GRADUATE EMPLOYABILITY: IDENTIFY THE DIFFERENCES IN SKILL REQUIREMENTS AMONG HOTEL DEPARTMENTS IN RESPONSE TO INDUSTRY 4.0

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Abstract

Technology is invading the world. It changes what we are used to doing into a digital format. This transition influences the hospitality industry, leading to changes in its requirements, particularly the skills required for employment. These changes have been understood as generic, but over time they have been recognized at the departmental level as well, which has to be addressed when designing higher education curricula to help graduates smoothly apply for hotel jobs.

The research aims to identify the most required skills across departments in the Egyptian hotel sector, as well as the minimum level of skills needed to create employable graduates.

The research found that soft skills and personal attitudes play a crucial role when recruiting entry-level employees. Also, it revealed deficiencies in graduates' skills, such as technical skills, numeracy, planning, and organizing skills. Therefore, the researchers recommended collaboration between higher education and the hospitality industry to redesign hotel curricula based on recent industry requirements.

Keywords: employability skills, fresh graduates, hotel operators, soft skills, and skill gaps.

Background

The increasing reliance on advanced technology in our daily lives has made it an inevitable choice for the hospitality industry, as nothing can be immune to digital disruption (Bradley et al., 2015). This transition requires spending

a lot of money to establish advanced technology and hire skilled employees who can fulfill guests' expectations. Unfortunately, according to the literature, the lack of preparation and shortage of skills for fresh graduates (El Mansour & Dean, 2016; Abbasi et al., 2018; Capua, 2021) are leading to recruitment failure problems (World Bank Group, 2015) and unemployment issues. Thus, understanding what the industry needs is essential to avoiding graduates' employment issues.

1. Review of literature

1.1. Introduction

During the last three decades, technology and automation have affected the hospitality industry, leading to enhancements in operational efficiency, improved service quality, and reduced costs (Law et al., 2009; Ip et al., 2011). Due to the development of digital technology and the spread of its adoption, a transformation has occurred in our lives, societies, and the global economy (Schwab, 2017), leading to a change in the way we think or conduct business and creating the fourth industrial revolution (FIR), or what is called "Industry 4.0" (Schwab, 2017; Lee et al., 2018).

Industry 4.0 is concerned with improving the effectiveness and competitiveness of businesses (Verevka, 2019) by integrating advanced technologies into all aspects of operations. This includes cyber-physical systems (CPS), the Internet of Things (IoT), big data, cloud computing, artificial intelligence, virtual technologies, and robotics to create a digital and automated environment (Ustundag & Cevikcan, 2017; Osei et al., 2020) that improves guest services and enhances their overall experience.

Unfortunately, these technologies are expected to change the nature, structure, and conditions of work (Colbert et al., 2016), resulting in the elimination of jobs and a reduction in manpower (Habraken & Bondarouk, 2017; Ivanov & Webster, 2017; OECD, 2018; Cain et al., 2019). Therefore, it is essential to identify those new hotel requirements and embed them in the hotel curricula to ensure the fulfillment of hotel industry requirements and enhance graduates' employability.

1.2. Employability skills and hotel operators' complaints

Employability is a group of abilities and personal attributes that make individuals more likely to gain a job and achieve success in it (York, 2006). It is an expression of skills needed to make a graduate flexible, adaptable, and mobile in the labor market (Kelly, 2007).

According to Yorke (2006), employability can be defined as "a set of achievements—skills, understandings, and personal attributes—that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community, and the economy" (P. 8).

The importance of employability skills comes from the fact that hotel operators perceive them as essential when recruiting new entry-level employees (Lowden et al., 2011), which makes employability a criterion for employment (Mtebula, 2014) and creates a relationship between skills capacity for graduates and the expectations of hotel operators for skills (Guilbert et al., 2016).

employability involves a group of skills such as basic academic skills, knowledge, technical, creativity and innovation, managing resources, communication, professionality, interpersonal, teamwork, coordination, responsibility, problem-solving, decision-making, information technology, system and technology skills, working with others, reasoning, leadership, negotiation, ability to learn, critical thinking, self-esteem, motivation, adaptability to change, and attitudes and personal qualities (Yorke, 2006; Kelly, 2007; Ramisetty & Desai, 2017; Kenayathulla et al., 2019; Capua, 2021).

Normally, hotel operators are looking for people who fit their jobs, who can add value to their establishments (Ejiwale, 2014), and who are ready to start their jobs immediately without delay. Unfortunately, they expected to find graduates equipped with the basic skills needed to work with the minimum possible supervision (Andrews & Higson, 2008), but this didn't happen. For that, hotel operators complained about the higher education graduates' inadequacy of skills and preparation as a result of focusing on technical skills and academic knowledge while unrealizing the importance of soft skills for work performance and success (Maher & Neild, 2005; Kanter, 2013; Mtebula, 2014; Alhelalat, 2015; El Mansour & Dean, 2016; Abbasi et al., 2018). This situation has created gaps between higher education outcomes and industry requirements (Tyagi & Shah, 2022). These gaps make it difficult to find suitable candidates for hotel job vacancies, which is expected to get bigger as we move further into the 21st century (Mac Dermott & Ortiz, 2017).

1.3. Soft skills and skill gaps

Skills are both hard and soft. Hard skills are those technical skills relevant to workplace tasks, such as professional knowledge, techniques, and tools needed to perform work tasks (Matsouka & Mihail, 2016). On the other side, soft skills are those "skills, abilities, and traits that are connected with personality, attitude, and behavior rather than to formal or technical knowledge" (Moss & Tilly, 1996, p. 257). Therefore, soft skills can form individual behaviors and responses across different challenges. For that, operators always place a higher reliance on soft skills and personal attributes (McMurray et al., 2016) when selecting new employees, due to hotel operators looking for soft skills as an indicator of what graduates can do (Jackson, 2010), and the level of success they can achieve in the workplace (Philpot, 2010).

Soft skills involve a long list of skills such as communication, teamwork, professionalism, collaboration, problem-solving, responsibility, critical thinking ability, integrity, courtesy, responsibility, social skills, a positive attitude, flexibility, teamwork, and work ethics (Fajaryati et al., 2020).

Usually, hotel operators are looking for candidates who possess additional skills beyond their degree, who are creative, knowledgeable, and have unique characters to match industry needs (Rehman & Mehmood, 2014), which can be simply fulfilled by soft skills.

Unfortunately, hotel operators are complaining about graduates' lack of skills that are needed to perform workplace tasks (Ramisetty & Desai, 2017), which revealed many gaps between the skills needed by hotel operators for their job recruitment and the graduates' skills as outcomes of higher education (Andrews & Higson, 2008; Kanter, 2013; Adeyinka-Ojo, 2018; Hossny, 2018; Bathla et al., 2019). This is confirmed by the World Bank Group's (2015) study findings, which found that more than 50% of employers globally can't find the right employees with the skills needed for their job openings.

These gaps are a result of graduates' concentration on technical skills (El Mansour & Dean, 2016) without realizing what employers need. Although possessing technical skills is important to do job tasks properly, these skills alone are not enough because today's employers see that soft skills are necessary to develop employees' methodological and social skills, which are vital to performing tasks efficiently and effectively (Robles, 2012; El Mansour & Dean, 2016; Fajaryati et al., 2020).

However, a study was conducted by Hossny (2018) to explore the skills necessary for the Egyptian hotel industry. The study findings indicated gaps in graduates' abilities in such skills: as technical skills, cultural awareness, communication skills, teamwork, strategic thinking, interpersonal skills, organizing, language skills, flexibility, and commitment.

1.4. The skills needed for industry 4.0

Always, technology is used to distinguish operations, creating an advantage or a high touch for the service provided (Law et al., 2013). Recently, we can see artificial intelligence (AI) and automation being integrated deeply into our daily lives, as in self-driving cars, drones, virtual assistants, translation software, etc., re-siting the correlation between humans and machines (Schwab, 2017; Drexler & Lapré, 2019).

However, the future is expected to bring many changes concerning the skills needed for employment. Many researchers have looked for the required skills for the future, and their findings were information and communication technologies (ICT), autonomy, numeracy, solid literacy, collaboration, coordination, creativity, teamwork, problem-solving, independent problem-solving, managerial, communication, lifelong learning, managing complexity, complex information processing, abstraction, decision-making, critical thinking, and organizational skills (Deming, 2017; Grundke et al., 2017; Bughin et al., 2018; SpA et al., 2020). In addition, it is expected that soft and technological skills will govern hotel operators' preferences for skills when hiring employees (Farjaryati, 2020).

Therefore, it's important to point out that it's important to take serious steps in developing hotel higher educational curricula because the more and faster technology is used, the more demand for technological skills is needed (Deming, 2017; Bughin et al., 2018; SpA et al., 2020), as well as for employees' social and emotional tasks (Bughin et al., 2018; and SpA et al., 2020).

1.5. Hotel employment options for fresh graduates

The hotel management program in Egyptian higher education institutions focuses on studying the management of five hotel departments: the front office, food and beverage, sales and marketing, housekeeping, and human resources (Hotel management department, 2017). These departments are extensively studied by graduates, both theoretically and practically, to prepare them for their target jobs in the hotel industry.

Understanding the specific requirements of each department is crucial for a smooth transition into their desired careers.

2. Research Methodology

The research investigates the minimum level of skill required by Egyptian hotel operators for recruiting hotel higher education graduates, as well as revealing skill gaps in those newly hired graduates who were employed within the last two years. The research adopts both descriptive and quantitative methods of research, using the questionnaire as a tool for the research technique.

The instrument used in the research is based on four independent studies: Abbasi et al. (2018), Dhaliwal & Misra (2020), Kenayathulla et al. (2019), and Matsouka & Mihail (2016). These studies were collaboratively used to establish a combination of skills. By removing those repeated skills, the result was a list of 38 skills representing a broad framework of employability skills. The framework of skills (38 skills) involves oral and written communication, numeracy, leadership, communication, problem-solving, team-working, learning orientation, adaptability, creativity & innovation, ethics and integrity, initiative and enterprise, interpersonal skills, professionalism, technical skills, decision making, time management, personnel management, customer service, planning and organizing, self-management, entrepreneurship, analytical skills, critical thinking, technology, extra effort, goal-setting, emotional intelligence, intrinsic motivation, self-awareness, influence & sales skills, change management, knowledge breadth, academic qualifications, global mindset, personal development, personal attitude, positive attitude, and information technology.

The skills are arranged and presented in the questionnaire according to Ramisetty & Desai's (2017) division of four skill categories: (a) basic academic skills; (b) higher-order thinking skills; (c) interpersonal and teamwork skills; and (d) personal characteristics and attitudes. These four categories are expected to make it easy for any respondent to recognize the difference among skills and help collect more precise answers.

The research is focused on Cairo City, as it comprises two faculties of hotels and tourism and eight hotel higher institutes. In addition, the greatest number

of 5-star hotels in Egypt is estimated at 54 hotels (Egyptian Hotel Guide, 2020). The sample size was decided on 29 hotels based on a 95% confidence level, a 5% margin of error, a 96% population proportion, and 54 hotels as a population size, according to a line of sample size tool. Therefore, the research targeted 29 hotels out of the total population of Cairo 5-star hotels.

