**Vesna Vrtiprah, Ph.D.**
Associate Professor
**Ivo Ban, Ph.D.**
Associate Professor
Faculty of Tourism and  Foreign Trade, Dubrovnik

# PRODUCTIVITY AND QUALITY IN THE HOTEL INDUSTRY*

## Summary

*Productivity is likely to become a major concern of hospitality management during the 2000s and into the twenty-first century. Therefore, the objective of this paper is to indentify the relevance of productivity management to the future of hospitality  industry, and to examine possible strategies for increasing productivity within the industry.*

*Keywords: hotel industry, productivity, quality, service, costs.*

## Introduction

Today, productivity has become one of the most important concerns for managers. Productivity in the hotel industry is lower in comparison to other activities due to its character and the dominating influence of the market. Productivity improvement can be achieved through good management procedures. Therefore, this paper presents the need for directing procedures not only towards increasing the quantity and quality of the product/services, but also towards the monitoring and controlling of expenses.  In short, towards all those factors which might influence productivity, taking into account all the particularities of the hotel industry.

---

# Productivity in the context of hotel industry

Productivity can be defined as »the relationship of input and output in a set time period followed by a required maintenance of quality« (Weihrich & Koontz, 1994). This definition can be applied to the productivity of an organization, managers, administrative personnel and workers.

The earlier approaches to productivity generally involved the following two strategies. Companies, especially those with high fixed costs, concentrated on increasing output along with maintaining constant input - the so-called market-oriented approach. Firms with a high share of variable costs used the strategy of »cost reduction«, that is, maintaining the same level of output with a reduction in costs.

A customer-oriented philosophy emphasizes a high level of dependence on market demand. Hence, it is right to concentrate management attention on the revenue side of the business rather than the cost or production side. However, no company should ignore cost altogether. In terms of the productivity equation: (Teare & Boer, 1993)

$$\frac{Quality \times Quantity}{Costs} \qquad \frac{(of\ output)}{(of\ input)}$$

market orientation relates to the top half the equation (as represented by the organization-s output) and cost control to the denominator (the system inputs).

In the hotel industry, managers who wish to increase productivity must take the following options into consideration:

- Increase the quantity and/or quality of the product and service while holding the same level, or with a decrease or insignificant increase of costs. This strategy demands an aggressive market approach, with constant development and improvement of the product, service quality, image and market share. These strategies could be called expansive productivity strategies.

- Decrease costs while holding the same level, or with an insignificant decrease or increase of quantity and/or quality of the product and service. This strategy presupposes a careful analysis of costs whose objective is to decrease costs. These strategies could be called contractive strategies.

Both of the forementioned strategies can be applied to the hotel industry. However, neither of the strategies can achieve an objective on their own. They need to be used jointly, with attention directed towards increasing the quantity and/or quality of the product and service accompanied by a suitable control of costs, in order to maintain its equilibrium, lower or even prevent cost growths. In order to do so, it is also necessary to ensure some other preconditions, that is, quality personnel and a market where an increased market share is relatively easy to achieve with low marketing costs.

All three elements, that is, product and service quantity, quality and costs, significantly influence productivity and must be taken into consideration when seeking possibilities for productivity improvement in the hotel industry, for should

we desire to increase productivity by increasing output, we must be sure that the existing quality is maintained or improved and that there is no accompanying increase of costs.

However, the monitoring of productivity and the application of an improvement program in the hotel industry is complex as: (Lockwood, 1993)
- neither inputs nor outputs are easily standardized
- the relationship between inputs and outputs are not constant
- not all inputs or outputs can be measured accurately

Specifically, output in the hotel industry, that is product quantity or the realized result, is comprised of numerous and nonhomogenous products and services. Each service extended towards each customer is unique. The method of extending a service can differentiate slightly, but can also be completely different at the same time, depending on the person extending the service or the manner of extending the service.

