

4.0 Leadership Skills in Hospitality Sector

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Abstract: This paper intends to analyse leadership skills in the hospitality sector in the era of 4.0 industry. The purpose is to explore the role of multi-level forms of leadership and the profiles identified by the hospitality professionals. This is a quantitative study based on an online survey applied to two hotels, and the following research question has guided the present study: What are the 4.0 Leadership Skills in the hospitality sector? To answer the research question, the main technique to collect data was a questionnaire allowing to investigate the main issues related to 4.0 leadership skills. The results of the research are the identification of the leadership skills profiles, being this research significant for managers and leaders when developing organizational interactions from a multi-level efficacy perspective. The conceptual contribution of the paper is a fresh macro-analytical perspective concerning 4.0 leadership skills in the hospitality sector.

Keywords: Leadership, employees, 4.0 hospitality organizations, technology, emotional and relational skills.

I. INTRODUCTION

The 21st century presented itself with an underway revolution that would forever change the markets paradigm and their competitive landscapes. At the base of this revolution, we have the globalization boom and exponential technological evolution that has led to a digital disruption that definitively marks a new era characterized by volatility, uncertainty, complexity, and ambiguity (V.U.C.A.). With this economic change paradigm we are living, organizations have come up against unprecedented problems. These include the fact that they are evaluated by both tangible and non-tangible factors such as knowledge held by their human capital, the capacity to innovate and the speed of adaptation and response to market changes in which they operate. In this scenario, the search for factors that can motivate teams and ensure their engagement to achieve organizational sustainability has become essential.

Since the discovery that hygienic, financial physiological and safety factors, among others, did not guarantee the much-desired high productivity, both organizations and the academic community began to wonder what would be lacking for their employees to achieve higher results. Through this questioning, new theories began to emerge pointing out that it was not just these factors that moved and compromised people to work. Relations with colleagues, the formation of

social groups, their relationship with the leader, all these factors influenced. Moreover, in consequence of this emerging factors, the role of the leader came to have central importance as a lever of organizational success.

We know that the role of the leader is increasingly to establish a vision, sharing that vision with others so that they will willingly follow, providing the information, knowledge, and methods to realize that vision, and coordinating and balancing the conflicting interests of all members and stakeholders. A leader steps up in times of crisis and can think and act creatively in difficult. However, if we know this role, what is the question nowadays facing the imperative of positive digital transformation, which are the skills needed to lead at V.U.C.A. era?

After all, how do the skills considered as "ideal" by the leadership so far stand or change in the face of the new digital disruption context? These are the kind of questions that leaders know they have to respond to immediately. However, they have few guidelines to determine what actions to take, making it vital to analyze these skills and try to present a fresh perspective on the role of multi-level forms of leadership necessary for promoting effective work engagement.

II. LITERATURE REVIEW

A. Leadership Theoretical Framework

From the very first steps of Scientific Administration study, leadership has always been a discussion

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subject, leading several researchers to try to understand the reality of this process better, perhaps because, unlike management, leadership may not be taught, but for some authors, can be learned and above all can be enhanced by various processes such as mentoring or coaching.

The fact of being a subject with a complex definition, but of easy perception, attracts the most diverse attention. Hanashiro *et al.* (2005) admit that leadership is a recurring research theme, both in academia and in everyday business. For this authors, the reason for their permanence in national and international research spotlight is because it is one of the most critical elements to organizational success.

Bennis and Nanus (1985) attempt to interpret leadership as the aggregation of abilities possessed by a large number of people, but used by a minimal number of them. However, they claim to be a competence that can be learned by anyone and taught to all people, a view that is not consensual among all the area authors.

Yukl (1989) goes further and defines leadership as a process of influence that involves the interpretation of events by followers, the election of the goals for the organization or group, the motivation, and commitment of the followers to achieve those same goals, so investigators try to find leaders influential features that positively reflect on the results of the teams and, as a consequence, on the organizational results (Dorneles, Salvagni, & Nodari, 2017).

According to Oliveira (1997), to lead is to exercise some form of power. Power is the ability to influence someone. Leadership is the style of exercising that power. One person "exerts leadership" when influencing the behavior of others. However, leadership is not an inherent function only for people who exercise a hierarchical position, it occurs whenever someone seeks to influence the behavior of an individual or a group, meeting the perspective of Vergara (2007) in which being a leader is to own the ability to exert influence on individuals and groups, so not every boss is a leader and not every leader is a boss. In this context, the importance of natural leadership has gained, in this last years, its space at this discussion.

Chiavenato (2004) states that "leadership is the interpersonal influence exercised in a situation and directed through the process of human communication to achieve a certain goal."

Despite the plurality of concepts, it is essential in this framework to point out the existence of "someone" that has the competence to influence a group of individuals. We can define leadership as an interactive process among the members of a group, composed of leaders and followers with a defined orientation towards specific goals.

The historical evolution of leadership has promoted the development of fundamental theories in different phases of this study. Some theorists have been particularly concerned with what the leader is, analyzing personality traits or characteristics that are responsible for the leader effectiveness. Others have given more prominence to the design of the leader by investigating what the leader does, that is, seeking to delineate different leadership styles. A third group of researchers sought to analyze leadership based on those occurrences that determine leader effectiveness by analyzing environmental variables that may or may not influence the development of the leader-led relationship.

