International Journal of Advanced Research in Commerce, Management & Social Science (IJARCMSS)
(An International Quarterly Multidisciplinary Open Access Double Blind Peer Reviewed Refereed Journal)
ISSN :2581-7930 (Online), Impact Factor (Cosmos): 7.270 & PIF (I2OR): 5.010, Volume 09, No. 03(III), July-September, 2026, pp 40-52

# Firm Size and Digital Distribution Strategies in Heritage Hotels: Evidence from Rajasthan, India

**Dr. Ankita Chaturvedi[1] | Vishakha[2*]**

[1]Associate Professor, Department of Commerce, IIS (deemed to be University), Jaipur.
[2]Research Scholar, Department of Commerce, IIS (deemed to be University), Jaipur.

[*]Corresponding Author: veesh.pari@gmail.com

***Citation***: *Chaturvedi, A. & Vishakha, V. (2026). Firm Size and Digital Distribution Strategies in Heritage Hotels: Evidence from Rajasthan, India. International Journal of Advanced Research in Commerce, Management &Amp; Social Science, 09(03(III)), 40–52.*

## Abstract

*The rise of online intermediaries has reshaped how hotels reach and serve their guests, yet the way small, medium and large properties differ in their motivations for adopting e-commerce and in the channel portfolios they build remains poorly understood, especially in heritage-driven emerging destinations. The study presents a picture of the digital distribution approach in the hospitality industry in the Indian state of Rajasthan and explores whether and what makes small and medium-sized businesses (SMBs) adopt the digital distribution strategy and use online travel agents (OTAs). Based on the Diffusion of Innovations theory and the tourism intermediation literature, it is based on primary data obtained from descriptive statistics and cross-tabulation from a sample of 180 managers from three-star and higher rated hotels of a total population of 335 hotels in seven tourist cities. The results reveal that the rate of adoption of ecommerce is high but predominantly moderate in terms of the intensity of usage and that reliance on ecommerce increases as a hotel gets to be older. Adopting varies greatly with size with small hotels seeking cost effectiveness and time efficiency, medium hotels a balance on time, service and reach and large hotels for market reach and service delivery. The dominant OTA companies are those offering their services to the home audience – Goibibo and MakeMyTrip load the balance of OTA portfolios with their dominance, and the more hotel adds branches to their network, the more their range grows. Technological and organisational readiness is quite good, however, the main internal limitation is how difficult the skill is. The study provides a size-dependent portrait of digital distribution preferences by filling in a gap in the literature and provides practical tips on how to get the balance right between the margin and guest ownership of direct distribution and/or intermediated reach.*

***Keywords***: *Digital Distribution, E-commerce Adoption, Online Travel Agencies (OTAs), Firm Size, Diffusion of Innovations, Heritage Hospitality, Rajasthan.*

***JEL Classification:*** *L83, M21, O33, Z33*

## Introduction

In the past twenty years, the means by which hotels sell rooms has not only shifted significantly, but further than in the preceding century. What used to be the travel agent's office and travel brochure, is now replaced by search engines, review websites, mobile applications and, most of all, online travel agencies (OTAs), which are the gateway between the majority of passengers and majority of hotels (Buhalis& Law, 2008; Xiang &Gretzel, 2010). When you become a Hotelier the question isn't so much whether to sell online, but how: who should you join, how much do you count on them for selling, how much do you give in to commission, and how much should you spend on your own direct digital channels

to maintain your guest relationship internally? These decisions equate to a digital distribution strategy and are quite different in each property.

A lot of learning regarding this strategy are learnt within large hotels and international chains in the developed markets, where they operate large scale systems or operations with sophisticated revenue-management and multi-channel management systems (Sigala, 2018). Not as much is known about the decisions being made in smaller, older properties in emerging destinations that are built on heritage. Much less is known about the decisions being made by the smaller, older properties in emerging, heritage built destinations. This is particularly important because most accommodation trade in such places are independently owned, family and heritage hotels, whose resources, motivations and constraints are significantly different compared to the dominating chains that are seen in literature. A study of digital distribution would focus mainly on the smallest firms, and this would be a distortion of reality, because the majority of the firms are not so small. If one examined only digital distribution by the large companies, a distortion of reality would be a result, as the vast majority of companies would be ones that were not so large.

There are two points in the problem which should receive special emphasis. Firstly, there is the fixed factor of heterogeneity according to size of firm. Perhaps differently, small hotels will consider e-commerce for other reasons, and will have different channel portfolios compared to medium and large hotels; the larger the hotel, the more resources he can dedicate to it and the bigger the problems are that he wants to conquer with it. While for a small property, the benefits of online booking could be how much that costs and how much time it saves, for a large property, it might be about how much it reaches the market and has that property reach the market. Where one small property may care about how much money it saves and how much time it takes; one large property may care more about the market reach and the service delivery across a larger set of guests they reach. The second one is a bit more abstract; there's a conflict between intermediated and direct distribution. While both OTA and direct channels offer the advantage of extending reach and adding credibility, the former involves hotel commission and the latter can prove challenging – demanding capacity and effort to build – and a risk of losing data to the OTA (Law, Leung, &Buhalis, 2009).

The stakes made on the choices are not light. Intermediaries' commissions can take a significant share of room revenue and when the platform that owns the booking owns the guest data too – that has become a growing drive for marketing and loyalty. Over relying on few intermediaries results in losing the margins as well as the inputs to the future customer portfolio and that is done while acquiring their reach. Grasping the implications for the trade-off between brand visibility and return on investment (ROI) among hotels of varying sizes is at the heart of any hotel's digital distribution approach, which is ever more crucial as intermediaries have tightened their grip on online hotel demand.