The next problem stems from the first. In spite of the numerous difficulties, hotel companies try to standardize input. However, this does not offer them any guarantee that all guests will be satisfied, that is, react the same to identical input.

Finally, it is impossible to exactly measure either input or output as they are comprised of both tangible and intangible elements. Considering that the intangible components are complex (service quality, hotel prestige and image, behaviour of personnel and so on) and that they are impossible to control immediately, it is difficult to standardize all input and guarantee their influence on output.

In fact, the hotel product is made up of a combination of tangible and intangible elements relating both to the physical characteristics of the provision and interpersonal contact that occurs during the stay. These elements have been combined to form the quality matrix shown in Fig.1

Fig.1.

The quality matrix for hotel provision (characteristics of the experience)

|  | TANGIBLE | INTANGIBLE |
|---|---|---|
| PHYSICAL<br><br>Nature of<br>The contact | The product<br>Facilitating goods<br>Information processes | Atmosphere<br>Esthetics<br>Feelings<br>Comfort |
| INTERPERSONAL | Actions<br>Process<br>Speed<br>Script<br>Corrective action | Warmth<br>Friendliness<br>Care<br>Service |

*Source: Witt,S.F., Moutinho, L.,Tourism and Management Handbook, Prentice, 1989, Hall International, UK, 356*

Many authors are in agreement that quality is a significant element of productivity (Lee-Ross, 1994). However, it is difficult to measure as it includes intangible elements as well, for instance, consumer satisfaction with the product, or with the services offered. Even though it cannot be expressed by indicators comparable to quantity, it is of vital importance to the hotel industry as improving quality enables the improvement of market position and thereby productivity. It is for this reason that hotel companies are interested in information and the image of the company on the market, for if any kind of complaints do exist it is then possible to undertake action for their removal.

If there is any doubt about the correlation between a measured image and consumer satisfaction, a number of alternative, more objective measures are available. For instance, the rate of repeat purchasing may be used as a surrogate measure of satisfaction. Another type of measure is the audit of customer service standards. Questions which need to be asked usually fall into the following categories: 1) physical goods /food and beverage quality, room size and maintenance, furniture condition, etc./ 2) physical environment /room location, atmosphere, noise, ambience, etc./ 3) service and personnel /interaction between service providers and guests/.

## Problems of low level labour productivity in the hotel industry

In the hotel industry, special attention is attached to labour productivity. Specifically, due to the character of this activity and the method of extending services, as well as the limited possibilities for mechanization and automatization, a characteristic feature is the high percentage of labour costs and lower labour productivity as compared to industry, applicable to all developed countries in the world.

In undeveloped countries and in countries in transition, a labour work productivity of companies and of the overall economy is characteristic, among other things. This situation is a consequence of the earlier social-political system in which market rules and fundamental economic principles were not respected, shown by the Croatian case.

Table 1

Business indicators for Croatian hotels for the period 1980 to 1998

| Year | Nights (000) | Employed | Beds | % occupancy | Employed/ 100 | Nights/ Employed |
|---|---|---|---|---|---|---|
| 1980 | 17,521 | 27,127 | 113,177 | 42,4 | 50 | 6645,9 |
| 1981 | 18,194 | 28,125 | 115,389 | 43,2 | 51 | 646,9 |
| 1982 | 17,773 | 29,201 | 118,503 | 41,1 | 52 | 608,6 |
| 1983 | 17,763 | 29,696 | 212,570 | 40,0 | 51 | 598,2 |
| 1984 | 19,486 | 31,608 | 123,890 | 43,1 | 54 | 616,5 |
| 1985 | 20,975 | 34,308 | 127,802 | 45,0 | 57 | 611,4 |
| 1986 | 21,219 | 36,097 | 135,182 | 43,0 | 57 | 587,8 |
| 1987 | 21,986 | 36,611 | 140,064 | 43,0 | 56 | 600,5 |
| 1988 | 21,768 | 37,498 | 142,974 | 41,7 | 57 | 580,5 |
| 1989 | 21,552 | 38,021 | 143,332 | 41,2 | 57 | 566,8 |
| 1990 | 20,716 | 34,406 | 142,917 | 39,7 | 52 | 602,1 |
| 1991 | 5,904 | 22,205 | 123,946 | 13,1 | 39 | 265,9 |
| 1992 | 4,983 | 12,108 | 134,166 | 10,2 | 20 | 411,5 |
| 1993 | 5,729 | 13,468 | 136,250 | 11,5 | 21 | 425,4 |
| 1994 | 8,433 | 17,178 | 136,997 | 16,9 | 27 | 490,9 |
| 1995 | 5,587 | 14,669 | 138,535 | 11,0 | 23 | 380,9 |
| 1996 | 8,551 | 17,198 | 135,398 | 17,3 | 28 | 497,2 |
| 1997 | 11,247 | 20,956 | 135,114 | 22,8 | 34 | 536,7 |
| 1998 | 11,388 | 21,457 | 136,114 | 22,9 | 34 | 530,7 |

