Assessing Disruptive Technology's Influence on Housekeeping Operations and Employee Dynamics in Star Category Hotels

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Abstract: As a result of incorporating new technologies into its operations, the hotel business is seeing constant growth. Modern hotels have integrated technology into every nook and cranny. More so than in the past, technological advancements have made it more difficult to find qualified employees. Therefore, businesses have started to outsource in order to tap into a larger pool of potential employees. Even the cleaning staff follows this rule. The housekeeping department, like many others, is prone to manual labor but stands to benefit greatly from automation in the near future. The hotel as a whole is seeing the good effects of technological advancements, and this includes the housekeeping department. This research looks at how outsourcing cleaning services affects the housekeeping department as a whole as a result of technological adoption. As part of its evaluation, the study looks at the connection between housekeeping and outsourcing. The data has been analyzed using a quantitative technique based on questionnaire surveys sent to hotel managers in charge of cleaning. One of the most important takeaways from the research is the positive impact that outsourcing has had on the hotel cleaning department via the use of technology. The research focuses on the current technological changes and how they have an impact on the outsourcing of housekeeping services

Keywords:.Disruptive Technology, Housekeeping Operations, Employee Dynamics, Hotel Industry, Outsourcing, Technological Innovation, Trends, Organizational Performance, Technology Adoption, Hospitality

1   Introduction

The development of technology has resulted in a change in the way that businesses think about and carry out their operations. Outsourcing is now generally accepted to be more than simply a strategy for lowering expenditures; rather, it is a tool for remaining one step ahead of the competition. This statement has gained widespread acceptance in recent years. One meaning of outsourcing in the jargon of business is the practice of contracting out work to other parties that are not directly involved in the firm. The process of contracting out work at external organization or individual is called "outsourcing," while the word "outsourcing" refers to the actual practice. [1] Despite the fact that companies continue to concentrate on their core competencies, they continue to contract out auxiliary services such as cleaning and food service. As a result of the transition that has taken place in the way that organizations manage the outsourcing of non-core services, there has been a growing dependency on the competence of experts who are not affiliated with the company. The hotel sector of today has reached a point where the use of technology has become a daily occurrence. It is impossible for a hotel to run its operations efficiently if it does not have a property management system, a reservation system, and other systems that are comparable. Without a shadow of a doubt, advancements in

technology have brought about changes across the whole of the hotel industry. One such placewhere the effect of technology might be detected is in the implementation of technical developments. For the purposes of this research, the major focus is on hotels that are rated four or five stars and are situated inside the Delhi National Capital Region. In the course of the study, a number of different technological improvements as well as the effects that these advancements have had on the outsourcing of hotel cleaning services are studied. Hotels are companies that provide a variety of services to customers, such as lodging, food and drink, and a wide range of facilities that are intended to make their stays more pleasurable. These businesses are together referred to as the hotel industry. When it comes to the hospitality sector, the only foundation that is maintained by the hospitality industry is the friendliness and satisfaction of guests. One of the strategies that has developed as a response to the great challenges that hotels are facing as a result of intense competition and the ever-increasing expectations of customers is outsourcing. This is one of the techniques that has contributed to the evolution of outsourcing. Due to the fact that they are the ones who are accountable for ensuring that the whole establishment is kept clean, the cleaning staff of the hotel is of great significance. The hospitality industry is experiencing a stir as a consequence of the fact that modern hotels are embracing new fashions and technologies in order to adjust to the constantly shifting technological environment. This is causing a considerable amount of disruption in the industry. There are several factors that contribute to the enjoyment of tourists, and one of those factors is the development of technology. An extensive collection of software programmes, social media and the websites from which it originates, property management systems that are able to fulfil the needs of human resources and point-of-sale apps, and so on are all examples of technologies that are included in this category. Contemporary guestrooms are outfitted with high-tech comforts like as voice control and remote controls for all of the room's operations. This is in addition to the traditional television, which is often regarded as the latest and greatest example of technological innovation. Housekeeping procedures that are more up to date are gradually replacing the old ways of cleaning. This trend is expected to continue. The cleaning crew of hotels will be unable to keep up with the advancements that have been made in the business if they do not make use of technology and seek the direction of outside professionals. There are a considerable number of hotels that have used social distancing technology into their company operations. In an effort to reduce the amount of human contact with its visitors, the hotel brands Taj, The Leela and Hilton have implemented a variety of technology solutions. These solutions include robot cleaning systems, Self check-in devices, also mobile check-in systems.

2   REVIEW OF LITERATURE

2.1 Hotel Technology

In spite of the fact that the use of technology may be costly, it ultimately pays for itself in the long term by simplifying operations, catering to the ever-changing requirements of customers, and boosting productivity in the hospitality sector. The adoption of modern technical gadgets has been beneficial to both the personnel of the hotel as well as the customers that stay there.

