrease workload itself (H1). Housekeepers perceive to have a workload increase when adding guests' information (H2).
- (21) All the housekeepers use the platform all day long
- (22) All the housekeepers would suggest to adopt Hoxell to other colleagues for several reasons: easy to learn, easy to use, it provides helpful information about the hotel and guests, it allows to register important information that could otherwise be forgotten (breakdowns, lost & found)

Hotel managers: comparison between the two phases

In both H1 and H2, control perception over the hotel decreased. Several hypothetical reasons can explain these results: the hotel manager does not yet personally use the platform (H1), the hotel manager mainly delegates to the heads of the department (H1), the low season does not allow to use Hoxell at its full potential (H2). However, communication objectives and information balance between front and back-office were achieved (H1; H2). Still, it is too soon to expect a change in the guest relationship and online reviews (H1; H2).

HOTEL 1

HOTEL MANAGER

- (1) No perception change in terms of balance/imbalance between front and back office.
- (2) The objective of a housekeeping department did not get an upgrade: it stays the one of cleaning rooms.
- (3) Evaluation system did not change: note cards are left in rooms and guests can fill them by answering to a set of questions and mention people they mostly appreciated.
- (4) No specific HRM system is applied. However, they are considering the possibility to implement it.
- (5) Communication channels did not change for the hotel manager. Since he does not use Hoxell actively, the front office manager is responsible for the hotel operational processes.
- (6) Control over the housekeeping processes reduced: he ranked it 4 in the pre-installation phase.
- (13) Most objectives mentioned in the pre-installation phase were achieved but the housekeeper/guest relationship is not perceived as improved.

HOTEL 2

HOTEL MANAGER

- (1) Front and back office keep on being on balance as in the pre-installation phase.
- (2) The objective of the housekeeping department did not get an upgrade: it stays the one of cleaning rooms.
- (3) Evaluation system did not change: they refer to direct feedbacks at the reception and online review ranks.
- (4) The introduction of a potential HRM system has not been considered so far.
- (5) Main communication channel: Hoxell replaced phone calls and paper lists. The hotel manager considers Hoxell as an important

complementary information provider between front and back office within the structure. He does not perceive a decrease in terms of workload but an increase in terms of information quality.

- (6) The perceived control over the hotel reduced from 5 to 4.
- (9) Perceived time dedicated to use the platform every day is low: 1. The hotel manager thinks it is due to the actual low season, he believes his interaction with the platform will increase during the high season.

Hotel managers: new findings

New questions addressed to hotel managers of H1 and H2 outlined the following facts:

- (7) All in all, housekeepers' perceived satisfaction is positive, a generational gap is present in H2
- (8) Hoxell is perceived to control and manage the following areas: rooms, lost & found, housekeepers' status (H1). Hoxell is not perceived as a management tool but a communication enabler (H2).
- (9) Perceived daily interaction is low (from 0 to 1)
- (10) The hotel manager does not use the platform actively (H1); the hotel manager uses the platform to interact with the whole department (H2).
- (11) The hotel manager perceives Hoxell to have an impact at a technical level (H1); the hotel manager needs more time evaluate the impact of Hoxell (H2)
- (12) They both do not perceive to know more about their hotels.
- (14) In terms of future objectives, they both aim at improving online reputation and the guest experience on site thanks to the installation of the MyPage module.
- (15) They did not register changes in online guest feedbacks so far.

In the case of H1, the hotel manager is not responsible of the operational processes; therefore, his feedback did not provide information about the daily use and perceived impact of Hoxell within the structure. Thanks to the front office manager interview, some of the previous questions made to the hotel manager provided the following knowledge about H1:

- (1) Back and front-office are usually well balanced because of the strategic division of the front-office team itself: one half is responsible of the back-office activities (reservation, maintenance, operational issues) and the other one stays at disposal of guests. However, in the high season (Summer), it happens that back-office activities take over the front-office ones.
- (5) The office manager uses Hoxell every day to transfer technical information regarding breakdowns and guests' movements.
- (9) Hoxell is often used to interact with the housekeeping department (4)
- (10) The head of the housekeeping department is the person with whom the front office manager mostly interacts via Hoxell.
- (11) Hoxell is perceived as a help to control the housekeeping department as well as an important impact in the management approach.
- (12) The front office manager perceived to know more about the hotel (given rank was 4 on a scale from 0 to 5).
- (13) In terms of objectives, the front office manager perceives that communication improved but he perceives as too soon to understand which other benefits Hoxell will bring on the guest side. The module MyPage is expected to impact once installed.
- (15) Changes in online feedbacks from guests were not registered.

New questions addressed to the Front Office Manager of H1 outlined the following facts:

- (16) Struggles caused by Hoxell: it works one-way with the PMS: it exports data from it but it does not bring them back. The Hoxell team's reply to the issue was the following one: "Such a wish is a common thing during the first phase of transforming the guest relationship process. Front office managers (Rooms division managers, Reservation Managers) are used to using PMS as their only central database for information. With a cloud-based database like Hoxell, the guest data are "liberated" and will end up being "mobile" , namely in the hands (literally

through mobile devices) of the staffers who have the most guest contact. So that change process brings up the question. It is understandable as well. Let's just think about all the information a hotel collected on its existing loyal customers over years. Those will have to be manually transmitted (once only) into the cloud".

- (17) The issue was solved by re-introducing the data manually.
- (18) Hoxell facilitated the exchange of knowledge by also reducing the physical distance among housekeepers, who do no longer have to walk through the hotel to speak and get information. Furthermore, Hoxell guarantees the accuracy of each task when executed.
- (19) The front office manager considers the platform as well designed since it has been designed by an hotelier for other hoteliers.

6. Answers to research questions

The pre and post-installation Hoxell interviews to H1 and H2 were designed to answer the initial research questions. Based on the material collected along the researches and compared with the literature, the following answers were provided.

1. Is E-HRM an effective supporting tool to increase motivation and efficiency within the housekeeping department?

The first question aimed at analysing the extent to which the empowerment concept was present in the Hoxell technology and its impact among the staffers.

In this case, empowerment manifests via information sharing, employees' initiative and capability to solve problems. In fact, housekeepers and hotel managers confirmed the status of the platform as communication facilitator between back and front office. Thanks to Hoxell, housekeepers know the names and nationality of guests and can take the initiative to greet them by name. Additionally, they can take problem-solving decisions and improve the service by informing the maintenance department about breakdowns and noting down lost & found via tablet. The personnel feels able to outline outcomes and they have a degree of self-control over aspects of their working life since they have access to a direct overview over the whole department and can access guest information and updates. Last but not the least, cost saving was achieved in terms of time: housekeepers save physical energies by typing information to one another instead of walking through the hotel to find the person they want to speak with. However, the short-term period of the research did not allow analyzing changes in profit and standardization of HR procedures.

2. Does E-HRM have an impact on HRM programme within hospitality structures?

Rewarding for employees' procedures was already present in one of the two structures (H1). So far, Hoxell did not inspire the implementation of a

new reward system as it happened in other client structures (Interview to Antonio Zacchera, 2017). However, the time phase analyzed from the installation of the system and its practical use was relatively short to consider a long-term strategy. Both hotel managers said they could consider such a strategy in one year from the date of the installation.

- 3. Can E-HRM facilitate workload and workflow of the housekeeping personnel?** Perceived usefulness and perceived ease of use levels were positively ranked during the two time phases in both hotels. These outcomes are probably due to the previous communication strategy adopted by the hotel managers to introduce Hoxell in the working routine of their reality. Furthermore, the Hoxell training at the beginning of the installation contributed to make people familiar with the technology. In terms of E-HRM achieved objectives, hotel managers perceived to have achieved transformational and operational goals such as time cost saving and efficiency through a better information exchange among departments. However, nobody noticed a reduction of number of tasks to accomplish along the day. Briefly, managers and housekeepers agreed in saying that workload did not decrease but workflow did. Hotel managers do not perceive the platform as a management enabler but as a successful communication facilitator that contributed to fasten quality information and balance knowledge between back and front office. From a marketing perspective, this information could turn useful to be aware of the strengths of the product and use them strategically to brand it as an E-HRM technology.

