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Intellectual Capital: A Key Driver of Hotel Performance

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Intellectual Capital: A Key Driver of Hotel Performance

Abstract
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Keywords
hotels, operating performance, intellectual capital, operating income, employee wages

Disciplines
Business | Hospitality Administration and Management

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Intellectual Capital: A Key Driver of Hotel Performance

By Cathy A. Enz, Ph.D., Linda Canina, Ph.D., and Kate Walsh, Ph.D.

EXECUTIVE SUMMARY

Investments in various forms of intellectual capital improve operating performance, according to the results of a study of 563 United States hotels. Using the hotels’ operating income as a measure of profitability, the study found that investments in certain forms of intellectual capital have a greater impact on profitability than others do. Controlling for the market value of the physical assets, occupancy, and the cost of living, the study analyzed the influence of expenditures on the following two forms of external intellectual capital: brand and operating company; and the following three forms of property-level human capital: service employees, support employees, and professional employees.

Although the sample was divided into full-service hotels and limited-service properties, the results for both segments were similar for most forms of intellectual capital. First, the greater the expense incurred—or investment made—on an operating company and brand affiliation, the higher the profitability for both limited-service and full-service hotels. In addition, when either type of hotel spends more money on its service employees it realizes higher profitability. However, regardless of whether the hotel is full-service or limited-service, investing in professional employees did not significantly influence profitability. Not only that but expanded expenditures in support employees had a negative influence on profitability for limited-service hotels and no influence for full-service properties.
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The authors gratefully acknowledge the assistance of PKF Hospitality Research and the Center for Hospitality Research in providing access to the comprehensive lodging performance database used in this study. No individual hotel or chain identity was revealed to the researchers, and all information shared with Cornell University researchers is bound by agreements of non-disclosure and confidentiality. Only aggregate data are provided in this report.
It is not uncommon to hear hotel-industry leaders make a declaration such as the following: “successful hotels invest in their people.” Such a statement made us wonder whether this is true. That is, is it possible that paying employees more adds value beyond the cost associated with the additional payment? Also, do higher payments for a brand or an operating company add value? This report explores those questions, by investigating the ways in which hotels increase their performance by investments in intellectual capital. In this case, investment refers to expenditures that may boost operating income and thus increase the value of the property.

Intellectual capital is the value of the firm’s knowledge base. Three chief components of intellectual capital are: (1) human capital, or the knowledge, skills, and experience of the firm’s employees; (2) system capital, or the operations knowledge of the firm, including its processes, policies, and procedures; and (3) customer capital, referring to the value


The Value of Intellectual Capital

Organizational advantage is created through the investment choices that firms make over time, often in response to a changing industry structure and competitive environment. Recent research has found that investing in a firm’s knowledge-based resources or intellectual capital is vital to gaining and sustaining competitive advantage. These resources enable firms to create capabilities that competitors find difficult to replicate. We argue that financial gains in the hotel business can accrue from purchasing external forms of intellectual capital (usually in the form of a brand and management-company expertise), as well as from investments in property-level employees. We suggest that investing in readily available forms of intellectual capital can produce valuable service capabilities, and that includes intellectual capital acquired from external firms and a hotel’s own service and support employees. In short, we propose that lodging firms’ investments both in external sources of intellectual capital and in employees yield financial benefits.

Intellectual capital exists at all levels of the organization. What happens too often, however, is that professional employees’ knowledge and abilities are considered to be valuable intellectual capital, but that is not the case for the likewise valuable information held by service and support employees. Thus, we see the argument that the service firms that gain value from intellectual capital are those populated by “knowledge workers” or professionals (typically in high-technology, finance, and consulting enterprises). Without a doubt, such employees create valuable human capital that is hard to find and is difficult to replicate. Thus, they represent a source of a firm’s competitive advantage.

In contrast, that perspective does not carry over to low-skilled workers. Instead of being viewed as investments, the salaries and benefits paid to low-skilled workers such as hotel service and support employees are commonly viewed purely as current-period expenses to be minimized. We believe that this view stems from an assumption that low-skilled workers are easily replaced and as such, do not add to the firm’s competitive advantage. That said, it is difficult to estimate the value of or return on investment in any form of labor, including that of the highly regarded knowledge workers, because the company’s payments to employees appear only on the income statement as an expense.