*Source: Statistical Yearbook 1998, 1999, Central Bureau of Statistics,*
*Zagreb, 1998, 1999*

The basic indices for trends in the number of bed-nights per employee indicates a long-term tendency towards stagnation in labour productivity as compared to the starting year of 1980 (with the exception of 1981). A special note is made of the great drop after 1990 due to the aggression of war on Croatia. Furthermore, attention should be drawn towards the low level of occupancy due to the dominating share of hotels having seasonal business in the structure of the hotel industry. The number of workers per one hundred rooms prior to the war (1980-1990) fluctuates from 50 to 70, which is too high considering the low occupancy of capacities.

UNWEIGHTED LEAST SQUARES LINEAR REGRESSION OF NIGHTS/EMPLOYED PREDICTOR

| VARIABLES | COEFFICIENT | STD ERROR | STUDENT'S T | P |
|-----------|-------------|-----------|-------------|------|
| CONSTANT | 2.3395E+04 | 6787.2 | 3.45 | 0.0031 |
| YEAR | -11.492 | 3.4124 | -3.37 | 0.0037 |

R SQUARED        0.4002    RESID. MEAN SQUARE (MSE)  6.637E+03
ADJUSTED R SQUARED  0.3649    STANDARD DEVIATION         81.47

| SOURCE | DF | SS | MS | F | P |
|--------|-----|-----------|------------|-------|--------|
| REGRESSION | 1 | 7.5279E+04 | 7.5279E+04 | 11.34 | 0.0037 |
| RESIDUAL | 17 | 1.1283E+05 | 6637.2 | | |
| TOTAL | 18 | 1.8811E+05 | | | |

Fig. 2

Trend in labour productivity in Croatia, 1980 - 1998
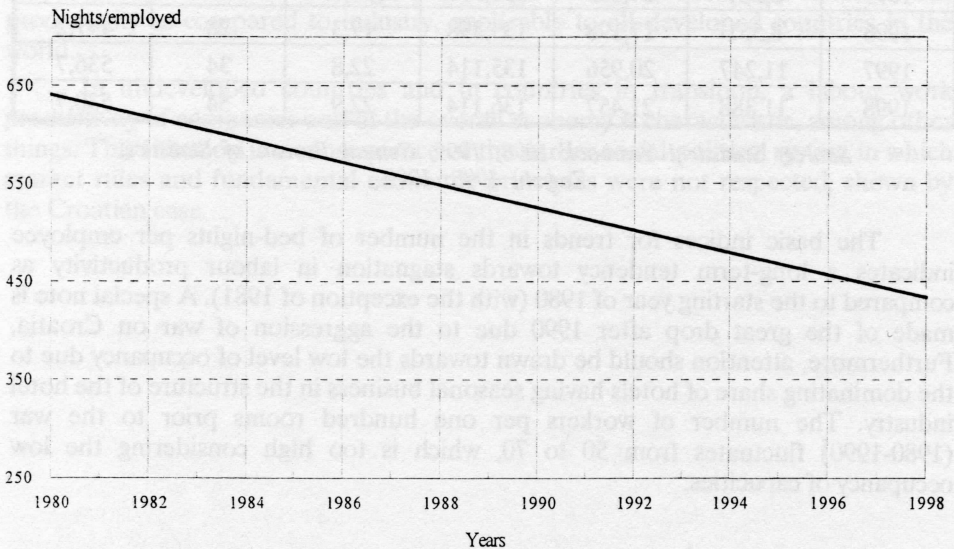
The average growth rate of those employed in the period 1980-1990, that is prior to the war, was 2.40%, and the average rate of bed-nights was 1.69%. The principle of rationality in work was not respected and there was no synchronization between the dynamics of sale with that of the dynamics of employment, or rather, the necessity of constantly improving work productivity was ignored. Due to generally large hotels (the number of rooms fluctuated on average from 112 to 162), it was difficult to synchronize the necessary number of workers on a daily or weekly basis with that of the daily or weekly volume of business . Synchronization only occurred seasonally.