7. Research limitations and discussion

As previously described, the interview process divided in two phases and required a face-to-face meeting with all the interviewees. From the beginning of the methodology process, I experienced some struggles in communicating with the desired interviewees because of geographical distances, language gaps and time management.

More specifically, it was difficult to make housekeepers understand the objectives of my research, therefore answers were sometimes difficult to receive, and when given, they were quite concise. Additionally, most of them did not speak English and the intervention of a translator was essential to collect answers in H2. These issues can be attributed to the nature itself of the department, which is not usually composed of people who chose housekeeping for passion but financial reasons, and do not find it motivating. During the first phase of interviews, I realized that one of the two hotel managers could not answer a set of questions since he did not directly control the operational process management of the hotel. Consequently, I searched for the operational process manager and designed another interview model to develop during the second phase of the installation. I interviewed both hotel manager and operational process manager of H1 in the second phase to facilitate comparisons and insert previous missing information.

Contrary to previous feedbacks, most housekeepers demonstrated a positive approach toward the installation and use of Hoxell even before its implementation (only some old-generation housekeepers were skeptical). This is probably due to the attitude of hotel managers themselves toward the system. As described by Adrian Stalder, the first step of a successful Hoxell training process and consequent implementation is about the head of the business: if the chiefs are not convinced about the product they buy, neither people who work for them will. In this case, hotel managers believed in Hoxell's benefits; furthermore, they made their best to communicate its introduction in the department with introductory meetings and hands-on examples: e.g., the housekeeping department of H2 moved to Hotel Lugano Dante to see how Hoxell was implemented.

During the second part of the research, I expected to interview a higher number of housekeepers by personally meeting and speaking with them within the hotel structures. Unfortunately, both started the Hoxell installation in the low season, meaning that workload and staff itself was reduced; consequently, the number of interviews in the two time phases did not differ. However, I had the chance to speak with the same people during both phases, a significant element that facilitated comparisons between the pre- and post-installation phase of Hoxell.

Taking into consideration the literature content, I expected to experience more benefits from the hotel managers' side after Hoxell's implementation. However, they perceived they achieved the objectives set in the initial phase at the operational level (quality room standards and communication). Furthermore, they both often repeated that the timeframe between the installation of the platform and its use was still too short to see significant impacts on the hotel ROIs. They believe that the third objective set with the housekeeping module (relationship upgrade between housekeepers and guests) will be soon reached with the integration of the second Hoxell module (MyPage). Last but not the least, the platform started to be used in the low season, meaning that hotels are not highly populated and the need to communicate through technology is lower, especially in a small hotel such as H2 (24 rooms, 4 housekeepers).

In comparison with the functionalities included in the standard package of the Hoxell housekeeping module, both H1 and H2 do not yet seem to employ the system at its full potential by mainly limiting its use to "room assignment", "rooms", "room quality control", "lost & found" and "breakdowns". This could be due to the limited period analyzed in the research: some housekeepers admitted to get lost with the icons on the screen and they may need time to get used to the different options and start using others.

8. Conclusions

In this research, the perceptions of Hoxell as E-HRM tool into the hospitality industry was investigated. To answer the research questions, a set of face-to-face interviews were planned before and after the installation of the platform in two new hotel clients. Due to the limited number of hospitality structures that installed Hoxell during the time this thesis was developed, the sample analyzed for the research is a so-called “convenience sampling”, namely it cannot be generalized to other realities. However, methodology’s results outlined what both operational (housekeepers) and management (hotel managers) departments perceived as improved and changed in the HRM through the introduction and daily use of this specific ICT. From an operational point of view, Hoxell positively affected the perceived efficiency and empowerment; from a managerial point of view, it positively improved the perception of quality in the communications and employees easily and rapidly accepted its implementation. Finally, from an academic point of view, these perspectives may need further researches. Possibly, a larger sample of hospitality structures would be required within a larger timeframe between the installation of the platform and the evaluation of its use. In this context, these interview design and results may represent a base to structure the content of a future research characterized by a survey methodology. A survey may facilitate the data collection process for a broader sample, deepen the above findings and investigate further aspects of the use of the platform, for example:

- if more Hoxell functionalities have been experimented both by housekeepers (standards guidelines, used product recording) and hotel managers (product management statistics, housekeepers’ performance statistics);
- if the discovery and implementation of these new functionalities affected the perception of housekeepers’ working reality in terms of workload;
- if the daily use of Hoxell inspired the re-planning of other HRM models such as the reward system;

So far, Hoxell case studies focused on its guest-experience purpose by emphasizing the benefits of guest customization. My study focused on its staff-

experience potential and findings revealed five aspects that reinforce the identity of Hoxell as HRM technology:

- 1- Hoxell as a workflow enhancer, meaning that efficiency improves thanks to its adoption.
- 2- Hoxell as a communication enabler of quality information, meaning that housekeepers can access key information (e.g., guest check-in/out, breakdowns, lost&found) that allows them fastening processes by taking initiatives on their own.
- 3- Hoxell as a sustainability promoter and material cost saver, meaning that its daily use completely replaces paper for any task within the housekeeping department and between the housekeeping department and the front office.
- 4- Hoxell as a time and energy saver, meaning that housekeepers walk less through the hotel aisles to look for people and information they need. Via Hoxell, they can see where other colleagues are located in the structure from the screen and they can directly contact them via chat.
- 5- Hoxell as a user-friendly technology, meaning that all the housekeepers take on average 1 day and a half to learn its use and they do not find any struggles in communicating with each other, thanks to the simplicity of the technology and the instant translation function embedded in the system.

As previously mentioned in the literature review, the hospitality industry success relies on a significant human dimension, which should be strategically managed to guarantee the delivery of a great service. One of the main quality factors considered by hotel guests to assess a service is represented by the bedroom cleanliness, whose housekeepers are the main responsible for. The outcomes listed above show the capacity of Hoxell to reinforce the HRM concepts of empowerment and efficiency within the housekeeping department of a hospitality context. Considering the relevant role of the strategic HRM matter in the hotel realities, these five beneficiary perceptions could be used as starting points for further marketing investigations toward the promotion of Hoxell as successful E-HRM tool.

Appendices

Appendix 1

Interview to Adrian Stalder 21-10-2016 Hotel Dante, Lugano (CH)

Staff training motivational coaching for the eight hotels joining the Swiss Quality Hotels Project by Innotour

Question n°1 – Was there a training process you followed to introduce the arrival of Hoxell in these hotels?

Yes, there was:

STEP 1 – Convince Hotel Managers about Hoxell: if the chefs are not into the product and they do not perceive its value, neither the staff will. Their contribution to the successful use of Hoxell by managers is crucial. As it is often said: “A fish rots from the head down”, if those who have decisional roles do not accept Hoxell, Hoxell won't be accepted and well implemented by the rest of the structure.

STEP 2 – Make hotel managers (and then also head of the different hotel departments) aware of why Hoxell is necessary. Normally, people are scared about changes in their everyday working tasks, that's a human being approach to life. It involves each of us in any situation.

It is important to make stakeholders understand the importance of the hotel image and reputation: happy guests with happy memories matters! That's why we say that Hoxell is a philosophy rather than a technology. Example: a cave and a cathedral need both people to dig and work; while the first kind of worker digs without seeing the point of doing it but for the sake of getting a salary; the second one has a goal to accomplish that goes beyond the simplistic monetary profit. Same happens when a hotel is managed: these are two attitudes to approach to a business...

STEP 3 – Explain (first, hotel managers as usual) how Hoxell works, how it facilitates daily tasks and does not add workload instead.

STEP 4 – I collected and showed personnel some reviews and witnesses from Hotel Dante employees. Listening to feedbacks given by people who do their same job increases trust and creates an empathic environment. In fact, showing what happened to another reality which is similar and close to theirs, helps to better understand. Hotel Dante acted as an “auntie” who introduced Hoxell to cousins. Finally, I showed Tripadvisor results of Hotel Dante. The emphasis focused on the high ratings it gained despite the lack of strategic features such as accessibility, landscape view and gastronomy. Here’s the true strength of Hoxell: your hotel does not need to have special and strategic features but the human relationship management.