The exploration of the concept of employees as assets (even though their investment does not appear on the balance sheet) has only just begun. This is partly because the industry has not assessed the effects of various forms of intellectual capital on profitability. Thus, it is important to find a way to determine the influence of each of the various forms of intellectual capital on a firm’s performance as a first step to gauging how investments in intangible assets contribute to a hotel’s success.

Management-company Expertise and Brand Affiliation

Most hotel operators appreciate the value of management-company expertise and brand affiliation, whether offered by third-party management companies or franchisors. These forms of intellectual capital represent sources of competitive advantage that can be purchased in the marketplace and represent intangible assets that are usually considered external to the firm.

Studies of franchising indicate that hotel operators gain crucial service-delivery information in the management companies’ and franchisors’ operating systems. In addition,
operators purchasing franchising-systems capital also benefit from the economies of scale that are obtained through participating in large organizations. The value of brand names and other identifying symbols are derived from a company's relationship with its customer. In that context, a brand is often viewed as the most common example of customer capital.11

Property-level Human Capital

The value of purchasing a brand and a management system seems to be well established in the lodging industry, while the investment value of human capital seems less clear. As with the concept of human-resources architecture,12 we argue that different employee groups constitute distinct components of human capital and bring different kinds of value to their organizations. Three employee groups have the potential to offer a return for hotel investors: professional employees, service employees, and support employees. As a beginning point, here's what we mean by these three categories. Service employees are the front-line workers in revenue-producing departments who engage in encounters with customers and deliver the product. As mentioned, these employees execute the firm's strategy and are considered to be easily located and hired. Professional employees represent the organization's sophisticated knowledge base. Considered to be less common and more expensive to obtain than service employees, professional employees bring with them more formalized education and training. Finally, support employees are behind-the-scenes workers who sustain the product and ensure that the service operation can run seamlessly. Again, this form of human capital is considered by hotel operators to be relatively easy and inexpensive to acquire.

The intellectual capital of service and support employees is little regarded even though they possess work-related knowledge that is used in service encounters. Because the hotel's low-skilled employees are viewed as inexpensive to hire, easy to train, and easy to replace, they are not typically considered to be a source of competitive advantage or a performance-enhancing investment. Instead, as we stated above, these employees are viewed as a cost of doing business—an expense to be minimized. This notion is supported by research in human-resources accounting,13 which suggests that investments in human capital are considered current-period expenses on an organization's financial records (rather than an investment to be amortized). With that approach, decision-makers' typical strategy is to minimize the cost of service delivery by making the minimal investment in employees.

Because the investment in human capital is not recorded on the balance sheet or viewed as an appreciable asset, its rate of return is implicitly assumed to be no greater than zero. Given that view, hotel operators may invest too little in this resource. In minimizing that cost, though, operators may be reducing the potential for long-term value enhancement by these employees. In contrast to that view, investments in low-skilled employees have crucial value to the firm, because most customers make repeat-purchase decisions based on their satisfaction with service encounters that are handled by these very employees.14

Given the many considerations explained above, this report examines the mosaic of investments in readily available

14 Schneider & Bowen, op.cit.
forms of intellectual capital—and especially the investment in human capital—taking into consideration the effects of the physical asset and other factors. We expected that the value of intellectual-capital investments on performance would depend on a hotel’s operating structure (that is, limited service or full service).

The Study Approach

Annual-operating-income data by department for 563 hotels were supplied by PKF Hospitality Research Consulting for 1998 through 2001. These data are particularly valuable because they have been consistently gathered and standardized to facilitate comparisons across key income and expense categories. All dollar-denominated variables were converted to 2001 dollars.15

Each hotel identified itself as full service or limited service. Full-service hotels, including resort hotels and conference hotels, offer complete on-site food and beverage and distinguish themselves through their services, facilities, and amenities. These enterprises typically offer services such as a fitness center, gift shop, and business center. In contrast, limited-service hotels distinguish themselves through their value proposition. Beyond a room designed for their market segment, these hotels maintain limited on-site F&B service. Other services are rarely included in the product. Our sample included 371 properties that identified themselves as full service and 192 properties that distinguished themselves as limited service.