In today's world, the majority of visitors go for hotels that provide them with all of the contemporary comforts that they could need throughout their stay. The presence of a variety of smart equipment that visitors are able to utilise is another aspect that contributes to the overall quality of hotels. The demand from customers changes in step with the development of relevant technologies. In order to satisfy the needs of customers and maintain a competitive edge, the

hospitality industry has made technological improvements an absolute need. In recent years, thetechnical industry has evolved into a market that is very progressive. In this day and age, an increasing number of individuals are using the internet and websites as a tool to improve the intensity of their interactive experience. A survey found that the term "user experience" refers to the ideas and emotions that users have while engaging with various technical devices, such as websites, online apps, software, and other technological gadgets. [2] Integrated supply chains, outsourcing, business process re-engineering (BPR), and greater efficiency are some of the tactics that companies in the business sector use in order to keep their competitive edge. It is recommended by academics and industry professionals that businesses should outsource tasks that are not required and have a low value in order to focus on functions that are crucial to attaining a competitive advantage [3]. The trend towards outsourcing may be explained by the fact that businesses may be able to maximise the potential value of such operations by maintaining their focus and strengthening their core strengths. In addition to this, it is feasible that customers from outside the organisation may supply better services at cheaper pricing, which could lead to improved results for the company [4].

2.2 Outsourcing In the Hotel Industry

Outsourcing is a procedure that allows businesses to shop around for the goods, services, and labour they need from specialist vendors rather than relying on resources that are based inside the company [5]. The term "outsourcing" refers to the process." The definition of outsourcing is "the agreement to hire a third-party provider to manage and complete a specific amount of work for a predetermined amount of time, cost, and quality of service." [6]. There is evidence to back up the description that was supplied by [8], who stated that outsourcing was "the transfer of an firms officially internal operations to implement through external suppliers." There is proof for this definition. Other examples include "the externalisation to independent suppliers of internal activities that could be and/or have previously been carried out in-house" [7]. This is an alternative meaning. Over the course of the last few years, there has been a discernible rise in the use of outsourcing as a method for carrying out the activities that are required by corporations [9].Individuals who hold leadership positions in corporations have the opportunity to make the most of their knowledge by joining specialist companies that provide professional products and services [10]. This is one of the ways that they might do this. Knowledge of dynamic strategic abilities is used by organizations in order to investigate and identify opportunities and resources in their immediate environment [11]. Because of this, they are able to gain resources by reorganizing the resources that they already possess, which is precisely the process of obtaining resources. On the other hand, dynamic strategic skills make it easier for enterprises to stay ahead of the competition by keeping an eye on the market and coming up with fresh items and services they can supply to consumers [12]. There is a correlation between the inventive products and services that a business offers and the degree to which the organization is ready to take a risk by supplying unique knowledge on the amount of guest acceptance of such ideas [13]. Companies try to distribute its goods and services in order to grow their market share.early than their competitors [14]. This is done with the intention of gaining preeminence in the market. Additionally, outsourcing is a contemporary approach that supports companies in getting the resources they need while simultaneously boosting the efficiency of their operations. This is accomplished via the method of outsourcing. The capacity to concentrate on what they are most skilled at, which is their core competency and the point at where creativity begins, is made possible as a consequence of this [15].

3   RESEARCH METHODOLOGY

With For the purpose of laying the groundwork for any statistical analysis that may be carried out, quantitative research must first give research in the form of real data. In order to carry out this inquiry, a research approach that included both a survey method and an associative method

was used. There was an investigation of the causal connections that took place during the associative inquiry that was carried out for this research. There are two types of variables that are included in every single study: those that have an impact, which are also referred to as independent variables, and those that have an influence, which are also referred to as dependent factors.A questionnaire survey was used to obtain the data that was needed for the study. According to this study, a substantial amount of focus is placed on the use of quantitative research techniques. The main methodology is the quantitative approach, and the qualitative approach provides support for the results obtained via the quantitative approach. For the purpose of this inquiry, the sequential explanatory design is under consideration. During the first step of this two-stage study design, the researcher will first gather and assess quantitative data [16]. After that, they will proceed to the next step, which is the gathering and analysis of qualitative data. After giving it a lot of thought, we came to the conclusion that this approach would be the best one to use since it provides information that is not only comprehensive but also comprehensive on the links between the variables.

3.1 The study's goals and objectives

The main objectives of the study are:
- In order to determine how technological innovation plays a part in hotel cleaning, we must first determine what those aspects are.
- In order to learn how housekeeping service outsourcing has changed due to technological developments
- In order to learn how different technological developments relate to the trend of housekeeping service outsourcing.

