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Network Exploitation Capability: Mapping the Electronic Maturity of Hospitality Enterprises

Cornell Hospitality Report

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by Gabriele Piccoli, Ph.D., Bill Carroll, Ph.D., and Larry Hall



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EXECUTIVE SUMMARY

lthough many hospitality firms are making effective use of their information technology resources, the value and effect of those operations could be magnified by a strategic and integrated approach to IT, called Network Exploitation Capacity (NEC). The NEC model maps an organization's advance toward full integration of network capacity that culminates with a self-renewing or learning strategy for the firm in three areas: demand generation, multi-channel distribution management, and revenue optimization. Unfortunately, most hospitality firms are at the first step of the NEC maturity scale, "Basic," in which one or more staff members handle some aspects of IT (often with good result), but other aspects are neglected and, in any event, the efforts are not tied together in an effective strategy. Some firms are at Stage 2 of the model, "Systematic," which expresses an approach to network exploitation that has been codified as part of the firm's operating system, and the firm is functioning in all three phases of network exploitation. Even if single individuals are responsible for these functions, the firm holds the knowledge of how these areas operate, rather than have the knowledge reside solely in the individual. Advancing to Stage 3, the "Integrated" Stage, a few firms are systematically fostering synergy in the three areas of network exploitation and consciously coordinate operational behavior in a consistent fashion. While no firms have reached Stage 4, the "Analytical" Stage, this stage is characterized by a disciplined analytical mindset that aims at effective operations. Firms achieving Stage 5, "Optimizing," would add the critical element of an institutionalized process of continuous learning, re-training, and overall optimization of the network exploitation capacity.

ABOUT THE AUTHORS

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A member of the advisory board for the The Leland C. and Mary M. Pillsbury Institute for Hospitality Entrepreneurship, Larry Hall is president and chief executive officer of PAR Springer-Miller Systems, Inc., the leading provider of integrated, guest-centric hospitality management solutions to hotels, resorts, spas, and casinos worldwide. Over 950 customers in 44 countries employ PAR Springer-Miller's solutions. Prior to joining PAR Springer-Miller Systems, he served as the president and chief executive officer of HBSi. During his tenure, Hall led the acquisition, repositioning, and funding of HBSi, which defined the discipline of demand management and established the company as an industry innovator. He also served as president and chief executive officer of Prosero, an Atlanta-based provider of supply chain outsourcing solutions. At Prosero, Hall led the development of the Procurement Center of Excellence, a highly praised and innovative model for outsourcing procurement at *Fortune* 500 companies. Earlier, Hall was president and chief executive officer of hsupply, a venture-funded e-procurement marketplace that developed an innovative service



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here is no debating the importance of information technology (IT) to the survival and success of modern organizations. The role of IT in the hospitality sector has been growing steadily from the days of "electronic data processing" to the present push into social media, including the earlier development of distribution platforms like the SABRE Global Distribution System (GDS), the Holidex Centralized Reservation System (CRS), which debuted in the 1960s, and many other brand reservation systems. Because technology is so pervasive, its advance threatens the survival of hospitality operations that fail to apply IT innovations. In this environment hospitality professionals are challenged to maintain relevancy of their customer value proposition and message to exploit the potential for value creation offered by the emerging networked technology.

In short, no hospitality firm can afford to remain unsophisticated (or immature) with respect to the marketing role of networked information technology, which we define as hardware, software, and telecommunication technologies. However, it is one thing to understand the importance of networked IT in abstract terms. It is a different matter to be able to reliably and consistently take advantage of its potential and the opportunities it affords. In this report we conceptualize the notion of Network Exploitation Capability (NEC) and introduce the NEC Maturity Model as a tool to help hospitality managers map the degree of electronic maturity of their organization and to chart strategies to foster superior network exploitation.

One word of caution: this model attempts to balance generality, detail, and usability. The model cannot be general enough to apply to all hospitality ventures, detailed enough to address thoroughly all aspects of network exploitation, and at the same time manageable enough to be used by practicing managers. We strive to strike the appropriate balance among these three competing needs.

Signs of Immaturity

Before we formally introduce and define Network Exploitation Capability, let's describe immature organizations, which do not consistently exploit the marketing and distribution opportunities offered by networked IT. In our research and consulting, and even as casual observers, we have seen examples of the behaviors (or lack thereof) that characterize immature organizations. We are describing immature organizations to set a foundation for hospitality firms to increase their NEC maturity, which is the goal of the model we present here. In describing the immature organization, we acknowledge that many hospitality companies have considerable IT expertise. It is the intentional and synergistic exploitation of this expertise that we advocate here.