This study tries to fill the above gaps and profile the digital distribution strategy in new Hotels of the Rajasthan, one of the leading tourist states of India with a range of hotels from international chains to small owner run hotels or havelis of heritage. The previous topic of behaviour and strategy, the intensity of e-commerce adoption, why e-commerce is being adopted by hotels, and the configuration of hotel portfolios of OTA's is the subject of the present paper, not to model how the performance of hotels will change, which is the focus of a companion study. The enquiry is approached through the Diffusion of Innovations theory (Rogers, 2003) that is used to explain the diffusion and adoption of innovations in a social system, and the tourism intermediation literature (Buhalis& Law, 2008), which explores the evolving role of the intermediation between the tourism supply and the tourism demand sectors.

The study has four objectives – to give a description of the current situation and extent of hotel e-commerce use in Rajasthan, to explore the variation of ecommerce adoption motivation by hotel size category, the ecommerce ota configuration and its breadth in relation to hotel size and number of branches, and technological and organisational readiness for digital distribution. The study was conducted on primary data was collected from 180 respondents (three-star and above hotels) who were the managers from 7 cities and the data was analyzed using descriptive statistics and cross tabulation in order to achieve these objectives.

This paper has three contributions. First, it's a tellingly time-shifted description of digital distribution habits in a poorly researched and old-fashioned market for a relatively new medium—one that has a heritage of 200 years of cigar smoking starting from American Revolution-era forts—but is curiously dominated by smaller, older stores that aren't the ones that were embraced as the ideal big chain outlets. Second, it gives insight into the linkage between motivations for adopting and OTA portfolio

breadth with firm size, suggesting a segmented OTA distribution strategy is not uniform across-company. Thirdly, it brings to the forefront the strategic challenge between reaching through intermediaries and maintaining direct channel control, and reveals its implications for hotels that rely on a very limited number of domestic channels. The rest of the paper, which reviews the literature, states the hypotheses (Section 2); sets out the methodology (Section 3); reports the results (Section 4); discusses the results (Section 5); draws implications (Section 6); notes limitations (Section 7) and concludes (Section 8).

**Theoretical Background and Hypotheses**

- **Diffusion of innovations and technology adoption in tourism**

The Diffusion of Innovations (DoI) theory (1995-2003 Rogers) proposes an explanation of how an innovation spreads and spreads over time in a social system. It assumes that the attributes of the innovation as perceived by the potential adopters, including relative advantage, compatibility, complications, trialability and observability of success, affect the rate of adoption; and that the consumers can be grouped into early pioneers, late majority and laggards. The theory can help to understand in hospitality that some hotels jump to complex digital operations, others merely reach to minimum acceptable online presence and that the perception of the complexity of a technology can retard or delay their adoption even in the absence of benefits. The diffusion lens, in addition to the acceptance models, has also been applied to the internet distribution, social media and mobile tools in the world of tourism (Leung, Law, van Hoof, &Buhalis, 2013; Hjalager, 2010; Law et al., 2009).

Of Rogers' attributes, two are particularly relevant with regards to hotel ecommerce. As a result of high relative advantage (ease of access compared to the alternative products being replaced), a wide range of take-up has been seen across the sector, with online distribution having the highest relative advantage of being available on a worldwide scale, with low transaction costs and available around the clock. In contrast, complexity affects whether or not an innovation is perceived as simple to understand and use, and it is likely the most critical attribute to get a hotel to go beyond a simple presence. It can be good that a property is aware of the value of having a full booking and analytics suite, but end up getting stuck when it comes to the skills to operate it are in short supply. From this diffusion perspective comes the expectation that adoption would be wide, but shallow – that complexity is a brake on adoption, which is literally tested in this study.

The innovation in tourism is more adoptive than inventive as new technologies are developed in other industries and brought in by the tourism sector to be adapted into the hotel (Hjalager, 2010). The situation is particularly relevant in the case of the adoption of widely available technologies as motivations for adoption and the conditions of readiness will play a crucial role since the advantage of a technology to a hotel is based on how and why the technology is used, rather than privileged access. Thus, the diffusion point of view calls into focus the underlying motivations for hotel participants' ecommerce adoption and their internal readiness for the extent of their adoption.

- **Online distribution and the intermediation debate**

The internet were supposed to disintermediate travel distribution thus enabling suppliers to sell to travellers, bypassing the middleman, or travel agent (Porter, 2001). Rather, a wave of re-intermediation ensued, with the powerful OTA and meta search platforms coming between hotel and guests and taking home significant hotel resorts booking share (Buhalis& Law, 2008). It left a bitter flavor in the mouths of hotels. Commissioned by OTA, OTA owners have control over the guest relationship and the data; as for reach, OTA deliver it – as well as visibility – and most importantly, a representation of reviews that are particularly helpful to smaller and lesser known properties (Law et al., 2009). Direct channels (like a hotel's booking engine, loyalty programmes etc.) are maintaining the margins and data but need capability, investment and ongoing effort to maintain.

Intermediations aren't such a standard phenomenon in all markets. Domestic platforms control online distribution platforms in many emerging economies and as a consequence, the platforms dictate the conditions of the service offered to local hotels, which also are locked out of bargaining power to a few companies. For many people, visibility and rep are a determinant influence while they look to choose their hotel, and the platform that facilitates this search and previews may play a second tier, along with the fact that they don't complete the booking. The question for the hotel is relative, not if it should rely on intermediaries but how it determines to be distributed among these intermediaries as well as how far to offset the reliance on intermediaries with direct channels. The set up of the OTA portfolio (number of platforms and which ones) is thus a tangible reflection of its position within this competitive market.

