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Technology Vendors: Lodging Managers View Support They Receive

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Abstract
The authors report on a comparative study of regional differences in the perceptions of lodging managers in the United States, Canada, and the United Kingdom on the support they receive from their technology vendors, and the technology systems they are using. Besides a comparison based on regions, the study also looks at differences of opinions based on property size.

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Technology will have a profound impact on everyone's personal and business lives in the years to come. It will enable people to expand their social and cultural boundaries, and broaden their views of the world. In their personal lives people can still decline to use technology if they want to, but in business, such forces as global competition, a shrinking marketplace, and the growing emphasis on service and quality[1] make the use of technology virtually mandatory. More and more, customers expect businesses to be up-to-date with regard to their use of technology, and assume their employees to be computer literate. In the hospitality industry, too, the challenge for many managers is to identify and implement information technologies which not only give their organizations a competitive edge, but also cater to the needs of both employees and customers.[2]

The technology vendor plays an important role in the selection of hospitality information technology and in training employees who are going to be using the technology. The user-friendliness of the product, the training, and documentation provided, the detail and thoroughness with which inventory can be managed, and the speed with which

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problems are addressed and solved are important considerations in selecting and implementing a property management system.[3] The more user-friendly the system, and the better the vendor support, the better the hotel's competitive position in the future.

With thousands of vendors to choose from, it has become increasingly important to understand what hospitality managers consider to be the main strengths and weaknesses of their existing property management systems, what they look for in a business relationship with a technology vendor, and what they consider important in their future technology investments.

Demographics Show Great Variety Among Respondents

A study was conducted among lodging managers in the United States, Canada, and the United Kingdom regarding their perceptions about the property management systems they were using in their properties and the support they received from their technology vendors. The specific intent was to compare the views of hotel managers in the various countries on the user-friendliness of the system they used, as well as its cost-effectiveness and its ability to manage the hotel's inventory. The study also measured their opinions regarding the training provided by the technology vendor, the effectiveness of the vendor help-line, and the usefulness of the documentation that was supplied with the system.

The descriptive results of the study are presented on a country-to-country basis, after which the results of the comparative analyses are discussed. One-way Analysis of Variance (ANOVA) was used to determine whether the opinions of the lodging managers in the various countries were significantly different on the issues under study. Additionally, respondents were grouped together according to the size of their properties, and ANOVA was used to determine whether any significant differences existed among managers of small, medium-sized, and large hotel properties.

The total number of respondents in the sample was 412; 237 from the U.S., 131 from the UK, and 44 from Canada. Various types and sizes of properties were represented in the sample, and the industry management experience of the respondents varied greatly. In the United States, the response rate was 13.5 percent; in Canada, 17.6 percent; and in the United Kingdom, 87.3 percent (See Exhibit 1).

Opinions on Property Management Systems Are Very Similar

On a five-point Likert Scale, with 1 being "very low" and 5 "very high," 45.3 percent of the survey respondents rated the user-friendliness of the property management system they were using as average; 18 percent rated it as either very low or low, and 37.3 percent high or

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Exhibit 1
Demographics of Survey Respondents in Percentages

	US (n=237)	UK (n=131)	Canada (n=44)	Overall (n=412)
Survey Respondents				
General Manager	49.0	47.0	32.5	46.4
Assistant GM	2.1	5.2	5.0	3.4
Controller/Accountant	28.3	34.8	40.0	31.8
Sales/Marketing Mgr.	14.4	4.3	7.5	10.3
Front Office Mgr.	1.0	7.0	10.0	4.7
Other	5.5	1.7	10.0	4.7
Property Size				
Fewer than 100 rooms	14.8	42.0	38.6	25.9
101-300 rooms	59.1	48.9	36.4	53.5
More than 300 rooms	26.1	9.2	25.0	20.6
Property Type				
Resort Hotel	15.6	7.6	22.7	13.8
Suite Hotel	7.6	1.5	4.5	5.3
Full-Service Hotel	45.6	61.8	45.5	50.7
Limited Service Hotel	16.9	5.3	9.1	12.3
Motel	4.6	0.0	6.8	3.4
Convention Hotel	5.9	14.5	4.5	8.5
Other	3.8	9.3	6.9	6.0
Years of Hotel Experience				
Less than 2 years	4.7	10.1	11.4	7.1
2-5 years	13.1	13.2	11.4	12.9
6-10 years	27.1	26.4	40.9	28.3
11-15 years	18.2	14.7	13.6	16.6
16-20 years	17.8	21.7	13.6	18.8
21-25 years	10.2	7.8	2.3	8.5
More than 25 years	8.9	6.2	6.8	7.8

very high. On a country-to-country basis, the results did not differ greatly from the overall picture; the overall mean rating was relatively high at 3.23 (See Exhibit 2), yet did not reflect great satisfaction among lodging managers regarding this particular feature of their property management systems.