Immature organizations are unable to consistently profit from the opportunities made available by established and emerging network technologies. As we explain below, we believe that the cause of this inability to consistently achieve superior performance stems from a misunderstanding of how information technology can support three critical functions: demand generation, multi-channel distribution, and revenue optimization. A key facet of this inability is a failure to devote sufficient resources and focus to foster the development of network exploitation capabilities. As a consequence, decisions concerning most aspects of network exploitation are taken when a problem calls for managerial attention. Moreover, in these hospitality ventures, resources devoted to electronic distribution and electronic marketing have an operational focus (e.g., loading rates and managing room availability) typically with multiple responsibilities for managers (e.g., front desk manager, reservations manager) who have been afforded little formal training.

Many small and independent hotels fall into this category. To be fair, though, many do not have the resources to hire dedicated staff or the ability to invest heavily in technology solutions. For this reason, they are often at the margin of the information mainstream and face obstacles to realizing the value of network exploitation. However, small size or absence of chain affiliation are not necessarily determinants of capability development. At times size and chain affiliation are obstacles to capability development as they constrain the flexibility of management at the property. In fact, in our research and consulting we have seen many examples of large chain-affiliated hotels struggling to take advantage of search, social media, and other network technologies. Conversely, some of the thought leaders in network exploitation are independent operators.

Immature organizations demonstrate little analytical and planning effort regarding IT, and the management of electronic distribution is reactive rather than proactive, with no objective basis for evaluation of performance. As a result, such firms rely heavily on vendors and consultants, but they don't have an ongoing "learning" relationship with those vendors. Rather, they have either a "dependency" relationship or a "spot" relationship driven by emerging problems or individual projects. For example, such organizations may investigate new channels of distribution and new technologies when they are brought to the firm's attention. Yet there is little if any effort devoted to sensing the environment and strategizing about electronic distribution. Finally, immature organizations exhibit few systems and processes that are codified, systematized, and rigorously followed, including training processes, monitoring systems and analytic efforts.

With this description, we do not mean to imply that immature organizations fail to use IT effectively at times. Instead, the issue is that immature organizations are unable to *consistently* profit from the opportunities made available by networked IT. They may be successful with a particular effort, a particular campaign, or with a particular technology. However, such success is usually attributable to the behavior and talents of one individual, often a staff member.

This situation usually fails to create the necessary management consistency. First, if the behaviors that lead to success are not clearly documented, understood, or systematized, there is no guarantee of sustained success over time. Second, when network exploitation is left to an individual, it is neither scalable nor replicable across domains, and if the dedicated individual leaves, the competency leaves as well. Third, successful performance will be constrained only to the area where the talented staff member concentrates his or her skills or interest. For example, we know of a hotel where a staff member has strong competencies in the optimization of electronic channel performance, but no

knowledge of search engine optimization (SEO) or search engine marketing (SEM). As a consequence, while the hotel has the opportunity for strong performance with partner OTAs, it will not maximize the potential of its proprietary website. More subtly, organizations in this situation forgo the benefits of integration across different areas of activity and technologies. In short, immature organizations have no network exploitation capability. Some of their staffers may be capable, but the organization is not. Beyond this basic stage, in this report, we conceptualize, define, and illustrate increasing stages of maturity in network exploitation.

Network Exploitation Capability

We define Network Exploitation Capability (NEC) as applied to hospitality marketing as a measure of the extent to which hospitality organizations successfully respond to new technology in the realm of emerging distribution and marketing capabilities and media.

Network Exploitation

Network exploitation is the set of activities, techniques, and practices by which a hospitality firm uses networked information technology to create and manage demand for its product. Network information technology comprises internet and mobile-based systems and their applications, such as web sites, channel management applications, rate shopping, search engines, social networking, and mobile apps. As we said above, the three main areas of network exploitation with which we are concerned are demand generation, multichannel distribution, and revenue optimization.

Demand generation involves the activities and behaviors pertaining to the adoption and use of emerging technologies to create interest in the firm's product and convert it into revenue (e.g., SEO, SEM, UGC, social networking, mobile application development, use, and networking);

Multi-channel distribution comprises the activities and behaviors pertaining to the management of the various electronic channels of distribution (e.g., proprietary web site, GDS, OTAs, mobile applications); and

Revenue optimization embraces the activities and behaviors pertaining to the management of pricing and availability in an effort to maximize revenue.