Etymologically, the terms leader and leadership translate the idea, respectively, of the virtual guide and the quality or function of the leader. The emergence of the social sciences, in particular, from sociology and psychology, has made possible to extend this somewhat restricted vision of leadership

Drucker (1996) considers that multiple studies on the subject have shown leadership as a personality trait, as an inductive form of obedience, as an exercise in influence or other specific behaviors, as a means of persuasion, as a relation of power, as a means of achieving objectives or as a combination of multiple factors.

Speaking of leadership inevitably refers to the understanding, albeit brief, of the two types of leadership that have been highlighted over time, and of which, basically, all other typologies were originated: transactional and transformational leadership presented by Burns (1978) as the two types of neocharismatic leadership, used both in the political sphere and in private life.

The first consists in achieving the leader's own goals through the exchange for something that interests the subordinate. This reward may be of psychological or material nature. If this transaction occurs and the leader's goals and followers are met, the leader has the formal or informal power to reinforce



good performance (Burns, 1978). The author also affirms that this type of leadership is based on hierarchical authority, respect, and tradition, and is often associated with the concept of management. For the transactional leaders, subordinate's motivation is found in the benefits granted. As a consequence, those who are led remain for a relatively short period, because, upon finding more satisfactory rewards, they may leave the organization (Bergamini, 1994). These leaders focus more on effective employee performance than employee satisfaction. The rewards awarded tend to be proportional to their performances, being mostly extrinsic. According to Bass (2008), transactional leadership takes into account three essential mechanisms: contingency reinforcement, exception management, and laissez-faire.

On the other hand, Burns' proposal on transformational leadership was not only a pioneer but was also considered to be of enormous influence, serving as a foundation for other investigations such as Bass (1990). This type of leadership is centered on the development of followers to allow them to express a collective commitment. Transactional leadership, however, consists of a leadership style based on the leader's ability to serve the particular interests of his followers. Transformational leaders morally engage their followers by stimulating the development of self-realization needs and commitment to collective values. Subordinates in this interaction have a greater awareness of their importance as key parts of an organizational whole, which will stimulate them to prioritize organization needs rather than their individual needs (Bennis & Nanus, 1985). The authors further add that "transformative" leadership is conducive to converting followers into new leaders and, possibly, important change agents.

Nowadays, authors debate about "authentic leadership" and its relation with employee proactive behavior (Zhang, Song, Wang, & Liu, 2018), opening even more this field of study and leadership definitions.

Faced with the infinite definitions panoply and the heated discussion around the theme, we can conclude this reflection by accepting that leadership is the act of inspiring subordinates in perform and engage in achieving a goal.

B. 4.0 Skills and Technologies for the Hospitality Sector

Western Society faces in the 21st century an accelerated rhythm of technological developments.

These new tools change in profound ways the daily routines of people, but they also change how companies and industries work, as they often must face new competencies and demands from the market. It is a framework that generates multiple new types of jobs, while at the same time making others obsolete or irrelevant. In Finland, one-third of employment is at risk due to computerization (Pajarinen & Rouvinen, 2014).

In the specific case of the hospitality sector, the trend is twofold. On the one hand, service skills are suggested to continue to be the most important competency for a worker in this sector. On the other hand, there are specific roles that moved to an e-commerce approach, like sales, marketing, and reservations (Elinkeinoelämä, 2006).

We may consider competence as "a cluster of related knowledge, skills, and attitudes that affects a major part of one's job (a role or responsibility), that correlates with performance on the job, that can be measured against well-accepted standards, and that can be improved via training and development" (Lucia & Lepsinger, 1999). So, research has been trying to address which are the main competencies for the hospitality sector in an increasingly technologically dominant environment.

Studies have pointed to communication skills, both oral or written, as being central for the hospitality sector (Hai-yan & Tom Baum, 2006; Chan & Marianne, 2008; Tesone & Ricci 2010; West, Suh, & Shin 2012; Sisson & Adams 2013.) As for technology-related skills, only more recently have they been included in research about competences in this sector. Birdir and Pearson (2000) promoted a study that is a good example of examining the complete set of competencies which are relevant for research chefs. They asked leaders to rank skills on a scale of 1 to 5, in which 1 is not important and 5 is extremely important. The top-rated skills were: knowledge of flavors, knowledge of food sanitation, ability to distinguish levels of quality in food products, general communication skills and ability to make decisions.

Of the nineteen skills that received a mean score of 4 or more, the most important ones are related to personal attributes. Examples are the ability to make decisions, keep the ego in check or see the "big picture", which are skills that are very hard to be automatized or computerized.

Hai-yan and Baum (2006) is another study of note. They studied the skill profiles in Chinese 4 and 5-star



hotels in major tourist cities. A list of competencies was once again rank in a scale of 1 to 5. Results demonstrated that many of the most important competencies are related to personal attributes, such as oral communication, professional and ethical standards, team work. However, many of them are facing changes due to new technologies and digitalization. Customer care is one of them: it is a competence that is becoming increasingly dependent on technology and implying customer assistance through online platforms. Interpersonal relations are also changing in these work environments, and WhatsApp, Skype and other communication tools become an element of the day-to-day communication. A third example is the study by Chan and Coleman (2008), in which they selected eighteen skills and competencies based on previous research, asking employers of the Hong Kong hotel industry to rate which of them were the most important skills and competencies for a new worker. The top-rated ones were: have a professional attitude, be honest, be able to communicate in a foreign language, be able to work cooperatively as a team member and be able to accept responsibility.