When asked to rate the cost-effectiveness of their property management systems, a majority of the respondents (55.1 percent) felt this was average. Only 14.7 percent considered it to be very low or low, and 30.2 percent high or very high. Canadian respondents were clearly less pleased with the cost-effectiveness of their property management systems than their counterparts in the U.S. and the UK. They only gave it a 2.82 mean rating, with 39.5 percent rated this category as very low

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Exhibit 2
System Rating: By Country and Overall

	US (n=237)	UK (n=131)	Canada (n=44)	Overall (n=412)
System User-Friendliness				
Very Low (1)	2.9	1.6	4.8	2.7
Low (2)	13.5	16.5	21.4	15.4
Average (4)	43.0	48.0	42.9	45.3
High (4)	32.4	33.1	21.4	28.2
Very High (5)	8.2	.8	9.5	6.6
Mean Score:	3.30	3.15	3.10	3.23
System Cost-Effectiveness				
Very Low (1)	4.4	1.6	7.0	3.7
Low (2)	7.8	8.8	32.6	11.0
Average (3)	52.9	64.0	39.5	55.1
High (4)	28.2	24.0	14.0	25.1
Very High (5)	6.8	1.6	7.0	5.1
Mean Score:	3.25	3.15	2.81	3.17
Effectiveness Inventory Management				
Very Low (1)	5.8	1.6	4.8	4.2
Low (2)	13.5	13.3	21.4	14.3
Average (3)	33.3	40.6	31.0	35.4
High (4)	35.7	36.7	28.6	35.2
Very High (5)	11.6	7.8	14.3	10.8
Mean Score:	3.34	3.36	3.26	3.34
System Generated Reports				
Very Low (1)	4.8	2.3	7.1	4.2
Low (2)	14.0	13.3	21.4	14.6
Average (3)	42.5	44.5	40.5	43.0
High (4)	30.0	36.7	28.6	32.1
Very High (5)	8.7	3.1	2.4	6.1
Mean Score:	3.24	3.25	2.98	3.21

or low. In the U.S. the mean rating was 3.25, with 12.2 percent rating it as very low or low. In the UK the mean rating was 3.15; only 10.4 percent used the very low or low categories.

Respondents were fairly pleased about the way in which property management systems allowed them to manage their inventories. Overall, 46.1 percent of the managers rated their satisfaction with this specific feature as either high or very high, with 35.4 percent rating it as average, something which reoccurred in the country-to-country breakdown. This particular feature of the technology package was rated highest by the respondents, as shown by the 3.34 mean rating it received.

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Exhibit 3
System Strengths and Weaknesses

Strengths (n=300)			Weaknesses (n=344)		
	N	Percent		N	Percent
1. User-friendly	83	27.7 %	1. User-friendly	52	15.1 %
2. Speed/Efficiency	40	13.3 %	2. Speed/Efficiency	46	13.4 %
3. Data Collection	39	13.0 %	3. Data Collection	40	11.6 %
4.Integration	28	9.3 %	4. Integration	34	9.9 %
5. Reliability	21	7.0 %	5. Reliability	32	9.3 %
6. Reports Generated	20	7.6 %	6. Reports Generated	28	8.1 %
7. Well Designed	18	6.0 %	7. Well-designed	25	7.3 %
8. Cost-effective	12	4.0 %	8. Cost-effective	20	5.8 %
9.Help Features	9	3.0 %	9. Help Features	12	3.5 %
10. Other Strengths	27	9.1 %	10. Other Weaknesses	55	15.9 %

Only with regard to the ability of the system to generate useful reports did the study find considerable disagreement. Only 30 percent of the Canadian respondents felt that the usefulness of these reports was high or very high, and their mean rating was 2.98. On the other hand, almost 40 percent of their counterparts in the UK and the U.S. rated this as high or very high, with a 3.25 mean rating. The overall mean rating of 3.21 made it a highly rated sub-section.

When asked to identify the main strengths of the technology system they had presently in place, more than one-fourth of the respondents (27.7 percent) praised its user-friendliness. Other important strengths identified were the speed and efficiency with which the system operated (13.3 percent), and its data collection capabilities (13.0 percent). The main perceived weaknesses were the age of the system and its need to be updated (15.1 percent), its lack of efficiency (13.4 percent), and its user-friendliness (11.6 percent) (See Exhibit 3).