The researchers are used the stratified random sampling as a sampling technique for distributing the questionnaire. The research is conducted a self-administered questionnaire to five department managers in each of the 29 hotels: front office, food and beverage, sales and marketing, housekeeping, and human resources, as they represent the graduates' extensive study in higher education institutions. For that, they are targeted departments for graduates' employment. Thus, the sample size will be 145 in total (5 managers within 29 hotels).

The skills were listed in the questionnaire with skill descriptions to make it easier for respondents to answer consistently without confusion. Respondents are requested to rate the minimum required level of skills for their departments on a five-point Likert scale ranging from 1 (very low) to 5 (very high). Furthermore, they are asked to rate their assessment of the newly hired graduates' skills who were recruited within the last two years on a five-point Likert scale ranging from 1 (very low) to 5 (very high).

3. Results and Discussion

A Cronbach's alpha test was used to ensure the reliability of the questionnaire before distribution. The result was a high level of questionnaire reliability, with a value of 0.969.

Anyway, 145 self-administrated questionnaires were conducted among five department managers in 29 five-star hotels in Cairo, which represents the total population of the research. The number of questionnaires received was 135 from 27 hotels after three months of follow-up. The analysis will comprise the following statistics: frequencies, sum, mean, standard deviation, differences and skill gaps, and correlations. The results are provided as follows:

3.1. The front office department

According to Table (1), the results show significant differences between fresh graduates' abilities and front office operators' requirements for skills. For example, concerning the basic academic skills category, a gap can be

found in the newly hired graduates' skills of the minimum required level of skills by 8.21% to gain the job, where t = 4.654* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with the industry requirements, especially in essential skills such as numeracy (15.60%) and technical skills (14.77%).

In addition, concerning the higher-order thinking skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 12.38%, where t = 6.569* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students cognitive skills such as analytical skills (16.94%), critical thinking skills (16.51%), and planning and organizing skills (15.25%). Moreover, concerning the interpersonal and team working skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 8.29% to gain the job, where t = 5.824* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students interaction and interpersonal skills such as personnel management skills (13.67%), interpersonal skills (13.51%), and decision-making skills (11.90%). Finally, concerning the personal characteristics and attitudes skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 8.34% to gain the job, where t = 5.566* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students personality resources such as intrinsic motivation skills (13.67%), self-management skills (13.51%), initiative and enterprise skills (11.90%), and professionalism skills (12.02%).

The previous results indicated that academics in higher education institutions are not paying the proper attention to equip students with the skills needed by front office operators, which led to a problem of lack of skills in all skill categories, especially in higher-order thinking skills that are expected to reflect on their employability, due to the negative affection for their execution for front office tasks as well as the majority of the workplace's daily activities.

However, the skills analysis in table (1) have enabled us to identify the ten most important skills for front office departments in terms of mean, as well as the ten biggest gaps revealed in newly hired graduates' abilities (as shown in Table 2).

Table (1): Skill gaps between the minimum level of skills required for front office job occupations and the level of skills assessed for newly hired graduates' (n = 27)

No.	Skills	Minimum level required for the skill by points				Assessment of newly hired graduates' skills				Gap (difference)	% Gap (difference)	t	p
		Sum	Mean	SD.	Rank	Sum	Mean	SD.	Rank				
	Basic academic skills	**500**	**18.52**	**2.34**	**1**	**459**	**17.0**	**2.35**	**1**	**1.52**	**8.21**	**4.654***	**<0.001***
1	Oral and written communication	111	4.11	0.85	5	108	4.0	0.96	5	0.11	2.68	1.803	0.083
2	Numeracy	97	3.59	0.84	12	82	3.04	0.81	17	0.56	15.60	5.000*	<0.001*
3	Technical skills	95	3.52	0.94	14	81	3.0	0.78	19	0.52	14.77	4.647*	<0.001*
4	Information technology	89	3.30	1.23	21	82	3.04	1.13	17	0.26	7.88	2.563*	0.017*
5	Academic qualifications	108	4.0	0.39	6	106	3.93	0.38	6	0.07	1.75	1.442	0.161
	Higher order thinking skills	**977**	**36.19**	**6.05**	**4**	**856**	**31.70**	**5.72**	**4**	**4.48**	**12.38**	**6.569***	**<0.001***
6	Knowledge breadth	82	3.04	1.09	31	70	2.59	0.84	30	0.44	14.47	4.000*	<0.001*
7	Planning and organizing skills	92	3.41	1.01	18	78	2.89	0.75	22	0.52	15.25	4.192*	<0.001*
8	Analytical skills	83	3.07	1.04	30	69	2.56	0.85	33	0.52	16.94	4.647*	<0.001*
9	Entrepreneurial skills	73	2.70	1.03	36	63	2.33	0.78	36	0.37	13.70	3.911*	0.001*
10	Leadership	66	2.44	0.85	37	59	2.19	0.68	38	0.26	10.66	3.017*	0.006*
11	Creativity and innovation	66	2.44	0.89	37	60	2.22	0.80	37	0.22	9.02	2.726*	0.011*
12	Critical thinking	85	3.15	0.95	27	71	2.63	0.79	28	0.52	16.51	5.292*	<0.001*
13	Global mindset	89	3.30	1.14	21	85	3.15	1.17	14	0.15	4.55	2.126*	0.043*
14	Time management	90	3.33	0.92	20	84	3.11	1.09	15	0.22	6.61	2.726*	0.011*
15	Technology	97	3.59	0.89	12	83	3.07	0.78	16	0.52	14.48	5.292*	<0.001*
16	Change management	74	2.74	0.94	35	64	2.37	0.69	35	0.37	13.50	3.407*	0.002*
17	Goal setting	80	2.96	1.16	33	70	2.59	1.01	30	0.37	12.50	3.058*	0.005*
	Interpersonal and Teamwork Skills	**772**	**28.59**	**5.75**	**3**	**708**	**26.22**	**5.50**	**3**	**2.37**	**8.29**	**5.824***	**<0.001***
18	Communication skills	115	4.26	0.66	3	112	4.15	0.72	4	0.11	2.58	1.803	0.083
19	Interpersonal skills	104	3.85	0.82	8	90	3.33	0.73	10	0.52	13.51	4.647*	<0.001*
20	Problem-solving	103	3.81	1.0	10	100	3.70	0.99	8	0.11	2.89	1.803	0.083
21	Decision-making	84	3.11	0.89	29	74	2.74	0.94	27	0.37	11.90	3.911*	0.001*
22	Team-working	104	3.85	0.82	8	100	3.70	0.91	8	0.15	3.90	2.126*	0.043*
23	Emotional intelligence	86	3.19	0.96	24	76	2.81	0.96	25	0.37	11.60	3.407*	0.002*
24	Influence and sales skills	95	3.52	1.09	14	86	3.19	1.08	13	0.33	9.38	3.606*	0.001*
25	Personnel management	81	3.0	1.11	32	70	2.59	0.89	30	0.41	13.67	3.051*	0.005*
	Personal Characteristics and Attitudes	**1260**	**46.67**	**6.89**	**2**	**1155**	**42.78**	**6.25**	**2**	**3.89**	**8.34**	**5.566***	**<0.001***
26	Personality development	94	3.48	0.85	16	88	3.26	0.86	12	0.22	6.32	2.726*	0.011*
27	Extra effort	86	3.19	0.92	24	76	2.81	0.79	25	0.37	11.60	3.911*	0.001*
28	Customer service	107	3.96	0.76	7	104	3.85	0.77	7	0.11	2.78	1.803	0.083
29	Intrinsic motivation	86	3.19	0.79	24	71	2.63	0.79	28	0.56	17.55	4.507*	<0.001*
30	Self-awareness	79	2.93	0.73	34	68	2.52	0.58	34	0.41	13.99	3.698*	0.001*
31	Self-management	94	3.48	0.80	16	79	2.93	0.62	21	0.56	16.09	5.000*	<0.001*
32	Adaptability	99	3.67	0.88	11	90	3.33	0.88	10	0.33	8.99	3.122*	0.004*
33	Positive attitude	115	4.26	0.86	3	113	4.19	0.83	3	0.07	1.64	1.442	0.161
34	Professionalism	92	3.41	0.75	18	81	3.0	0.78	19	0.41	12.02	3.698*	0.001*
35	Ethics and integrity	116	4.30	0.78	2	114	4.22	0.75	2	0.07	1.63	1.442	0.161
36	Initiative, and enterprise	89	3.30	0.95	21	77	2.85	0.82	23	0.44	13.33	3.606*	0.001*
37	Learning orientation	85	3.15	0.60	27	77	2.85	0.66	23	0.30	9.52	3.309*	0.003*
38	Personal attitude	118	4.37	0.79	1	117	4.33	0.83	1	0.04	0.92	1.000	0.327
	Overall	**3509**	**130.0**	**18.02**		**3178**	**117.7**	**17.47**		**12.26**	**9.43**	**6.795***	**<0.001***

SD: Standard deviation　　　　t: Paired t-test　　　*: Statistically significant at p ≤ 0.05

p: p value for comparison between the studied skills categories

These findings must be taken into account by academics to serve as a guide and target when designing front office curricula as well as by fresh graduates who are decided to apply for front office jobs.

According to Table (2), front office operators primarily required soft skills, which prove their importance by acquiring the highest four positions in their requirements (personal attitude, ethics and integrity, communication skills, and positive attitude), followed by oral and written communication skills, and academic qualification. Therefore, much attention has to be provided to soft skills in curriculum design, giving priority and adequate weight to those skills needed most for front-office department.

Table (2): The 10 most important skills for front office operators and the 10 biggest skill gaps in newly hired graduates' abilities (n = 27)

Rank	No.	Most important skills	Mean	Rank	No.	Skill gaps	% Gap (difference)
1	38	Personal attitude	4.37	1	29	Intrinsic motivation	17.55
2	35	Ethics and integrity	4.3	2	8	Analytical skills	16.94
3	18	Communication skills	4.26	3	12	Critical thinking	16.51
3	33	Positive attitude	4.26	4	31	Self-management	16.09
5	1	Oral and written communication	4.11	5	2	Numeracy	15.60
6	5	Academic qualifications	4	6	7	Planning and organizing skills	15.25
7	28	Customer service	3.96	7	3	Technical skills	14.77
8	19	Interpersonal skills	3.85	8	15	Technology	14.48
8	22	Team-working	3.85	9	6	Knowledge breadth	14.47
10	20	Problem-solving	3.81	10	39	Self-awareness	13.99

On the other hand, in order to understand the correlation among skills within the front office department (as shown in Table 3), Spearman coefficient tests are used to identify the level of correlations among skills within the four highest ranks of skills in each categories as a sample to test the correlation among them, to understand whether there is a correlation or not, and its level to assist as a guide when designing the front office curricula.

