

MEASURING RESULTS OF TRAINING WITH ROI METHOD: AN APPLICATION IN A 5-STAR HOTEL IN ANTALYA REGION OF TURKEY

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This study shows result of training using return on investment (ROI) method for a 5-star hotel in the Antalya Region of Turkey. This study makes a valuable contribution to a range of pertinent literatures. ROI measurement has identified that a return on investment (payback period) is in the order of 4.5 months for the hotel under investigation. This finding might be regarded as acceptable when taken in context to the cost of software programs.

Keywords: *tourism, training and ROI.*

JEL Classification: *L83, M1, O1*

INTRODUCTION

In order to be successful and survive, just as for all commercial for-profit establishments, hotels should invest in training. Because of budget limitations, and the need to ensure operational effectiveness, there is a continuous interest in training programs.

ROI means measuring *return on investment*. Here, the term investment relates to training activities. In other words, ROI helps establishments to measure effectiveness of their training. ROI method identifies the costs and benefits per person as a result of specific training. To be successful in measuring ROI, there is a requirement to have correct and updated information from hotel managements. ROI consists of five levels: reaction, learning, behaviour, results and ROI.

In the related literature, there are different definitions of training. Most of the definitions specify that training is a process of changing people.



Generally speaking, training enables people to adopt change in their behaviour in-line with the establishment's targets (i.e., Cengizhan and Ersun, 2000: 731). Other definitions suggest that training helps people to successfully communicate with their environment (Binbaşıoğlu, 1995). From an organizations' perspective, training comprises all management targets that aim to increase commercial success in terms of effectiveness and productivity (Yüksel, 2000).

Training has an important place in human resource applications. Today, it is well-recognized that humans and information are both vital in terms of power and capital of communities. Beside recruitment and testing of new personnel, training continues in commercial importance (Fındıkcı, 2000).

With the current competition among establishments, improving knowledge levels and skills of personnel, especially at the point of production, are vital (Yılmaz & Gunel, 2009). Changes in production equipment and methods, force establishments to develop different training programs (Mucuk, 2001).

However, training programs are expensive for establishments. Therefore, they have to plan a suitable budget and financial resources for training. The ASTD report (2002), identified that more than 350 establishment are allocating between 1 per cent and 3 per cent of their budgets for training. As a result they have generated profits of more than \$1400 per person; with average training costs per person of \$700 (www.learningcircuits.org:reachingdate: 27.09.2005).

In planning for training, all individuals must work together in order to identify training targets. As a result, funding for training will be successful (i.e., Baltas, 2000: 1). Generally, it will be better to define training needs of individuals before training. To justify the cost of training, comparing the new-found skill-levels of individuals' is suggested (Sabuncuoğlu, 2000).

In order to gain the highest productivity from training, there are four important factors:

1. The support of management
2. Adequacy of the instructor
3. Cooperation of human resources and training departments
4. Demand and readiness levels of individuals undertaking training.

Human resource and training departments must organize, announce and evaluate training processes. Additionally, they have to attract individuals for training (www.baltas-baltas.com:reachingdate: 22.09.2005). Normally, training must affect individuals in a positive way.

Drawing a comparison, before and after training, can be a positive solution (Yalçın, 1991).

METHODS FOR MEASURING TRAINING RESULTS

There are two popular methods identified in the literature for measuring training results, namely, Kirkpatrick technique and ROI model. In addition to these two models, there are other less popular methods. For continuous and future success of training, the results of training must be measured. According to typical measurement methods, knowing knowledge /skills levels of individuals before, during and after training periods are important (Ricky, 2000). Methods used for establishing training results are discussed next.

Measuring Costs of No Training

This method is comparatively easy to measure. It is mainly based on measuring the loss of revenue due to lack of training. In other words, this method shows the importance of training in terms of increased revenue. Generally, being unsuccessful shows the need for training. The results of unsuccessful / wrong behaviour can be thought of in terms of revenue loss for establishments. When an establishment experiences an unsuccessful event, the possible revenue loss can be calculated. Subsequently, this loss can be regarded as a possible opportunity-cost when justifying training.

The underlying principle of this method is that, a decreasing training budget can be too costly for an establishment. This method shows the benefits of training as 'probability'. The main advantages of this method are: easy to understand and, generally, line-management give their support for using this method. In measuring the costs of not giving training, consideration should be made of: output, time, quality loss or cost increases (Yüksel, 2000).