The methodology used in this paper follows that of Lev and Sougiannis, who related the performance of a firm to its productive capabilities.16 In the case of lodging properties, the productive capabilities of the firm may be derived from both its physical assets and various forms of intellectual capital. To examine the extent to which readily available forms of intellectual capital drive performance of lodging properties, we categorized assets as either physical or intellectual capital.17 We then subdivided expenses of intellectual capital into the following five categories: systems capital, customer capital, service employees, support employees, and professional employees. A positive relationship between any of these five variables and earnings implies a positive relationship between the variable and the firm’s long-term value.

Measures

We measured earnings as EBITDA (that is, earnings or income before interest expense, taxes, and depreciation and amortization) in 2001. The other key variables have been categorized as intellectual-capital or control variables.

Intellectual capital. Components of intellectual capital were measured by the five variables that we outlined above. Each of these independent variables was computed as the average of the annual values from 1998 through 2001. We measured systems capital using the total of the annual base and incentive management fees that each hotel pays to its management company. Customer capital was measured using the annual brand-royalty fee that a hotel paid to its franchisor, as well as all system-reimbursable advertising, marketing, and selling expenses. Human capital is measured by the departmental wages and salaries (including benefits) of three employee groups, that is, professional employees, service employees, and support employees. For our purposes, service employees are those working in revenue-generating departments, including the front desk and restaurant operations. Support employees are those working in nonincome-producing departments such as maintenance and laundry. Professional employees are senior managers and those in areas such as sales, accounting, and human resources.

Control variables. We needed to control for other factors that shape a hotel’s performance. The most critical of these are the property itself, customer demand, and differences in the cost of living. To estimate the market value of the hotel’s physical property, we used an estimate of its appraised value that was calculated by dividing the hotel’s annual property-tax payment in 2001 by the applicable state tax rate. Our demand measure was occupancy percentage, calculated as the annual number of hotel rooms sold divided by the annual number of available rooms. Finally, to capture the effects of cost-of-living differences from market to market, we calculated a salary index by ZIP code. This figure was the result of dividing the annual average salary in the hotel’s ZIP code by the U.S. average annual salary level. These data were obtained from the U.S. Bureau of Labor Statistics.

Investments in Full-service and Limited-service Hotels

Exhibit 1 (overleaf) shows the results of the regression analyses for both limited- and full-service hotels. The overall regression models were significant for both types of hotel (F=109.14, p < .001, for limited-service hotels; and F=141.34, p < .001, for full-service hotels). We can conclude, therefore, that the intellectual-capital and control variables are overall significant predictors of net income. Examining the standardized regression coefficients in both models also reveals

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15 In addition, the estimated expression was scaled by number of rooms to mitigate heteroskedasticity.
17 Financial assets, namely, cash and accounts receivable, were excluded because it is standard lodging industry practice to realize zero year-end balances in these accounts.
**Exhibit 1**

Regression analyses for performance in branded hotels

<table>
<thead>
<tr>
<th>Variable</th>
<th>Limited Service</th>
<th>Full Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-27.41***</td>
<td>-73.47***</td>
</tr>
<tr>
<td>Control variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical or Property Asset</td>
<td>.003</td>
<td>.02**</td>
</tr>
<tr>
<td>Cost of Living</td>
<td>.17**</td>
<td>.34**</td>
</tr>
<tr>
<td>Customer Demand</td>
<td>.15***</td>
<td>.65***</td>
</tr>
<tr>
<td>Intellectual-capital variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systems Capital</td>
<td>3.25***</td>
<td>.59**</td>
</tr>
<tr>
<td>Customer Capital</td>
<td>1.59***</td>
<td>.82**</td>
</tr>
<tr>
<td>Service Employees</td>
<td>.96***</td>
<td>.83***</td>
</tr>
<tr>
<td>Support Employees</td>
<td>-2.27*</td>
<td>.71</td>
</tr>
<tr>
<td>Professional Employees</td>
<td>.32</td>
<td>-.20</td>
</tr>
</tbody>
</table>

Number of observations 192 371
F - Value 109.16*** 141.34***
R-squared .83 .76
Adj. R-squared .82 .75

All values reported in the models are standardized regression coefficients.  
* p < .05; ** p < .01; *** p < .001.

that the controls for cost of living and customer demand were significant in each model. Investments in physical assets were important in contributing to higher levels of net income for full-service hotels, but were not significant for limited-service hotels.