Housekeeping is the most reluctant department when it is about a change. This is probably due to the nature of the department itself: housekeepers usually choose this work because of money necessity and not for passion. Additionally, majority of them is not familiar with technology. I made the example of a mobile phone with them: I asked to raise a hand if they had one. Everybody did. Then I simply underlined the fact that Hoxell was nothing different from that. If they could use a cell phone, they could use Hoxell.

Appendix 2

Pre-installation interview questions: housekeepers

- 1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?
- 2) How long does it take per day the cleaning of your assigned rooms?
- 3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?
- 4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones?
- 5) Do you perceive Hoxell as a support or an obstacle to your working tasks?
- 6) Do you think it will cost you a huge effort to learn its usage?
- 7) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell will facilitate your working routine?
- 8) How do you think a new technological application might be helpful in your working activities (or make your working life easier, faster etc.?)
- 9) Do you have any contact with guests so far? When? Do you know their names, needs and wants?

Pre-installation interviews: hotel managers

- 1) Back and Front office: which of them brings you most of your time and why?
- 2) What a housekeeping department should accomplish everyday effectively?

- 3) What are the housekeeping objectives you set through the installation of Hoxell?
- 4) How do you evaluate housekeepers' performance?
- 5) Do you apply any HRM system to your housekeeping department to assess their way to work and accomplish operational tasks? If yes, which ones (Any reward system)?
- 6) How do you communicate important information to your staff?
- 7) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how far do you perceive to control/know of your hotel housekeeping operations?
- 8) How did you communicate to the personnel the integration of Hoxell in the operational processes management of the housekeeping?
- 9) What was housekeepers' reaction toward the introduction of Hoxell in their routine?

Appendix 3

Pre-installation interview: Hotel 1

Hotel Manager

- 1) **Back and Front office: which of them takes most of your time and why?** I do not know, I do not have a qualitative evaluation for that.
- 2) **What a housekeeping department should accomplish everyday effectively?** The final aim is having clean rooms, namely to prepare the linen, the hand trucks with the needed products, controlling the rooms and storage)
- 3) **What are the housekeeping objectives you set through the installation of Hoxell?** I have not yet set them. Surely, quality...the creation of a quality culture within the hotel together with the establishment of a relationship between the housekeepers and the clients.
- 4) **How do you evaluate housekeepers' performance?** Recently, we called an American Society to control the housekeeping processes and understand how to be more efficient and effective. The whole department was very open toward this decision. We have a measure system to evaluate the quality standards for each room. We could have adopted this standard with people but we prefer measuring only room standards as we do not want to be a "Big Brother", we do not want to make them feel under judgement.
- 5) **Do you apply any HRM system to your housekeeping department to assess their way to work and accomplish operational tasks? If yes, which ones? (Any reward system)?** Nothing special apart from some note cards left in the rooms. Guests can fill them and mention people they especially appreciate (a set of questions is given)
- 6) **How do you communicate important information to your staff?** We usually have some forums, a few a year for the most important

communications. Usually, communication happens through letters and the heads of the departments. However, communications here are whenever and wherever, so I normally speak with people by walking in the hotel.

7) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how far do you perceive to have the total control of your hotel housekeeping operations? 4, I do not usually have the direct control over the personnel, I usually ask to Madame Nicolina, the head of housekeeping.

8) How did you communicate to the personnel the integration of Hoxell in the operational processes management of the housekeeping? We had a forum at the beginning of the year. Unfortunately, we had to step back when we started struggling with the PMS interface. That's why we officially started now.

9) What was housekeepers' reaction toward the introduction of Hoxell in their routine?

So far, some people looked a bit skeptical toward the platform as they perceive it as an additional workload and other people are not familiar with technology.

Head of Housekeeping

1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?

Make the room list, assign rooms to housekeepers, distribute the lists, the material and the products. All these tasks are communicated orally.

2) How long does it take per day the cleaning of a set of assigned rooms?

30 minutes to prepare a new room, 15 minutes to clean an occupied one.
3 minutes to control the quality standards.

- 3) **Who are the colleagues with whom you interact the most during your daily work routine?** How do you communicate information to them? Mainly the reception and the other housekeepers, we mainly speak or write down notes.
- 4) **On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones?** 5 (all the time) in my private life, at work only the phone
- 5) **Do you perceive Hoxell as a supporter or an obstacle to your working tasks?** Support
- 6) **Do you think it will cost you a huge effort to learn its usage?** No effort
- 7) **On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell will facilitate your working routine?** 4
- 8) **Do you think a new technological application might be helpful in your working activities (or make your working life easier, faster etc.?)** Yes
- 9) **Do you have any interaction with guests?** None

Housekeeper 1

- 1) **Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?**

My work day starts at 7 and finishes at 16.30. At 7, usually two or three people clean the public areas of the hotel like toilettes, reception and lobby. During this time, we also prepare the products needed for each cart. We have a break and re-start at 8.30 with our assigned room lists.

2) How long does it take per day the cleaning of a set of assigned rooms?

It depends on the room, sometimes 8/10 minutes while if it is very dirty it takes longer, around 15 minutes. When we prepare a room for a new client, it is about 30 minutes and the head of housekeepers is after us to control that the room corresponds to the quality standards.

3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?

If there is a problem, I directly contact the head of the housekeepers by writing down on the room lists or calling her on the phone. Sometimes I just see her in the aisles and tell her what I need to tell. If the problem is more serious, I tell the reception then.

4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones?

5 in my private life, 1 at work when calling via phone.

5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?

A support.

6) Do you think it will cost you a huge effort to learn its usage?

No, I don't think so.

7) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell will facilitate your working routine?

5

8) Do you think a new technological application might be helpful in your working activities (or make your working life easier, faster etc.?)

Yes, it does. Working will be faster and simpler.

9) Do you have any interaction with guests?

I often meet them in the morning, when they leave and I come to the floor to start cleaning. Many of them are loyal guests so I can recognize them and know their needs.

Housekeeper 2

1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?

From 7 to 8, two of us clean the public space of the hotel and prepare the carts by filling them with the missing products. At 8.30 we start cleaning the rooms.

2) How long does it take per day the cleaning of a set of assigned rooms?

Usually 15 minutes, it depends on the rooms, how dirty they are.

3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?

Porters and the head of the housekeeping, we mainly speak.

4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones?

2,5 at home, 0 during work.

5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?

Support.

6) Do you think it will cost you a huge effort to learn its usage?

No.

7) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell will facilitate your working routine?

5

8) Do you think a new technological application might be helpful in your working activities (or make your working life easier, faster etc.?)

It will be easier and faster

9) Do you have any interaction with guests?

Not a frequent interaction, I usually see them by chance when I enter the rooms and they leave. I greet them, that's it.

Appendix 4

Pre-installation interviews: Hotel 2

Hotel Manager

1- Back and Front Office: which of them takes most time and why?

For a few years, before the digital era, the classic reception was not as easy as now. Today, we have more time for the guest so I would say that back and front office are balanced.

2- What a housekeeping department should accomplish every day effectively?

The basis: cleaning the room, check the functional related things to the cleaning.

3- What are the housekeeping objectives you set through the installation of Hoxell?

This is a good question, I have to think about it...well, as owner I first want to have a more motivated team and upgrade the housekeeping basic works. This department is very important and has contacts with guests every day.

4- How do you evaluate housekeepers' performance?

We read through online reviews on TripAdvisor and Booking.com to see the general comments and the cleaning rating. It is usually very high. Sometimes, I also personally check the rooms and we always go up with the guest after check-in to see if the room responds to his/her expectations in terms of cleanliness. We ask for direct feedbacks also when the guest is leaving.

5- Do you apply any HRM system to you housekeeping department to assess their way to work and accomplish operational tasks? If yes, which ones? (Any reward system)?

Nothing special.