Fig.3.

Annual changes in employment, bed-nights and labour productivity in Croatia
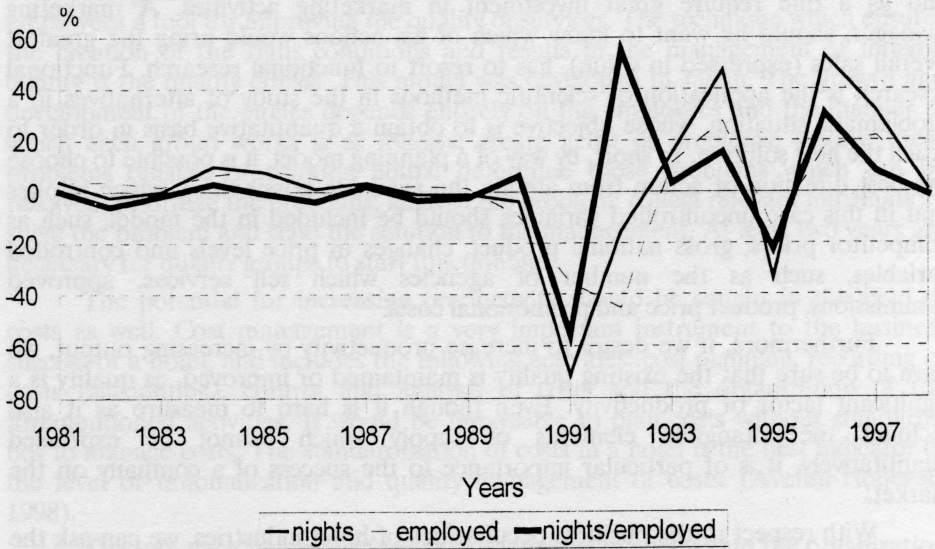


Even though manpower is the most important element of hotel »production« and the carrying out of tourist services in the hotel industry, it does not exclude the need for measuring end evaluating the productivity of other elements of production, technical facilities and work conditions. Without this, the evaluation of labour productivity would be deficient, incomplete and incomparable.

## Productivity and management strategy

For short-term survival and long-term growth and prosperity, productivity advances  need to be more substantial. The key pressures  for productivity improvement are as great, if not greater, in hotels as elsewhere. They include the following items: the problem of utilizing expensive labor; the difficulty  of passing on cost increases to customers; the need to increase service levels without a corresponding increase in costs; the need to withstand both national and international competition and to hold off predatory hotels or hotel groups; the

continued employee demands for better working conditions and improved wages; the requirement in many hotels to replace unproductive and obsolete equipment and facilities; the necessity to provide increased profits to the owners of hotels.