Table (3): Testing the correlation among the four-highest ranked skills in all skill categories regarding the front office department (n =27)

No.	Correlations	r_s	p	Interpretation
	Basic academic skills			
1 vs. 2	Oral and written communication vs. Numeracy	0.329	0.094	No Correlation
1 vs. 3	Oral and written communication vs. Technical skills	0.672	<0.001*	Strong Correlation
1 vs. 5	Oral and written communication vs. Academic qualifications	0.000	1.000	No Correlation
2 vs. 3	Numeracy vs. Technical skills	0.254	0.201	No Correlation
2 vs. 5	Numeracy vs. Academic qualifications	-0.223	0.264	No Correlation
3 vs. 5	Technical skills vs. Academic qualifications	0.000	1.000	No Correlation
	Higher order thinking skills			
7 vs. 13	Planning and organizing skills vs. Global mindset	0.002	0.993	No Correlation
7 vs. 14	Planning and organizing skills vs. Time management	0.458*	0.016*	Moderate Correlation
7 vs. 15	Planning and organizing skills vs. Technology	0.478*	0.012*	Moderate Correlation
13 vs. 14	Global mindset vs. Time management	0.107	0.597	No Correlation
13 vs. 15	Global mindset vs. Technology	-0.057	0.778	No Correlation
14 vs. 15	Time management vs. Technology	0.834*	<0.001*	Very strong Correlation
	Interpersonal and Teamwork Skills			
18 Vs. 19	Communication skills vs. Interpersonal skills	0.583*	0.001*	Moderate Correlation
18 Vs. 20	Communication skills vs. Problem-solving	0.720*	<0.001*	Strong Correlation
18 Vs. 22	Communication skills vs. Team-working	0.609*	0.001*	Strong Correlation
19 vs. 20	Interpersonal skills vs. Problem-solving	0.616*	0.001*	Strong Correlation
19 vs. 22	Interpersonal skills vs. Team-working	0.602*	0.001*	Strong Correlation
20 vs. 22	Problem-solving vs. Team-working	0.712	<0.001*	Strong Correlation
	Personal Characteristics and Attitudes			
28 vs. 33	Customer service vs. Positive attitude	0.728*	<0.001*	Strong Correlation
28 vs. 35	Customer service vs. Ethics and integrity	0.477*	0.012*	Moderate Correlation
28 vs. 38	Customer service vs. Personal attitude	0.645*	<0.001*	Strong Correlation
33 vs. 35	Positive attitude vs. Ethics and integrity	0.302	0.126	No Correlation
33 vs. 38	Positive attitude vs. Personal attitude	0.799*	<0.001*	Strong Correlation
35 vs. 38	Ethics and integrity vs. Personal attitude	0.484*	0.010*	Moderate Correlation

r_s: Spearman coefficient   *: Statistically significant at p ≤ 0.05

According to table (3), Spearman coefficient tests have showed that there is a very strong correlation between time management and technology, in addition to a strong correlation between oral and written communication and technical skills, communication skills and problem-solving, communication skills and team-working, interpersonal skills and problem-solving, interpersonal skills and team-working, problem-solving and team-working, customer service and positive attitude, customer service and personal attitude, positive attitude and personal attitude. These results will help the academics bring together those skills that have strong correlations with each other in the same curriculum to benefit from their high correlation in overcoming the gaps in skills when designing front office curricula.

3.2. The food & beverage department

According to Table (4), the results show significant differences between fresh graduates' abilities and food and beverage operators' requirements for skills. For example, concerning the basic academic skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 11.34% to gain the job, where t = 5.560* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with the industry requirements, especially in essential skills such as numeracy (20.70%) and technical skills (19.33%). In addition, concerning the higher-order thinking skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 11.94% to gain the job, where t = 5.333* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students cognitive skills such as knowledge breadth (18.57%), planning and organization skills (17.19%), and goal-setting skills (14.59%).

Moreover, concerning the interpersonal and teamworking skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 9.21% to gain the job, where t = 5.896* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students interaction and interpersonal skills as interpersonal skills (16.76%), decision-

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making skills (15.59%), and personnel management skills (13.17%). Finally, concerning the personal characteristics and attitudes skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 9.21% to gain the job where t = 6.850* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students personality resources such as intrinsic motivation skills (20.72%), self-management skills (17.88%), self-awareness skills (15.44%), and professionalism skills (14.72%).

The previous results indicated that academics in higher education institutions have a problem with their students' preparation, particularly in technical skills that are essential for their specialization as well as those soft skills needed to execute their work properly, such as planning and organizing skills, interpersonal skills, self-management skills, etc. In the same context, concerning skills categories, the result indicated a problem in students' equipping of skills in all skill categories, especially basic academic skills, and higher-order thinking skills that are expected to reflect on graduates' employment due to the negative affection for their execution for food and beverage tasks and the majority of the workplace's daily activities. Therefore, a lack of skills is noticeable, and much attention has to be given to curriculum design to give priority and adequate weight to those skills needed most by food and beverage operators.

However, the skills analysis in Table (4) has enabled us to identify the ten most important skills for food and beverage departments in terms of mean, as well as the ten biggest gaps revealed in newly hired graduates' abilities (as shown in Table 5). These findings must be taken into consideration by academics to serve as a guide and target when designing food and beverage curricula, as well as by fresh graduates when they decide to apply for food and beverage jobs.

Table (4): Skill gaps between the minimum level of skills required for food and beverage job occupations and the level of skills assessed for newly hired graduates' (n = 27)

No.	Skills	Minimum level required for the skill by points				Assessment of newly hired graduates' skills				Gap (difference)	% Gap (difference)	t	p
		Sum	Mean	SD.	Rank	Sum	Mean	SD.	Rank				
	Basic academic skills	**388**	**14.37**	**2.63**	**3**	**344**	**12.74**	**2.43**	**3**	**1.63**	**11.34**	**5.560***	**<0.001***
1	Oral and written communication	89	3.30	0.99	12	85	3.15	1.10	9	0.15	4.55	2.126*	0.043*
2	Numeracy	77	2.85	0.99	23	61	2.26	0.81	27	0.59	20.70	5.380*	<0.001*
3	Technical skills	88	3.26	0.94	14	71	2.63	0.69	20	0.63	19.33	4.757*	<0.001*
4	Information technology	56	2.07	0.83	37	53	1.96	0.71	34	0.11	5.31	1.803	0.083
5	Academic qualifications	78	2.89	0.70	22	74	2.74	0.71	16	0.15	5.19	2.126*	0.043*
	Higher order thinking skills	**812**	**30.07**	**6.32**	**4**	**715**	**26.48**	**4.81**	**4**	**3.59**	**11.94**	**5.333***	**<0.001***
6	Knowledge breadth	64	2.37	0.79	33	52	1.93	0.47	35	0.44	18.57	4.000*	<0.001*
7	Planning and organizing skills	69	2.56	0.85	29	57	2.11	0.58	32	0.44	17.19	4.561*	<0.001*
8	Analytical skills	59	2.19	0.74	35	52	1.93	0.55	35	0.26	11.87	3.017*	0.006*
9	Entrepreneurial skills	59	2.19	0.83	35	52	1.93	0.68	35	0.26	11.87	3.017*	0.006*
10	Leadership	55	2.04	0.65	38	52	1.93	0.55	35	0.11	5.39	1.803	0.083
11	Creativity and innovation	65	2.41	0.80	32	58	2.15	0.66	31	0.26	10.79	3.017*	0.006*
12	Critical thinking	63	2.33	0.92	34	54	2.0	0.68	33	0.33	14.16	2.793*	0.010*
13	Global mindset	79	2.93	1.0	21	73	2.70	0.99	17	0.22	7.51	2.726*	0.011*
14	Time management	85	3.15	0.95	16	80	2.96	1.06	12	0.19	6.03	2.431*	0.022*
15	Technology	69	2.56	1.15	29	59	2.19	0.68	30	0.37	14.45	2.798*	0.010*
16	Change management	69	2.56	0.89	29	61	2.26	0.66	27	0.30	11.72	3.309*	0.003*
17	Goal setting	76	2.81	1.24	25	65	2.41	1.05	24	0.41	14.59	3.328*	0.003*
	Interpersonal and Teamwork Skills	**715**	**26.48**	**6.03**	**2**	**649**	**24.04**	**5.15**	**2**	**2.44**	**9.21**	**5.896***	**<0.001***
18	Communication skills	107	3.96	0.85	4	104	3.85	0.86	4	0.11	2.78	1.803	0.083
19	Interpersonal skills	95	3.52	1.09	8	79	2.93	0.92	13	0.59	16.76	4.841*	<0.001*
20	Problem-solving	91	3.37	1.08	9	88	3.26	1.06	7	0.11	3.26	1.803	0.083
21	Decision-making	71	2.63	0.74	28	60	2.22	0.58	29	0.41	15.59	4.228*	<0.001*
22	Team-working	103	3.81	0.83	6	98	3.63	1.01	6	0.19	4.99	2.431*	0.022*
23	Emotional intelligence	81	3.0	0.92	20	72	2.67	0.88	19	0.33	11.00	3.122*	0.004*
24	Influence and sales skills	91	3.37	1.11	9	82	3.04	1.09	11	0.33	9.79	3.122*	0.004*
25	Personnel management	76	2.81	1.0	25	66	2.44	0.64	23	0.37	13.17	2.798*	0.010*
	Personal Characteristics and Attitudes	**1217**	**45.07**	**6.20**	**1**	**1105**	**40.93**	**6.54**	**1**	**4.15**	**9.21**	**6.850***	**<0.001***
26	Personality development	90	3.33	0.96	11	83	3.07	0.96	10	0.26	7.81	3.017*	0.006*
27	Extra effort	85	3.15	0.91	16	75	2.78	0.85	14	0.37	11.75	3.911*	0.001*
28	Customer service	105	3.89	0.80	5	102	3.78	0.80	5	0.11	2.83	1.803	0.083
29	Intrinsic motivation	82	3.04	0.65	18	65	2.41	0.75	24	0.63	20.72	6.648*	<0.001*
30	Self-awareness	77	2.85	0.66	23	65	2.41	0.57	24	0.44	15.44	4.561*	<0.001*
31	Self-management	89	3.30	0.91	12	73	2.70	0.67	17	0.59	17.88	4.438*	<0.001*
32	Adaptability	97	3.59	0.89	7	88	3.26	0.90	7	0.33	9.19	3.122*	0.004*
33	Positive attitude	113	4.19	0.88	3	111	4.11	0.85	3	0.07	1.67	1.442	0.161
34	Professionalism	88	3.26	0.71	14	75	2.78	0.89	14	0.48	14.72	4.315*	<0.001*
35	Ethics and integrity	115	4.26	0.86	2	113	4.19	0.83	2	0.07	1.64	1.442	0.161
36	Initiative, and enterprise	76	2.81	0.79	25	68	2.52	0.75	22	0.30	10.68	2.842*	0.009*
37	Learning orientation	82	3.04	0.52	18	70	2.59	0.69	21	0.44	14.47	4.561*	<0.001*
38	Personal attitude	118	4.37	0.79	1	117	4.33	0.83	1	0.04	0.92	1.000	0.327
	Overall	**3132**	**116.0**	**17.39**		**2813**	**104.2**	**15.41**		**11.81**	**10.18**	**7.420***	**<0.001***

SD: **Standard deviation**   t: **Paired t-test**   *: Statistically significant at p ≤ 0.05

p: p value for comparison between the studied skills categories

According to Table (5), it is noticeable that technical skills don't exist among the ten most important skills needed for the food and beverage department, although it is an essential skill needed for recruiting. The reason is the low competence level of graduates' technical skills, which has pushed food and beverage operators to not depend on the preparation of higher education institutions due to the inadequate practical part of the curricula and start to search for another way to raise candidates' level of technical skills. So, they turned to relying on their technical training programs in the hotel to ensure new entry-level employees fulfilled their skill requirements.