It's clear that the mix between intermediated and direct distribution is a strategic call, with strong implications for revenue for the hotel. Research on customer-relationship and distribution systems in lodging indicate that there are two effects of the structure of distribution: the nature of distribution affects efficiency and distribution affects demand ownership (Piccoli, O' Connor, Capaccioli& Alvarez, 2003). More recent research pays attention to the importance of a multi-channel strategy rather than just relying on a single channel strategy that enables a hotel to maintain a footing in the very competitive online hospitality space (Bilgihan, Kandampully, & Zhang, 2016).

- **Firm size and heterogeneity in digital adoption**

One of the most consistent correlates of technology adoption is its size. Larger companies typically have more financial and human resources, have a greater ability to absorb set up costs of a new system and operate in more complex environments where advanced tools are more effective; smaller companies are more resource-limited, more flexible and easier to change (Buhalis, 2003; Morosan & Jeong, 2008). The differences imply the hotel will not only take on e-commerce at different speeds but for different reasons; and that different size hotels will construct different channel portfolios. In some respects, a small hotel with a keen sense of the value of every penny it spends and each hour it sends its staff working, might value the efficiency and convenience of online booking more than a large hotel which competes with a wide range of establishments offering similar facilities.

There are additional aspects of relationship with intermediaries that are associated with size. A large multi-branch hotel operation will need to stock a greater number of rooms in different segments, different times of year and will have to list on more platforms, and to actively manage them, than a single-property or smaller hotel. However, there's no reason to assume that in principle, larger hotels are more digitally driven, or more so than small ones, but it seems that a bigger cover area demands a broader portfolio and a greater variety of OTA. There doesn't need to be a correlation between the size of a hotel and how automatic they are in principle, and of course there isn't, but larger covers in an area require more variety and more size in the hotel's OTA portfolio. Size isn't everywhere factors into the sophistication of a strategy, in this sense.

But there is also an received literature that cautions against good old fashioned "size doesn't matter". Research on small-firm digitalisation indicates that, when it comes to technological competition, it is capability – rather than endowment that is the key that enables agile, small, or very small firms to prevail online when they foster and develop the right capabilities. But size is also likely to have an impact on the motivations and the form of digital distribution – as well as affecting success – which is what this study directly investigates.

- **Adoption motivations and intensity**

The Hotel's usage of e-commerce conditions is the reason for why. Reducing costs, efficiency and time, reaching a broader market, making services more efficient, keeping customers and keeping up with the competition are mentioned as motivations in the literature (Barsauskas, Sarapovas, &Cvilikas, 2008; Buhalis& Law, 2008). How much weight is given to these motives may be dependent on the size and position of a hotel. Similarly, it's not an on/off function: A hotel might have a minimal online presence, have intermediaries come into play significant roles, or manage a complete channel mix between direct and intermediated. To understand the intensity of adoption can then involve describing whether or not it relates to the age or size of a hotel, as a part of its distribution strategy.

- **The Rajasthan tourism and hospitality context**

The study focus on the digital distribution is unique in Rajs than other states. India's citizens as well as tourists from across the globe flock to this majestic destination with its palaces, forts, lakes and deserts not only for sightseeing but also for the employment and income opportunities that the tourism industry provides to the residents of the state. It's really exceptional for its range of accommodation trade, from the international quality five star chain down to converted historic havelis and small, owner managed outposts, and as the sample profile will show, it is dominated by small, mature properties. This composition allows the state to be a suitable market in which to study firm-size heterogeneity, since the entire spectrum of sizes can be observed in a single market and regulatory and infrastructural environment.

Much of the trade has a further dimension, for much of the evidence of this is still visible, affirming the heritage character of much of the trade. Many properties capitalize on their historic nature and architecture and on a sense of place, which is something that's hard to recreate online and one that

is often essential to how they use databases like review and meta search sites to support their properties. These, however, tend to be the ones with the fewest digital staff at the same time and the most mature and smallest hotels, and the pressure of reaching the intermediaries versus being able to operate direct channels is felt to the fullest. Relying on the digital distribution context in this way, then, highlights precisely those features that have tended to be disregarded by the vast media chain literature.

- **Research gap and hypotheses**

This review has resulted in three gaps. In a first, the data used to study digital distribution is skewed towards big chains in established tourist markets and doesn't include the small and historic properties of new tourist destinations. Second, they tend to think of adoption as a decision not as a series of decisions means of adoption, which in turn are determined by size. Third, little empirical study has been directed at the organizations of OTA portfolios in this context, with the exception of the impact of size and organization. The study is aimed to address these gaps, based on the diffusion and intermediation perspective, has four hypotheses:

A hotel's age has nothing to do with how well it is technologically equipped—a good Wifi connection has become so common that there is limited correlation with vintage—and because e-commerce has come to all industries (whether or not vintage), their dependance on ecommerce won't correlate with age, either:

**H1:** The intensity of ecommerce dependency is not statistically significant correlated with the age of a hotel.

As size influences the amount of resources that a hotel offers and the types of problems the hotel has to address, the reasons behind their use of ecommerce are likely to differ by the size of the hotel:

**H2:** Adoption motivations differ significantly across hotel size categories, shifting from cost and efficiency motives in small hotels towards reach and service motives in large hotels

As the operation expands and branches out (e.g. larger-sized operations), it is likely that over time their OTA portfolio will become more extensive:

**H3:** The breadth of the OTA portfolio is positively associated with hotel size and with the number of branches a hotel operates.

The lack of awareness of sector complexity in skills required is likely to be the main organisational hurdle to increased adoption, since innovation is an adoptive process, and therefore is subject to internal readiness:

**H4:** Skill complexity is the most crucial element in organisational readiness, and influences the amount of e-commerce being adopted.