6- How do you communicate important information to you staff?

For short information, we use the phone. For the rest, we use the paper lists.

7- On a scale from 0 to 5, how far do you perceive to control/know about what happens in the housekeeping department of your hotel?

5

8- How did you communicate to the personnel the integration of Hoxell in the operational process management of the housekeeping department?

It was a long process. Firstly, we informed the personnel about Hoxell, what it is and what it does. Secondly, we took the decision to adopt this technology together. This means that the head of housekeepers herself was involved in the decision-making process. Then, we went to the Hotel Dante in Lugano to see the practical use of the platform.

9- What was housekeepers' reaction toward the introduction of Hoxell in their routine?

About the acceptance of Hoxell among housekeepers, I would say that the older ones are a bit skeptical while the younger ones are excited about the idea of communicating via tablet.

Head of housekeeping

1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?

In the early morning hours, we start by cleaning the Restaurant, the toilets and other public spaces. Then we go to load the Laundry into the machines and we start pressing the table cloths for the Restaurant. At app. 8:30am we start on the upper floors with room cleaning.

2) How long does it take per day the cleaning of your assigned rooms?

Until 2 p.m (that's all rooms in the hotel). Alone, 30-40 minutes for departing rooms (the ones to prepare for the new guests). In team of 2, 20 minutes.

3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?

By phone with the front desk, namely with Nadine and Sue. That is the most common communication.

4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones?

Not so much. I'd say 2.5. It's because I'm not so interested in technology. I do use whatsapp and youtube on my smartphone. But not every day.

5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?

I have to get used to it. To virtually enter every room. It helps me to have the younger team members to fall back or in case I forgot how to use some functions, they will know it.

6) Do you think it will cost you a huge effort to learn its usage?

No, not at all. I am curious to see how it will work in the high season...if the front desk will have time to check-out each guest, so we will see the color changes quickly enough.

7) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell will facilitate your working routine?

I don't know,...perhaps a 3.

8) How do you think a new technological application might be helpful in your working activities (or make your working life easier, faster etc.?)

It's practical that we can enter defects directly and everyone can see. That way it won't be forgotten.

9) Do you have any interaction with guests?

We often have contact with guests on the floors and I speak to them quite a bit. Sometimes, it is difficult to get away from them again.

Housekeeper n.1

1) Could you describe your working routine by listing the tasks you accomplish every day? (Possibly following a chronological order)?

First, we clean the restaurant, the guest spaces like lobbies, reception and toilets. We bring linen to the laundromat and we prepare the trolleys. We usually communicate the missing products by writing down what we need or we just simply replace things ourselves. Then we start going up to clean the rooms, the receptions let us know before which ones checked out/in. However, we also have a list we receive every morning with all the information about arrivals and departures.

2) How long does it take per day the cleaning of your assigned rooms?

Time changes according to the number of people (they often work in team of 2/3 people per room). When I am alone, it takes 30/45 minutes. Cleaning and attention is much higher here than when re-cleaning an occupied one. In this second case, we spend 15 minutes in cleaning the bathroom. Usually, cleaning room time goes from 8 a.m. to 2 p.m.

3) Who are the colleagues with whom you interact most frequently during your daily working routine? How do you communicate information to them?

Mainly with the reception and we communicate by phone. We are a small hotel so reception and restaurant service are the same thing. This means that the receptionist is also the waiter so we need to communicate with only one person.

4) On a scale from 0 to 5, how familiar are you with the daily use of technological tools such as tablets and smartphones?

At work, 2 (only the phone and the computer).

In my private life 4.

5) Do you perceive Hoxell as a supporter of an obstacle to your working tasks?

Now it is more an obstacle to me...but in one year, it will maybe be better.

6) Do you think it will cost you a huge effort to learn its usage?

For the moment, it is tiring because it includes many new things to learn.

7) From 0 to 5, how much do you think Hoxell will facilitate your working routine?

3

8) Do you think that a new technological application might be helpful in your working activities (making your work easier, faster etc.)?

It could help us to know more about guests: why they are here, what they need. I speak about small things, like water in the room but we want a happy guest and this is part of it. I expect a faster communication: especially when we have many guests, communication by phone with the reception is difficult to manage.

9) Do you have any interaction with guests?

We greet them if we meet them in the aisles of rooms at the beginning of the shift.

Housekeeper n. 2

1) Could you describe me your working routine by listing the tasks you accomplish every day?

Every morning we receive a paper with orders, namely guests check-ins/check-outs and special requests.

2) How long does it take per day the cleaning of your assigned rooms?

When I am alone and I have to prepare a room for a new guest, it takes 30 minutes while only 15 minutes for the occupied ones. Sometimes we work in team (one cleans the bathroom while the other makes the bed) and cleaning time is shorter.

3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?

The reception, by phone.

4) On a scale from 0 to 5, how familiar are you with the daily use of technologies like smartphone and tablets?

3 at work and 5 in my private life.

5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?

Supporter.

6) Do you think it will cost you a huge effort to learn its usage?

So and so...room cleaning looks easy, but reception is difficult.

7) From 0 to 5, how much do you think Hoxell will facilitate your working routine?

4

8) Do you think a new technological application might be helpful in your working routine?

For sure it will make work easier and paperless communication is a huge progress.

9) Do you have any interaction with guests?

Yes, in the morning when we enter the room for cleaning. Generally, I do not know their names and why they are here but I know their requests thanks to the lists.

Appendix 5

Post-installation interviews: housekeepers

- 1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?
- 2) How long does it take per day the cleaning of your assigned rooms?
- 3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?
- 4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones at home and at work?
- 5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?
- 6) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell facilitated your working routine so far?
- 7) In which daily activities does Hoxell facilitate your working routine?
- 8) Do you have any contact with guests? When? Do you perceive to know their names, needs and wants?
- 9) How long did it take to learn the functionalities of the platform and how they work?
- 10) Which difficulties did you find in learning its use?
- 11) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how easy it is to use Hoxell for you?

- 12) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how useful do you think it is in your everyday routine?
- 13) What is the the option you use most frequently?
- 14) Do you think that some sections could be simplified in terms of both design and content? If yes, which ones?
- 15) Do you have any suggestion about additional functionalities that are not yet present in the platform and could help you to facilitate your working tasks?
- 16) Thinking about your daily work routine in the hotel, what did you start doing since you have started using Hoxell in your everyday work?
- 17) Would you prefer going beack to the previous system? Why?
- 18) Do you perceive a change in terms of workload?
- 19) Do you perceive to know more about hotel guests?
- 20) How often do you use Hoxell everday?
- 21) Would you suggest Hoxell to another housekeeping of another hotel?

Post-installation interviews: hotel managers

- 1) Back and Front office: which of them brings you most of your time and why?
- 2) What a housekeeping department should accomplish everyday effectively?
- 3) How do you evaluate housekeepers' performance?

- 4) After the installation of Hoxell, did you think to apply any HRM system to your housekeeping department to reward their way to work and accomplish operational tasks?
- 5) How do you communicate important information to your staff?
- 6) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how far do you perceive to control/know of your hotel housekeeping operations?
- 7) In your opinion, are housekeepers happy to use Hoxell at work?
- 8) Which sections of the department you can follow with Hoxell?
- 9) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how often do you use Hoxell to interact with the housekeeping department?
- 10) With whom do you mostly interact through the platform?
- 11) Does Hoxell help to control the housekeeping department in your opinion? Did it impact your way to manage it?
- 12) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how much do you think to know more about your hotel? (On the basis of the pre-installation question related to the control over the department)
- 13) Do you think your housekeeping objectives have been achieved/ will be soon achieved through Hoxell?
- 14) Do you think that the platform can enhance additional objectives? Which ones?

15) Did you register any change in feedbacks from guests? E.g. online reviews?