Table (5): The 10 most important skills for food and beverage operators and the 10 biggest skill gaps in newly hired graduates' abilities (n = 27)

Rank	No.	Most important skills	Mean	Rank	No.	Skill gaps	% Gap (difference)
1	38	Personal attitude	4.37	1	29	Intrinsic motivation	20.72
2	35	Ethics and integrity	4.26	2	2	Numeracy	20.7
3	33	Positive attitude	4.19	3	3	Technical skills	19.33
4	18	Communication skills	3.96	4	6	Knowledge breadth	18.57
5	28	Customer service	3.89	5	31	Self-management	17.88
6	22	Team-working	3.81	6	7	Planning and organizing skills	17.19
7	32	Adaptability	3.59	7	19	Interpersonal skills	16.76
8	19	Interpersonal skills	3.52	8	21	Decision-making	15.59
9	24	Influence and sales skills	3.37	9	30	Self-awareness	15.44
9	20	Problem-solving	3.37	10	34	Professionalism	14.72

On the other hand, to understand the correlation among skills within the food and beverage department (as shown in Table 6), Spearman coefficient tests are used to identify the level of correlation among skills. The test used the four highest ranks of skills in each category as a sample to test the correlation among them and understand whether there is a correlation or not, and its level to help as a guide when designing the food and beverage curricula.

Table (6): Testing the correlation among the four-highest ranked skills in all skill categories regarding the food and beverage department (n =27)

No.	Correlations	r_s	p	Interpretation
	Basic academic skills			
1 vs. 2	Oral and written communication vs. Numeracy	0.128	0.526	No Correlation
1 vs. 3	Oral and written communication vs. Technical skills	0.034	0.865	No Correlation
1 vs. 5	Oral and written communication vs. Academic qualifications	-0.173	0.389	No Correlation
2 vs. 3	Numeracy vs. Technical skills	0.464*	0.015*	Moderate Correlation
2 vs. 5	Numeracy vs. Academic qualifications	0.430*	0.025*	Moderate Correlation
3 vs. 5	Technical skills vs. Academic qualifications	0.335	0.088	No Correlation
	Higher order thinking skills			
13 vs. 14	Global mindset vs. Time management	0.237	0.234	No Correlation
13 vs. 16	Global mindset vs. Change management	0.148	0.462	No Correlation
13 vs. 17	Global mindset vs. Goal setting	0.390*	0.045*	Weak Correlation
14 vs. 16	Time management vs. Change management	0.579*	0.002*	Moderate Correlation
14 vs. 17	Time management vs. Goal setting	0.748*	<0.001*	Strong Correlation
16 vs. 17	Change management vs. Goal setting	0.618*	0.001*	Strong Correlation
	Interpersonal and Teamwork Skills			
18 Vs. 19	Communication skills vs. Interpersonal skills	0.753*	<0.001*	Strong Correlation
18 Vs. 22	Communication skills vs. Team-working	0.621*	0.001*	Strong Correlation
18 Vs. 24	Communication skills vs. Influence and sales skills	0.640*	<0.001*	Strong Correlation
19 vs. 22	Interpersonal skills vs. Team-working	0.556*	0.003*	Moderate Correlation
19 vs. 24	Interpersonal skills vs. Influence and sales skills	0.727*	<0.001*	Strong Correlation
22 vs. 24	Team-working vs. Influence and sales skills	0.679*	<0.001*	Strong Correlation
	Personal Characteristics and Attitudes			
28 vs. 33	Customer service vs. Positive attitude	0.644*	<0.001*	Strong Correlation
28 vs. 35	Customer service vs. Ethics and integrity	0.493*	0.009*	Moderate Correlation
28 vs. 38	Customer service vs. Personal attitude	0.665*	<0.001*	Strong Correlation
33 vs. 35	Positive attitude vs. Ethics and integrity	0.298	0.131	No Correlation
33 vs. 38	Positive attitude vs. Personal attitude	0.767*	<0.001*	Strong Correlation
35 vs. 38	Ethics and integrity vs. Personal attitude	0.487*	0.010*	Moderate Correlation

r_s: Spearman coefficient   ***: Statistically significant at p ≤ 0.05**

According to Table (6), Spearman coefficient tests have shown that there is a strong correlation between time management and goal setting, change management and goal setting, communication skills and interpersonal skills, communication skills and team-working, communication skills and influence and sales skills, interpersonal skills and influence and sales skills, team-working and influence and sales skills, customer service and positive attitude, customer service and personal attitude, and positive attitude and personal attitude. These results will help the academics bring together those skills that have strong correlations with each other in the same curriculum to benefit from their high correlation in overcoming the gaps in skills when designing food and beverage curricula.

3.3. The sales & marketing department

According to Table (7), the results show significant differences between fresh graduates' abilities and sales and marketing operators' requirements for skills. For example, concerning the basic academic skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 6.24% to gain the job, where t = 4.412* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with the industry requirements, especially in essential skills such as numeracy (13.15%) and technical skills (8.92%). In addition, concerning the higher-order thinking skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 9.38% to gain the job, where t = 4.673* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students cognitive skills such as leadership (13.79%), change management (12.17%), technology (11.89%), and goal-setting skills (11.64%). Moreover, concerning interpersonal and teamworking skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 6.25% to gain the job where t = 4.313* and p <0.001*.

Table (7): Skill gaps between the minimum level of skills required for sales and marketing job occupations and the level of skills assessed for newly hired graduates' (n = 27)

No.	Skills	Minimum level required for the skill by points				Assessment of newly hired graduates' skills				Gap (difference)	% Gap (difference)	t	p
		Sum	Mean	SD.	Rank	Sum	Mean	SD.	Rank				
	Basic academic skills	**545**	**20.19**	**2.63**	**1**	**511**	**18.93**	**2.74**	**1**	**1.26**	**6.24**	**4.412***	**<0.001***
1	Oral and written communication	122	4.52	0.75	1	119	4.41	0.84	1	0.11	2.43	1.803	0.083
2	Numeracy	115	4.26	0.71	5	100	3.70	0.82	10	0.56	13.15	5.701*	<0.001*
3	Technical skills	100	3.70	0.95	17	91	3.37	0.84	19	0.33	8.92	3.606*	0.001*
4	Information technology	100	3.70	1.03	17	95	3.52	1.05	14	0.19	5.14	2.431*	0.022*
5	Academic qualifications	108	4.0	0.39	9	106	3.93	0.38	8	0.07	1.75	1.442	0.161
	Higher order thinking skills	**1140**	**42.22**	**7.30**	**4**	**1033**	**38.26**	**7.43**	**4**	**3.96**	**9.38**	**4.673***	**<0.001***
6	Knowledge breadth	92	3.41	0.89	28	84	3.11	0.85	27	0.30	8.80	3.309*	0.003*
7	Planning and organizing skills	107	3.96	0.59	10	95	3.52	0.64	14	0.44	11.11	4.561*	<0.001*
8	Analytical skills	93	3.44	0.80	25	86	3.19	0.88	24	0.26	7.56	3.017*	0.006*
9	Entrepreneurial skills	90	3.33	0.83	30	84	3.11	0.80	27	0.22	6.61	2.726*	0.011*
10	Leadership	86	3.19	1.21	36	74	2.74	1.06	37	0.44	13.79	4.000*	<0.001*
11	Creativity and innovation	98	3.63	1.04	21	90	3.33	0.96	20	0.30	8.26	3.309*	0.003*
12	Critical thinking	89	3.30	0.82	32	80	2.96	0.85	34	0.33	10.00	3.606*	0.001*
13	Global mindset	103	3.81	1.08	13	97	3.59	1.12	12	0.22	5.77	2.726*	0.011*
14	Time management	98	3.63	0.84	21	93	3.44	0.97	17	0.19	5.23	2.431*	0.022*
15	Technology	100	3.70	0.87	17	88	3.26	0.76	23	0.44	11.89	4.561*	<0.001*
16	Change management	82	3.04	1.02	38	72	2.67	0.92	38	0.37	12.17	3.911*	0.001*
17	Goal setting	102	3.78	0.93	14	90	3.33	1.04	20	0.44	11.64	3.606*	0.001*
	Interpersonal and Teamwork Skills	**816**	**30.22**	**4.83**	**2**	**765**	**28.33**	**4.76**	**2**	**1.89**	**6.25**	**4.313***	**<0.001***
18	Communication skills	118	4.37	0.69	2	115	4.26	0.71	3	0.11	2.52	1.803	0.083
19	Interpersonal skills	107	3.96	0.76	10	96	3.56	0.70	13	0.41	10.35	3.698*	0.001*
20	Problem-solving	104	3.85	0.82	12	102	3.78	0.80	9	0.07	1.82	1.442	0.161
21	Decision-making	89	3.30	0.91	32	82	3.04	0.85	31	0.26	7.88	3.017*	0.006*
22	Team-working	101	3.74	0.86	15	98	3.63	0.93	11	0.11	2.94	1.803	0.083
23	Emotional intelligence	93	3.44	0.93	25	86	3.19	1.08	24	0.26	7.56	3.017*	0.006*
24	Influence and sales skills	115	4.26	0.81	5	110	4.07	0.87	6	0.19	4.46	2.431*	0.022*
25	Personnel management	89	3.30	1.07	32	76	2.81	0.88	35	0.48	14.55	3.574*	0.001*
	Personal Characteristics and Attitudes	**1299**	**48.11**	**6.65**	**3**	**1217**	**45.07**	**6.40**	**3**	**3.04**	**6.32**	**4.784***	**<0.001***
26	Personality development	99	3.67	0.78	20	94	3.48	0.75	16	0.19	5.18	2.431*	0.022*
27	Extra effort	91	3.37	0.93	29	83	3.07	0.92	29	0.30	8.90	3.309*	0.003*
28	Customer service	109	4.04	0.85	8	108	4.0	0.83	7	0.04	0.99	1.000	0.327
29	Intrinsic motivation	86	3.19	0.48	36	76	2.81	0.62	35	0.37	11.60	3.911*	0.001*
30	Self-awareness	90	3.33	0.78	30	82	3.04	0.76	31	0.30	9.01	3.309*	0.003*
31	Self-management	98	3.63	0.84	21	89	3.30	0.78	22	0.33	9.09	3.606*	0.001*
32	Adaptability	101	3.74	0.90	15	92	3.41	0.89	18	0.33	8.82	3.122*	0.004*
33	Positive attitude	115	4.26	0.86	5	113	4.19	0.83	5	0.07	1.64	1.442	0.161
34	Professionalism	96	3.56	0.80	24	85	3.15	0.86	26	0.41	11.52	3.698*	0.001*
35	Ethics and integrity	118	4.37	0.69	2	116	4.30	0.67	2	0.07	1.60	1.442	0.161
36	Initiative, and enterprise	93	3.44	0.80	25	83	3.07	0.68	29	0.37	10.76	3.407*	0.002*
37	Learning orientation	87	3.22	0.64	35	81	3.0	0.68	33	0.22	6.83	2.726*	0.011*
38	Personal attitude	116	4.30	0.82	4	115	4.26	0.86	3	0.04	0.93	1.000	0.327
	Overall	**3800**	**140.7**	**18.89**		**3526**	**130.6**	**19.20**		**10.15**	**7.21**	**10.26***	**<0.001***

SD: **Standard deviation**   t: Paired t-test   *: Statistically significant at $p \le 0.05$

p: p value for comparison between the studied skills categories

This means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students' interaction and interpersonal skills such as personnel management skills (14.55%), interpersonal skills (10.35%), decision-making skills (7.88%), and emotional intelligence skills (7.56%).