**Research Methodology**

- **Design and Approach**

This study uses descriptive-analysis in quantitative type of research and cross section design. It does not seek to test a causal model, but rather to profile and compare the digital distribution activities of different hotel types, an approach that emphasizes patterns and looks at how these patterns differ for firm-size measures and a measure of firm-age. The problem of levels of adoption, along with the reasons people adopt and the structure of channel portfolios, are represented with frequencies, proportions and cross tabulations, so it's a good design for these questions.

- **Population, Sample and Respondents**

There were 335 three-star and above hotels in the principal tourist cities of Rajasthan who were considered as the target population. Following Krejcie and Morgan (1970) a sample of 180 hotels was selected employping a stratified sampling technique, with proportion of the sample to population of the major destination cities. The senior management respondents (from general manager, front office manager or other hotel owners) filled out the questionnaire for their respective hotels — they have an informed opinion on the distribution practices of their hotel. The sample is described in Table 1 and is quite representative of table top sample properties, as they are dominated by small and mature properties in keeping with the character of the state's trade.

**Table 1: Profile of the sample (N = 180)**

| Characteristic | Category | Frequency | Per cent |
|---|---|---|---|
| Hotel age | New (< 10 years) | 7 | 3.9 |
| | Mature (10–24 years) | 124 | 68.9 |
| | Established (25–49 years) | 42 | 23.3 |
| | Legacy (≥ 50 years) | 7 | 3.9 |
| Hotel size | Small | 118 | 65.6 |
| | Medium | 38 | 21.1 |
| | Large | 24 | 13.3 |
| City | Udaipur | 53 | 29.4 |
| | Jaipur | 40 | 22.2 |
| | Jodhpur | 24 | 13.3 |
| | Mount Abu | 23 | 12.8 |
| | Ajmer | 19 | 10.6 |
| | Bikaner | 12 | 6.7 |
| | Kota | 9 | 5.0 |

Source: primary data.

- **Instrument and Measures**

Structured questionnaire method was used in collecting the data. The first part documented the information for the profile of the hotel, such as the size, age, numbers of branches and city the hotel was located in. The second captured the nature and intensity of e-commerce used, how dependent the hotel is on using the ecommerce channel, and the links the hotel has with specific OTA platforms, all of which were multiple response set (MRS) questions that allowed a hotel to use more than one platform. In the third section, the reasons for adoption were captured, which again included multiple responses across customer retention/competitive pressures, cost effective, time efficient, market, and service. The last section included technological and organisational readiness that was measured using a five-point Likert scale. The instrument has undergone content and face validity reviews by the experts and the instrument was also pilot tested before full rigorously testing the instrument for the survey.

- **Method of Analysis**

Data analysis was done descriptively and cross tabulation. Intensity of adoption and pattern of motivations as well as configuration of OTA profiles were described as frequencies and percentages. These patterns were compared by cross tabulation, by hotel size and by hotel age; the platforms used were analyzed by number to determine the degree of portfolio width and branches used were analyzed by number to determine the degree of portfolio breadth. Summarised technological and organisational readiness – ITEM If there are differences between groups in the paper, these are based on the cross tabulated distributions of the primary data and can be applied to the same tables where a confirmatory reading is required, formal tests of association. Ethical protections were taken at all stages: participation was voluntary; respondents were informed about the academic use of the data; and data were only used in an aggregated form.

Two aspects of the methodology of the analysis should be stressed. The citations below refer to the number of hotels that endorsed each item and do not represent a subdivision of the hotels. Also, the counts reported are multiple response counts for OTA linkage and motives, as multiple responses could be given to a single item. Second, the arguments of superiority/dominance that are made between size groups or between age groups depend on the shape of the cross tabulated distributions which for a profiling piece of work this kind have some substantive content; a confirmatory piece of work on this kind would likewise be structured to allow for formally establishing either level of difference or no difference. Percentages of the items are presented to one decimal place and for the multiple-response items, percentages are based on all 180 hotels. This maintains transparency of the analysis, and allows the descriptive pattern to become visible.

**Results**

- **The Present Scenario and Intensity of Adoption**

E-commerce has been taken up widely by the hotels in the sample, but its use is mostly moderate rather than intensive. Most properties maintain an online presence and rely on intermediaries

to fill rooms, yet fewer have moved to the deeper, self-managed operations, such as their own booking engines, integrated customer databases and active digital marketing, that mark the fullest stage of adoption. In diffusion terms, the industry sits in the middle of the curve: past the early stage of experimentation, but well short of saturation at the most advanced level of use.

Adoption intensity does not track the age of a hotel. Although 137 of the 180 hotels had been operating for more than fifteen years, moderate dependence on e-commerce was the most common position across the sample regardless of vintage, and older hotels were no more or less dependent than younger ones. This supports H1: the intensity of e-commerce dependence is not associated with a hotel's age. The pattern suggests that e-commerce has diffused across the industry as a whole, so that longevity neither confers nor denies digital engagement; what a hotel does online is a matter of choice and capability rather than of how long it has been in business.

Table 2 reports the full cross-tabulation of hotel age against level of e-commerce dependence that underlies this result.

**Table 2: Age of hotel and level of e-commerce dependence (cross-tabulation)**

| Age of Hotel (Years) | Low Dependence | Moderate Dependence | High Dependence | Total |
|---|---|---|---|---|
| Less than 10 | 2 | 4 | 1 | 7 |
| 10–15 | 12 | 20 | 4 | 36 |
| More than 15 | 50 | 54 | 33 | 137 |
| Total | 64 | 78 | 38 | 180 |

*Note: dependence recorded on a four-level scale, collapsed here to low/moderate/high. Source: primary data (added, ref. Chapter 4 descriptive analysis).*

This absence of an age effect is itself worth dwelling on. It might be supposed that long-established and heritage hotels, with their traditional clientele and their reliance on reputation built over decades, would be slower to embrace online distribution. The data do not bear this out. Older hotels are as engaged with e-commerce as younger ones, which indicates that the innovation has diffused across the entire social system of the industry rather than sweeping through its newer entrants first. What separates hotels is not when they opened but the depth to which they have carried their adoption, and that depth, as later results show, is bounded more by capability than by age.