There is significant interaction and overlap between these three areas, with the key discriminator between them being the main purpose of the activity. For example, a resort selecting among OTAs and the types of product to offer is engaging in multi-channel distribution. If the resort is focusing on increasing demand and conversion on a selected OTA (for example, by paying for positioning), it is engaging in demand generation. When the resort is making inventory available to the OTA's database and then managing the inventory and price it is engaging in revenue optimization.

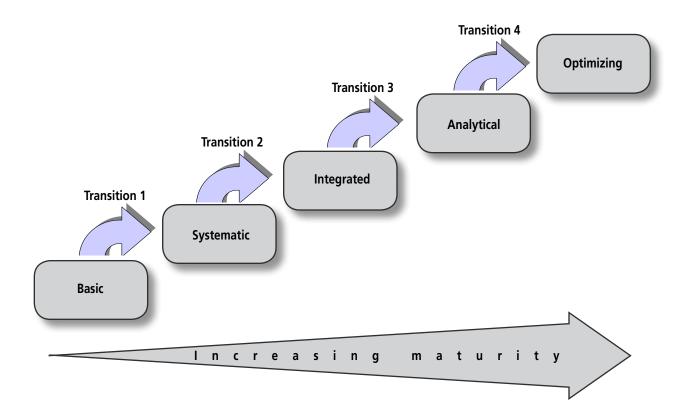
NEC Maturity

The overt manifestation of network exploitation is a set of processes and practices that the organization reliably and consistently undertakes as it seeks to maximize its performance using networked information technology. Thus, network exploitation capability refers to the firm's capacity to perform certain actions, while behaviors represent an overt (tangible) representation of this capacity. As an organization's network exploitation capability evolves, or matures, the repertoire of behaviors that it is able to implement grows. NEC sophistication can be depicted as a two-dimensional space in which we can chart the development of NEC in terms of both the breadth of the behaviors the firm exhibits and the reliability and consistency with which the firm is able to execute them. An organization that dabbles in Facebook advertising, for instance, and merely tries it out once or twice has exhibited the behavior (but nothing more). Contrast that approach with a hotel that systematically launches Facebook advertising campaigns when occupancy and ADR are projected to fall below specified thresholds. This property exhibits reliable and consistent behavior. The California-based chain Joie de Vivre (JDV) is an example of a mature organization in this regard. JDV has been fostering a community of travelers interested in boutique hotels and California since before social networking became a mainstream phenomenon. With the emergence of Facebook as the dominant platform and the arrival of Twitter, JDV parlayed its community outreach onto these platforms. As part of its larger customer engagement strategy, it systematized social promotion activities with two initiatives begun in 2009. Dubbed Facebook Friday and Twitter Tuesday, the promotions (for example, offering low-price rooms) last for about one hour after they are posted or tweeted.

NEC Maturity and Performance

Organizations invest in the development of their network exploitation capabilities on the premise that higher stages of NEC maturity lead to consistently superior performance. In the context of NEC, performance must be measured at two levels: the process level and the organizational level. The process level represents the immediate outcome of a given stage of NEC maturity and is specific to the behavior associated with that stage of maturity. For example, if a firm develops its demand generation capability by investments in search engine marketing and uses software that enables it to optimize its SEM campaigns, it will exhibit behaviors associated with improved demand generation (e.g., regularly checking the campaigns, regularly analyzing the performance of various keywords, and adjusting the bids for each keyword). We therefore expect to see the firm increasing process level metrics, such as the quality score of the ads it publishes and the clickthrough rate of these ads. All else being equal, we

Network exploitation model



would expect these improvements to translate into improvements in financial performance at the organizational level (e.g., revenue booked through the hotel's website). However we emphasize behavior rather than outcomes in conjunction with NEC maturity, because many external factors affect a firm's performance. For example, we doubt that any level of investment in NEC could have offset the effects of the economic contraction that we recently experienced.

We also expect that some behaviors will have superadditive effects when they occur in conjunction with other behaviors, leading to synergies among the three areas of network exploitation. We expect, for instance, that a strong synergy between demand generation, multi-channel distribution management, and revenue optimization will produce superior performance results compared to each of them occurring in isolation.