Finally, concerning the personal characteristics and attitudes skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 6.32% to gain the job where t = 4.784* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students personality resources such as intrinsic motivation skills (11.60%), professionalism skills (11.52%), initiative and enterprise (10.76%), and self-management skills (9.09%).

The previous results indicated that academics in higher education institutions are not paying the proper attention to equip students with the skills needed by sales and marketing operators, which led to a problem in students' preparation in all skill categories, especially in higher-order thinking skills that are expected to reflect on graduates' employment, due to the negative affection for their execution for sales and marketing tasks and the majority of the workplace's daily activities. Therefore, a lack of skills is noticeable, and much attention has to be directed to curriculum design to give priority and adequate weight to those skills needed most by sales and marketing operators.

However, the previous analysis in Table (7) has enabled us to identify the ten most important skills for sales and marketing departments in terms of mean, as well as the ten biggest gaps revealed in newly hired graduates' abilities (as shown in Table 8). These findings must be taken into consideration by academics to serve as a guide and target when designing sales and marketing curricula, as well as by fresh graduates when they decide to apply for sales and marketing jobs.

According to Table (8), sales and marketing operators are interested in ethics & integrity, oral & written communications, and problem-solving skills,

which can be considered an expression of the nature of sales & marketing work that involves direct contact with and convincing potential guests with hotel services, as well as the ability to follow up on guests' visits to solve any problems that may exist to ensure the provision of the excellent service promised with ethics & integrity. Sales and marketing operators are primarily interested in candidates' basic academic skills and their interpersonal and personal attitude skills. Therefore, academics need to concentrate first on those categories of skills when designing sales and marketing curricula, as those matters most to sales and marketing operators.

Table (8): The 10 most important skills for sales and marketing operators and the 10 biggest skill gaps in newly hired graduates' abilities (n = 27)

Rank	No.	Most important skills	Mean	Rank	No.	Skill gaps	% Gap (difference)
1	1	Oral and written communication	4.52	1	25	Personnel management	14.55
2	18	Communication skills	4.37	2	10	Leadership	13.79
2	35	Ethics and integrity	4.37	3	2	Numeracy	13.15
4	38	Personal attitude	4.3	4	16	Change management	12.17
5	24	Influence and sales skills	4.26	5	15	Technology	11.89
5	2	Numeracy	4.26	6	17	Goal setting	11.64
5	33	Positive attitude	4.26	7	29	Intrinsic motivation	11.6
8	28	Customer service	4.04	8	34	Professionalism	11.52
9	5	Academic qualifications	4.0	9	7	Planning and organizing skills	11.11
10	19	Interpersonal skills	3.96	10	36	Initiative, and enterprise	10.76
10	7	Planning and organizing skills	3.96				

On the other hand, to understand the correlation among skills within the sales and marketing department, as seen in Table (9), Spearman coefficient tests are used to identify the level of correlation among skills within the four highest ranks of skills in each category as a sample to test the correlation among them, to understand whether there is a correlation or not, and its level to assist as a guide when designing the sales and marketing curricula.

Table (9): Testing the correlation among the four-highest ranked skills in all skill categories regarding the sales and marketing department (n =27)

No.	Correlations	r_s	p	Interpretation
	Basic academic skills			
1 vs. 2	Oral and written communication vs. Numeracy	0.489*	0.010*	Moderate Correlation
1 vs. 4	Oral and written communication vs. Information technology	0.529*	0.005*	Moderate Correlation
1 vs. 5	Oral and written communication vs. Academic qualifications	0.000	1.000	No Correlation
2 vs. 4	Numeracy vs. Information technology	0.271	0.171	No Correlation
2 vs. 5	Numeracy vs. Academic qualifications	-0.350	0.074	No Correlation
4 vs. 5	Information technology vs. Academic qualifications	0.006	0.974	No Correlation
	Higher order thinking skills			
7 vs. 13	Planning and organizing skills vs. Global mindset	0.686*	<0.001*	Strong Correlation
7 vs. 15	Planning and organizing skills vs. Technology	0.476*	0.012*	Moderate Correlation
7 vs. 17	Planning and organizing skills vs. Goal setting	0.619*	0.001*	Strong Correlation
13 vs. 15	Global mindset vs. Technology	0.557*	<0.003*	Moderate Correlation
13 vs. 17	Global mindset vs. Goal setting	0.724*	<0.001*	Strong Correlation
15 vs. 17	Technology vs. Goal setting	0.796*	<0.001*	Strong Correlation
	Interpersonal and Teamwork Skills			
18 Vs. 19	Communication skills vs. Interpersonal skills	0.633*	<0.001*	Strong Correlation
18 Vs. 20	Communication skills vs. Problem-solving	0.588*	0.001*	Moderate Correlation
18 Vs. 24	Communication skills vs. Influence and sales skills	0.531*	0.004*	Moderate Correlation
19 vs. 20	Interpersonal skills vs. Problem-solving	0.758*	<0.001*	Strong Correlation
19 vs. 24	Interpersonal skills vs. Influence and sales skills	0.639*	<0.001*	Strong Correlation
20 vs. 24	Problem-solving vs. Influence and sales skills	0.556*	0.003*	Moderate Correlation
	Personal Characteristics and Attitudes			
28 vs. 33	Customer service vs. Positive attitude	0.726*	<0.001*	Strong Correlation
28 vs. 35	Customer service vs. Ethics and integrity	0.504*	0.007*	Moderate Correlation
28 vs. 38	Customer service vs. Personal attitude	0.653*	<0.001*	Strong Correlation
33 vs. 35	Positive attitude vs. Ethics and integrity	0.400*	0.039*	Moderate Correlation
33 vs. 38	Positive attitude vs. Personal attitude	0.827*	<0.001*	Very Strong Correlation
35 vs. 38	Ethics and integrity vs. Personal attitude	0.484*	0.011*	Moderate Correlation

r_s: Spearman coefficient   *: Statistically significant at $p \leq 0.05$

According to Table (9), Spearman coefficient tests have shown that there is a very strong correlation between positive attitude and personal attitude, in addition to a strong correlation between planning and organizing skills and global mindset, planning and organizing skills and goal setting, global mindset and goal setting, technology and goal setting, communication skills and interpersonal skills, interpersonal skills and problem-solving, interpersonal skills and influence and sales skills, customer service and positive attitude, and customer service and personal attitude.

These results will help the academics bring together those skills that have strong correlations with each other in the same curriculum to benefit from their high correlation in overcoming the gaps in skills when designing sales and marketing curricula.

3.4. The housekeeping department

According to Table (10), the results show significant differences between fresh graduates' abilities and housekeeping operators' requirements for skills. For example, concerning the basic academic skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 13.55% to gain the job, where t = 4.839* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with the industry requirements, especially in essential skills such as numeracy (20.00%) and technical skills (28.89%). In addition, concerning the higher-order thinking skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 11.06% to gain the job, where t = 4.546* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students cognitive skills such as knowledge breadth (22.16%), technology (19.07%), changing management (13.69%), and analytical skills (13.17%). Moreover, concerning the interpersonal and teamworking skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 10.66% to gain the job where t = 4.887* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirement in developing students interaction and interpersonal skills such as personnel management skills (18.57%), emotional intelligence

(15.83%), interpersonal skills (14.67%), and influence and sales skills (14.22%).

Finally, concerning the personal characteristics and attitudes skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 9.47% to gain the job where t = 6.474* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirement in developing students personality resources such as professionalism skills (19.57%), intrinsic motivation skills (19.38%), self-awareness skills (19.05%), learning orientation (15.66%), and self-management skills (15.66%).

The previous results indicated that academics in higher education institutions have a problem with their students' preparation, as they do not pay the proper attention to equip students with the skills needed by housekeeping operators, particularly in technical skills that are essential for their specialization as well as those soft skills needed to execute their work properly, such as knowledge breadth, technology, personnel management, professionalism, self-management skills, etc. In the same context, concerning skills categories, the result indicated that there is a problem in students' preparation in all skill categories, especially basic academic skills that are expected to reflect on graduates' employment, due to the negative affection for their execution for housekeeping work tasks and most of the workplace's daily activities.

Therefore, a lack of skills is noticeable, and much attention has to be provided to curriculum design to give priority and adequate weight to those skills needed most by housekeeping operators, as previously mentioned.

However, the previous analysis in Table (10) has enabled us to identify the ten most important skills for housekeeping departments in terms of mean, as well as the ten biggest gaps revealed in newly hired graduates' abilities (as shown in Table 11). These findings must be taken into account by academics to serve as a guide and target when designing housekeeping curricula, as well as by fresh graduates when they decide to apply for housekeeping jobs.

Table (10): Skill gaps between the minimum level of skills required for housekeeping job occupations and the level of skills assessed for newly hired graduates' (n = 27)