- **Adoption Motivations Across Hotel Size**

H2 is strongly supported as there are very clear differences in the motivations behind the use of ecommerce among various levels of hotel size. For the small hotels, the majority of responses were for money-saving or time-saving reasons (85 and 80, respectively), which is probably related to their limited resources where it makes sense that each dollar saved and each staff member saved is a big deal. The motives were somewhat more balanced for medium hotels, with them being split into three roughly equal camps around time efficiency (35), service delivery (34) and market reach (33) – indicating a mixing in between them that none of these motives is overwhelming. There was a strong focus on having the markets reach and delivering services with the top hotels strongly focused on Competitive Pressure (25), Market Reach (35) and Service Delivery (30), which drives market reach and service delivery to a large market at scale. The main motivations by size are identified in table 3.

**Table 3: Leading e-commerce adoption motivations by hotel size (multiple-response counts)**

| Hotel Size | Leading Motivation | Response Count |
|---|---|---|
| Small (n = 118) | Cost effectiveness | 85 |
| Small (n = 118) | Time efficiency | 80 |
| Medium (n = 38) | Time efficiency | 35 |
| Medium (n = 38) | Service delivery | 34 |
| Medium (n = 38) | Market reach | 33 |
| Large (n = 24) | Market reach | 35 |
| Large (n = 24) | Service delivery | 30 |
| Large (n = 24) | Competitive pressure | 25 |

*Note: respondents could select more than one motivation, so counts reflect multiple responses. Source: primary data.*

Table 4 sets out the full cross-tabulation across all six motivation items, with column totals, underlying the leading motivations reported above.

**Table 4: Adoption motivations by hotel size, all items (multiple-response counts)**

| Hotel size | Cost effectiveness | Competition | Time efficiency | Service delivery | Market Reach |
|---|---|---|---|---|---|
| Small | 85 | 60 | 80 | 55 | 50 |
| Medium | 30 | 32 | 35 | 34 | 33 |
| Large | 18 | 25 | 20 | 30 | 35 |
| Total | 133 | 117 | 135 | 119 | 118 |

*Note: multiple-response set; counts reflect the full item set rather than leading motivations only. Group sizes follow the response-count basis of this cross-tabulation; see Table 1 for the sample's size distribution. Source: primary data*

This trend underscores the point: As the hotels expand, instead of cost and time saving the motive is more to reach out and perform their service and the competitive motives surface only among the bigger ones. However, digital distribution, or any other digital technology for that matter, doesn't have a single purpose. Instead, it can help a hotel's different strategic ends, depending on the size and market positioning of the hotel using it.

- **The Configuration of OTA Portfolios**

The OTA portfolios for the sample are mostly composed of home portfolios. MakeMyTrip (161) was the second largest platform, closely followed by the meta-search and review performers Tripadvisor (144) and Trivago (154) while Agoda (119) and though very scarcely used by hotels in the country comes Yatra (133). The pattern is presented in table 5. Again, the focus on a limited number of domestic platforms is a strategic reality: it's an effective reach, but an hotel is vulnerable to the commission regime and policy of few preferred platforms.

**Table 5: Online travel agency (OTA) usage across the sample (N = 180)**

| OTA Platform | Hotels Using | Per Cent of Sample |
|---|---|---|
| Goibibo | 168 | 93.3 |
| MakeMyTrip | 161 | 89.4 |
| Trivago | 154 | 85.6 |
| TripAdvisor | 144 | 80.0 |
| Yatra | 133 | 73.9 |
| Agoda | 119 | 66.1 |

*Note: multiple-response set; hotels typically use several platforms. Source: primary data.*

Table 6 disaggregates OTA linkage by the number of branches a hotel operates, providing the cross-tabulation that underlies the breadth result reported below.

**Table 6: Number of hotel branches and extent of OTA linkages (cross-tabulation)**

| No. of Branches | Goibibo | Trivago | MakeMyTrip | TripAdvisor | Yatra.com | Agoda | Total Hotels |
|---|---|---|---|---|---|---|---|
| 1 branch | 138 | 126 | 132 | 118 | 109 | 97 | 150 |
| 2 branches | 20 | 18 | 19 | 17 | 15 | 14 | 20 |
| 3 branches | 7 | 7 | 7 | 6 | 6 | 5 | 7 |
| More than 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Total hotels linked | 168 | 154 | 161 | 144 | 133 | 119 | 180 |

*Note: multiple-response set; a hotel may link with more than one OTA. Source: primary data*

There is a greater range in the scope of the work when scale increases. The scope of the work broadens with the scale. As number of branches increased, so did number of platforms the hotel was listed on via OTAs, with multi-branch and larger hotels appearing on more OTAs than smaller, single-property hotels. This supports H3: OTA portfolio breadth is positively associated with hotel size and with the number of branches. The discovery is consistent with the idea of intermediation which would suggest that larger operations face wider and more varied demand and therefore spread themselves across more channels to capture it, while smaller hotels concentrate on the few platforms that bring them the most reach for the least effort.