4   FINDINGS AND DISCUSSIONS

We were able to retain 497 respondents (n=497) for the analysis. When broken down by gender, the sample consisted of 306 female respondents (61.6% of the total) and 191 male respondents (38.4% of the total).The survey asked participants to specify their age in relation to five distinct categories. The age group of 31–40 years old accounted for 47.5% (n=236) of the total respondents, while the age group of 26–30 years old had 37.8% (n=188). Eleven percent, or 57 people, fell into the 18–25 age bracket, making it the third biggest. Among the sample population, 3% were in the age bracket of 41–50, while 0.2% (n=1) were above the age of 50. Regarding their present position: of the respondents, 52.5% (n = 261) were staff members, 43.5% (n = 216) were supervisors, 3.6% (n = 18) were managers, and just 0.4% (n = 2) were the organization's owners. There were five categories into which respondents were asked to classify their length of serviceThe team with 5-7 years of experience had the most replies (32.2%), followed by 3-5 years of tenure (32%), and then 3-5 years of tenure (n=159). Relative newcomers, with a tenure of less than 2 years, made up 17.3% (n=86), making them the third biggest category. Thirteen percent of the sample (n=72) had jobs that lasted eight to ten years, while four percent (n=20) had jobs that lasted eleven years or more.

TABLE I. DEMOGRAPHIC ANALYSIS

Characteristic		N	%
Gender	Male	191	38.4%
	Female	306	61.6%
Age	18-25	57	11.5%
	26-30	188	37.8%
	31-40	236	47.5%
	41-50	15	3%
	About 50	1.1	0.3%
Present Position	Staff	260	53.6
	Supervisory	217	42.6
	Managerial	20	3.8
Pay	0-1 y	86	16.3
	4-6Y	161	31
	5-9Y	161	31.2
	10-12 Y	71	13.5
	Above 11 Y	19	3

Features of the population under study Pay.

An examination of the features of the Numbering Sample is carried out with the purpose of gaining an understanding of the use of technology and the impact it has on the contracting out of cleaning services. It was inquired of the respondents whether or not they had previously used hotel outsourcing, and if they hadn't already, if they intended to in the near future

TABLE II. OUTSOURCING USED BY HOTELS

S.No	Use of Outsourcing in Hotels		
	Statement	*Frequency*	*Percent*
1	Indeed, we do outsource.	37	46
2	ceased using outsourcing	21	26.3
3	No, although the plan was to outsource	17	17.7
4	No, and it's not meant for outsourcing	7	11
	Total	82	100

The aforementioned information sheds light on the present state of and plans for future outsourcing activities in the hotel industry. Nearly half of the hotels surveyed use outside cleaners. This indicates that a significant portion of the hotels surveyed have chosen to hire outside help with their cleaning needs. Conversely, 26.3% of hotels that participated in the survey said they ceased outsourcing cleaning services. It seems like these hotels are going through a change in strategy or dynamics of operations, which might be because of things like internal reorganization, quality issues, or cost worries. Curiously, 18.7% of hotels

that participated in the survey said they are planning to outsource cleaning in the future, even if they aren't doing it at the moment. The desire to optimize costs, concentrate on core capabilities, or meet scalability needs are some of the possible drivers of this trend toward outsourcing. On the other side, 10% of hotels would not be outsourcing their cleaning services. This group could be more comfortable with in-house cleaning services for a variety of reasons, including control, quality control, and compatibility with the hotel's long-term goals. As a whole, the data shows that hotels have different perspectives on and approaches to outsourcing, which reflects the industry's varied strategic priorities and operational

TABLE III. ALL CONTRACTUAL WORKERS IN THE DEPARTMENT OF HOUSEKEEPING

S. No	Total no. of contract workers in housekeeping		
	Workers	Frequency	Percent
1	0-10	42	52.5
2	11-20	29	36.3
3	21-30	8	10
4	31-40	1	1.2
	Total	80	100

Hotel housekeeping departments utilize a variety of contract workers, and Table III breaks down that workforce by range. About half of the hotels (52.5% of the total) said they had zero to ten contract cleaners. This suggests that a large number of hotels depend on a limited pool of hired cleaners to meet their demand. Then, between eleven and twenty temporary housekeepers were listed by 36.3% of the hotels. This may be an indication of bigger hotels or an increase in the demand for cleaning services, but it does show a little rise in the number of contractual personnel when compared to the first group. A lesser number of hotels, making about 10% of the total, said that they had 21 to 30 contract housekeepers. This suggests that there is a limited supply of hotels that outsource their cleaning to a bigger group of contractual workers. Finally, just 1.2 percent of the hotels in the survey said they had 31 to 40 contract cleaners. It seems that a small percentage of hotels rely on hired labor. This might be because some hotels are very big or because they have special operating needs that demand a larger contingent staff. In general, the data shows that hotel cleaning departments utilize contract workers on varied scales, which sheds light on the distribution and size of contract workers at different businesses were the various observations made on the aspects of marketing methods used by the 'eastsurenow' page on Instagram it was observed that multiple means were used for promotion as follows:

TABLE IV. ROLE OF TECHNOLOGY IN HOUSEKEEPING DEPARTMENT
Use of Free Delivery, Discounted Pricing and Discount Codes

Variable	Mean	Mean	Mean	F- VALU E	Sig
	(STAFF)	(SUPERVISOR)	(MANAGER)		
Optimized staffing and resource planning	3.83	3.70	3.33	7.208	0.001
Work Management	3.91	3.58	3.40	4.894	0.002
Improved guest experience	3.78	3.61	3.39	3.218	0.023
Performance Monitoring	3.90	3.79	3.75	6.473	0.001
Improved Financial Management	3.66	3.63	3.78	3.798	0.021
Improved business competitive advantage	3.73	3.63	3.90	3.753	0.004

Table IV shows how various levels of management (staff, supervisor, and manager) in the housekeeping department assess the use of technology. Respondents ranked the impact of technology on a scale across many categories, including work management, better guest experience, performance monitoring, financial management, and greater corporate competitive advantage. Higher scores imply a greater impression of the beneficial influence of technology, whereas lower numbers show a lack of agreement with each variable. Housekeeping employees saw technology as useful for a variety of tasks; for example, efficient staffing and resource planning had the highest rating from respondents (mean: 3.83), followed by work management (mean: 3.91) and performance monitoring (mean: 3.90). Even though their average ratings were somewhat lower, managers and supervisors also gave these factors good reviews. Perceptions varied across factors, indicating that there are complex views on the use of technology in housekeeping. The statistical significance of variations in mean scores across various hierarchical levels may be understood by looking at the F-value and significance level (Sig), which show locations where perceptions substantially vary. In sum, the data provides important insights into the perceived advantages and disadvantages of technological integration in the housekeeping department, as well as how technology is perceived to impact different parts of housekeeping operations at different levels of the organizational hierarchy. Exploring the influence of technology on the hotel HK department was done using a unidirectional between groups ANOVA Because no value was less than 0.05 on Levene's test for homogeneity of variance, we can say that this research complies with this premise

TABLE V. EFFECTS OF TECHNOLOGY ON OUTSOURCING APPLICATION

Changeable	Mean (employees)	Average (supervisor)	Unkind (supervisor)	The F-value	**Sign**
Enhanced effectivenesof services	2.61	3.65	2.70	1.428	0.120
Improved organizational performance	3.68	3.75	3.81	1.011	0.401
higher expenses for training	2.68	2.48	3.71	2.325	0.199

The Technology's effects on the hotel housekeeping department's outsourcing implementation was examined via the use of a between-groups ANOVA. All of the results from Levene's test for variance homogeneity were greater than the 0.05 criterion of significance. Furthermore, the data revealed a statistically significant difference at the $p < 0.05$ level. Table V summarizes the opinions of housekeeping department employees at the staff, supervisor, and management levels about the impact of technology on outsourcing. This data provides insights into how respondents perceive the influence of technology on outsourcing methods by presenting mean ratings for characteristics such as higher training expenses, enhanced organizational performance, and greater efficiency of services. On a scale, respondents ranked these factors; higher average scores indicated a more robust view of the impact of technology. Take, for example, the fact that respondents at all levels of the organizational chart agreed, on average (with scores ranging from 3.52 to 3.70), that technology helps make services more efficient.

With mean scores ranging from 3.68 to 3.81, respondents seemed to agree that technology had a positive influence on organizational performance. This suggests that technology is helping organizations be more successful overall. Mean scores ranged from 3.58 to 3.71 when asked about the effect of technology on training expenses, while opinions differed somewhat. According to the F-values and significance levelsa statistically significant difference in the mean scores was not observed. even though technology was thought to be a factor in the higher training expenses. As a whole, the data shows how respondents think technology has changed housekeeping outsourcing, with an emphasis on how it might improve service efficiency and overall organizational performance. Nevertheless, more investigation into the correlation between technology adoption and training expenditures in the outsourcing setting is required due to the varied viewpoints on training expenses.

5. CONCLUSIONS AND SUGGESTIONS

Participation in this research was higher among females (61.6%) than males (38.4%). When it came to the impact of technology on outsourcing and its position in the industry, female and male managers had similar views. The mean scores for the factors pertaining to the function of technology in the housekeeping department did not show any significant differences between the male and female respondents. The present research looks on the possible beneficial and statistically significant connection between technology and the outsourcing of hotel cleaning services. There is a favorable correlation between the usage of technology in the housekeeping department and both departmental performance and outsourcing. The results of this research support the idea that technological advancements mediate the relationship between housekeeping service outsourcing and organizational effectiveness. The success of the hotel and the happiness of its guests are greatly impacted by outsourcing, especially when technology is involved

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