Our definitions of network exploitation, network exploitation capability, and network exploitation performance imply that performance is a function of behavior. They also imply that it is the presence and consistency of certain critical behaviors that matter to performance. The "quality" of the behavior may matter, but it is the consistent and reliable performance of critical behaviors that will produce results.

The NEC Maturity Model

The NEC Maturity Model maps the different stages of maturity a firm achieves as its network exploitation capability improves over time through conscious development. A maturity stage is a well defined level in the NEC development process where the firm consistently exhibits specific behaviors. Attaining a certain maturity stage implies that the firm is able to perform, and does perform, certain behaviors that: (a) should lead to improved performance and (b) become the basis on which to build further. The maturity stages are sequential because each stage provides the foundation of competencies necessary to master the next. Higher stage behaviors that are not grounded in lower stage competencies are hollow. For example, forecasting the likely production of a new distribution channel based on data that was not collected with a disciplined approach will not produce useful forecasts. Exhibit 1 charts the five stages of network exploitation capability maturity we hypothesize.

The NEC Model

The five-stage NEC maturity model is based on the notion that a firm cannot develop the capacity to perform all critical behaviors at once as it increases its maturity stages. Instead,

NEC Behaviors

We are in the process of characterizing and empirically validating the behaviors that define each stage of maturity of a firm's network exploitation capability. We present a preliminary list in the tables on this page and the next.

TABLE 1

Overview of NEC stages and behaviors

Stage	Defining feature	Description	Macro-Behaviors	
Basic	Survival	Individual opportunistic exploitation	There are little to no systematic behaviors. Everything is left to the whim of the individual.	
Systematic	Systematization	Systematized operational behaviors	There are codified, systematic, consistently performed behaviors related to the operational processes of demand generation multichannel distribution management, and revenue optimization.	
Integrated	Synergy	Coordinated operational behaviors	The three main areas of activity (demand generation, electronic distribution, and revenue optimization) interrelate their actions to manage rapidly changing conditions.	
Analytical	Learning	Systematic analytical behaviors	Analysis goes beyond the review of individual report necessary to support simple operational decisions.	
Optimizing	Renewal	Continuous improvement	The ability to recombine and to reconfigure assets and organizational structures as the enterprise grows, and as markets and technologies change.	

the NEC maturity model assumes an intrinsic sequence of the critical behaviors at each stage with defined transitions required for moving from one to the next. Each set of critical behaviors characterizes a step in the NEC maturation process. Note that while organizations at lower stages may perform some of the higher level behaviors sporadically or in an ad hoc fashion, mastery of a given stage is predicated on systematic and consistent performance of the critical behaviors that characterize that stage of maturity. In the remainder of this report we define each NEC maturity stage and provide an illustrative case example. The objective is to clearly articulate the model to provide the basis for empirically identifying and measuring the actual behaviors associate with each stage. (We plan to present this empirical validation in a future CHR report.) We also intend to provide a useful checklist for management to assess their own firm's position and for chain operators to assess the level of network exploitation capability achieved across their portfolio of properties. A preliminary list is presented in Table 2, on the next page.

Stage 1: Basic

The defining characteristic of this stage is the fact that there is no organizational capability for network exploitation. Per-

formance depends solely on individual employees, meaning that the organization's behavior is opportunistic. The fundamental problem associated with the *ad hoc* nature of this stage is that it is difficult to predict future performance and it is impossible to develop organizational learning that would limit the firm's dependency on the individuals currently engaging in network exploitation. The firm may achieve success in some areas of network exploitation, but such success is sporadic, limited in scope, or not scalable.

Stage 2: Systematic

The defining characteristic of this stage is the fact that the firm has codified processes and procedures that are executed consistently and reliably. Even if these activities are performed by one individual, the behaviors are systematic and codified, and not left completely to the individual's judgment or availability. This systematization and codification ensures that the network exploitation capability is organizational rather than individual, ensuring its resilience and maintenance over time even in the face of employee turnover and mobility within the firm. Joie de Vivre hotels' use of social media is an illustration of this principle.

