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## **Information and Communication Technologies in the Hospitality Industry: the Italian Case**

This short paper analyzes the usage of Information and Communication Technologies (ICT) in the Italian hotel industry. A Delphi study has been conducted in order to identify the main activities that need a technological support and to set up ideal coverage and implementation priorities. This model has been checked by surveying a sample of Italian medium size hotels to evaluate their behaviour and their attitude towards ICTs.

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## **Introduction**

*Information and Communication Technologies (ICTs)* are a necessary component of business culture. In today's world using ICTs is no more a distinctive characteristic by itself; only an effective and efficient usage can help in obtaining a competitive advantage.

When the right technology is available and it is correctly applied, a manager can obtain visible organizational benefits and is able to stimulate the growth of the company, in line with the market evolution.

The hospitality industry is at the forefront of the whole tourism sector and it is especially sensitive to the ever-increasing competitive pressure and to the growing need for more effective operational and control tools. The help that can be given by ICTs is therefore much sought-after and is seen as capable of providing new opportunities for business development.

The vast majority of hotels in Europe and in Italy are small or medium size companies. For many of them, the problem is to be able to have a clear framework for the adoption of ICTs.

Aim of this research is to set the stage for such a framework and to identify the correct level of utilization of ICTs as a supporting tool for the activities performed in a small hotel.

## **Methodology**

A study has been conducted by using a two rounds Delphi-like investigation performed on a group of 14 experts (academics, consultants and software developers). The number of participants involved may be considered satisfactory for the number of experts in this area is relatively limited.

The Delphi technique has been chosen for its characteristics of being able to work out predictions and to discover interactions amongst different variables. This methodology has many

precedents in multidisciplinary applications including travel and tourism (Linstone & Turoff, 1975; Woudenberg 1991; Kaynak et al. 1994).

The whole survey has been carried out by e-mail. In the first round the participants have been asked, with an open question, to identify the major processes in a hotel and to assess their potential information technology coverage. The answers to the first round questions were reviewed and summarized in a structured questionnaire for the second round. This revised questionnaire prompted participants to review all items identified previously and to rate them using a 1-to-5 Likert scale (1 = minimum, 5 = maximum) to establish priorities and relative weights.

The features examined are related to management and to economic issues:

- management issues:
  - strategic importance;
  - level of integration in present environment, assessed on available software and hardware products and packages;
  - ease of implementation and use;
- economic issues:
  - cost;
  - benefits.

## **Findings**

The evaluations are summarized in Table 1. The various activities are divided into two broad categories: *front office* and *back office*. From the evaluations on the features listed above, a