No.	Skills	Minimum level required for the skill by points				Assessment of newly hired graduates' skills				Gap (difference)	% Gap (difference)	t	p
		Sum	Mean	SD.	Rank	Sum	Mean	SD.	Rank				
	Basic academic skills	**273**	**10.11**	**2.31**	**4**	**236**	**8.74**	**2.30**	**4**	**1.37**	**13.55**	**4.839***	**<0.001***
1	Oral and written communication	58	2.15	0.99	25	56	2.07	1.0	20	0.07	3.26	1.442	0.161
2	Numeracy	50	1.85	0.66	33	40	1.48	0.75	34	0.37	20.00	3.911*	0.001*
3	Technical skills	73	2.70	0.87	16	52	1.93	0.78	24	0.78	28.89	5.048*	<0.001*
4	Information technology	39	1.44	0.64	38	37	1.37	0.63	38	0.07	4.86	1.442	0.161
5	Academic qualifications	53	1.96	0.71	31	51	1.89	0.70	26	0.07	3.57	1.442	0.161
	Higher order thinking skills	**669**	**24.78**	**6.69**	**3**	**595**	**22.04**	**6.01**	**3**	**2.74**	**11.06**	**4.546***	**<0.001***
6	Knowledge breadth	50	1.85	0.60	33	39	1.44	0.64	35	0.41	22.16	3.698*	0.001*
7	Planning and organizing skills	54	2.0	0.88	29	47	1.74	0.90	30	0.26	13.00	2.563*	0.017*
8	Analytical skills	45	1.67	0.78	36	39	1.44	0.70	35	0.22	13.17	2.280*	0.031*
9	Entrepreneurial skills	43	1.59	0.84	37	39	1.44	0.70	35	0.15	9.43	2.126*	0.043*
10	Leadership	46	1.70	0.67	35	45	1.67	0.62	33	0.04	2.35	1.000	0.327
11	Creativity and innovation	51	1.89	0.85	32	46	1.70	0.67	32	0.19	10.05	2.431*	0.022*
12	Critical thinking	54	2.0	0.88	29	48	1.78	0.70	29	0.22	11.00	2.726*	0.011*
13	Global mindset	66	2.44	1.05	20	59	2.19	0.96	17	0.26	10.66	2.563*	0.017*
14	Time management	80	2.96	1.29	11	77	2.85	1.32	8	0.11	3.72	1.803	0.083
15	Technology	58	2.15	1.23	25	47	1.74	0.66	30	0.41	19.07	2.656*	0.013*
16	Change management	65	2.41	1.01	21	56	2.07	0.83	20	0.33	13.69	3.606*	0.001*
17	Goal setting	57	2.11	0.93	27	53	1.96	0.94	23	0.15	7.11	2.126*	0.043*
	Interpersonal and Teamwork Skills	**590**	**21.85**	**6.80**	**2**	**527**	**19.52**	**5.52**	**2**	**2.33**	**10.66**	**4.887***	**<0.001***
18	Communication skills	85	3.15	0.99	8	81	3.0	1.07	7	0.15	4.76	2.126*	0.043*
19	Interpersonal skills	81	3.0	1.30	10	69	2.56	1.09	12	0.44	14.67	3.309*	0.003*
20	Problem-solving	80	2.96	1.16	11	77	2.85	1.13	8	0.11	3.72	1.803	0.083
21	Decision-making	59	2.19	0.88	24	51	1.89	0.70	26	0.30	13.70	3.309*	0.003*
22	Team-working	94	3.48	0.94	5	89	3.30	1.07	5	0.19	5.46	2.431*	0.022*
23	Emotional intelligence	70	2.59	0.97	18	59	2.19	0.79	17	0.41	15.83	3.051*	0.005*
24	Influence and sales skills	57	2.11	0.97	27	49	1.81	0.74	28	0.30	14.22	2.126*	0.043*
25	Personnel management	64	2.37	1.28	22	52	1.93	0.83	24	0.44	18.57	2.884*	0.008*
	Personal Characteristics and Attitudes	**1141**	**42.26**	**6.39**	**1**	**1033**	**38.26**	**6.45**	**1**	**4.00**	**9.47**	**6.474***	**<0.001***
26	Personality development	73	2.70	1.07	16	69	2.56	1.05	12	0.15	5.56	2.126*	0.043*
27	Extra effort	85	3.15	0.95	8	73	2.70	0.78	10	0.44	13.97	4.000*	<0.001*
28	Customer service	98	3.63	0.84	4	95	3.52	0.89	4	0.11	3.03	1.803	0.083
29	Intrinsic motivation	78	2.89	0.64	13	63	2.33	0.73	16	0.56	19.38	5.701*	<0.001*
30	Self-awareness	68	2.52	0.75	19	55	2.04	0.44	22	0.48	19.05	3.893*	0.001*
31	Self-management	76	2.81	0.83	14	64	2.37	0.63	14	0.44	15.66	3.606*	0.001*
32	Adaptability	93	3.44	0.97	6	85	3.15	0.91	6	0.30	8.72	2.842*	0.009*
33	Positive attitude	110	4.07	0.92	3	108	4.0	0.88	3	0.07	1.72	1.442	0.161
34	Professionalism	87	3.22	0.80	7	70	2.59	0.93	11	0.63	19.57	3.900*	0.001*
35	Ethics and integrity	116	4.30	0.78	2	113	4.19	0.79	2	0.11	2.56	1.803	0.083
36	Initiative, and enterprise	64	2.37	0.69	22	58	2.15	0.72	19	0.22	9.28	2.280*	0.031*
37	Learning orientation	76	2.81	0.68	14	64	2.37	0.79	14	0.44	15.66	3.606*	0.001*
38	Personal attitude	117	4.33	0.83	1	116	4.30	0.87	1	0.04	0.92	1.000	0.327
	Overall	**2673**	**99.0**	**17.93**		**2391**	**88.56**	**16.96**		**10.44**	**10.55**	**7.073***	**<0.001***

SD: **Standard deviation**   t: **Paired t-test**   *: Statistically significant at p ≤ 0.05

p: p value for comparison between the studied skills categories

According to Table (11), housekeeping operators are interested in two skill categories: personal characteristics and attitudes, and interpersonal and teamwork skills, which dominate the ten most important skills for housekeeping operators' requirements as personal attitude, ethics and integrity, positive attitude, customer service, and teamwork skills. Those skills are an expression of a housekeeping work nature that involves working hard to accomplish the cleaning of guests' rooms and public areas in a specific period of time while committing to a hospitality attitude of ethics and integrity.

Table (11): The 10 most important skills for housekeeping operators and the 10 biggest skill gaps in newly hired graduates' abilities (n = 27)

Rank	No.	Most important skills	Mean	Rank	No.	Skill gaps	% Gap (difference)
1	38	Personal attitude	4.33	1	3	Technical skills	28.89
2	35	Ethics and integrity	4.3	2	6	Knowledge breadth	22.16
3	33	Positive attitude	4.07	3	2	Numeracy	20.0
4	28	Customer service	3.63	4	34	Professionalism	19.57
5	22	Team-working	3.48	5	29	Intrinsic motivation	19.38
6	32	Adaptability	3.44	6	15	Technology	19.07
7	34	Professionalism	3.22	7	30	Self-awareness	19.05
8	18	Communication skills	3.15	8	25	Personnel management	18.57
8	27	Extra effort	3.15	9	23	Emotional intelligence	15.83
10	19	Interpersonal skills	3.0	10	37	Learning orientation	15.66
				10	31	Self-management	15.66

It's noticeable that technical skills don't exist among the ten most important skills for housekeeping, although it is an essential skill needed for recruiting. The reason is the low competence level of graduates' technical skills, which has pushed housekeeping operators not to depend on the preparation of the higher education institutions due to the inadequate practical of the curricula and to start to find other ways to raise candidates' level of technical skills.

Table (12): Testing the correlation among the four-highest ranked skills in all skill categories regarding the housekeeping department (n =27)

No.	Correlations	r_s	p	Interpretation
	Basic academic skills			
1 vs. 2	Oral and written communication vs. Numeracy	0.472*	0.013*	Moderate Correlation
1 vs. 3	Oral and written communication vs. Technical skills	0.315	0.110	No Correlation
1 vs. 5	Oral and written communication vs. Academic qualifications	-0.127	0.526	No Correlation
2 vs. 3	Numeracy vs. Technical skills	0.103	0.609	No Correlation
2 vs. 5	Numeracy vs. Academic qualifications	0.481*	0.011*	Moderate Correlation
3 vs. 5	Technical skills vs. Academic qualifications	-0.223	0.264	No Correlation
	Higher order thinking skills			
13 vs. 14	Global mindset vs. Time management	0.437*	0.023*	Moderate Correlation
13 vs. 15	Global mindset vs. Technology	0.436*	0.023*	Moderate Correlation
13 vs. 16	Global mindset vs. Change management	0.409*	0.034*	Moderate Correlation
14 vs. 15	Time management vs. Technology	0.693*	<0.001*	Strong Correlation
14 vs. 16	Time management vs. Change management	0.700*	<0.001*	Strong Correlation
15 vs. 16	Technology vs. Change management	0.783*	<0.001*	Strong Correlation
	Interpersonal and Teamwork Skills			
18 Vs. 19	Communication skills vs. Interpersonal skills	0.701*	<0.001*	Strong Correlation
18 Vs. 20	Communication skills vs. Problem-solving	0.380*	0.049*	Weak Correlation
18 Vs. 22	Communication skills vs. Team-working	0.391*	0.044*	Weak Correlation
19 vs. 20	Interpersonal skills vs. Problem-solving	0.515*	0.006*	Moderate Correlation
19 vs. 22	Interpersonal skills vs. Team-working	0.508*	0.007*	Moderate Correlation
20 vs. 22	Problem-solving vs. Team-working	0.504*	0.007*	Moderate Correlation
	Personal Characteristics and Attitudes			
28 vs. 33	Customer service vs. Positive attitude	0.590*	0.001*	Moderate Correlation
28 vs. 35	Customer service vs. Ethics and integrity	0.316	0.108	No Correlation
28 vs. 38	Customer service vs. Personal attitude	0.561*	0.002*	Moderate Correlation
33 vs. 35	Positive attitude vs. Ethics and integrity	0.358	0.067	No Correlation
33 vs. 38	Positive attitude vs. Personal attitude	0.781*	<0.001*	Strong Correlation
35 vs. 38	Ethics and integrity vs. Personal attitude	0.435*	0.023*	Moderate Correlation

r_s: **Spearman coefficient**   *: Statistically significant at p ≤ 0.05

So, they started relying on their technical training programs within the hotel to ensure the fulfillment of their skill requirements. In addition to the

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technical skills, the results showed that there are other huge gaps in many other skills, such as knowledge breadth, numeracy, professionalism, and intrinsic motivation, that need to be carefully treated when designing housekeeping curricula.

On the other hand, to understand the correlation among skills within the housekeeping department, as seen in Table (12), Spearman coefficient tests are used to identify the level of correlation among skills within the four highest ranks of skills in each category as a sample to test the correlation among them, to understand whether there is a correlation or not, and its level to assist as a guide when designing the housekeeping curricula.

According to table (12), Spearman coefficient tests have shown that there is a strong correlation between time management and technology, time management and change management, technology and change management, communication skills and interpersonal skills, positive attitude, and personal attitude. These results can help the academics bring together those skills that have strong correlations with each other in the same curriculum to benefit from their high correlation in overcoming the gaps in skills when designing housekeeping curricula.

3.5. The human resources department

According to Table (13), the results show significant differences between fresh graduates' abilities and human resources operators' requirements for skills. For example, concerning the basic academic skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 7.49% to gain the job, where t = 4.759* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with the industry requirements, especially in essential skills such as numeracy (13.13%), technical skills (10.98%), and information technology (10.54%).

In addition, concerning the higher-order thinking skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 12.62% to gain the job, where t = 6.257* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students cognitive skills such as entrepreneurial skills (16.15%), knowledge breadth (15.91%), leadership (15.62%), planning and organizing skills (14.81%), and analytical

skills (14.41%). Moreover, concerning interpersonal and teamworking skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 7.30% to gain the job, where t = 4.928* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students interaction and interpersonal skills such as interpersonal skills (12.21%), personnel management skills (12.12%), and decision-making skills (11.75%). Finally, concerning the personal characteristics and attitudes skills category, a gap can be found in the newly hired graduates' skills of the minimum required level of skills by 8.03% to gain the job where t = 5.711* and p <0.001*, which means that the curriculum used in the higher education institutions is not aligned with industry requirements in developing students personality resources such as self-management skills (16.95%), intrinsic motivation skills (14.15%), self-awareness (13.50%), and extra effort (13.06%).