In the hotel industry, expansive and contractive strategies should be used in order to increase productivity. Research results on 27 US hotel companies have shown that the expansive strategy has already been accepted by the hotel industry and that the item »cost control« as a success factor was located quite low on the list of most important objectives and critical success factors (Geller, 1985). However, a productivity strategy based upon a marketing approach showed itself to be not quite efficient in the early 1990s. Competitiveness within the hotel industry will depend upon the successful integration of expansive and contractive strategies.

Specifically, the possibilities of increasing output are limited by the market and as a rule require great investment in marketing activities. A marketing manager, should he want to know which of his actions would bring the greatest overall sales (expressed in value), has to resort to functional research. Functional research is the application of scientific methods in the study of alternatives in a problematic situation, whose objective is to obtain a quantitative basis in order to reach the best solution. In short, by way of a planning model, it is possible to choose the best direction of action from among the available possibilities, which implies that in this case uncontrolled variables should be included in the model, such as competitor prices, gross national product, changes in price levels and controlled variables, such as the number of agencies which sell services, approved commissions, product price and promotional costs.

Furthermore, if we desire to increase productivity by increasing output, we have to be sure that the existing quality is maintained or improved, as quality is a significant factor of productivity. Even though it is hard to measure as it also includes the intangible elements of supply which cannot be expressed quantitatively, it is of particular importance to the success of a company on the market.

With respect to the business peculiarities of hotel industries, we can ask the question: How can we apply the strategic management of quality to hotel management and which elements should be applied towards achieving control and increasing quality? Firstly, the problem of defining standards appears in the hotel industry, as hotel products are made up of tangible and intangible components. The management frequently concentrates on those operations which can easily measure the preferences of guests, that is tangible/physical aspects, while the intangible aspects of supply are frequently ignored. Secondly, today, due to more demanding tourist consumers, a greater emphasis is placed on managing the intangible aspects of supply, with the aim of creating a competitive edge on the market, where differentiation of the product through ensuring quality of service, thereby creating a strong image of quality, becomes an increasingly important dimension in tourism marketing.

When the elements of value for a specific market group of consumers can be estimated as well as the ability to ensure the level of services desired, it is then possible to design a hotel product, that is, to determine standards for the tangible aspects of supply, standards for managing work and for training staff. In the aim of

ensuring equality of standards, two basic strategies can be applied to hotel management: »control« and »assurance« strategies. A quality control strategy is best applied to tangible/physical, while the quality assurance approach is better suited to the intangible aspects of supply.

While control strategy is based on checking and correcting errors, the assurance approach tries to make sure that mistakes do not repeat themselves. This is especially important in the personal contact of guests, as every error made in personal contact is difficult to rectify, and it can significantly influence the guests-satisfaction. This approach implies bringing quality into the managements- manner of thinking in all operations, in the selection, training and relationship to staff. Quality becomes the central value of the system. In the process of ensuring quality, alongside the management, the active participation of staff is necessary for determining and executing standards, so that this method gives conscientious employees a tool for improving the quality of services. The technique which ensures the creation of the right conditions and results in the management of integral quality is the quality circles. This model was developed in Japan. The growth and development of the circles depends entirely on the employees and the manner in which each group works is as follows: create a list of problems; resolve these problems outside of working hours; determine those problems which can be resolved; prioritize the problems; analyze the problem; collect relevant information; solve the problem and send the solution to the management. At least two years are necessary for quality groups to start functioning.

The potential for increasing productivity should be sought in the field of costs as well. Cost management is a very important instrument to the business success of a hotel, and includes the following activities: cost planning, recording of costs (accounting), control and analysis of costs and the organization of the forementioned activities. It would be impossible to plan costs without standards, nor to manage costs. The standardization of costs in a hotel is the best indicator of the level of rationalization and quality management of costs. (Avelini-Holjevac, 1998).

The influence of various formal and informal factors within the organization should be taken into account when seeking possibilities for the reduction of costs. It is understood that formal factors imply the organization's structure, delegation of authority, allocation of costs, recompensation and other factors within the organization which can be planned and controlled. On the opposite side, informal factors which can significantly influence productivity are the organization's atmosphere and culture, process of decision-making, self-improvement of personnel, and so on.