Stage 2 organizations exhibit systematic behaviors in each of the three macro-areas of NEC: Demand generation, multi-channel distribution management, and revenue optimization. This requirement overcomes one of the key drawbacks of the *ad hoc* approach at stage 1. A stage 2 firm

¹ We use the term "performance" of a given behavior to imply successful execution of the activity, regardless of outcome, not the simple attempt at execution

TABLE 2

NEC stages and behaviors for demand generation, multi-channel distribution, and revenue optimization

Stage	Demand generation	Multi-channel Distribution Management	Revenue optimization
Basic	Little or no systematic behaviors.	Little or no systematic behaviors.	Little or no systematic behaviors.
Systematic	Structured SEO and SEM procedures consistently applied; Deliberate optimization of rank in media channels; Deliberate management of rates and review; Monitoring of sentiment and awareness in social media.	Channel relationship management; Regular communication with channel managers; Regular review of content and presentation of the hotel on distribution channels; Structured analysis of emerging channels; Monitoring of production from individual channels; Monitoring of rankings in electronic distribution channels.	Regular evaluation of rate structures and levels; Structured approaches to rate and availability management .
Integrated	Regular evaluation and alignment of content across demand generation channels; Integrated management of web presence and social media presence; Integrated cross-channel branding.	Regular alignment of promotions across channels; Integrated management of packages, discounts, and promotions across channels; Structured analysis of new channels for value added to the current portfolio of channels.	Regular evaluation of cross-channel availability and rates.
Analytical	Systematic evaluation of ROI from demand generation efforts; Systematic analysis of usage and conversion of social networking efforts; Systematic analysis of the booking funnel; Systematic analytical experimentation (e.g., A/B testing).	Systematic analysis of position drivers in the main channels of distribution; Systematic disciplined and quantitative evaluation of the effect of channel actions and product mix (e.g., packages that work on various channels); Systematic analytical experimentation.	Consistent evaluation of internal and external pricing and availability data (e.g., demand for the location); Development and monitoring of revenue management models; Analysis and monitoring of price sensitivity of customer segments; Systematic price experimentation and testing.
Optimizing	Proactive evaluation of new demand generation channels and tools; Recurrent retraining of human resources in this area; Frequent beta testing of emerging software and tools; Consistent participation and contribution in specialized conferences.	Proactive evaluation of new electronic distribution channels and tools; Recurrent retraining of human resources in this area; Frequent beta testing of emerging software and tools; Consistent participation and contribution in specialized conferences.	Recurrent retraining of human resources in this area; Frequent beta testing of emerging software and tools; Consistent participation and contribution in specialized conferences.

takes advantage of all aspects of network exploitation. Moreover, the presence of systematic behaviors in all three areas becomes the basis for moving to Stage 3, which is defined by the ability to create synergy among the three areas of NEC.

Stage 3: Integrated

As we said, the defining characteristic of this stage is the fact that the firm systematically fosters synergy between the network exploitation behaviors of demand management, multi-channel distribution management, and revenue optimization. The firm pursues synergy by consciously and systematically coordinating operational behaviors, which are codified and consistently performed.

While this is an excellent strategy, Stage 3 firms don't yet have a disciplined analytical mindset. The focus of their analysis is on operations, rather than systematic learning. So any analytic behaviors and report analysis that we see at this stage is instrumental to the firm's ability to perform operationally, not for learning and overall optimization purposes. For a hotel to decide how to allocate available rooms, for example, its management must review production reports from all its channels. This is an analytical behavior that is primarily instrumental to the performance of operational processes.

Stage 4: Analytical

Despite considerable research we were unable to identify examples to represent the final two stages. However, they are a natural extension of the first three and represent a framework to which operators should aspire. The defining characteristic of stage 4 is the firm's systematic engagement in quantitative and qualitative data gathering and analytical behavior concerning network exploitation. Again, the analysis is systematic, consistently performed, and pertains to the interaction of all three aspects of NEC. However, at this stage, this analysis is principally devoted to better understanding and measuring the network exploitation process, rather than to support individual operational decisions. Most important, the analysis is proactive and is focused on improving performance—both the performance of single processes and overall organizational performance. Stage 4 firms engage in behaviors such as benchmarking, testing, and experimentation (e.g., online campaigns) that provide evidence of systematic quantitative statistical analysis, qualitative disciplined analysis, and evidence-based management.²



Social Media at the Geovillage Sport and Convention Resort

Situated in a 20-hectare park in Sardinia, Italy, the Geovillage Sport and Convention Resort is a four-star resort with 253 rooms located in three different hotels surrounding a "central square," along with shops, a spa, a dance club, and three restaurants.