The previous results indicated that academics in higher education institutions are not paying the proper attention to equip students with the skills needed by human resources operators, which led to a problem in students' preparation in all skill categories, especially in higher-order thinking skills that are expected to reflect on graduates' employment, due to the negative affection for their execution of human resources tasks and most of the workplace's daily activities.

Therefore, a lack of skills is noticeable, and much attention has to be provided to curriculum design to give priority and adequate weight to those skills that matter most for human resources operators, as previously mentioned.

However, the previous analysis in Table (13) has enabled us to identify the ten most important skills for human resources departments in terms of mean, as well as the ten largest gaps revealed in newly hired graduates' abilities (as shown in Table 14). These findings must be taken into account by academics to serve as a guide and target when designing human resources curricula, as well as by fresh graduates when they decide to apply for human resources jobs.

Table (13): Skill gaps between the minimum level of skills required for human resources job occupations and the level of skills assessed for newly hired graduates' (n = 27)

No.	Skills	Minimum level required for the skill by points				Assessment of newly hired graduates' skills				Gap (difference)	% Gap (difference)	t	p
		Sum	Mean	SD.	Rank	Sum	Mean	SD.	Rank				
	Basic academic skills	519	19.22	3.12	1	480	17.78	3.12	1	1.44	7.49	4.759*	<0.001*
1	Oral and written communication	111	4.11	0.93	5	108	4.0	1.0	5	0.11	2.68	1.803	0.083
2	Numeracy	107	3.96	0.94	7	93	3.44	0.97	10	0.52	13.13	4.192*	<0.001*
3	Technical skills	91	3.37	1.01	26	81	3.0	0.88	24	0.37	10.98	3.911*	0.001*
4	Information technology	105	3.89	1.12	9	94	3.48	1.05	9	0.41	10.54	3.698*	0.001*
5	Academic qualifications	105	3.89	0.32	9	104	3.85	0.36	7	0.04	1.03	1.000	0.327
	Higher order thinking skills	1110	41.11	7.95	4	970	35.93	7.54	4	5.19	12.62	6.257*	<0.001*
6	Knowledge breadth	95	3.52	0.80	20	80	2.96	0.59	27	0.56	15.91	5.701*	<0.001*
7	Planning and organizing skills	102	3.78	0.70	11	87	3.22	0.58	17	0.56	14.81	5.000*	<0.001*
8	Analytical skills	90	3.33	0.92	28	77	2.85	0.82	30	0.48	14.41	4.315*	<0.001*
9	Entrepreneurial skills	87	3.22	0.85	33	73	2.70	0.78	36	0.52	16.15	4.647*	<0.001*
10	Leadership	90	3.33	1.30	28	76	2.81	1.08	31	0.52	15.62	4.192*	<0.001*
11	Creativity and innovation	84	3.11	0.89	35	76	2.81	0.83	31	0.30	9.65	3.309*	0.003*
12	Critical thinking	94	3.48	0.85	21	81	3.0	0.83	24	0.48	13.79	4.914*	<0.001*
13	Global mindset	93	3.44	1.05	24	88	3.26	1.13	16	0.19	5.52	2.431*	0.022*
14	Time management	99	3.67	0.88	13	92	3.41	1.05	12	0.26	7.08	3.017*	0.006*
15	Technology	99	3.67	1.0	13	86	3.19	0.92	19	0.48	13.08	4.914*	<0.001*
16	Change management	79	2.93	0.87	38	68	2.52	0.64	38	0.41	13.99	3.698*	0.001*
17	Goal setting	98	3.63	1.04	16	86	3.19	1.08	19	0.44	12.12	3.606*	0.001*
	Interpersonal and Teamwork Skills	795	29.44	5.15	2	737	27.30	5.23	2	2.15	7.30	4.928*	<0.001*
18	Communication skills	112	4.15	0.82	3	109	4.04	0.85	4	0.11	2.65	1.803	0.083
19	Interpersonal skills	106	3.93	0.83	8	93	3.44	0.80	10	0.48	12.21	4.315*	<0.001*
20	Problem-solving	109	4.04	0.81	6	106	3.93	0.83	6	0.11	2.72	1.803	0.083
21	Decision-making	85	3.15	1.10	34	75	2.78	0.97	34	0.37	11.75	3.407*	0.002*
22	Team-working	100	3.70	0.99	12	98	3.63	1.04	8	0.07	1.89	1.442	0.161
23	Emotional intelligence	96	3.56	1.01	19	87	3.22	1.09	17	0.33	9.27	3.606*	0.001*
24	Influence and sales skills	89	3.30	1.03	30	83	3.07	1.07	22	0.22	6.67	2.280*	0.031*
25	Personnel management	98	3.63	1.01	16	86	3.19	0.92	19	0.44	12.12	4.000*	<0.001*
	Personal Characteristics and Attitudes	1257	46.56	7.70	3	1156	42.81	6.96	3	3.74	8.03	5.711*	<0.001*
26	Personality development	98	3.63	0.88	16	92	3.41	0.84	12	0.22	6.06	2.726*	0.011*
27	Extra effort	91	3.37	0.84	26	79	2.93	0.78	28	0.44	13.06	4.000*	<0.001*
28	Customer service	93	3.44	1.15	24	92	3.41	1.15	12	0.04	1.16	1.000	0.327
29	Intrinsic motivation	84	3.11	0.70	35	72	2.67	0.68	37	0.44	14.15	4.000*	<0.001*
30	Self-awareness	88	3.26	0.86	31	76	2.81	0.74	31	0.44	13.50	3.606*	0.001*
31	Self-management	94	3.48	0.98	21	78	2.89	0.70	29	0.59	16.95	4.438*	<0.001*
32	Adaptability	99	3.67	1.04	13	89	3.30	0.99	15	0.37	10.08	3.058*	0.005*
33	Positive attitude	112	4.15	0.95	3	110	4.07	0.92	3	0.07	1.69	1.442	0.161
34	Professionalism	94	3.48	0.70	21	83	3.07	0.83	22	0.41	11.78	4.228*	<0.001*
35	Ethics and integrity	116	4.30	0.82	2	114	4.22	0.80	2	0.07	1.63	1.442	0.161
36	Initiative, and enterprise	83	3.07	1.04	37	74	2.74	0.76	35	0.33	10.75	2.793*	0.010*
37	Learning orientation	88	3.26	0.71	31	81	3.0	0.68	24	0.26	7.98	3.017*	0.006*
38	Personal attitude	117	4.33	0.78	1	116	4.30	0.82	1	0.04	0.92	1.000	0.327
	Overall	3681	136.3	21.77		3343	123.8	21.0		12.52	9.19	6.575*	<0.001*

SD: **Standard deviation**   **t: Paired t-test**   *: Statistically significant at p ≤ 0.05

p: p value for comparison between the studied skills categories

According to Table (14), human resources operators are interested in personal attitude, ethics and integrity, and communication skills, which can be considered an expression of the human resources work nature that involves working within the team and for the team, enhancing personal attitudes while maintaining ethics & integrity, maintaining direct contact with employees and internal guests, and the ability to follow up on instructions and solve any problem that exists to ensure the provision of an excellent work environment for hotel employees. Therefore, academics need to concentrate on those skills that matter most for human resources operators while designing curricula to close skill gaps.

Table (14): The 10 most important skills for human resources operators and the 10 biggest skill gaps in newly hired graduates' abilities (n = 27)

Rank	No.	Most important skills	Mean	Rank	No.	Skill gaps	% Gap (difference)
1	38	Personal attitude	4.33	1	31	Self-management	16.95
2	35	Ethics and integrity	4.3	2	9	Entrepreneurial skills	16.15
3	18	Communication skills	4.15	3	6	Knowledge breadth	15.91
4	33	Positive attitude	4.15	3	10	Leadership	15.62
5	1	Oral and written communication	4.11	5	7	Planning and organizing skills	14.81
6	20	Problem-solving	4.04	6	8	Analytical skills	14.41
7	2	Numeracy	3.96	7	29	Intrinsic motivation	14.15
8	19	Interpersonal skills	3.93	8	16	Change management	13.99
9	5	Academic qualifications	3.89	9	12	Critical thinking	13.79
10	4	Information technology	3.89	9	30	Self-awareness	13.5

On the other hand, to understand the correlation among skills within the human resources department, as seen in Table (15), the Spearman coefficient test is used to identify the level of correlation among skills within the four highest ranks of skills in each category, to understand whether there is a correlation or not and its level, which can help as a guide when designing the human resources curricula.

Table (15): Testing the correlation among the four-highest ranked skills in all skill categories regarding the human resources department (n =27)

No.	Correlations		r_s	p	Interpretation
	Basic academic skills				
1 vs. 2	Oral and written communication vs. Numeracy		0.825*	<0.001*	Very strong Correlation
1 vs. 4	Oral and written communication vs. Information technology		0.534*	0.004*	Moderate Correlation
1 vs. 5	Oral and written communication vs. Academic qualifications		-0.032	0.873	No Correlation
2 vs. 4	Numeracy vs. Information technology		0.499*	0.008*	Moderate Correlation
2 vs. 5	Numeracy vs. Academic qualifications		-0.272	0.170	No Correlation
4 vs. 5	Information technology vs. Academic qualifications		0.000	1.000	No Correlation
	Higher order thinking skills				
7 vs. 14	Planning and organizing skills vs. Time management		0.456*	0.017*	Moderate Correlation
7 vs. 15	Planning and organizing skills vs. Technology		0.311	0.115	No Correlation
7 vs. 17	Planning and organizing skills vs. Goal setting		0.367	0.060	No Correlation
14 vs. 15	Time management vs. Technology		0.636*	<0.001*	Strong Correlation
14 vs. 17	Time management vs. Goal setting		0.669*	<0.001*	Strong Correlation
15 vs. 17	Technology vs. Goal setting		0.933*	<0.001*	Very strong Correlation
	Interpersonal and Teamwork Skills				
18 Vs. 19	Communication skills vs. Interpersonal skills		0.823*	<0.001*	Very strong Correlation
18 Vs. 20	Communication skills vs. Problem-solving		0.537*	0.004*	Moderate Correlation
18 Vs. 22	Communication skills vs. Team-working		0.496*	0.008*	Moderate Correlation
19 vs. 20	Interpersonal skills vs. Problem-solving		0.597*	0.001*	Strong Correlation
19 vs. 22	Interpersonal skills vs. Team-working		0.550*	0.003*	Moderate Correlation
20 vs. 22	Problem-solving vs. Team-working		0.488*	0.010*	Moderate Correlation
	Personal Characteristics and Attitudes				
32 vs. 33	Adaptability vs. Positive attitude		0.577*	0.002*	Moderate Correlation
32 vs. 35	Adaptability vs. Ethics and integrity		0.485*	0.010*	Moderate Correlation
32 vs. 38	Adaptability vs. Personal attitude		0.512*	0.006*	Moderate Correlation
33 vs. 35	Positive attitude vs. Ethics and integrity		0.481*	0.011*	Moderate Correlation
33 vs. 38	Positive attitude vs. Personal attitude		0.785*	<0.001*	Strong Correlation
35 vs. 38	Ethics and integrity vs. Personal attitude		0.657*	<0.001*	Strong Correlation

r_s: Spearman coefficient   *: Statistically significant at $p \leq 0.05$

According to Table (15), Spearman coefficient tests have shown that there is a very strong correlation between oral and written communication and

numeracy, technology and goal setting, and communication skills and interpersonal skills. In addition, tests showed strong correlations between time management and technology, time management and goal setting, interpersonal skills and problem-solving, positive attitude and personal attitude, and ethics and integrity and personal attitude. These results can help academics bring together those skills that have strong correlations with each other in the same curriculum to benefit from their high correlation in overcoming the gaps in skills when designing human resources curricula.