Post-installation interviews: front office manager H1

- 1) Back and Front office: which of them brings you most of your time and why?
- 2) What a housekeeping department should accomplish everyday effectively?
- 3) How do you evaluate housekeepers' performance?
- 4) After the installation of Hoxell, did you think to apply any HRM system to your housekeeping department to reward their way to work and accomplish operational tasks?
- 5) How do you communicate important information to your staff?
- 6) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how far do you perceive to control/know of your hotel housekeeping operations?
- 7) In your opinion, are housekeepers happy to use Hoxell at work?
- 8) Which sections of the department you can follow with Hoxell?
- 9) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how often do you use Hoxell to interact with the housekeeping department?
- 10) With whom do you mostly interact through the platform?
- 11) Does Hoxell help to control the housekeeping department in your opinion? Did it impact your way to manage it?

- 12) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how much do you think to know more about your hotel? (On the basis of the pre-installation question related to the control over the department)
- 13) Do you think your housekeeping objectives have been achieved/ will be soon achieved through Hoxell?
- 14) Do you think that the platform can enhance additional objectives? Which ones?
- 15) Did you register any change in feedbacks from guests? E.g. online reviews?
- 16) Which were the main difficulties you experienced in using the platform?
- 17) How did you solve these issues?
- 18) Are there tasks that you perceive as easier now with the help of technology?
- 19) Do you have any suggestion to improve or change the actual design of the platform?

Appendix 6

Post-installation interviews: Hotel 1

Hotel manager

1) Back and Front office: which of them brings you most of your time and why?

I do not know.

2) What a housekeeping department should accomplish everyday effectively?

Clean rooms

3) How do you evaluate housekeepers' performance?

I use the American system as before. However, this system measure the productivity of each room and not the quality. In other words, it is used to measure the cleaning costs of each room for each month.

4) After the installation of Hoxell, did you think to apply any HRM system to your housekeeping department to reward their way to work and accomplish operational tasks?

No, but we could

5) How do you communicate important information to your staff?

It did not change for me. I do not yet use Hoxell to interact, I will probably start with MyPage. For now, I only sent a message at the very beginning of its installation.

6) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how far do you perceive to control/know of your hotel housekeeping operations?

The head of the housekeeping is responsible for that.

7) In your opinion, are housekeepers happy to use Hoxell at work?

I got only positive feedbacks so far, it improved and facilitated communication.

8) Which sections of the department you can follow with Hoxell?

Room status, where the housekeepers are located, lost & found.

9) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how often do you use Hoxell to interact with the housekeeping department?

0

10) With whom do you mostly interact through the platform?

I do not interact with Hoxell

11) Does Hoxell help to control the housekeeping department in your opinion? Did it impact your way to manage it?

Surely at the technical level.

12) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how much do you think to know more about your hotel?

0, but I am sure that statistics will soon be used for this kind of management. It is still too soon for statistics analysis but they will surely help to know better some hotel aspects: which are the most important communication aspects, what should be sold as additional service or integrated in the room price, what technical troubles happen more often than others and consequently understand if it is the case to think about replacing the tools instead of fixing them (e.g. air condition).

13) Do you think your housekeeping objectives have been achieved/ will be soon achieved through Hoxell?

Yes, we reached our goals about communication quality between reception and housekeeping department.

14) Do you think that the platform can enhance additional objectives?

Which ones?

Online reputation is the number 1 goal of Hoxell in this hotel. At the operation level, quality culture must always be in progress. We look for details in order to treat guests as people and not additional clients. Hoxell allows us to receive that information necessary to reach precision and perfection in service.

15) Did you register any change in feedbacks from guests? E.g. online reviews?

Not for the moment

Head of housekeepers

1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?

In the morning, I assign rooms through the platform (I stopped handwriting). I control the cleaning of common areas and I distribute tablets to housekeepers. At a certain time of the day (depends on the number of rooms to clean), I start checking rooms. Now, with Hoxell, I already know which rooms are ready to be controlled and where the other housekeepers are in the hotel. This makes it easier, faster and less tiring to reach them for eventual information.

2) How long does it take per day the cleaning of your assigned rooms?

One departing room takes half an hour. The used ones 15 minutes but it also depends on the dirtiness of them

3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?

Reception, maintenance, the porter and the housekeepers. I communicate through mail, telephone, but above all Hoxell. However, if it is urgent, I use the phone.

4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones at home and at work?

5 both

5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?

Support

6) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell facilitated your working routine so far?

4

7) In which daily activities does Hoxell facilitate your working routine?

Faster room assignments. I gain time as I do no longer walk through the aisles of the hotel to communicate information to the personnel but I can do it with Hoxell.

8) Do you have any contact with guests? When? Do you perceive to know their names, needs and wants?

Not yet, I think it is too early. We need to install MyPage first.

9) How long did it take to learn the functionalities of the platform and how they work?

Half day. When we did the training. It is not complicated, it is easy.

10) Which difficulties you found in learning its use?

I did not find it difficult. Everything is quite clear to me.

11) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how easy is to use it for you?

5

12) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how useful do you think it is in your everyday routine?

5

13) What is the option you use most frequently?

“Rooms”, “mini bar” and “lost & found”

14) Do you think that some sections could be simplified in terms of both design and content? If yes, which ones?

No

15) Do you have any suggestion about additional functionalities, that are not yet present in the platform and could help you to facilitate your working tasks?

No, I think there is only a technical issue: since Hoxell works with the wifi causes problems as it happens sometimes to be with no connection and in that case, things get complicated.

16) Thinking about your daily work in the hotel, what did you stop doing since you have started using Hoxell in your everyday work?

I physically move less and I do not waste paper anymore.

17) Thinking about your daily work in the hotel, what did you start doing since you have started using Hoxell in your everyday work?

No idea.

18) Would you prefer going back to the previous system (before Hoxell)? Why?

No, I save so much time now and I am happy we do not waste paper! Technology is the future.

19) Do you perceive a change in terms of workload?

Not really.

20) Do you perceive to know more about hotel guests?

I do not know...I already knew some of the habits and needs of our loyal guests.

21) How often do you use Hoxell every day?

We use Hoxell for everything so I would say the whole day.

22) Would you suggest Hoxell to another housekeeping of another hotel?

Yes, I would suggest it to another colleague in order to be aware in real time about the people who leave and stay, to see what misses in the minibar and check the lost & found. Lost & found helps to track the objects and the risk to definitely lose them is lower.

Housekeeper n.1

1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?

We start at 7 a.m. with toilet and the public areas (We usually clean in team of two). At 8 a.m., we receive the tablets, we organize the carts and start to clean the rooms by clicking the rooms function of start and end of the room cleaning.

2) How long does it take per day the cleaning of your assigned rooms?

Departing rooms : 15/20 minutes. Rooms in use : 10, it depends on the typology of the room and its dirtiness.

3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?

I communicate with the maintenance in case of problems and I send him a message with Hoxell. I also communicate via tablet with the head of the housekeeping department to know the status of rooms.

4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones at home and at work?

2 at home, 4 at work.

5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?

Supporter.

6) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell facilitated your working routine so far?

4

7) In which daily activities does Hoxell facilitate your working routine?

We receive all the information via tablet. It is no longer necessary to look for other people around the hotel in order to know when the rooms are empty and which ones I should clean.

8) Do you have any contact with guests? When? Do you perceive to know their names, needs and wants?

Yes, when the exit their rooms but I do not know their names or habits.

9) Do you perceive to know more about hotel guests?

Yes, I know their names and nationality (there are the flags close to their names)

10)How often do you use Hoxell every day?

All the time I work, basically half of the day!

11) Would you suggest Hoxell to another housekeeping of another hotel?

I would suggest it to everybody as it is easy to learn and use during the day at work. Before starting, I was afraid for the difficulties to use it but now I think it is so easy!

Housekeeper n.2

1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?

We start in the morning at 7 by cleaning the public areas. At 8.15 we go upstairs to get the tablets and see which rooms can be already cleaned.

2) How long does it take per day the cleaning of your assigned rooms?

Departure: it depends if we work together or alone. It takes 30 minutes alone, 20 minutes in team. The used ones take 12/15 minutes.

3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?

I send messages via tablet to the other housekeepers. The reception also sends messages to inform us about guests' requests (e.g. if the room is already available)

4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones at home and at work?