It was perhaps not surprising that some respondents identified a particular feature of their property management system as a strength, where others identified this same feature as their system's main weakness. User-friendliness, speed and efficiency, integration capacity, data collection, and report generation ranked highly in both the strength and weakness categories.

Lodging Managers Are Not Very Pleased with Vendor Support

The lodging managers in the samples were not very pleased with the training they had received from their technology vendors. Overall, 35.9 percent rated the effectiveness of the training received as either very low or low, with only about one-fourth (24.4 percent) rating it as

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Exhibit 4
Vendor Support Rating: By Country and Overall

	US (n=237)	UK (n=131)	Canada (n=44)	Overall (n=412)
Vendor Help Line				
Very Low (1)	6.3 %	8.7 %	9.5 %	7.5 %
Low (2)	20.8 %	21.4 %	16.7 %	20.5 %
Average (4)	39.1 %	42.9 %	32.0 %	37.5 %
High (4)	23.2 %	23.0 %	31.0 %	24.0 %
Very High (3)	10.6 %	4.0 %	11.9 %	8.5 %
Mean Score:	3.11	2.92	3.19	3.06
Vendor Supplied Documentation				
Very Low (1)	8.8 %	11.9 %	19.5 %	11.1 %
Low (2)	24.5 %	26.2 %	22.0 %	24.8 %
Average (3)	47.5 %	49.2 %	36.6 %	46.9 %
High (4)	15.7 %	11.9 %	17.1 %	14.6 %
Very High (5)	3.4 %	.8 %	4.9 %	2.7 %
Mean Score:	2.8	2.64	2.66	2.73
Vendor Training				
Very Low (1)	8.4 %	6.5 %	9.8 %	7.9 %
Low (2)	24.3 %	30.1 %	31.7 %	27.0 %
Average (3)	41.6 %	43.1 %	29.3 %	40.7 %
High (4)	21.8 %	19.5 %	22.0 %	21.0 %
Very High (5)	4.0 %	.8 %	7.3 %	3.4 %
Mean Score:	2.89	2.78	2.86	2.85
Overall Vendor Support				
Very Low (1)	3.4 %	2.3 %	4.7 %	3.2 %
Low (2)	16.9 %	14.0 %	25.6 %	16.8 %
Average (3)	41.1 %	55.0 %	37.2 %	45.3 %
High (4)	31.4 %	26.4 %	18.6 %	28.2 %
Very High (5)	7.2 %	3.3 %	14.0 %	6.6 %
Mean Score:	3.22	3.12	3.12	3.18

high or very high. The mean overall rating for this category was only 2.85 (See Exhibit 4).

Opinions regarding the effectiveness of the vendor support or help-line varied greatly, but was rated somewhat higher overall. Almost 40 percent of the respondents considered it average; 28 percent felt it was very low or low, and 32.5 percent thought it was high or very high. The comparison by country saw that Canadian respondents were most pleased with the support they had received through the help-line; 42.5 percent rated it as high or very high, and gave it a mean rating of 3.19. Respondents in the UK were least pleased with this feature; only 27 percent of the British lodging managers felt it rated as either high or very high. They gave it a mean rating of only 2.92.

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When asked how they felt about the helpfulness of the documentation with which their vendors had supplied them, only 17.2 percent of the respondents rated it as high or very high. Almost half the respondents (46.9 percent) felt it was average, with the remaining 35.9 percent rating it as either very low or low. Compared by country, UK respondents had the lowest mean rating of 2.64. Their colleagues in the U.S. and Canada were almost equally displeased; their mean ratings were 2.80 and 2.66, respectively. Vendor-supplied documentation was the lowest rated sub-section in the study.

The overall support received from technology vendors was rated as average by 45.3 percent of the respondents; 34.7 percent felt it was high or very high, and 20 percent considered it very low or low. Very little discrepancy existed in the mean ratings by country; respondents in the UK and Canada rated the support they received from their technology vendors at 3.12, whereas lodging managers in the US rated it at 3.22.

Analysis by Country Shows Few Significant Differences

In an effort to determine whether any significant differences of opinion existed between lodging managers in the three countries under study, analysis of variance was used. This particular statistical technique allows the researcher to compare mean scores of multiple samples to determine whether the means of the populations from which the samples are drawn are significantly different. This study used one-way analysis of variance, since the cases in the study fell into the three different groups based on their values on one variable, in this case, that of nationality. The null hypotheses assumed that the three population means were equal for all variables. The analysis used an alpha-level of .05.