It was once again concluded that the majority of the most important competencies are related to the employees attributes. Although some competencies could be related to digitalization, be able to communicate it a foreign language, be able to use relevant computer knowledge, manage guest problems with understanding and sensitivity, to name a few. Tesone and Ricci (2009) contribution are highlighted, as they opted to separate competencies into three subgroups: knowledge, skills and ability and attitudes. They studied lodging and restaurant managers. Of the ones that reached an average rate of four or more, three were related to knowledge: grooming and professional image standards, guests service standards and realities involved in this type of work. Also, nine skills and abilities reached a four or above four average. The top-rated were the : ability to work as a part of a team, effective listening, verbal and written communication skills and the ability to project a professional image. Suh, West and Shin (2012) also gave a contribution to this debate. Their study applied a questionnaire to 296 hospitality students and managers, trying to identify what was their perception regarding the most critical competencies.

In the case of managers, listening skills, tolerance for change, guest interaction and openness to new ideas were the top-rated ones. These competencies,

although they are centered on technological environment, only guest interaction is changing because of digitalization. Sisson and Adams (2013) produced a review of the literature, from which they identified 3competencies, which they categorized as soft-skills, hard-skills, or a mix of both. With a Likert-type scale, leaders and educators had to rank those competences from 1 to 6. The top-five competences were developing positive customer relations, using computers effectively, working effectively with peers, professional demean, r and appearance and leadership abilities.

Using computers effectively, which ranked second, is possibly the most important result of this study, as it suggests a key-skill affected by digitalization that is regarded as extremely relevant for this sample. These technologies are nowadays a key element in the ongoing development of customer relations. The A last study noteworthy is Shariff, Kayat and Abidin (2014). They studied the most relevant competencies in Malaysian hospitality sector, through a questionnaire with 4competencies. It was applied to 60 human resources managers. The top-five competences in the perception of these managers were the ability to work in teams, learning skills, ability to inform information, customer service skills and ability to support staff. Learning skills was not pointed out in previous studies. That competence, along with the ability to inform information, is a key element in the digitalization environment, as people are challenged to go through significant amounts of information and be able to select and filter the most relevant information.

We can find in Shamim *et al.* (2017) a recent research on how the 4.0 industry impacts service sectors as the hospitality sector. Through semi-structured interviews of hospitality employees, it explored management practices that meet the challenges of these new technologies. Those practices may help to enhance people's capabilities and maximize innovation.

These authors underline the high employee turnover that this sector faces. This reality leads to wastes of accumulated intellectual capital by leaving employees, that has to be regained by the new worker. It is suggested that the hospitality sector should prepare knowledge management activities, in order to maximize learning and innovation capabilities.

Jiang and Alexakis (2017) compared students' and managers' perceptions of management competencies



in the hospitality industry in Florida. This research explored which skills employers most seek when hiring and which skills students have the perception of being the industry-preferred. So, this study suggests that there is a difference between the two groups. "Willingness to learn", "Teamwork skills" and "Oral communication skills" are the three most important skills pointed out by managers in this study. However, for students the top three skills were "Oral communication skills", "Time management skills" and "Knowledge of the hospitality industry". Both groups stating *oral communication skills* is in consensus with previous researches, as the hospitality sector is strongly dependent of communication skills.

C. Challenges faced by 4.0 Hospitality Leaders

The world is changing at a fast pace. Competition is becoming global and frontiers are no longer a barrier to exchange goods and services. With the advancements in communication technology massive amounts of data are being shared through different channels.

Leaders in the past would select people based on their ability to collect relevant data for the business, however nowadays leaders are invited to recruit based on people's ability to uncover pertinent information from the enormous amounts of data that are automatically collected.

This context also invites leaders to develop new skills as we wrote above. New skills bring new challenges to 4.0 hospitality leaders. For instance, memorizing data is no longer a key-competence for hospitality leaders since these skills are easily digitalized. Furthermore, new skills bring new ways to organize work. Will 4.0 hospitality leaders take advantage of social networks and digital services such as Skype, WhatsApp, and others to inspire their teams to interact fast, effectively and free front physical barriers? Will 4.0 hospitality leaders be able to use technology to interact in new ways with clients?

These are some of the questions that lead us to some of the leader's most significant challenges in the digital era.

E-Leadership

E-leadership is a social influence process where changes are brought about in attitudes feelings, thoughts, behavior and organization, through the help of advanced IT (Avolio & Kahai, 2003; Mackenzie, 2010; Savolainen, 2014). 4.0 hospitality leaders will be

invited to deal, to some extent, with the new reality of managing employees at distance which makes them prone to be challenged with new leadership issues. Due to IT, effective interaction between leader and followers is one of the key challenges for the 4.0 hospitality leaders because of the more infrequent physical presence and missing non-verbal communication (Savolainen, 2014). Therefore, leaders will have to take an extra effort to build close relationships with followers by sharing even more relevant information with them. Frequent and quality meetings, both technologically-aided and face to face, may facilitate openness in the relationship between leader and followers, promoting trust-building in a digitalized working-place (Savolainen, 2014). The use of digital services like WhatsApp and the development of the internal social network, may also help 4.0 hospitality leaders to share information with followers at a fast and effective pace and also empower them. Through such technologies employees are welcome to share their opinions even more freely. Few practices are as relevant as empowerment to facilitate excellent service, foster personal responsibility among people and build trust (Brownell, 2010).