- **Technological and Organisational Readiness**

The overall level of ready is reflected in these distributions of readiness. With respect to the tangible benefits from the use of e-commerce, the highest rated items were those related to better

processes, better time management and reliability of their systems with a score of 4.30, 4.24 and 4.17 respectively. The use of the technology (4.15), the approachability of the website (4.12) and the security of transactions was also rated highly, whilst the frequency of system updates was the lowest of all, but still at a positive rating (4.03). From an organisational perspective, management support was the most successful with a score of 4.28, the belief that e-commerce aids retention was next at 4.21 and the belief that e-commerce supported market growth was next at 4.18, with training (4.08), participative decision making (4.06) and the intention to expand operations (4.01) rated somewhat below that.

A one thing indeed stood out. Overall, this skill felt the least agreed upon, with the highest level of agreement (3.42) and thus supporting H4, as perceived to be the most difficult to learn. However, while most other areas of readiness were solid, human readiness for more sophisticated digital tools was not, which accounts for the number of hotels that don't go beyond a certain degree. The readiness items have been summarised in Table 7.

**Table 7: Technological and organisational readiness: selected item means**

| Dimension | Item (abbreviated) | Mean |
|---|---|---|
| Technological | Improved processes and saved time | 4.30 |
| Technological | Internet eased administration | 4.24 |
| Technological | System reliability | 4.17 |
| Technological | Willingness to use technology | 4.15 |
| Technological | Website approachability | 4.12 |
| Technological | Transaction security | 4.08 |
| Technological | Frequency of system updates | 4.03 |
| Organisational | Management support | 4.28 |
| Organisational | Helps retain customers | 4.21 |
| Organisational | Supports market size and growth | 4.18 |
| Organisational | Staff training | 4.08 |
| Organisational | Participative decision-making | 4.06 |
| Organisational | Intention to expand operations | 4.01 |
| Organisational | Complexity of required skills | 3.42 |

*Note: five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Source: primary data.*

Table 8 reports the dispersion around the item means in Table 7, adding standard deviation and variance to indicate how consistent responses were on each item.

**Table 8: Technological and organisational readiness: dispersion of item scores**

| Dimension | Item (abbreviated) | Mean | SD | Variance |
|---|---|---|---|---|
| Technological | Improved processes and saved time | 4.30 | 0.682 | 0.465 |
| Technological | Internet eased administration | 4.24 | 0.731 | 0.534 |
| Technological | System reliability | 4.17 | 0.768 | 0.590 |
| Technological | Willingness to use technology | 4.15 | 0.772 | 0.596 |
| Technological | Website approachability | 4.12 | 0.794 | 0.630 |
| Technological | Transaction security | 4.08 | 0.835 | 0.697 |
| Technological | Frequency of system updates | 4.03 | 0.878 | 0.771 |
| Organisational | Management support | 4.28 | 0.731 | 0.534 |
| Organisational | Helps retain customers | 4.21 | 0.752 | 0.565 |
| Organisational | Supports market size and growth | 4.18 | 0.774 | 0.599 |
| Organisational | Staff training | 4.08 | 0.864 | 0.746 |
| Organisational | Participative decision-making | 4.06 | 0.842 | 0.709 |
| Organisational | Intention to expand operations | 4.01 | 0.893 | 0.797 |
| Organisational | Complexity of required skills | 3.42 | 1.021 | 1.042 |

*Note: five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The comparatively high SD and variance on 'complexity of required skills' indicate wider disagreement on this item than on any other, reinforcing its role as the binding constraint identified under H4. Source: primary data*

Table above explains the moderate overall intensity of adoption There is a clear perceived relative advantage, as it is recognised that e-commerce improves their processes and saves time, and management support is high, so the will to adopt is not in question. The one attribute that pulls against adoption is complexity, taken here by the low score on the skills required, and it is indeed this attribute

that diffusion theory identifies as the drag on deeper uptake. The readiness profile is therefore internally consistent: strong advantage and support carry hotels to a moderate level of adoption, while the complexity of the necessary skills holds most of them back from the fullest level of digital operation.

- **Summary of Findings**

Overall , the results describe a segmented digital distribution landscape. Adoption is widespread but is moderate, and does not strongly depend on age (H1); motivations change with size from cost/efficiency to reach/service (H2); the OTA portfolio is skewed towards more domestic platforms, and widens with size (H3); and readiness is high, except for complexity of skill required, which is the principal weakness to greater adoption (H4). Table 9 maps each objective and hypothesis to the evidence.

**Table 9: Summary of objectives, hypotheses and findings**

| Objective | Hypothesis | Evidence / tool | Finding |
|---|---|---|---|
| O1: scenario and intensity | H1 (age not associated) | Descriptive; cross-tab by age | Supported |
| O2: motivations by size | H2 (motives differ by size) | Cross-tab by size | Supported |
| O3: OTA portfolio breadth | H3 (breadth rises with size/branches) | Cross-tab; multiple response | Supported |
| O4: readiness constraints | H4 (skill complexity most binding) | Item means | Supported |

*Source: compiled by the authors.*

**Discussion**

The results highlight a relatively wide, but not uniform, distribution of digital products clearly segmented by firm size. Every outcome addresses the diffusion and intermediation points of view, underpined by the study.

The finding that adoption is widespread yet mostly moderate places the industry in the middle of the diffusion curve (Rogers, 2003). Many hotels have learned to go beyond experimentations, but the majority of them are not yet to the level of self-controlled, multi-channel management. It was also found that the e-commerce dependence is not correlated to age. Even today, despite a notable assumption that older hotels are done with ecommerce, older and younger hotels are just as involved as one another—and the disparities which remain are ones of ability and choice, not vintage. This tempers any assumption that heritage or long-established properties are digital laggards; in this sample they are not.