The study found a significant difference in mean scores in only one of the eight variables. With regard to the cost effectiveness of the property management system, the F probability score of .0064 fell below the pre-determined alpha level of .05. In this case, the null hypothesis could be rejected, and by means of a Tukey-b multiple comparison test it was found that the scores of the Canadian respondents were significantly lower than those of their counterparts in the U.S. and the UK. Canadian lodging managers were significantly less pleased with the cost-effectiveness of their property management systems than their colleagues in the other countries (See Exhibit 5).

In all other cases, the null hypotheses could not be rejected. The opinions of lodging managers in the United States, Canada, and the United Kingdom regarding the support they received from their technology vendors, and the most prominent features of their property management systems, were not significantly different.

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Exhibit 5
One-way Analysis of Variance By Country

	F Ratio	F Prob.
System User Friendliness	1.6047	.2023
System Cost Effectiveness	5.1229	.0064*
Inventory Management Effectiveness	.1531	.8581
Vendor Training Effectiveness	.4696	.6256
Vendor Help Line Effectiveness	1.7100	.1823
Helpfulness Vendor Documentation	1.4137	.2446
Usefulness Reports Generated	1.5844	.2064
Overall Vendor Support	.5871	.5564

Note: * = significant at the .05 level

Analysis by Property Size Shows Significant Differences

Since one-way analysis of variance using nationality as the differentiating variable did not provide many distinct differences between populations, the study also used property size as a differentiating variable. In this case, the intent was to determine whether significant differences of opinion existed regarding technology vendor support and property management systems among managers of different size properties. Respondents were grouped together in three groups: managers of properties smaller than 100 rooms; those in charge of properties with 101-300 rooms; and those working properties with more than 300 rooms. As was the case earlier, the null hypotheses assumed equality of population means and used an alpha level of .05.

As opposed to the previous analysis of variance, this procedure found a considerable amount of significant differences in mean scores (See Exhibit 6). Except for the effectiveness of the vendor training, all other mean scores were significantly different, and the null hypothesis could be rejected in all cases. Tukey-b tests showed that managers in charge of properties smaller than 100 rooms rated the user-friendliness of the package, its cost-effectiveness and ability to manage the property's inventory, the usefulness of the reports generated, the training, the documentation, the help-line and the overall support provided by the vendor significantly higher than their counterparts in the larger properties.

Increased Attention to Support and Training Is Imperative

With the growing importance of technology as a means to guarantee a hotel's competitive position in the future, and to satisfy the quality and service demands of the guest, the relationship between lodging

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Exhibit 6
One-way Analysis of Variance: By Property Size

	F Ratio	F Prob.
Package User Friendliness	4.0761	.0177*
Package Cost Effectiveness	5.0778	.0067*
Inventory Management Effectiveness	8.9741	.0002*
Vendor Training Effectiveness	2.9655	.0528
Vendor Help Line Effectiveness	5.1482	.0062*
Helpfulness Vendor Documentation	3.8644	.0218*
Usefulness Reports Generated	5.5660	.0042*
Overall Vendor Support	5.3330	.0052*

Note: * = significant at the .05 level

manager and technology vendor has become increasingly important. For this relationship to be successful, it is imperative that technology vendors heed the remarks lodging managers make about their products and the support provided, and that lodging managers know how to select a property management system and a vendor that best fit their needs.

Lodging managers in the U.S., Canada, and the UK were more pleased with the property management systems they used than with the support they received from their technology vendors. Whereas the user-friendliness, cost-effectiveness, inventory management, and report generation features of the systems received higher than average ratings, vendor training, documentation supplied, and vendor help-line did not receive average ratings in most cases.

Comparative analysis found that there were hardly any significant differences of opinion among lodging managers in the U.S., Canada, and the UK, but that a great many significant differences existed among managers of different size properties. Managers of small properties (< 100 rooms) were more pleased with their property management systems and the support they received from their technology vendors than their counterparts in larger properties.

Clearly, lodging managers would like to receive increased attention and support from their technology vendors on how to manage and operate the system, and on how to train their employees, in particular, managers in larger operations. They appreciated the value of the property management system to the property, yet did not feel completely comfortable with it. Technology vendors need to give their customers more support, provide better documentation and training, and improve the functioning of their help-lines. With a growing number of

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technology vendors on the market, the support provided, rather than the effectiveness and user-friendliness of the system, might become the most important factor in the technology decision-making process. Vendors could start by making sure that lodging managers know where to call for support; almost 40 percent of the respondents did not know the name of their technology vendors.

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