The formal approach towards increasing productivity commences with changes in the production process and is closely connected to the structure and responsibility of those employed. Therefore, it is important to know: what are the inputs, who manages them, what are their costs, how costs behave in comparison to output, which costs can be controlled, what is the desired level of output.

Managers can influence productivity if they have a great volume of information at their disposal and if they are capable of modifying the input which can be controlled. Specifically, greater productivity can be achieved by placing

productivity objectives at all levels and monitoring their realization by way of delegated authority, identification of responsibility and cost analysis. This undoubtedly demands a great emphasis on analysis and planning. For the hotel industry, it is also necessary to maintain and strengthen team work and internal marketing.

The techniques which can be applied in the field of productivity are various, for instance, measuring techniques, techniques which generate a solution to the problem and techniques which do both. Techniques which enable the analysis and evaluation of the work process are: estimating, time study, activity sampling and method study. These techniques can measure not only what employees are doing, but also the frequency of using materials and equipment. The second group of techniques is directed towards the more effective use of the workforce by better scheduling their time. This schedule can be based upon data obtained from the previous range of techniques, by forecasting demand or by carrying out a detailed task element analysis.

In the hotel industry, due to the unequal movements in tourist demand, it is of extreme importance to accurately predict sales and to correctly direct the entire resource supply in order for it to conform to demand. However, it is difficult to precisely determine the optimal level of employment under conditions of variable business. It is only possible to partially synchronize the realistic extent of business with the realistic required number of employees in a manner that: (Teare & Boer, 1991) (a) forecasts sales; (b) identifies work that alters in accordance with changes in demand; (c) determines standards per employee; (d) compares the predicted sales with the predicted number of employees; (e) synchronizes the work process with demand.

The importance of achieving work standards is best illustrated by the example of the Swiss association of hoteliers which formulated the Regulations on the minimal conditions required for obtaining specific hotel categories. Among others, minimal norms (standards) of the number of employees in relationship to the number of rooms are set out, shown in Table 2

Table 2.

Minimal norms for hotel classification

| Hotels | ***** | **** | *** | ** | * |
|---|---|---|---|---|---|
| Business Hotel No. of personnel/ No. of rooms | 1 employee per 4 rooms | 1 employee per 5,5 rooms | 1 employee per 9 rooms | 1 employee per 12 rooms | - |
| Vacation Hotels No. of personnel/ No. of rooms | 1 employee per 5 rooms | 1 employee per 7,5 rooms | 1 employee per 11 rooms | 1 employee per 16 rooms | - |

*Source: Guide suisse des hotels, 1996, Societe suisse des hoteliers, 30 (SSH)*

Taking into consideration that trends in tourist demand cannot be foreseen with complete accuracy when forecasting demand, stohastic models have to be used as demand is a fluctuating but foreseeable element having a stohastic component. At the same time, attention should be given to the particularities of labour within each department of a company as the period of predicting demand and planning the necessary number of employees is different for each department.

It is possible to plan and synchronize the realistic volume of business with the actual necessary number of employees, that is, respect labour standards, on the basis of forecasting demand. Standards enable the rationalization of business, that is, lowering labour costs to an opimal level and increasing quality services. As such, they are the basis for planning and controlling completed labour.

Besides understanding the nature of demand and adopting world standards, it is also necessary to have the kind of equipment, facilities and staff which would enable the most efficient execution of labour. How much of an increase will occur in labour productivity will depend upon the quality of the employees, their knowledge and skills, motivity, organization of labour and recompensation. Recompensation of labour is one of the most significant elements of productivity, as the potential for improving productivity depends in great measure on the capabilities of the employee and his desire to increase output.