Holistic Thinking

Traditionally, the effective leader is expected to gather data to understand a situation, develop a strategy and an action plan, and inspire employees around a vision of the future (Crews, 2010). Nowadays, 4.0 hospitality leaders face a much more complex environment where technology, connectivity and globalization blends. This context requires more organic leadership strategies that help both the organization and employees to better deal with the digitalized world. Thus 4.0 hospitality leaders are challenged to understand how different parts of the system have an impact in each other and develop a new mindset where easy answers, one best solution that fits all and quick fixes, are very challenging to find (Jonash, 2005).

Organizational Learning

It is not enough to have the leader engaged in the learning experience but the whole organization. In the digitalization era it is critical to create organizational conditions where each employee is engaged with a continuous learning experience. To excel in the hospitality business leaders are invited to make their best effort to inspire each member of the organization to develop a desire for continuous improvement through training. Moreover, leaders will be challenged



to create an organizational learning culture (Senge, Kliener, Roberts, Ross, Roth & Smith, 1999) that deals with technological change in a fast and effective way. More than ever, organizations need the creativity, enthusiasm and knowledge of every person to better deal with a dynamic and technologically based environment. 4.0 hospitality leaders are invited to bring out the best in each person by creating new learning experiences as frequent as possible.

Ethical Practices

The challenges for maintaining ethical standards increase as workplace communication barriers fall apart due to an increase in technological change which create even more stressful and impersonal environments (Brownell, 2010). 4.0 hospitality leaders will be invited to navigate in an uncertain environment where education and the development of an ethical culture is more important than control. 4.0 hospitality leaders need to walk the talk since leader's ethical orientation drives their decisions which affects organization's culture (Novicevic, Davis, Dorn, Buckley & Brown, 2005).

The literature review conducted to the following research questions:

Rq1: What are the main skills identified by the respondents?

Rq2: What are the skills profiles of the 4.0 leaders?

The following analysis will help to answer to the research questions identified above.

III. METHODOLOGY

This research was based on a survey research design method. It involved a self-designed questionnaire in collecting data, structured with a section about the professional context of the respondent and a set of questions about skills, emerging all items from the literature review, with the following dimensions and measures:

In the first part of the questionnaire, we created statements based on the seven dimensions of competencies identified in the literature review as the most important for the hospitality sector: (1) Finding relevant knowledge, such as knowledge of food trends or knowledge of culinary uses; (2) Digital interaction with colleagues, such as staff meetings or ability to work as a team; (3) Digital personal presentation, such as have a good personal presentation or project a

professional image; (4) Customer care, such as ability to interact with guests or anticipate guest wants; (5) Digital marketing presentation and sales skills, such as sales techniques or possess writing skills; (6) Ability to use technological soft and hardware, such as ability to use relevant software or to use effectively computers and (7) Accounting, such as ability to develop budgets or forecast revenues. With respect to that statements a Likert scale was created, which due to the many attributes of the study (Coelho & Esteves, 2007) and to the number of questions (Dalmoro & Vieira, 2013) was chosen to be 7 points, between "Nothing Important" and "Very Important", to allow respondents to indicate the level of importance of these competencies in their organization.

In the second part of the questionnaire statements were created regarding the importance given by the leaders to digital skills, namely regarding the use of technologies by employees in their function, considering the seven dimensions previously listed. We used the same Likert scale of 7 points previously characterized to gauge the importance of each of the items.

In the third, and last part of the questionnaire, we collected the sociodemographic information of the respondents.

IV. DATA ANALYSIS AND DISCUSSION

A. Reliability Analysis

The reliability analysis allows to analyze the internal consistency and Cronbach's Alpha is the best test to measure data reliability. However, this indicator is strongly influenced by the correlation between the items and their number. In this analysis all the items of the scale were considered and the Cronbach's Alpha value is 0,952 (Table 1), showing a very good internal consistency and allowing to proceed with further analysis.

Table 1: Reliability Statistics

Cronbach Alpha	N
,952	34

A high alpha indicates the good internal validity of the scale.