5 at home, 5 at work with Hoxell

5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?

Supporter

6) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell facilitated your working routine so far?

5

7) In which daily activities does Hoxell facilitate your working routine?

I can see which guests checked in and out. Before, we had to ask to the reception and we risked anyway to enter the room when the guest was inside. Now I can see on Hoxell if a guest is still in his room.

8) Do you have any contact with guests? When? Do you perceive to know their names, needs and wants?

Yes, when we meet them in the aisles. We know our loyal guests.

9) How long did it take to learn the functionalities of the platform and how they work?

The first day of training

10) Which difficulties you found in learning its use?

Nothing

11) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how easy is to use it for you?

5

12) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how useful do you think it is in your everyday routine?

5

13) What is the option you use most frequently?

Rooms

14)Do you think that some sections could be simplified in terms of both design and content? If yes, which ones?

I find everything perfect. Maybe, it misses an option about those rooms that have not been cleaned because the guest did not want to. This option is not present in the platform and we have to mark it apart

15)Do you have any suggestion about additional functionalities, that are not yet present in the platform and could help you to facilitate your working tasks?

Same as I said before

16)Thinking about your daily work in the hotel, what did you stop doing since you have started using Hoxell in your everyday work?

Nothing

17)Thinking about your daily work in the hotel, what did you start doing since you have started using Hoxell in your everyday work?

Broken things are always noted but now we save updated on the tablet instead of handwriting.

18)Would you prefer going back to the previous system (before Hoxell)? Why?

I would not come back as we have now a lot of information such as the check-in and check-out of guests. Plus, paper is not wasted.

19)Do you perceive a change in terms of workload?

Nothing changed. Way to work is easier but not less in terms of workload.

20)Do you perceive to know more about hotel guests?

It is true that Hoxell gives the opportunity to know the names of clients but when we have a lot of people in the hotel, I personally skip them.

21)How often do you use Hoxell every day?

All the time.

22) Would you suggest Hoxell to another housekeeping of another hotel?

Yes, it is practical for all the daily tasks and it is easy to learn its usage.

Front office manager

1) Back and Front office: which of them brings you most of your time and why?

At the reception, we have two teams that are responsible of managing the two sides of the hotel, namely guests and operational processes. This 50/50 changes helps. Moreover, the typology of client has an impact too: business guest are less demanding than leisure tourists, who require more information instead and therefore, they are more often at the counter to ask for something. This hotel has both segments: from June to September, we host tourists while we have more businessmen in winter. This means that also reservation sources change: hotel operators for leisure, private companies for business. I have not yet highlighted any difference with Hoxell so far. We use it more to facilitate the communication between departments. I would say that however, back office takes more time in Summer, namely the high season, while we have a 50/50 effective management for the rest of the year.

2) What a housekeeping department should accomplish everyday effectively?

Room and public areas should be properly cleaned every day together with the preparation of carts.

3) How do you evaluate housekeepers' performance?

Housekeepers work in team so it gets more difficult to assess their performance as they accomplish tasks together for each room. In a nutshell, we do not use Hoxell for this purpose.

- 4) **After the installation of Hoxell, did you think to apply any HRM system to your housekeeping department to reward their way to work and accomplish operational tasks?**

No, we had something even before Hoxell and it works upon guests' feedbacks. We leave some note cards in the rooms, here's the guest can write down his feedbacks about the service and who delivered it by mentioning names too.

- 5) **How do you communicate important information to your staff?**

Mainly through the head of departments and mails, we have a morning meeting together each day. We have a quite direct communication. We use Hoxell to exchange more technical information (e.g. maintenance issues).

- 6) **On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how far do you perceive to control/know of your hotel housekeeping operations?**

2, the head of housekeepers is the one who really has the control in the end and she does it efficiently and effectively.

- 7) **In your opinion, are housekeepers happy to use Hoxell at work?**

We have not yet got negative feedbacks. Hoxell has not yet caused problems for the moment. Still, it is low season and the number of housekeepers is lower than in Summer, but I stayed impressed about the easiness of its usage among employees and the approach they demonstrated toward this technology.

- 8) **Which sections of the department you can follow with Hoxell?**

Room assignment: now it is easier and faster to know which rooms are ready. which ones can be cleaned and where the staff is located around the hotel.

- 9) **On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how often do you use Hoxell to interact with the housekeeping department?**

4

10) With whom do you mostly interact through the platform?

The head of the housekeeping department.

11) Does Hoxell help to control the housekeeping department in your opinion? Did it impact your way to manage it?

Yes

12) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how much do you think to know more about your hotel? (On the basis of the pre-installation question related to the control over the department)

4

13) Do you think your housekeeping objectives have been achieved/ will be soon achieved through Hoxell?

It gets difficult to quantify as it is necessary to wait for (it is still too soon). We are curious to see how it will work with MyPage. However, it is easier to communicate with the guests about the lost and found.

14) Do you think that the platform can enhance additional objectives? Which ones?

No change

15) Did you register any change in feedbacks from guests? E.g. online reviews?

Not really

16) Which difficulties did you find immediately after the installation?

At the front-office, Hoxell work one-way, namely it takes info from the PMS but it does not bring back to it. Whatever enters in Hoxell has to be inserted again in the PMS manually.

17) How did you resolve these issues?

We solved it by doing it manually.

18) Are there tasks that you perceive as easier with the aid of technology?

Hoxell dramatically improved the speed of communication, the accuracy of each task when executed.

19) Do you have any suggestion to improve or change the design of the platform?

It is well designed because it was created by an hotelier for other hoteliers and you can see that in the way communication is managed by the system. In my opinion, Hoxell works really well in small realities. In our case, I would say it definitely reduced the physical distances by allowing housekeepers to move less and succeed in exchanging even more information than before.

Appendix 7

Post-installation interviews: hotel 2

Hotel manager

1) Back and Front office: which of them brings you most of your time and why?

They take the same time: back office workload is as much as the front office one. I did not notice any change with Hoxell.

2) What a housekeeping department should accomplish everyday effectively?

Cleaning rooms and quality control.

3) How do you evaluate housekeepers' performance?

We need more time to control that with Hoxell, I expect at least 1 year must pass before I can really evaluate it through the platform. In the meanwhile, we keep on checking OTA's rates given by guests online and directly asking them while on site.

4) After the installation of Hoxell, did you think to apply any HRM system to your housekeeping department to reward their way to work and accomplish operational tasks?

No

5) How do you communicate important information to your staff?

Now we do use the Hoxell platform for this purpose. Through this tool, we collect information about guests (We know who already came once, when they check-in and check-out). The housekeeping department has now the same level of information of the reception, this means that the information quality between the back and front offices is now equal. Hoxell improved the information exchange quality and interactions between them, e.g. when the housekeeper has to clean rooms, she knows through the platform which ones can be prepared.

6) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how far do you perceive to control/know of your hotel housekeeping operations?

4

7) In your opinion, are housekeepers happy to use Hoxell at work?

For the younger generation, it represents a cool template. Older generation accepted it but does not show high excitement toward it.

8) Which sections of the department you can follow with Hoxell?

It's the head of housekeeping who does it. I see Hoxell as a quality system not as a control system. Probably in the future I will also use it for that but it takes time.

9) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how often do you use Hoxell to interact with the housekeeping department?

1 at the moment but we installed Hoxell in the low season. High season brings new challenges and inputs.

10)With whom do you mostly interact through the platform?

The whole department

11)Does Hoxell help to control the housekeeping department in your opinion? Did it impact your way to manage it?

It is too early to say that. I think that at least 1 year is requested to perceive a change.

12)On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how much do you think to know more about your hotel? (On the basis of the pre-installation question related to the control over the department)

0, I do not have more information than before

13)Do you think your housekeeping objectives have been achieved/ will be soon achieved through Hoxell?

Yes for what concerns quality standards but not in the relationship upgrade between housekeepers and guests.

14)Do you think that the platform can enhance additional objectives? Which ones?

I expect a better customer experience, a consequent better online reputation and more profits. I still aim at reaching a better relationship between housekeeping and guests but we need MyPage for that.