The resort's defining feature is its focus on sports and wellness, including a 1,500 sqm spa, three soccer fields, an outdoor Olympic swimming pool, two indoor pools, ten tennis courts, and a sports arena with seating for 3,000 people, as well as a convention hall with a 900-person-capacity ballroom. Because of its location and characteristics, the Geovillage has historically attracted a seasonal business mix of individual transient tourists during the summer months, conventions during the shoulder season, and sports groups (e.g., swimmers triathletes, cyclists, and club and national teams) seeking tranquility and outstanding facilities for their training camps throughout the year.

At the expiration of the contract with the management company that ran the hotels for the first five years, the ownership decided not to renew and began running the resort independently. It repositioned the resort to cater directly to sports enthusiasts and active vacationers, while managing internally all business units so as to provide a consistent experience throughout the village. While a network exploitation strategy featured prominently in this repositioning effort, there were no systematic procedures or approaches to demand management, multichannel distribution, or revenue management. As the Geovillage leadership reorganized, it created a web marketing and online distribution position and staffed it with a young university graduate who had a deep interest in emerging social media. Although her duties included both demand management and multichannel distribution, she decided to focus mainly on demand management. As a testament to the fact that even Stage 1 organizations can obtain appreciable results, the Geovillage was able to dramatically improve its engagement statistics in Facebook

continued on the next page

² J. Pfeffer and R.I. Sutton, "Evidence-based Management," *Harvard Business Review*, Vol. 84, No. 1 (2006), pp. 62-74.

Geovillage Sport and Convention Resort (concluded)

without any monetary investment by focusing on constantly providing fresh content and interacting directly with the fans (as shown in Exhibit 2). On the distribution side, working on website content optimization and Facebook activities, the staffer was able to increase the page rank of the Geovillage site from 0 to a respectable 4 in six months. This page rank, along with concerted efforts on the social media side, enable the Geovillage to rapidly move new packages at the fore of Google organic search for appropriate keywords (Exhibit 3).

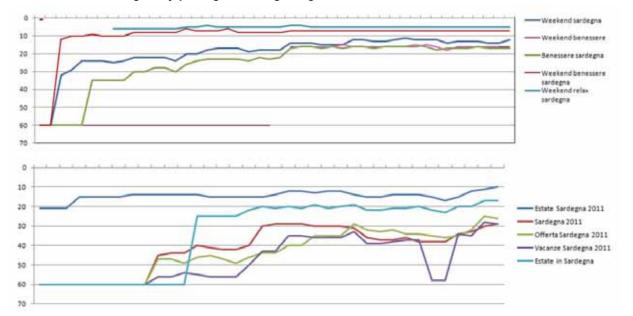


Despite this web success, there is little systematization of network exploitation procedures, which is not surprising since the staff is focused on revenue generating activities and has little time for what is considered overhead or side work. However, without a systematic approach to network exploitation, the Geovillage has limited time to engage outside distribution organizations to monitor and improve results, neglects content and images on the distribution channels, conducts no analysis of comparative pricing by the competitive set, and cannot take advantage of the many merchandising and commercialization tools offered by the third-party channels. As a consequence, the Geovillage was selling a negligible portion of its room inventory via online travel agents (less than 40 reservations per month from Expedia and Booking combined—a level of performance well below its potential, particularly during off-peak periods).

Perhaps more problematic is the fact that the lack of systematization of procedures and the lack of ongoing organizational learning from network exploitation efforts puts the Geovillage in a precarious position, if the staff member in charge of web marketing and distribution were to suddenly leave or become unavailable.

Ехнівіт 3

Position of Geovillage stay package on Google organic search



¹ To put this feat in perspective, consider that the most widely read newspaper in Italy, *Il Corriere della Sera,* has a page rank of 8, while notable properties, such as the Principe di Savoia in Milan, has a page rank of 5.

While it's true that measurement and analysis occur at each stage in the model, operational and performance analysis is the hallmark of Stage 4 organizations. Such analysis happens at this stage in a systematic and consistent fashion, with complete scope rather than a narrow focus on a highly aggregated simplistic measure of performance. Both consistency and depth of analysis set Stage 4 apart from lower stages. Some hospitality operators are approaching this level, for example, large casinos that seek to bring together marketing managers (typically in charge of demand management) and revenue managers (typically overseeing multi-channel distribution and revenue optimization). This partnership begins at the analytical level where the customer's theoretical gaming value is computed, along with the guest's contribution through other revenue generating outlets. These systematic analyses ensure that the appropriate number of rooms is reserved for each segment and that these rooms are accurately priced. Information is available across departmental lines and, in the best case scenario; there are procedures in place to ensure coordination between the different functions. The hallmark of Stage 4 organizations is an analytical mindset that is not limited to any functional area or specific process, but instead demonstrates a pervasive attention to data gathering and analytics across network exploitation activities.