B. RQ 1 - Main Skills Identification

To identify the main skills for a 4.0 Leader the answers of the respondents were analyzed with the Mean test:



Table 2: Mean and Standard Deviation Measures

	Mean	St Dev
Customer attendance service	6,56	,092
Listening ability	6,55	,074
Teamwork	6,51	,081
Relationship with customers	6,48	,080
Relationship with subordinates	6,48	,085
Proper personal image	6,44	,089
Use of digital tools in their function (e.g. to issue invoices)	6,42	,083
Management of customer complaints	6,41	,086
Ability to cope with change	6,40	,090
Language Mastery	6,39	,090
Relationship with colleagues	6,39	,089
Anticipating customer needs	6,38	,095
Using the Internet to make contact and sales	6,33	,094
Ability to use technology (smartphones, computers and other	6,32	,095
Use of digital marketing tools	6,27	,092
Knowledge of hygiene and food safety	6,26	,114
Communication skills (oral/written)	6,26	,103
Relationship with superiors	6,25	,095
Online customer support	6,16	,107
Management of budgets	6,15	,097
Field of competence in emotional intelligence	6,07	,104
Professional image with impact	6,05	,113
Computer security knowledge	6,05	,115
Legislation of the hotel sector	6,02	,116
Use of technology to generate ideas for the business	6,01	,092
Use of technology	5,99	,117
Using business-friendly Apps and Websites	5,91	,093
Good professional image online (e.g. LinkedIn)	5,85	,114
Online relationship with customers	5,85	,129
Availability to be online	5,69	,137
Use of technology to interact with colleagues	5,66	,120
Food Trends Knowledge	5,60	,138
There is an online association between the company and the employee	5,54	,130
Field of culinary techniques	5,48	,141

According to the respondents the main skills for a 4.0 Leader are more related the relationships among persons than the knowledge on the use of technology: customer attendance service, listening ability, teamwork, relationship with customers, relationship with subordinates, proper personal image, use of digital tools in their function, management of customer complaints, and ability to cope with change.

C. RQ 2 - Factor Analysis – 4.0 Leadership Profile

To identify the 4.0 Leadership Profiles a factor analysis – principal components were performed. It was considered adequate technique because the goal was to create subsets of the variables leading to factor identification.



Factorial Analysis seeks to verify the correlations between the original variable to estimate common factors and structural relationships between factors and variables. "Factor analysis is an interdependence technique whose primary purpose is to define the underlying structure among the variables in the analysis" (Hair Jr. *et al.*, 2010)

The purpose of the procedure was to find the factors that each variable loads on and then to determine which variable loads most significantly on each factor, meaning the correlation between the variable and a factor.

The model of best fit is two-factor model where emotional and relational skills are loaded onto one factor, and technological skills are loaded onto the other factor.

The first step is to analyze the Kaiser-Meyer-Olkin index on the suitability of the sample and in this case it indicates that it is appropriate for the application of principal component analysis presenting the value 0.878. Second Bartlett's sphericity test, verifies the association level of significant, e and in this case it is 0.000, showing, therefore, that there is a correlation between some pairs of items (Table 3).

Table 3: KMO and Bartlett Tests

Kaiser-Meyer-Olkin measure of sampling suitability		,878
Bartlett sphericity test	Approx. Chi-square	1849,638
	gl	378
	Sig.	,000

The extraction of factors allow obtaining a factorial structure in which one and only one of the original variable is strongly associated with a single factor and little associated with the other factors. Once the extraction was done, the result was two factors that explains about 57.188% of the variance.

The extraction of factors was done with Varimax rotation to obtain a factorial structure in which one and

only one of the original variable is strongly associated with a single factor and little associated with the other factors. The factorial matrix with varimax rotation resulted in 2 factors (Table 5):

According to the results presented in Table 5, in the component matrix, items with weight higher than 0.5 are presented, and items smaller than 0.5 have been removed. The items removed are computer security knowledge; use of digital tools in their function (e.g. to issue invoices); use of digital marketing tools; budgets management; legislation in the hotel sector; Relationship with superiors.

Table 5 outlines the items taken into account and that was considered for the identification of the two 4.0 Leaders profiles. The first of these factor is strongly correlated with indicators reflecting Emotional and Relational skills. The second factor is strongly correlated with indicators reflecting Technological Skills.

V. 4.0 LEADERSHIP PROFILES PROPOSAL FOR HOSPITALITY SECTOR

From data analysis emerged two profiles (Figure 1 and 2) one more technological and other more emotional and relational. Although the result is two profiles, the hospitality leader represents a mix of both of those profiles – some have more skills related to the technology and others more relational and emotional skills.

As far as we know relational and emotional skills are the key to success in hospitality. However, digitalization and organizations 4.bringgs new features and activities for professional of this sector. These profiles gave information to hospitality organizations about skills their leaders need to develop and to Universities and Training Organizations to help them to redefine the learning offer and the courses.

Below is the explanation of the most important outcome of this research the skills which composes the profiles:

Table 4: Total Variance Explained by the Factors

Component	Initial value			Square load extraction summations			Square load rotation summations		
	Total	% of variance	cumulative %	Total	% of variance	cumulative %	Total	% of variance	cumulative %
1	12,345	44,088	44,088	12,345	44,088	44,088	8,878	31,707	31,707
2	3,668	13,101	57,188	3,668	13,101	57,188	7,135	25,482	57,188

Extraction Method: Principal Component Analysis.