Alongside a formal approach to productivity, managers have to apply an informal strategy as well in order to improve productivity. Managers, in short, have to create the kind of climate within a company in which staff will finally understand the importance of work productivity for business. This can be achieved by internal communication within a company through its own newspapers, announcements, and so on. The aim of communicating is not only to ensure information, but also to create an atmosphere based upon trust and cooperation. Employees have to be requested not only to work more, but also to work more intelligently and creatively. Greater work efforts should not be the consequence of fear from losing employment. Regardless as to which approach is used, a real chance of increasing productivity exists alongside an organizational atmosphere, motivation, a good system of recompensation, and so on.

For the hotel industry, the best strategy is the one that connects various approaches and techniques which support and complement one another. In short, a strategy chosen from among numerous options, which will positively influence an increase in the productivity of the entire organization, or the entire hotel. According to Jones & Lockwood (1992), this strategy would include a: (1) strong organisational climate, with clear culture based on »myths«, »rituals« and so on; (2) job rotation around the unit: (3) guarantee of long- term employment; (4) few status distinctions between employees; (5) widespread dissemination of information about the organization-s performance; (6) remuneration includes profit-sharing; (7) consultative style of management; (8) productivity co-ordinating committee. This approach creates a powerful »corporate« loyalty, which has been confirmed by some hotel groups /American hotel chains/. It not only has an influence on cost levels, but also on realized sales and the quality of service.

## Conclusion

All three elements, that is, the quantity of product and service, quality and costs, significantly influence productivity and have to be taken into consideration when seeking possible productivity improvement in the hotel industry. Specifically, it is only possible to improve productivity through the successful integration of techniques which will aid in maximizing income and in lowering costs. The most coherent and appropriate strategy for productivity improvement in hotels is an organisation-based system that puts together a package of approaches and techniques which mutually support each other to make a significant impact on performance. This approach not only improves productivity, but it can also have beneficial effects on service, income and quality. Competitiveness within the hospitality will depend upon the successful integration of expansive and contractive strategies.

## References

Avelini-Holjevac, I., Kontroling, upravljanje poslovnim rezultatom, Hotelijerski fakultet Opati ja, Opatija, 1998

Baker, M., Riley, M., New perspective on productivity in hotels, some advances and new directions, International Journal of Hospitality Management, Vol.13, no.4, London, 1994, 123.

Jones, P., Lockwood, A., The Management of Hotel Operations, Cassell, London, 1992

Geller, A.N., Tracking the critical success factors for hotel companies, Cornell HRA Quarterly, 1985, 356

Lee-Ross, D., Increasing productivity in small hotels: are academic proposals realistic, International Journal of Hospitality Management, Vol.13, no.3, 1994, 231

Teare, R., Boer, A., Strategic Hospitality Management, Cassell, London, 1993

Weihrich, H., Koontz, M., Menadžment, X izdanje, MATE, Zagreb, 1994

Witt, S.F.,Moutinho, L., Tourism Marketing and Management Handbook; Prentice Hall International; UK,1989

**Dr. sc. Vesna Vrtiprah**
Izvanredni profesor na Fakultetu za turizam i vanjsku trgovinu u Dubrovniku
**Dr. sc. Ivo Ban**
Izvanredni profesor na Fakultetu za turizam i vanjsku trgovinu u Dubrovniku

# PRODUKTIVNOST I KVALITETA U HOTELSKOJ INDUSTRIJI

## Sažetak

*Proizvodnost je u hotelskoj industriji i do sada bila važna preokupacija mendžmenta. Radi ekonomskih i konkurentskih razloga u 21. stoljeću proizvodnosti će se morati pridavati još veća pozornost. Upravo je stoga cilj ovog rada ukazati na izuzetnu važnost upravljanja proizvodnošću u hotelijerstvu kao i na moguće strategije kako bi se u svemu tome dosegnula viša razina.*

**Ključne riječi: hotelska industrija, produktivnost, kvalitet, usluga, cijene**

**JEL klasifikacija: D24, L83**