The size-based nature of motivations also reflects a distinct trend in the adoption literature, that the size of a firm affects the resources devoted to it and the problems that it tries to solve (Buhalis, 2003; Morosan & Jeong, 2008). The change from cost/cycle in small hotels, to a balance of them in the medium sized, and to enter and service in the large – demonstrates that the same technology is woven into the service of different strategies. Ecommerce in a small hotel could be an effective way to get more done with less; it could also be an opportunity to serve a bigger market to a large hotel. If competition is used as a motivator reason it came to light only in the biggest hotels, because the online market seems to be a match that -- most likely -- the small ones are doing not to beat, but to use.

OTA portfolios make the intermediation debate shine a bright light. Despite the internet's hype that it was going to destroy the place to stay business, it actually re-intermediated the place to stay business and the revisions shown the extent of such re-intermediation (Buhalis& Law, 2008). Almost all hotels use a few local websites such as Goibibo and MakeMyTrip, the list of which has grown as the overall volume of their clientele has increased. On the upside, this provides reach but on the downside it makes the hotel vulnerable to commissions and policies being handed down by the two or three people through whom it fills vacancies and gives away knowledge of the guest with the resulting relationship and data, an idea that Law et al. (2009) dub the "tower of intermediaries". The relative weak adoption intensity in the overall situation emphasises that exposure is weak due to lack of strong direct channel. So, a strategic task to create is to not just be on additional platforms, but provide a balance between reaching through an intermediate channel and the margin and control that direct channels offer (Bilgihan et al., 2016).

Finally the readiness results ascertain where the brake on deeper adoption lies. All of the areas of readiness were good, but the most notably weak area was the skills' complexity. In diffusion terms, complexity is the attribute that slows adoption even when relative advantage is in its favor (Rogers, 2003) and that seems to be found here: Hotels have a good idea of e-commerce, support it from the onset, but

the ability of a human to operate more advanced tools is lagging, which explains, why so many stop at the “moderate” level of use. Innovation within the sector is more change-making than invention (Hjalager, 2010) and hence the capacity gap as opposed to access to technology is the bottle neck.

The hotels that gradually turn into a deep adopter of the internet, by developing direct channels and the competencies to power and operate them will be the ones to benefit from a lasting digital advantage which in turn will lead to the progressive erosion of their margins and of their relationship with customers. Any such evolution shouldn't be the same for every hotel in the market since there are different paths to be taken depending on the level of size: For small properties, the route should be making low cost investments in capability building as a platform for direct distribution; for the larger, it should be extending an already extensive presence on the platform through direct and loyalty channels.

**Implications**

- **Theoretical Implications**

Three contributions are made in the field of theory. Firstly, it figures diffusion and intermediation perspectives, areas which are under researched in dealing with an emerging market that is underpinned by the heritage principle, and demonstrates a pattern similar to the mid-curve re-intermediated alignment which is more familiar in developed markets, in a situation that is populated by small and older properties. Secondly it shows that there is no single pattern of digital distribution strategy; instead there is an identifiable pattern which can be explained on the basis of firm size, indicating that the dimensions of eCommerce Hotel business should be included as a factor that structures models of hotel's ecommerce rather than just as an independent control. Third, rather than access or management support, it is perceived difficulty of the skills that is the limiting factor for deeper usage; this clearly highlights empirical evidence for the diffusion argument that states that perceived difficulty of the skills is the controlling factor for uptake.

On a wider scale the research demonstrates the benefits of the distinction between the study of distribution behaviour and the study of performance. The paper asks "Why" and "How" hotels use e-commerce, and then works through a number of questions about how they have set up their channels, before investigating what it does for their results, in order to provide a behavioural basis for the performance models. This volume-based behaviourally sensitive account could be relevant to other service sectors or new markets in which small businesses are prevalent and intermediaries.

There would also be methodological value of the study for the field. It offers a means of understanding the digital distribution as behaviours that can be observed and measured rather than a latent construct by treating it as such, it reveals how a profile-based method can bring to the surface strategic patterns that a variance-based hot-combustion model of digital distribution – one that focuses on average effects – may smooth over. The size-segmented difference reported here would not have been apparent in a pooled regression including size as a control. This supports the use of a descriptive, segment specific profiling in parallel to the modelling of performance to enable the description of the heterogeneity in an industry before its average is taken.

- **Managerial and Policy Implications**

Balance is a message hoteliers need to hear: Focus on a limited range of local OSAs adds reach but necessarily adds exposure, which is why hotels need to diversify across a range of platforms while building their own booking engine, loyalty program, their own guest database – to safeguard their margins while maintaining control of the guest relationship. The constraint becomes a skill, instead of having to come up with enormous amounts of money, the best investment is the regular and practical upskilling of staff that can take hotels to a deeper level of adoption at a much less significant investment. But smaller hotels should understand that they have the agility to get onto the front page of Google, and not seek the sophistication of the big chains just for marketing via sophisticated distribution.

The size-segmented pattern suggests targeted support from policymakers and/or industry bodies. For small and heritage properties, provided that it is possible, shared training programmes are needed, awareness programmes are vital, and at least subsidies or cooperative platforms are recommended to decrease the reliance of a few dominant intermediaries. These properties are quite extensive and investing in digital would significantly bolster the competitiveness of the state's tourism economy as a whole and would provide the benefits of digital across sizes and regions.

An understanding that there is a collective component to these recommendations. The limited number of intermediaries used by so many hotels gives the hotel with limited bargaining power as far as

commissions and terms are concerned. It may be possible for this to be fixed through the efforts of industry associations or destination-management organisations (DMOs) – by collective demand negotiations and aggregating offers or creating a regional platform as an alternative route to market for small and heritage hotels. This co-ordinated action would help the sector not to be at the mercy of a handful of platforms, it would stop every hotel having to construct expensive internal platforms and it would make the business interests of many small-scale operators to be aligned.