Table 5: Rotary Component Matrix

	Component	
	1	2
Knowledge of hygiene and food safety	,701	
Food Trends Knowledge		,539
Field of competence in emotional intelligence	,709	
Customer attendance service	,837	
Use of technology		,569
Communication skills (oral/written)	,836	
Language Mastery	,800	
Ability to cope with change	,737	
Proper personal image	,614	
Management of customer complaints	,824	
Teamwork	,738	
Listening ability	,693	
Professional image with impact		,671
Anticipating customer needs	,784	
Relationship with customers	,746	
Relationship with subordinates	,720	
Relationship with colleagues	,552	
Use of technology to generate ideas for the business		,619
Using business-friendly Apps and Websites		,707
Use of technology to interact with colleagues		,741
Availability to be online		,809
Good professional image online (e.g. LinkedIn)		,572
There is an online association between the company and the employee		,747
Online relationship with customers		,806
Online customer support		,669
Using the Internet to make contact and sales		,672
Ability to use technology (smartphones, computers and other		,706

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Standardization.
 The Rotation converged in 3 iterations.

I – Profile – Emotional and Relational

- Knowledge of hygiene and food safety – these technical skills are nuclear to hospitality professionals at any level of the organization and the leaders need to know how to communicate that knowledge to all the employees, because the quality of the service depends on it.
- Emotional intelligence the - ability to recognize and evaluate own feelings and the others feelings and the ability to deal with them in a positive manner. In the hospitality sector intelligence emotional of the leader is one of the

fundamental skills to lead the employees in the right direction, but also to solve stress situations with the customers.

- Customer attendance service - Customer attendance service includes interpersonal relations, but with a big focus on digital, and may require the employee to engage with customers, and be active digitally, via email, chats, social media platforms, and websites. It includes the use of technologies to assist customers with booking systems, self-service, check-out systems and apps, for instance.





Figure 1: Factor 1 Emotional and Relational Skills.

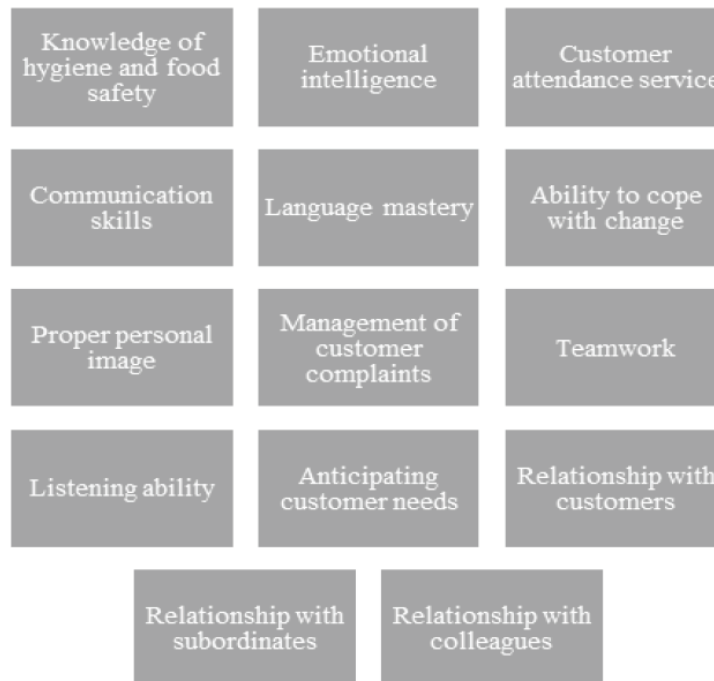


Figure 2: Factor 2 Technological Skills.

- Communication skills - ethical standards in the workplace are potentiated by the good and positive communication. Also, marketing and communication are done via digital channels today in the hospitality business, and it needs a set of skill due to an increase in technological changes. A skilled marketer in today's business has to be familiar with social media platforms, blogging, vlogging, content creation, search engine optimization, web analytics.
- Language mastery – workers need to be able to communicate in foreign languages and



technology also can help, since several apps and software's can potentiate the learning process and also on the effective communication process.

- Proper personal image – the image is the first card of any person and in the hospitality sector it has significant importance for the organization prestige, but also for the customer selection of the experience.
- Listening ability and management of customer complaints – learning how to learn the customer needs and providing solutions to the problems and questions upcoming during the service deploying.
- Anticipating customer needs and ability to cope with change – trends analysis on the evolution of the needs of the customers with Apps and web tools depending on the cultural characteristics and the specificities of each country protocol.
- Relationship with customers besides the emotional and relational skills to cope with the customer's needs also includes digital practices as e-invoicing and integrated document management systems.
- Relationship with subordinates – e-leadership as the big hospitality companies are dispersed geographically and the top leadership can be in other countries, using technology to communicate and access to employees.
- Relationship with colleagues and teamwork – the hospitality organization is also knowledge and learning organization and the leader needs to be engaged in the learning experience but also the workers and teams. In the digitalization era it is critical to create the organizational conditions to potentiate the face to face relations with the colleagues and create strong ties within the teams, as each employee needs to be engaged in a continuous learning experience.

II – Profile – Technological

- Use of technology to generate ideas for the business – the challenge to working with massive amounts of data in today's world can select and present the most relevant information in brief, for new products, services or new business.