15)Did you register any change in feedbacks from guests? E.g. online reviews?

No, I did not

Interviews to housekeepers

Head of housekeeping

1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?

In the morning, we are busy with the cleaning of the public areas. Then, on the tablet, I assign the rooms to each housekeeper and we start cleaning.

2) How long does it take per day the cleaning of your assigned rooms?

Departing rooms take 30 minutes, room that are in use take 15 while apartments are usually the longest and they take 45.

- 3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?**

It depends on the day but I use the platform to interact both with housekeepers and reception.

- 4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones at home and at work?**

2.5 at home and 4 at work

- 5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?**

Supporter

- 6) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell facilitated your working routine so far?**

4

- 7) In which daily activities does Hoxell facilitate your working routine?**

I have a better overview of the department and I can see which guests checked in and out.

- 8) Do you have any contact with guests? When? Do you perceive to know their names, needs and wants?**

We know the names but we do not know the purpose of their stay. Most people come for holiday; however, we know their habits and needs.

- 9) How long did it take to learn the functionalities of the platform and how they work?**

2 days

10)Which difficulties you found in learning its use?

I still find difficulties in remembering to click when I enter and exit the room.
It takes time to get used to it and I often forget it.

11)On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how easy is to use it for you?

4

12)On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how useful do you think it is in your everyday routine?

4

13)What is the option you use most frequently?

Rooms

14)Do you think that some sections could be simplified in terms of both design and content? If yes, which ones?

About the room quality control, I find useless to click to confirm I checked it.
It takes time and I forget it.

15)Do you have any suggestion about additional functionalities, that are not yet present in the platform and could help you to facilitate your working tasks?

No

16)Thinking about your daily work in the hotel, what did you stop doing since you have started using Hoxell in your everyday work?

I do no longer use the telephone as I do not need to receive information about the room status from the reception.

17)Thinking about your daily work in the hotel, what did you start doing since you have started using Hoxell in your everyday work?

I have to confirm the quality control for each room. I always checked the rooms but I did not have to communicate it via tablet. Not it is something I do in addition to my task.

18)Would you prefer going back to the previous system (before Hoxell)? Why?

No, I would not. I have a better overview of the department...

19)Do you perceive a change in terms of workload?

I have an additional task, namely ticking every time I finish something.

20)Do you perceive to know more about hotel guests?

Not yet

21)How often do you use Hoxell every day?

All the time

22)Would you suggest Hoxell to another housekeeping of another hotel?

Yes but for bigger hotels and not small realities such as ours.

Housekeeper n.1

1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?

In the early morning, we are busy with washing machine tasks and the cleaning of the common areas (lobby, public toilets and the restaurant). Once we are done, we use our tablets to see which guests of the daily assigned rooms already checked in and out.

2) How long does it take per day the cleaning of your assigned rooms?

It usually takes half an hour but this changes according to the kind of room. 30 minutes for departure rooms, 15 for the ones who are in use and 45 for apartments.

3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?

I often interact with the reception. I do not use it to speak with the other housekeepers now since it is low season and we do not have pressing times.

4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones at home and at work?

4 at home and 3 at work

5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?

Supporter

6) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell facilitated your working routine so far?

4

7) In which daily activities does Hoxell facilitate your working routine?

Thanks to Hoxell, I know by myself when guests checked-in and checked-out.

8) Do you have any contact with guests? When? Do you perceive to know their names, needs and wants?

Not so much, we greet each other when we meet in the morning.

9) How long did it take to learn the functionalities of the platform and how they work?

1 – 2 days

10) Which difficulties you found in learning its use?

I did not find difficulties

11) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how easy is to use it for you?

4

12) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how useful do you think it is in your everyday routine?

3

13) What is the option you use most frequently?

Rooms

14) Do you think that some sections could be simplified in terms of both design and content? If yes, which ones?

Not really

15) Do you have any suggestion about additional functionalities, that are not yet present in the platform and could help you to facilitate your working tasks?

No, I do not

16) Thinking about your daily work in the hotel, what did you stop doing since you have started using Hoxell in your everyday work?

I do no longer make calls and use paper lists to know which rooms we should clean every day.

17)Thinking about your daily work in the hotel, what did you start doing since you have started using Hoxell in your everyday work?

I can check rooms in advance, namely I know when guests are still in or not. In this way, I am sure I do not disturb and I do not enter the room when people are still in.

18)Would you prefer going back to the previous system (before Hoxell)? Why?

No, I like. I think it is a good system that facilitates our daily routine. Plus, you have an overview about what is happening in real time in the hotel.

19)Do you perceive a change in terms of workload?

A little bit. In the morning, for example, I can see when the guests are gone. This is something I was not able to know before.

20)Do you perceive to know more about hotel guests?

No, I do not think so.

21)How often do you use Hoxell every day?

Almost the whole day.

22)Would you suggest Hoxell to another housekeeping of another hotel?

Yes, I would. It allows housekeepers to know in advance what to do and where.

Housekeeper n.2

1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?

In the early morning, we wash the kitchen, the restaurant and the tables. Then we move up to clean the rooms, we see through the platform which rooms we should clean and which guests already checked out.

2) How long does it take per day the cleaning of your assigned rooms?

Departure rooms: 30 minutes, 45 for apartments.

Rooms in use take less, 15 minutes. Apartments in use 25 minutes

3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?

I usually interact with the reception via tablet.

4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones at home and at work?

4 for both

5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?

Supporter

6) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell facilitated your working routine so far?

5

7) In which daily activities does Hoxell facilitate your working routine?

I have access to a wider overview of the hotel and I know more about the guests.

8) Do you have any contact with guests? When? Do you perceive to know their names, needs and wants?

Yes, when we enter the rooms and we are in the aisles of the hotel. Now I already know their names when I meet them, I perceive it as an advantage.

9) How long did it take to learn the functionalities of the platform and how they work?

Learning process was fast, it took a couple of days.

10)Which difficulties you found in learning its use?

I struggled a bit in finding fast and easily all the functionalities I needed at the beginning. There are many buttons and sections, so I got lost easily.

11)On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how easy is to use it for you?

5

12)On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how useful do you think it is in your everyday routine?

3

13)What is the option you use most frequently?

Room and Breakfast

14)Do you think that some sections could be simplified in terms of both design and content? If yes, which ones?

No

15)Do you have any suggestion about additional functionalities, that are not yet present in the platform and could help you to facilitate your working tasks?

No

16)Thinking about your daily work in the hotel, what did you stop doing since you have started using Hoxell in your everyday work?

I call much less the reception via telephone

17)Thinking about your daily work in the hotel, what did you start doing since you have started using Hoxell in your everyday work?

I control every room every day

18)Would you prefer going back to the previous system (before Hoxell)?

Why?

No, as I consider as a helpful source of information about guests.

19)Do you perceive a change in terms of workload?

It takes me time to get all the information on the tablet as I have to get used to all the icons and what all of them refer to. However, I feel to know more about the guest (name, check-in, check-out).

20)Do you perceive to know more about hotel guests?

Yes, definitely.

21)How often do you use Hoxell every day?

All the day long.

22)Would you suggest Hoxell to another housekeeping of another hotel?

No answer provided.

Housekeeper n.3

1) Could you describe me your working routine by listing the tasks you accomplish every day (possibly following a chronological order)?

We start the shift at 8 by cleaning the common areas such as the restaurant, the lobby and the toilets. We also take care of the washing machine, then we move upstairs with our tablets and we start looking at the rooms that already checked out and that we can start cleaning.

2) How long does it take per day the cleaning of your assigned rooms?

30 minutes for the departure rooms, only 15 for those in use.

Apartments take always longer: 45 minutes for departure ones and 25 for those in use.

- 3) Who are the colleagues with whom you interact the most during your daily work routine? How do you communicate information to them?**

I keep in touch with the reception, both via tablet and phone.

- 4) On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how familiar are you with the daily use of technological tools such as tablets and smartphones at home and at work?**

4

- 5) Do you perceive Hoxell as a supporter or an obstacle to your working tasks?**

A supporter.