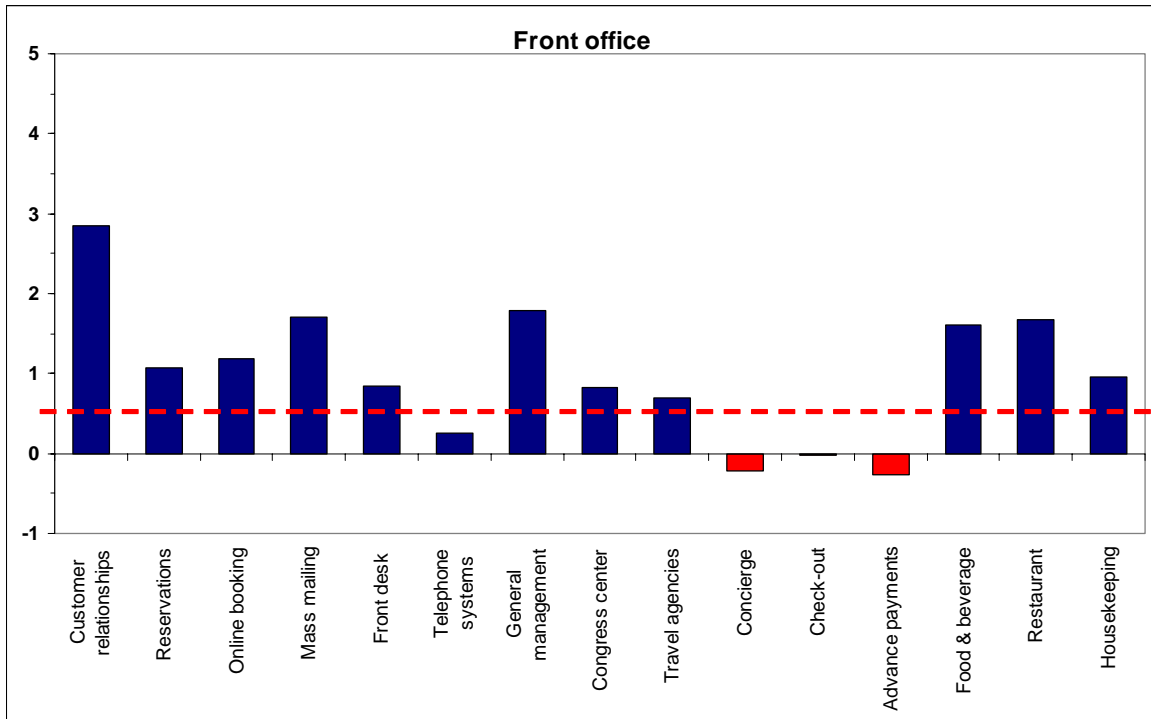
general index has been derived. This index shows the relative importance of providing adequate IT coverage to the different activities.

**Table 1 Delphi study results: hotel activities and ICT index**

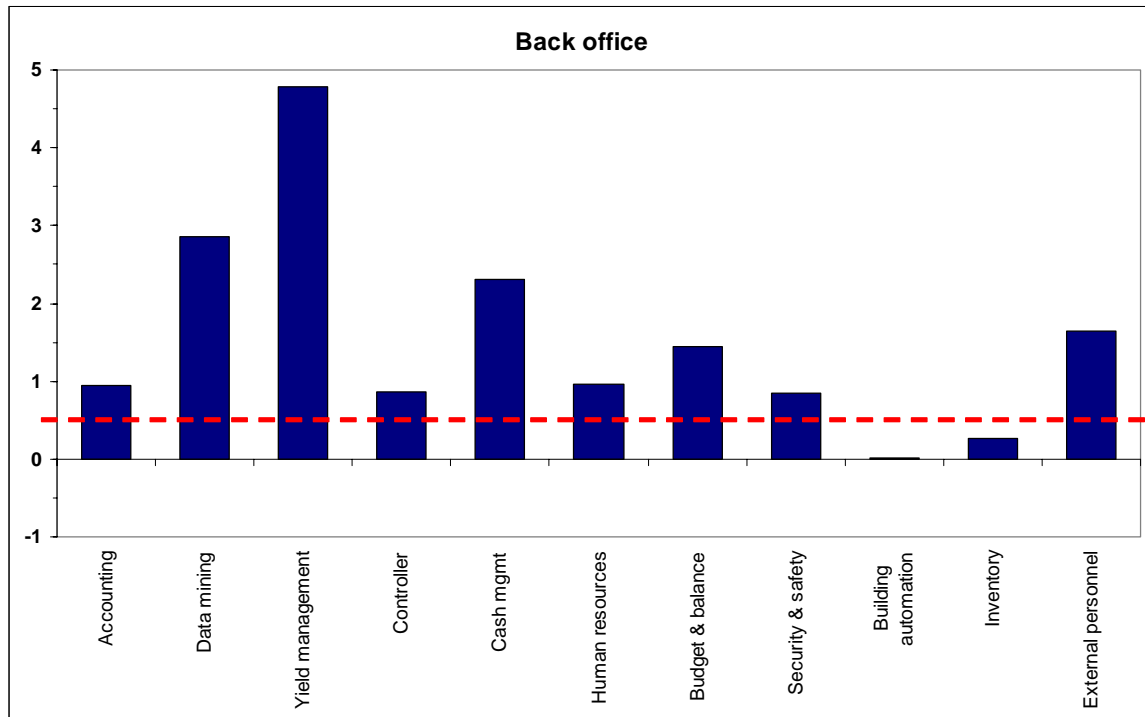
|                               | <i>Activity</i>               | <i>Index</i> |
|-------------------------------|-------------------------------|--------------|
| <b>Front office</b>           | Customer relationships        | 4.3          |
|                               | Reservations                  | 4.0          |
|                               | Online booking                | 4.0          |
|                               | Mass mailing                  | 4.0          |
|                               | Front desk                    | 3.8          |
|                               | Telephone systems             | 3.3          |
|                               | General management            | 3.3          |
|                               | Congress center/meeting rooms | 3.0          |
|                               | Travel agencies relationships | 3.0          |
|                               | Concierge                     | 2.8          |
|                               | Check-out                     | 2.8          |
|                               | Advance payments & deposits   | 2.5          |
|                               | Food & beverage               | 2.3          |
|                               | Restaurant                    | 2.0          |
|                               | Housekeeping                  | 1.3          |
| <b>Back office</b>            | Accounting                    | 3.8          |
|                               | Data mining                   | 3.8          |
|                               | Controller / Reporting        | 3.5          |
|                               | Cash                          | 3.5          |
|                               | Human resources               | 3.5          |
|                               | Yield / Revenue management    | 3.5          |
|                               | Budget & balance              | 3.3          |
|                               | Security & safety             | 3.3          |
|                               | Building automation           | 2.8          |
|                               | Inventory                     | 2.0          |
| External personnel management | 1.8                           |              |