**Limited-service Hotels**

Limited-service hotels attract their customer base through setting comparatively low prices. A possible strategy for limited-service providers is to enhance their operating efficiencies through obtaining established operations and systems knowledge. The success of this strategy was supported by the large and significant positive coefficient for systems capital for limited-service hotels (coefficient = 3.25, p < 0.001). The relative magnitude of the operating-company-expertise coefficient is an indication of the strength in generating additional value of this external form of knowledge investment. Systems capital enables firms to minimize the costs of service delivery and support staff, while still providing a reliable product to customers. In addition to purchasing a standard, proven operating system, limited-service hotels generally purchase a brand to establish customer loyalty, since customer capital or access to customers through advertising and distribution is critical. This idea is supported by the significant, positive coefficient for customer capital (coefficient = 1.59, p < 0.001).

Despite the importance of outside capital to limited-service hotels, investments in internal human capital were also essential, in particular, expenditures on service employees. The most important source of human capital for limited-service hotels was the service employees who provide the necessary skills and tacit knowledge to deliver quality service, even for hotels without other amenities (coefficient = 0.96, p < 0.001). In contrast, the relationship between expenses for professional employees and performance was not significant (coefficient = 0.32, p > 0.05), and the relationship of expenditures on support employees and performance was significant but negative (coefficient = -2.27, p < 0.05). Thus, it appears that high-performing limited-service hotels focus on investing in operating-company expertise, a brand name, and their service employees.

Considering the weak influence of management-related expenses, we note that the relatively straightforward, rooms-only operation of limited-service hotels may not require sophisticated knowledge or expertise. In such a milieu, professionals may represent a form of human capital that does not contribute additional value, even though that capital is necessary to the hotel’s operations. Instead, additional investments in systems capital, that is, operating processes and procedures, appear to be an ample substitute for additional resources allocated to the professional staff. The same seems to be true of additional investments in support employees, who are required but do not add additional value in this type of operation.

The results further suggest that additional investment in the physical assets also do not improve income for limited-service hotels. Instead, the most profitable limited-service properties would be those that carefully control their investments in the physical assets.

**Full-service Hotels**

Full-service hotels aim to provide a distinctive product to a clearly defined and targeted customer at a price premium, to use the framework established by Michael Porter.18 This entails building distinctive elements into product and services based on designing high-quality physical assets and ensuring custom service. The higher costs associated with such a strategy should be more than offset by the prices that loyal, repeat customers are willing to pay for the service, ambience, and amenities. For full-service hotels, we found a significant, positive coefficient for the physical assets (coefficient = 0.02, p < 0.01), confirming the view that the physical characteristics of these properties create value. Although that finding diverged from the case of limited-service hotels, two other variables for full-service hotels operated in similar fashion to limited-service properties. As with limited-service hotels,

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18 See: Porter, op.cit.
Investments in external systems (coefficient = 0.59, $p < 0.01$) and brand affiliation (coefficient = 0.82, $p < 0.01$) are important to enhancing performance of full-service hotels.

**Human capital.** In full-service hotels we found a pattern for investments in human capital that was essentially similar to that of limited-service properties. Investments in service employees are essential to performance. Consistent with the statement at the beginning of this report (i.e., “people are our most important asset”), investments in service employees were a significant predictor of performance (coefficient = 0.83, $p < 0.001$). That outcome was not so much a surprise as were the results for professional and support employees, because we thought that support and professional employees would also be necessary to create value in full-service properties. To the contrary, the findings from this study revealed that investments in neither support employees (coefficient = 0.71, $p > 0.05$) nor professional employees (coefficient = -0.20, $p > 0.05$) were significant predictors of future net income.

**Limitations**

We temper our findings with the following limitations. First, our study permitted only a “black and white” categorizing of hotels into limited service and full service. Given the numerous products that fall into these broad categories, we would wish to refine the study according to market segment (e.g., economy, midscale), but that was not possible with these data. In addition, we examined the effects of investments over four years, a relatively short period for assessing investment returns. Furthermore, we did not explore the question of whether there are limits to the investment in service employees. The study could be extended to determine whether there is a nonlinear relationship between past investments and future returns. Then one might be able to determine whether investments accumulate in an additive fashion or whether they have a point beyond which additional investments do not yield additional returns. Little is known about the role of time in accruing intangible assets. Nevertheless, our results suggest that intellectual capital, specifically in the form of human capital, represents a core element of the service product and is an investment to be carefully protected.