Stage 5: Optimizing

The defining characteristic of this final stage is the fact that the firm has institutionalized a process of continuous learning and improvement for its network exploitation capability. At this stage we observe systematized reading of materials and research pertaining to NEC, systematic re-training of human resources, and experimentation in a conscious effort to continually improve network exploitation capability and performance as new technologies, new practices, and new opportunities emerge. This stage differs from Stage 4 in that the focus on analysis and learning at Stage 5 is devoted to changing the processes to anticipate and prepare for

continuous change in technology, practice, competitors, and partners.

Here is what the benchmark properties at Stage 5 might look like. They are part of an innovative and IT savvy chain that: (1) have clearly defined organizational roles at the headquarters, the region, and the property who focus on demand generation, distribution, and revenue optimization; (2) are continually improving their business intelligence solutions to accommodate new channels and means of analysis; (3) present information in an integrated way across the organization; and (4) are active in the industry and with research to exploit the latest information and solutions to improve performance with an R&D mindset that entails significant experimentation and testing. The disciplined evidence-based thinking of Stage 4 becomes the basis for organizational learning at Stage 5. At Stage 4 the organization develops the deep understanding of the performance of its processes. This understanding becomes the basis for "smart" responses in the face of constant change.

Conclusions

Our purpose in developing this CHR Report is to systematically conceptualize the notion of Network Exploitation Capability (NEC). A systematic understanding of what separates mature organizations from ineffectual ones can help managers benchmark their hotel's stage of NEC and chart a course toward improving their firm's effectiveness in taking advantage of opportunities in demand generation, multichannel distribution, and revenue optimization.

We are now in the process of sharpening the model and empirically validating it by systematically identifying the behaviors that characterize each stage of NEC maturity. One of the main objectives of this report is to recruit participants for a future, more extensive, empirically based research effort. Please contact us directly if you are willing to participate in a case study or our next survey on this important topic.

Systematic Network Exploitation at the Hotel Berna

The Hotel Berna is an independent four-star property located near the central railroad station in Milan, Italy. This limited-service hotel, completely renovated in 2005, offers 122 rooms along with standard lodging services, including breakfast, cocktail bar, and business center, but no restaurant or spa. Due to its location, the Hotel Berna's clientele is heavily leisure transients, with the business segment constituting about 35 percent of the hotel's business mix.

The Berna's general manager, Carlo Fontana, could see that his hotel's success would depend in part on its use of the internet. For this reason, Fontana implemented a comprehensive strategy addressing demand management, multi-channel distribution, and revenue optimization.

Demand management

The Hotel Berna established and systematically applies a set of procedures to ensure that the hotel's name appears first in both organic and paid search pages. To that end, it monitors and adjusts search engine optimization efforts and search engine marketing campaigns daily, with a strategy review meeting scheduled once a month.

Another set of procedures fosters guest reviews on TripAdvisor and the major online travel agents (OTAs). Among other policies, Fontana established procedures for answering guest queries in any of four



languages, for analyzing feedback and adjusting the service accordingly (the Hotel Berna was the first hotel in Milan to offer free WiFi, for instance), and for interacting with guests from before they check in to after they leave, including a thank you note asking them to email the management if anything was not satisfactory during the stay and to share their experience on review sites if the stay was pleasant. As a testament to the success of these policies, at the time of this writing, the Hotel Berna was ranked fourth by popularity in Milan (out 454 hotels). More strikingly, it had 1,647 reviews on TripAdvisor (compared to an average of 164 for the other hotels in the top-ten list) and receives an average of seventeen reviews each week. Finally, the Hotel Berna monitors reviews daily and has a procedure for selecting which reviews to publicly answer.

Multi-channel distribution

Recognizing the importance of the hotel's web site and the major OTAs, Fontana developed systematic procedures in the area of channel relationships, including regular communication with channel managers of the major OTAs. The Hotel Berna also conducts regular assessments of text and image content on its website and third-party channels and also carries out structured analyses of emerging distribution channels. When a new channel comes to management's attention, it is analyzed on dimensions of visual quality, information quality, competitor's quality. Based on this analysis the Hotel Berna decides whether to contact the channel directly to discuss preferred placement. Fontana also established procedures for monitoring key production metrics of each distribution channel daily.