This model has been checked (Sant’Ignazio, 2004) querying a sample of 100 Italian medium size hotels. Hotel managers were asked to evaluate, taking into account their specific situation, the same features with respect to the list of activities set by the Delphi study (the model).

The following pictures (Figure 1 and Figure 2) give the differences between the model and the hotel managers evaluations (values less than 0.5 may be interpreted as an over-equipment, values higher than 1.5 mean an under-equipment of the hotel activity computerization).



**Figure 1 Difference between model and survey results for the front office activities**



**Figure 2 Difference between model and survey results for the back office activities**

As can be seen, the hotels are generally using ICTs at a much lower level than it is suggested by the model. This situation is remarkably true for areas such as customer relationships management, or data mining and yield management that can be thought as strategic activities. In these cases the role of an appropriate computerized system is not considered at the right level of importance. On the other hand, the effect of ICTs on some operational activities (inventory, building automation, concierge, check-out or cash management) looks to be overestimated with a possible waste of resources.

## Conclusions

Given the importance of having an effective support of ICTs in the operations of a hotel, a general model suggesting directions and priorities of intervention may be of great importance

to allow the organization to cope with today's highly competitive arena. Such a model has been derived by using a Delphi study among a number of experts. This model, showing activity areas and their relative importance in terms of ICT coverage has been compared with the results of a survey conducted on 100 Italian small and medium hotels.

The comparison shows that the hotels have a generally low usage of technologies. While some operational activities there is an over-utilization of computerized tools, with a risk of wasting resources, in many areas, of great strategic importance, the usage of the ICTs is at a definitely low level.

## **References**

Kaynak, E., Bloom, J. and Leibold, M. (1994). Using the Delphi Technique to Predict Future Tourism Potential. *Marketing Intelligence & Planning*, 12 (7), 18-29

Linstone, H. A. and Turoff, M. (1975). *The Delphi Method: Techniques and Applications*. Addison-Wesley.

Sant'Ignazio, A. (2004). The role and usage of ICT in the Italian hospitality industry, presented at the XII International Leisure and Tourism Symposium, Barcelona (Spain), 21-22 April.

Woudenberg, F. (1991). An Evaluation of Delphi. *Technological Forecasting and Social Change*, 40, 131-150.