**Discussion and Conclusions**

To ensure a hotel’s long-term economic performance, managers must make investment choices that fundamentally are decisions about incurring a mix of various costs that create value. This study shows that hotels which invest in service workers, by which we mean incurring higher wage and salary costs per room, reap the benefit of higher future performance, even when we control for cost-of-living and hotel-occupancy levels. Put simply, when a hotel spends more money on service workers, it realizes higher operating income in subsequent years. Hotels that invested in service employees had higher performance, regardless of whether they are full- or limited-service properties.

This study also underscored the importance of external knowledge. Hotels that were higher performers also invested more in both brand affiliation and in the operating system. While all of the hotels in this study were branded, those that spent more per room on their brand were more profitable. Investments in external operating systems and processes contributed significantly to performance. It is interesting to note that these external forms of intellectual capital were more important for limited-service hotels than for full-service properties. We believe that the root of this finding is that these hotels must provide a standardized product and maintain cost efficiency, which is best accomplished by buying an operating system, rather than incurring additional expenses for professionals and support staff.

In contrast, full-service hotels gained more from their investments in service employees than they did from external forms of intellectual capital. Even though brand and operations expertise is important to full-service hotels, investing in the customer-contact personnel results in better performance. This finding supports the conventional wisdom that employees are essential to the success of a service-intensive business. The important qualifier, though, is that such success stems not from all employees, but only from those who work in the front line. In the context of this study, that means that investing in service employees enhances performance, but adding to the overhead in the form of support and professional staff does not do so. Hotels that
When a hotel spends additional money on service workers, it realizes higher operating income in subsequent years.

obtain knowledge from external sources were more likely to achieve higher profitability than those that did not. The implication here is that the more-expensive external sources of knowledge may be worth the money, since they appear to deliver higher economic returns. Furthermore, greater investments in service workers may be a key to creating an advantage that competitors may find difficult to duplicate.

While service workers and external sources of intellectual capital were essential to the success of the 563 hotels that we studied, the mix of investments in tangible assets and various pools of human capital that yield future performance did vary according to whether the hotel was full service or limited service. In particular, physical assets are a significant predictor of performance for full-service hotels, but are not for limited-service hotels. Additional investments in support employees will not contribute to the performance for full-service properties, and actually diminishes performance of limited-service hotels. This study shows that hotels must choose where to invest in labor.

This study represents the first we know of to uncover the critical effect and hidden value of selecting which intangible and tangible investments to select, according to whether a hotel is full service or limited service. Managers of all hotels might wish to invest further in service employees to enhance their hotel’s performance, although other types of experience and skill, such as that possessed by support staff and professional workers, might be better obtained from external knowledge sources that bring systems and customer expertise to an organization. Regardless of which investments are chosen, though, hotel managers should avoid minimizing service-employee wages without understanding how doing so impairs the hotel’s long-term returns.

Implications for Human-resources Strategies

An effective human-resources strategy is one that determines how various employees add value to the firm and then identifies the appropriate practices to enhance their value. The logic that underlies much of this research is that human-resources practices drive a firm’s performance. However, a critical problem for hotels is the retention of employees, a challenge exacerbated by low wages, rather than miscues in more sophisticated human-resources practices such as career development. Given this study’s findings, hotel managers may wish to give special attention to their compensation practices as a necessary starting point to link human-resources policies with investments that provide the greatest return. Further, the optimal hotel human-resources strategy is one that focuses on customer-contact service employees. In short, our findings suggest that hotels would benefit from developing a human-resources strategy that protects and takes advantage of the investment in this group of employees.

This study focused on how hotels can create value through their investment in intellectual capital. Our findings indicate that, in tandem with the physical product, investment in intellectual capital is a critical precursor to a hotel’s financial performance. Hotels that invest in their front-line employees will achieve future gains. In addition, the purchase of external forms of intellectual capital also provides a return. Finally, whether a hotel is limited service or full service dictates the most appropriate investment mix of tangible assets and specific forms of human capital to achieve long-term performance. Our findings have implications not only for those who study the nature of service-based work and human-resources strategy, but also for those making resource-allocation decisions. Intellectual capital, and specifically human capital, represents a core element of the service product and is an investment to be carefully protected.

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