Thanks to its systematic multi-channel distribution strategy, the Hotel Berna has been able to drive almost all its revenue through online channels (over 80%) with its proprietary website accounting for over 20 percent of total revenue during a typical month.

Revenue optimization

To implement the hotel's rate strategy two revenue managers systematically follow a set procedures that include a daily analysis of the competition using both automated price shopping tools and competitive intelligence to manually investigate the main distribution channels. The Hotel Berna also reviews daily the performance of dynamic packages offered though the major OTAs and travel offers sold through the its web site. Evaluations of rates and availability leads to frequent rate adjustments, within the boundaries of a master rate plan, enabling the hotel to be in tune with booking flow changes and to react quickly with corrective actions.

The systematic approach to demand management, multi-channel distribution, and revenue optimization has allowed the Hotel Berna to maximize its exploitation of the opportunities afforded by the internet. This is a reliable infrastructure that is resilient to personnel changes.

Integrated Network Exploitation at The Mandarin Oriental London

One of London's most distinguished hotels, the Mandarin Oriental London offers fine views over the Royal Park, chic shops, and award-winning



restaurants. Its Knightsbridge address is one of the most fashionable in London. The property consists of 307 rooms, 86 apartments, a renowned spa, and four dining establishments, including one featuring acclaimed chef Daniel Boulud.

Despite the weak world economy, the Mandarin Oriental London maintains occupancy levels upwards of 70 percent with ADR and RevPAR well over \$500 per night. Comprising the leisure transient, corporate, and group segments, the business mix is the result of a conscious strategy of repositioning away from heavy reliance on the corporate segment that historically dominated the mix. As a result, the Mandarin Oriental London aggressively pursues luxury leisure transient guests through a variety of channels and efforts while maintaining a disciplined approach to revenue optimization. A key contributor to its remarkable results is the firm's integrated use of network technology in the areas of demand management, multichannel distribution, and revenue optimization.

Demand management

First, the hotel can benefit from programs, technologies, and processes connected to its brand. The company's customer relationship management system rests at the heart of the property's ability to recognize, anticipate, and serve guests in a non-obtrusive, polite manner.

However, brand-wide guest-service programs are not enough to explain the success of the Mandarin Oriental London, which is the top producer in the collection. Management at the hotel conducts regular and systematic evaluations of content and demand generation through the web and social media, with a dedicated staff who oversees all social media channels. The efforts are designed to provide a consistent look and feel across all of the firm's online and social media presences, which is reinforced during interactions with guests. The same person answers all social media inquiries, which provides a high degree of integration and a personal touch for each guest. The social media channels represent a new, but growing mechanism of strategic importance for the property and the Mandarin Oriental London has received several awards for their rapid response and personalized approach to Twitter and Facebook use.

Multi-channel distribution and revenue optimization

The hotel's integrated approach to network exploitation is evident in the fact that the same manager oversees multi-channel distribution efforts and revenue optimization efforts. The revenue manager oversees all distribution channel activities, which includes pricing, monitoring trends, performing comparative shopping, and managing all packages and promotions. He leads the daily revenue management meeting, which includes a particular focus on the discriminate use of channels aided by a fully integrated revenue management application and a deep understanding of customer behavior. The disciplined use of revenue management software enables the revenue management staff to have near real-time availability and rates across the main channels of distribution. With this operational data in hand, the team can decide how (and whether) to best stimulate demand or optimize RevPAR. However, irrespective of those specific priorities, the Mandarin Oriental London ensures that efforts are aligned across all distribution channels. This is particularly important due to the hotel's heavy use of highly targeted packages. The value of an integrated approach to multi-channel distribution and revenue optimization is also evident in the judicious use of OTAs, a tactic that must be justified internally and with the corporate revenue management office before being implemented.

As the mobile platform emerged, the potential of a mobile presence for demand generation and to capture bookings was evaluated relative to the current portfolio of channels used. In 2011 the property experienced an increase in activity via the mobile channels, and views this channel as a high growth, strategic means to develop an even more personal relationship with the guest.

In the end, the hotel's beauty, central location, and impeccable guest experiences create a bedrock of financial success. However, its rigorous and consistent adherence to integrated network exploitation policies and practices enable the Mandarin Oriental London to optimize results and to remain one of the top performers in their market and within their brand.





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