Table (16): Ranking the minimum requirements of skill categories based on category mean percentages (skill category mean to category mean score, which is a result of no. of skills in the category * 5 respondents) for different hotel departments, Where M. stand for Mean, R. stands for rank, G.M. stands for General Mean, and G. Ranking stand for General Ranking.

SKILLS CATEGORY	Front Office			Food & Beverage			Sales & Marketing			Housekeeping			Human Resources			G. Ranking		
	M.	%	R	M.	%	R	M.	%	R	M.	%	R	M.	%	R	G.M.	%	R
Basic academic skills	18.52	74.08	1	14.37	57.48	3	20.19	80.76	1	10.11	40.44	4	19.22	76.88	1	16.48	65.93	3
High order thinking skills	36.19	60.32	4	30.07	50.12	4	42.22	70.37	4	24.78	41.30	3	41.11	68.52	4	34.87	58.12	4
Interpersonal and teamwork	28.59	71.48	3	26.48	66.20	2	30.22	75.55	2	21.85	54.63	2	29.44	73.60	2	27.32	68.29	2
Personal attributes	46.67	71.80	2	45.07	69.34	1	48.11	74.02	3	42.26	65.02	1	46.56	71.63	3	45.73	70.36	1
Overall	130.0	68.42		116.0	61.05		140.7	74.05		99.0	52.11		136.3	71.74		124.4	65.48	

Finally, we can summarize the ranking situation of skills categories for the five departments as shown in Table (16). According to Table (16), it is evident that the nature of the work is what classifies the priority of the skill categories for every department; for example, the front office, sales and marketing, and human resources operators are looking first for basic academic skills as a primary concern for their requirements. In contrast, they differ for the second rank category, as the front office is interested in personal characteristics and attributes. In contrast, sales and marketing, and human resources are interested in interpersonal and teamwork skills. In the third rank, the front office was interested in interpersonal and teamwork skills,

while sales and marketing, and human resources were interested in personal characteristics and attributes. Moreover, the three departments agreed for the higher order and thinking skills to be in the fourth rank.

The situation was different for food and beverage and housekeeping operators. In the first rank, the two were interested in personal characteristics and attributes, and the same was true for the second rank, as they were interested in interpersonal and teamwork skills, which indicates their concern in the first stage with attitude and interpersonal communications. Moreover, the two practical departments differ in the last two categories, as food and beverage operators are interested in basic academic skills in the third rank, while housekeeping operators are interested in higher-order thinking skills. Finally, in the fourth rank, food and beverage operators are interested in higher-order thinking skills, while housekeeping operators are interested in basic academic skills, which may be a result of the low level of education available to the majority of housekeeping staff.

On the other hand, concerning the general ranking (as in Table 16) it's noticeable that personal characteristics and attitudes are ranked first for the hotel industry, followed by interpersonal and teamwork in the second rank, which reflects the major importance of soft skills in the modern hotel industry. In the third rank, the basic academic skills are coming to indicate the low importance of academic qualities in relation to soft skills, which is compatible with McMurray et al. (2016). This rank for basic academic skills means that possessing academic qualifications is a must for fresh graduates to be eligible for a job application, but at the same time, it does not guarantee that graduates will attain the job, which is compatible with Rehman & Mehmood (2014), due to other important criteria that are needed to make the graduate employable. Lastly, in the fourth rank, the higher-order thinking skills are coming, which is a reasonable result due to the research targeting the fresh graduates who are looking for entry-level jobs, which may differ in the higher levels of job occupations.

On the other hand, when testing the relation between skill categories and departments, the result shows that there are significant relations between all categories of skill and hotel departments, as shown in Table (17). For example, concerning basic academic skills, there is a significant relationship between the five hotel departments, where F = 69.083* and P < 0.001*. In

addition, concerning higher-order thinking skills, there is a significant relationship between the five hotel departments, where $F = 31.170^*$ and $P < 0.001^*$. Moreover, concerning interpersonal and teamwork skills, there is a significant relationship between the five hotel departments, where $F = 9.203^*$ and $P < 0.001^*$. Concerning personal characteristics and attitudes, there is a significant relationship between the five hotel departments, where $F = 2.889^*$ and $P = 0.25^*$.

Table (17): Relation between skills categories and hotel departments based on skill categories mean (n = 27)

Department	Basic academic skills	Higher order thinking skills	Interpersonal and Teamwork Skills	Personal Characteristics and Attitudes
	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.
Front office	18.52 ± 2.34	36.19 ± 6.05	28.59 ± 5.75	46.67 ± 6.89
Food & Beverage	14.37 ± 2.63	30.07 ± 6.32	26.48 ± 6.03	45.07 ± 6.20
Sales & Marketing	20.19 ± 2.63	42.22 ± 7.30	30.22 ± 4.83	48.11 ± 6.65
Housekeeping	10.11 ± 2.31	24.78 ± 6.69	21.85 ± 6.80	42.26 ± 6.39
Human Resources	19.22 ± 3.12	41.11 ± 7.95	29.44 ± 5.15	46.56 ± 7.70
F	69.083^*	31.170^*	9.203^*	2.889^*
P	$<0.001^*$	$<0.001^*$	$<0.001^*$	0.025^*

SD: **Standard deviation**   F: **F for One-way ANOVA test** *: Statistically significant at $p \leq 0.05$

p: p value for Relation between skills categories (% score) and departments

These results mean that these four categories of skills represent the pillars on which the hotel service process is built. Therefore, they are all important for the hospitality industry, and any absence of one or more of these categories may reflect badly on the industry.

However, the research has revealed the following results:

A. It's important to realize that every hotel department has its special nature and concerns, which have to be reflected in the skills possessed by graduates to ensure their acceptance as employees in such a department. Therefore, a full awareness of every department's nature of work, and the skills needed for performing work tasks is an important matter to be addressed when designing hotel departments' curricula to

reach alignment with Hotel departments' requirements and guarantee good job opportunities for higher education graduates.

B. There is a general tendency of all hotel operators to stress soft skills and personal attitudes as a basis for their employability skills and acceptance as new-entry employees, which is in agreement with the context of many scholars (Philpot, 2010; El Mansour & Dean, 2016; Matsouka & Mihail, 2016; McMurray et al., 2016; Abbasi et al., 2018; Kenayathulla et al.,2019; Dhaliwal & Misra, 2020; Fajaryati et al., 2020).

C. There is a deficiency in graduates' skills in terms of the level of skills needed to employ, particularly in specialized skills such as technical skills, numeracy, planning and organizing skills, etc., which is compatible with Kanter (2013), and World Bank Group (2015). This problem, if not taken seriously, will result in critical issues that may affect the hotel industry for considerable years.

In the end, a hospitality career is not easy, and graduates have to realize that without having the needed soft skills, it will be hard to be accepted for good employment in the hospitality labor market. Therefore, students have to improve their skills to earn value that looking by employers, to achieve their dreams (Ejiwale, 2014).

4. Conclusions

The research aims to identify the recent employability skills needed for hotel departments as a response to the new digital era of Industry 4.0. The research tested the hotel operators' perspective about the minimum level of skills required for different hotel departments and their assessment of their newly hired graduates' skills from hotel higher education institutions, and the results were:

A. Several gaps were revealed between hotel operators' minimum requirements needed of skills to employ hotel graduates and the level of skills for newly hired graduates.
B. Hotel departments are different in their priorities of skills needed when recruiting according to each department's work tasks, and objectives.

C. The hotel operators have a major interest in soft skills and personal attitudes, which are considered as a basis for their recruitment choices and employability skills.

5. Recommendations

Based on the literature review and research findings, the researchers have provided the following recommendations:

A. There is a need for more attention to technology and information technology skills subjects to prepare students for what they will face after graduation due to Industry 4.0 technology, which become a commitment in the hospitality industry (Bradley et al., 2015; World Economic Forum, 2020).

B. The academic programs and methods of learning used recently do not result in qualified graduates in terms of matching the industry requirements, especially in personality building, which makes the graduates unready to face today's work challenges (El Mansour & Dean, 2016; Abbasi et al., 2018). For that, a movement to revise hospitality curricula is needed to rebuild the curriculum around industry needs with a focus on soft skills and personal attitudes (Philpot, 2010; El Mansour & Dean, 2016; McMurray et al., 2016; Matsouka & Mihail, 2016; Abbasi et al., 2018; Kenayathulla et al., 2019; Dhaliwal & Misra, 2020; Fajaryati et al., 2020).

C. There is a need to improve the student's exposure to the hotel industry in terms of practical and internship (Tyagi & Shah, 2022). Therefore, a collaboration between higher education hotel institutions and hotel companies has to be supported to provide what the institutions can't provide such as on-the-job training that can prepare students technically in the same workplace, making them ready to meet effectively the grown requirements of the hotel industry and enhance their employability (Matsouka & Mihail, 2016; Ramisetty & Desai, 2017; Adeyinka-Ojo, 2018; Espellita & Maravilla Jr., 2019). In addition, collaboration will allow academics to build strong relations with industry operators which will help to keep them updated with industry trends and transformations (Bathla, et al., 2019), which will reflect on curriculum ILOs and hotel program outputs.

D. The generic vision for the overall hospitality industry requirements shouldn't ignore the specific requirements of each hotel department to enable the students to be ready to start successful work in their desired careers. Therefore, the departments' curricula have to be redesigned to

specific workplace expectations. this vision is highly supported by Capua (2021), who emphasizes that the hotel industry is highly willing to share its input requirements with higher education to ensure alignment with the industry.

6. <u>The implications of the research</u>

The research is expected to lead to the following implications:

1. Additional researches are expected to test other cities in the near future.
2. Increase the attention to studying the effect of soft skills on graduate's employability and success in jobs.
3. Searching for new skills that may improve graduate's performance in workplace tasks.
4. make studies on hotel curricula to redesign them using industry collaboration.

7. <u>Limitations of the research</u>

The research is tied to the following limitations:

1. The research focuses on 5-star hotels only, disregarding hotels of lower star ratings because they represent the level of study in the hotel higher education institutions.
2. The research targeted 5-star hotels located in Cairo city only, because it comprises the highest number of 5-star hotels and the largest hotels in terms of room capacity compared to other cities. Furthermore, Cairo is the most preferred destination for graduates when seeking to acquire the necessary experience before getting a transition promotion to other cities.
3. The research focused on five department managers: front office, food and beverage, sales and marketing, housekeeping, and human resources. These managers were chosen because they represent the departments that graduates studied and prepared for its employment.
4. The research is focused on fresh graduates, who were newly graduated and hired at the hotels within the last two years in entry-level jobs.

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