- Using the Internet to make contacts and sales and online relationship with customers - example social media, it is essential to understand how it works, because that is how customers interact, seek information and make buying decisions today.
- Availability to be online and online customer support - the changing nature of customer service, as customers use several types of means to communicate, i.e. via e-mail, support chats, social media, and others. It is essential for employees to be able to handle customer feedback and offer support, efficiently digitally, but also pay extra attention to the fact that bad customer service can reach great amounts of people very quickly.
- Use of technology to interact with colleagues, create an e online relation between company/employee and ability to use technology (smartphones, computers and others.) to seek information through several channels, as it will better their skills in finding information, assessing it critically and using different tools. Interpersonal relations between co-workers are also transforming into more digital as services like WhatsApp, Yammer, and Skype are more and more integrated into all communications.
- Food Trends Knowledge – knowledge about the food trends all over the world as technology allows free access to information and also to specific channels with precise knowledge.
- Use of technology - business-friendly Apps and Websites - more driven by digital data, to begin with using Google Trends or similar to identify trends and create business plans based on findings, doing more targeted marketing in social media or analyzing the data and reflecting on it. The digitalization also needs to consider safety including the security and privacy of personal data and people.
- Professional image with impact and good professional image online (e.g. LinkedIn) – including digital representation of employees, and companies, because they are represented by their employees indirectly online. This includes self-marketing, online networking and professionally representing oneself online.



VI. LIMITATIONS AND FUTURE RESEARCH

This study was focused only on a small sample of hotels and in this case is not possible to extrapolate the results to the universe. Studies in other contexts are needed to find out what findings can be generalized.

However, there are several potentialities for future research and the creation and applicability of an instrument to diagnose the profiles seems to be very interesting. The results could be used in the training plan to develop leaders' skills.

Furthermore, future studies are required to determine the importance of the profiles identified for the different types of hospitality organizations

Despite of the mediating role between emotional and relational skills and technological skills, further empirical research is needed to fully understand which skills and context are more conducive to what type of performance and worker engagement, depending upon the strategic goals set up by the hotels.

VII. CONCLUSIONS

This study contributed to the hospitality leadership literature in two ways. First, provided evidence directly related to the identification of the 4.0 leadership skills profiles in the hospitality sector, with the purpose of promoting an effective work engagement. Second, revealed that the main skills of a 4.0 Hospitality Leader are more related to the relationships among people than with the knowledge on the use of technology. Therefore, two profiles emerged from our research, i.e., a technological profile and an emotional and relational profile. Besides on, the results revealed that although there are two profiles, the hospitality leaders have skills from both. Knowledge of hygiene and food safety, emotional intelligence, customer attendance service, communication skills, language mastery, proper personal image, listening ability and management of customer complaints, anticipating customer needs and ability to cope with change, relationship with customers, relationship with subordinates and relationship with colleagues and teamwork are the set of skills that constitute the emotional and relational profile. And the use of technology to generate ideas for the business, use the Internet to make contacts and sales and online relationship with customers, availability to be online and online customer support, use of technology to interact with colleagues, create online relation between company/employee and ability to use technology, food trends knowledge, use of

technology - business-friendly Apps and Websites, and professional image with impact and good professional image online are the set of skills that integrate the technological profile. Challenges faced by 4.0 hospitality leaders support the need for research that may unveil the most important skills to be developed by hospitality leader to boost engagement. Furthermore, considering our findings, more research on this subject needs to be done to understand better how 4.0 leadership skills profiles may affect the outcomes of the study, in the realm of the hospitality industry. More broadly, the identification of two 4.0 leadership skills profiles as well as the skills associated with each one of those may inspire hospitality organizations to design new leadership training, by including the skills that should foster leadership and business success.

REFERENCES

- Avolio, B. J., Kahai, S. (2003). Adding the "E" to E-Leadership: How it may Impact Your Leadership. *Organizational Dynamics*, (3)4, pp. 325-338.
[https://doi.org/10.1016/S0090-2616\(02\)00133-X](https://doi.org/10.1016/S0090-2616(02)00133-X)
- Bass, B. M. (1990). Bass & Stogdill's Handbook of Leadership. *Bass Stogdill's Handbook of Leadership*, 3rd, 2415.
- Bass, B. M., & Bass, R. (2008). The Bass handbook of leadership : theory, research, and managerial applications. *Simon and Schuster, 4th ed.*, F, xix, 1516 p. : -xix, 1516 p
- Bennis, W. G., & Nanus, B. (1985). Leading others, Managing yourself. *Leaders: The Strategies for Taking Charge*, 19-86.
- Bergamini, C. W. (1994). Liderança: a administração do sentido. *RAE - Revista de Administração de Empresas*, 34(3), 102-114.
<https://doi.org/10.1590/S0034-75901994000300009>
- Birdir, K. & Pearson, T. E. (2000). Research chefs' skills: a Delphi approach. *International Journal of Contemporary Hospitality Management*, 12(3).
<https://doi.org/10.1108/09596110010309989>
- Brownell, J. (2010). Leadership in the service of hospitality. *Cornell Hospitality Quarterly*, 51(3), pp. 363-378.
<https://doi.org/10.1177/1938965510368651>
- Burns, J. M. (1978). *Leadership*. Oxford.
- Chan, B. & Marianne, C. (2008). Skills and Skills Needed for the Hong Kong Hotel Industry. *Journal of Human Resources in Hospitality & Tourism*, 3(1).
- Chiavenato, I. (2004). *Introdução à Teoria Geral da Administração*. New York.
- Coelho, P.S.; Esteves, S.P. *The choice between a 5-point and a 10-point scale in the framework of customer satisfaction measurement*. Lisboa: ISEGI - Instituto Superior de Estatística e Gestão de Informação - New University of Lisbon, 2007
- Crews, D. E. (2010). Strategies for implementing sustainability: five leadership challenges. *SAM Advanced Management Journal*, 75(2), pp. 15-21.
- Dalmoro, M. & Vieira, K. (2013). Dilemmas of the type likert scales construction: does the number of items and the disposition influence results?. *Revista de Gestão Organizacional*, Vol. 6 - Edição Especial - 2013.
- Dorneles, É. L. M., Salvagni, J., & Nodari, C. H. (2017). The leadership as a differential in organizations: a study on manager's perception. *HOLOS*, 8, 172.
<https://doi.org/10.15628/holos.2017.4151>