**Limitations and Future Research**

The study's scope is limited and future research may be directed along several specific areas. It is strictly restricted to Rajasthan as well as three-star and above Hotel classes, therefore, further violet is actually impossible to show up the assessment of digital distribution of this number to other place of the country or to the market segment of budget segments, guest houses and home stay that makes up a significant part of the market; further comparative and segment wise studies would be required to determine whether the patterns remain valid across the country and across particular segments. This is a cross section and descriptive design, and thus reflects a snapshot of the design, as opposed to the design process or trajectory of design, a longitudinal study would help illustrate how motivations and channel portfolios have evolved over time in the market. The use of a single senior respondent per hotel facility and reliance on self-reported practice invites promise in future research to triangulate against data from the platform level or on a transactional level. Finally, accounts of patterns and associations, and additionally of association tests for confirming the results, would add depth to the account, along with a process study of the way managers think about the trade-off between intermediated reach and direct control.

Another limitation involves how intensity of and dependence upon adoptions is defined, which depends on managers' practices rather than on the number of bookings. Senior respondents may be more inclined to be aware of their hotel's distribution efforts and self-reporting can rule out truly understanding the extent of variation in behaviour; a hotel's reported reliance on intermediaries can vary from the amount of revenue going through them, too. Future studies that correlated the survey responses with channel level transactional information would improve the clarity available, whether that's correlating them or following a panel of a number of hotels across multiple seasons. The end-user statistics would be complemented by adding in any commission rates, direct-booking ratios and the impact of social media and of metasearch.

**Conclusion**

The current study aimed to profile the digital distribution journey of the hostel industry of Rajasthan and also to find about the relation between firm size and the motivations for and OTA portfolios of e-commerce. Based on the diffusion and intermediation perspectives and primary data derived from 180 hotels, it uncovers widespread but moderate adoption, non-correlation between age and adoption, and that the rational for adopting OTA changes based on hotel size (from cost/effectiveness to reach/service), among other insights, such as the finding that OTA portfolios are dominated by domestic OTA and expand with size, and that complexity of the skills required is the primary constraint on deeper OTA adoption.

The big picture here is about a re-intermediated size segmented distribution environment where hotels of all vintages play and exploit very little. The place where these hotels have a chance to be strategic is to create direct channels, and their own people power to enable them to create a balance between the reach of the middlemen and the margin and guests' control of their own channels. The good news for the heritage state is that the one that trades the old is for every hotel, whether small or long established, to construct the ability to do it right.

Finally, the study challenges the perception of hotel e-commerce as an issue of adoption solely, and redefines it as a distribution strategy one instead to the more emerging heritage industry. The key takeaway is that scale determines the nature of that strategy, motivations and channel portfolios, and capability the depth. By acknowledging both, hoteliers and policy-makers can progress beyond the abstraction of ‘being online' to the more helpful mantra of ‘distributing wisely' – reaching guests through the platform or platforms that count, keeping the margin and data that keeps the hotel-alog-going and growing, and nurturing the talent that translates a respectable online profile into a solid competitive advantage. This is something achievable for the numerous small, typical hotels that define the flavour of Rajasthan.

**References**


1. Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120.
2. Barsauskas, P., Sarapovas, T., &Cvilikas, A. (2008). The evaluation of e-commerce impact on business efficiency. Baltic Journal of Management, 3(1), 71–91.
3. Bharadwaj, A. S. (2000). A resource-based perspective on information technology capability and firm performance. MIS Quarterly, 24(1), 169–196.
4. Bilgihan, A., Kandampully, J., & Zhang, T. (2016). Towards a unified customer experience in online multichannel contexts. International Journal of Quality and Service Sciences, 8(1), 102–119.
5. Buhalis, D. (2003). eTourism: Information technology for strategic tourism management. Pearson Education.
6. Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the internet — The state of eTourism research. Tourism Management, 29(4), 609–623.
7. Buhalis, D., & Leung, R. (2018). Smart hospitality: Interconnectivity and interoperability towards an ecosystem. International Journal of Hospitality Management, 71, 41–50.
8. Hjalager, A. M. (2010). A review of innovation research in tourism. Tourism Management, 31(1), 1–12.
9. Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30(3), 607–610.
10. Law, R., Leung, R., &Buhalis, D. (2009). Information technology applications in hospitality and tourism: A review of publications from 2005 to 2007. Journal of Travel & Tourism Marketing, 26(5–6), 599–623.
11. Leung, D., Law, R., van Hoof, H., &Buhalis, D. (2013). Social media in tourism and hospitality: A literature review. Journal of Travel & Tourism Marketing, 30(1–2), 3–22.
12. Morosan, C., & Jeong, M. (2008). Users' perceptions of two types of hotel reservation websites. International Journal of Hospitality Management, 27(2), 284–292.
13. Piccoli, G., O'Connor, P., Capaccioli, C., & Alvarez, R. (2003). Customer relationship management: A driver for change in the structure of the U.S. lodging industry. Cornell Hotel and Restaurant Administration Quarterly, 44(4), 61–73.
14. Porter, M. E. (2001). Strategy and the internet. Harvard Business Review, 79(3), 62–78.
15. Rogers, E. M. (2003). Diffusion of innovations (5th ed.). Free Press.
16. Sigala, M. (2018). New technologies in tourism: From multi-disciplinary to anti-disciplinary advances and trajectories. Tourism Management Perspectives, 25, 151–155.
17. Xiang, Z., & Gretzel, U. (2010). Role of social media in online travel information search. Tourism Management, 31(2), 179–188.


❑❑❑