- 6) On a scale from 0 to 5, where, 0 is the minimum and 5 the maximum, how much do you think Hoxell facilitated your working routine so far?**

3

- 7) In which daily activities does Hoxell facilitate your working routine?**

It gives a better overview of my job and I have more information about guests.

- 8) Do you have any contact with guests? When? Do you perceive to know their names, needs and wants?**

Yes, when I go upstairs to make rooms and I meet them. Now I know their names in advance and I can greet them.

- 9) How long did it take to learn the functionalities of the platform and how they work?**

No more than 2 days

- 10) Which difficulties did you find in learning its use?**

I got a bit lost with all the icons, I had to learn where they were placed and what each referred to.

11)On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how easy is to use it for you?

5

12)On a scale from 0 to 5, where 0 is the minimum and 5 the maximum, how useful do you think it is in your everyday routine?

4

13)What is the option you use most frequently?

Rooms

14)Do you think that some sections could be simplified in terms of both design and content? If yes, which ones?

No

15)Do you have any suggestion about additional functionalities, that are not yet present in the platform and could help you to facilitate your working tasks?

No

16)Thinking about your daily work in the hotel, what did you stop doing since you have started using Hoxell in your everyday work?

I use less the phone to contact the reception

17)Thinking about your daily work in the hotel, what did you start doing since you have started using Hoxell in your everyday work?

I confirm every task I do by clicking on the icons

18)Would you prefer going back to the previous system (before Hoxell)?

Why?

No, with Hoxell I perceive to be more conscious about what happens in the hotel.

19)Do you perceive a change in terms of workload?

It takes me time to insert information about guests but in the end I think it helps as we get more and more knowledge about them.

20)Do you perceive to know more about hotel guests?

Yes, I do

21)How often do you use Hoxell every day?

Always

1)Would you suggest Hoxell to another housekeeping of another hotel?

No answer provide

Appendix 8

Intervista Antonio Zacchera – 13.01.2017 Hotel Manager della catena Zacchera hotels

Al momento, Hoxell è stato installato nei due alberghi principali del brand. Si sta però procedendo all'introduzione della piattaforma nelle restanti strutture (alberghi e residence).

1) Prima di Hoxell, quali altri strumenti utilizzava per gestire il reparto di housekeeping del Suo albergo?

Utilizzavamo un report cartaceo fornito dal PMS proprio dell'albergo. Il report trasmetteva informazioni quali la tipologia di camera (se di fermata o partenza), il numero degli ospiti per stanza, segnalava la presenza di animali, la nazionalità degli ospiti, il mercato di appartenenza del cliente (Se corporate, business o leisure) oltre a un piano delle pulizie degli spazi così detti "pubblici" come la lobby e le sale per congressi e conferenze.

2) Quali erano gli obiettivi iniziali che si era posto con l'installazione di Hoxell? (prima del suo utilizzo) Sono stati raggiunti? Se ne sono aggiunti di ulteriori?

Inizialmente gli obiettivi erano per così dire "minimali", una volta che abbiamo visto raggiunti gli obiettivi essenziali di pulizia e qualità, abbiamo alzato l'asticella e inoltrato più di 30 richieste al fine di migliorare il risultato finale. Per fare un esempio: alle nostre domestiche è chiesto di salutare un cliente per cognome se incrociato per i corridoi dell'albergo, in quanto le è possibile sapere la sua identità attraverso Hoxell. Questo perché il nostro obiettivo è quello di far sentire il cliente a casa, in famiglia, anche se si trova in un albergo di grandi dimensioni e appartenente a una catena. Da non dimenticare, un altro dei principali obiettivi che volevamo e abbiamo raggiunto era la standardizzazione dei processi, ovvero stabilire una metodologia consona e uguale per tutte le domestiche nel processo di preparazione delle stanze.

3) Quali sono state le funzioni che ha chiesto di implementare?

C'era un problema relativo alle così dette tracce, ovvero lo scambio di informazioni. Alcune tracce erano visibili anche dopo la segnalazione del PMS.

Abbiamo richiesto un report sulle tempistiche per camera e cameriera.

Un' estensione del "room quality control" a tutte le camere e non solo quelle di partenza.

La gestione dei prodotti di pulizia che include non solo il kit di cortesia per camera ma i prodotti utilizzati dalle domestiche per le pulizie.

Un altro problema informatico è legato al controllo delle tempistiche di pulizia per camera, vorrei infatti sapere quanto tempo è stato impiegato da ciascuna domestica per preparare una stanza. Si tratta però di un aspetto difficile da controllare al momento in quanto una domestica può benissimo decidere di aggiornare lo stato di una camera cliccando il tasto di inizio e del termine delle pulizie una volta che la stanza è pronta. Per evitare questa situazione e cercare di avere un report il più veritiero possibile sui tempi di pulizia, abbiamo inserito un report legato alle tempistiche previste per tipologia di camera. L'obiettivo non è controllare che la camera sia pronta entro tot di minuti ma cercare di capire se tutti gli standard della qualità sono rispettati durante la procedura di preparazione. Ad esempio, se per una camera ci vogliono 30 minuti e la cameriera ne impiega 20, ci tengo a scoprire come è riuscita a terminare tale pulizia in un tempo inferiore a quello stabilito rispettando tutti gli standard di qualità richiesti per tale camera.

4) Quali sono state le reazioni delle domestiche alla notizia dell'installazione? Quale percezione avevano della piattaforma? La vedevano più come un ostacolo o un supporto?

Partiamo innanzitutto dal riconoscere che il personale di questo reparto appartiene di norma a un contesto culturale non molto elevato. Utilizzano sì spesso smartphones e altre tecnologie nella vita privata, ma non in ambito lavorativo ed è proprio questa ragione che all'annuncio dell'introduzione di Hoxell nella loro routine lavorativa, la prima reazione

non è stata positiva. Le domestiche erano preoccupate in quanto vedevano Hoxell come un ostacolo, “qualcosa da aggiungere” alla mole di mansioni da svolgere, non pensando che potesse semplificare e supportare le loro attività ma rallentarle. Oltretutto, inizialmente, era normale che Hoxell non fosse utilizzato propriamente in tutte le sue funzioni e questo non ha fatto che aggravare lo stato di preoccupazione e paura tra il personale. La normalizzazione è però avvenuta dopo 15 giorni e devo dire che le maggiori difficoltà sono state riscontrate solo tra le cameriere del primo albergo: al momento di introdurre Hoxell nel secondo, le testimonianze e l'appoggio dei “pionieri” ha facilitato il percorso di accettazione e utilizzo della piattaforma. Direi che un mese è il tempo medio necessario per fare accettare questa tecnologia al personale.

5) La percezione di Hoxell dopo il training è cambiata?

Come già detto, erano inizialmente spaventate ma si sono poi rivelate determinate in seguito al riconoscimento di Hoxell come supporto e non ostacolo al proprio lavoro.

6) Quali cambiamenti ha percepito nel breve termine con l'installazione di Hoxell dal punto di vista manageriale, cioè il suo?

I vantaggi sono molteplici:

- migliore modo di comunicare
- migliore controllo della metodologia: ogni cameriera aveva il proprio metodo, ma tramite Hoxell siamo riusciti a stabilire un sistema standardizzato che ha permesso di garantire un livello di qualità più elevato e gestibile. Se prima il cartaceo non permetteva cambiamenti efficaci dell'ultimo minuto, il trasferimento delle informazioni sul web ha reso tutte le procedure più dinamiche e di conseguenza l'efficienza è aumentata.
- Una migliore gestione delle tempistiche di preparazione delle camere
- Un maggiore controllo analitico degli standard di qualità

7) A seguito di Hoxell, ha introdotto nuovi sistemi di gestione delle risorse umane in questo reparto? E.g. Incentivi, riconoscimenti, maggiori responsabilità

Stiamo installando un sistema di premiazione sotto forma di pagamento per premiare le domestiche più efficienti tramite la funzione di “quality room control”.

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