- Elinkeinoelämän k. (2006). *Palvelut 2020 – Osaaminen kansainvälisessä palve- luyhteiskunnassa*. Elinkeinoelämän keskusliitto: Helsinki.
- Hai-yan, K. & Tom Baum. (2006). Skills and work in the hospitality sector: The case of hotel front office employees in China. *International Journal of Contemporary Hospitality Management*, 18(6).
<https://doi.org/10.1108/09596110610681548>
- Hanashiro, D. M. M., Nassif, F. J., Nassif, V. M. J., Carvalho, V. A. de, & Bido, D. de S. (2005). Diversidade na Liderança: Há Diferença em Gênero? *ANPAD*.
- Jiang, L. & Alexakis, G. (2017). Comparing students' and managers' perceptions of essential entry- level management competencies in the hospitality industry: An empirical study. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 20.
<https://doi.org/10.1016/j.jhlste.2017.01.001>
- Jonash, R. (2005). Driving sustainable growth and innovation: Pathhigh-performance leadership. *Handbook of Business Strategy*, 6(1), pp. 197-202.
<https://doi.org/10.1108/08944310510557468>
- Lucia, A. D. & Lepsinger, R. (1999). *The Art and Science of Competency Models*. San Francisco: Jossey-Bass/Pfeiffer.
- Mackenzie, M. L. (2010). Manager Communication and Workplace Trust: Understanding Manager and Employee Perceptions in the E-world. *International*
- Novicevic, M. M., Davis, W., Dorn, F., Buckley, M. R. & Brown, J. (2005). Barnard on conflicts of responsibility: Implications for today's perspectives on transformational and authentic leadership. *Management Decision*, 43(10), pp. 1396-1409.
<https://doi.org/10.1108/00251740510634930>
- Oliveira, M. de. (1997). *Energia emocional*. (Makron Books, Ed.). São Paulo.
- Pajarinen, M. & Rouvinen, P. (2014). *Computerization ThOne-Thirdne Third of Finnish Employment*. ETLA. Available: <http://www.etla.fi/wp-content/uploads/ETLA-Muistio-Brief-22.pdf>. Accessed: May 16, 2016.
- Peter Drucker. (1996). *O líder do futuro*. (E. Futura, Ed.). São Paulo.
- Savolainen, T. (2014). Trust-building in e-leadership: A case study of leaders' challenges and skills in technology-mediated interaction. *Journal of Global Business Issues*, 8(2), pp. 45-56
- Senge, P. K., Kliener, A., Roberts, C. Ross, R., Roth, G., and Smith, B. (1999). *The Dance of Change: The Challenges of Sustaining Momentum in Learning Organizations*. New York: Doubleday.
- Shamim, S. & Cang, S. & Yu, H. & Li, Y. 2017. Examining the Feasibilities of Industry 4.0 for the Hospitality Sector with the Lens of Management Practice. *Energies*, 10, 499.
- Shariff, N. M., Kayat, K., & Abidin, Z. A. (2014). Tourism and Hospitality Graduates Skills: Industry Perceptions and Expectations in the Malaysian Perspectives *Applied Sciences Journal*.
- Sisson, L. G. & Adams, A. R. (2013). Essential Hospitality Management Skills: The Importance of Soft Skills. *Journal of Hospitality & Tourism Education*, 25(3).
<https://doi.org/10.1080/10963758.2013.826975>
- Suh, E., West J. J., & Shin, J. (2012). Important competency requirements for managers in the hospitality industry. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 11(2).
<https://doi.org/10.1016/j.jhlste.2012.02.005>
- Tesone, D. V. & Ricci, P. (2010). Hotel and Restaurant Entry-Level Job Skills: Comparisons of Management and Worker Perceptions. *Hospitality Review*, 27(1).
- Vergara, S. C. (2007). A liderança aprendida. *GV Executivo*, v.6, n.1, 61-65.
<https://doi.org/10.12660/gvexec.v6n1.2007.34329>
- Yukl, G. (1989). *Leadership in organizations*. Yukl, G.A. (Vol. 25)
- Zhang, J., Song, L. J., Wang, Y., & Liu, G. (2018). How authentic leadership influences employee proactivity: the sequential mediating effects of psychological empowerment and core self-evaluations and the moderating role of employee political skill. *Frontiers of Business Research in China*, 12(1), 5.
<https://doi.org/10.1186/s11782-018-0026-x>

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