Measuring Costs of Learning Curve

This method uses learning a curve for individuals, and is based on comparison of different training methods. Changes in individuals (starting from zero to 100) in terms of knowledge and experience, can be observed with this method. It is principally used as a strategic management approach. Especially after continuous repetition, the level of learning increases for individuals. This positive situation also affects productivity

levels. This kind of improvement can increase competition of an establishment without investing in the whole organization (Aykaç, 1999; Rocha & Victor, 2010).

Benefit – Cost Analysis

Benefit-cost analysis measures training costs, performance results and profit. This method can be considered as one of the methods that brings improved results (i.e., Rowden, 2001: 6). Generally, purchasing of a program / program development, training materials for the trained individuals and instructors, equipment for training, travel and accomodation expenses, instructor's fee, salaries of personel responsible for the training and productivity loss of trained individuals during training, can all be regarded as training cost components. On the other hand, production and quality increases, cost decreases / savings, repairment decreases, customer satisfaction increases, overload decreases at work, less work accidents, absenteeism, and labor turnover decreases, can be thought of as benefit components. Having a benefit-cost ratio can be helpful to establishments in understanding the results of training (Shin, 2009; Sabuncuoğlu, 2000).

Benefit-cost analysis can be seen in both govermental and private institutions/firms. The main disadvantage of this method is (sometimes) it is unadequate in showing intangible measures which are not easily defined in terms of monetary values. This disadvantage can be regarded as a significant barrier in the use of this method (i.e., Phillips and Steers, 1989: 54).

Balanced Scorecard Method

Balanced scorecard (BSC) helps establishments to orient their strategy and operations to meet customers' needs. It consists of financial and non-financial measures related to critical success factors (i.e., Kaygusuz, 2005: 81). This method considers factors that affect current and future conditions of establishments (i.e., Choe and et al., 1997: 76).

Balanced scorecard combines operational measures, such as customer satisfaction, internal process of establishments, innovation, and development activities with financial measures. Operational measures are the indicators of future financial performance of establishments (i.e., Kaplan and Norton, 1992: 71).

Arguably, BSC gives comprehensive and speedy information to top managements. It is not limited to past financial measures; it shows future developments and changes in operational functions (i.e., Frigo, 2002: 48).

Kirkpatric Model

Effective training must based on needs, have reachable targets, benefit from effective methods, must be done at the right place at the right time and to the right individuals. Moreover, training results must be measured. In Kirkpatric’s model, every following-level is more difficult; but has more reliability (Kirkpatric, 2000). In today’s world, many companies have training budgets and develop training programs, but very few of them follow their training results (i.e., Nelson and Dailey, 1998: 6; Miller, 1999: 25).

Kirkpatric developed his model in 1959. The model consists of four levels. It has a wide area of use, is easy to use and gives accurate results. Four levels in Kirkpatric’s model can be stated as:

1. 1.Evaluation of reaction
2. 2.Evaluation of learning
3. 3.Evaluation of behaviours
4. 4.Evaluation of results.

Kirkpatric’s model has been modified to incorporate a fifth ROI level (i.e., Moscoe, 1996: 16). Although 48 years have passed, Kirkpatric’s model still maintains its popularity. The levels of Kirkpatric’s model can be considered as hierarchal levels (i.e., Akıncioğlu, 2005: 50; Rick, 1995: 66; Nelson and Dailey, 1999: 74).Levels of Kirkpatric’s model are shown in Table 1.

Table 1 Kirkpatric’s 4 -Levels Evaluation

Levels	Measured Attribute
1.Reaction	Satisfaction levels of participants from the training program
2.Learning	New knowledge / skills that participants learned from the training program
3.Behaviour	The changes in behaviours of participants because of training program
4.Results	The effects of behavioral changes of participants to establishment

Source: Philips, J.J., (1997) Handbook of Training and Measurement Methods, Improving Human Performance Series, Houston, 254

According to ASTD’s research results (2002), 78 per cent of establishments measure the results of their training at ‘reaction’ level (level 1), 32 per cent at ‘learning’ level (level 2), 9 per cent at ‘behaviour’ level (level 3) and only 7 per cent at ‘result’ level (level 4).

Phillips’ ROI Model

Kirkpatric’s model has numerous positive features, but there is a need for understanding the support that training gives to establishment values. Within this perspective revenues, profits and return on investment terms become popular. Consequently, Phillips’ ROI model can be thought as a fifth and final level. Phillips’ model gives benefits of training in terms of monetary aspects, and allows a comparison of benefits with costs (i.e., Phillips and Phillips, 2001: 241). The difference between the Kirkparic model and Phillips’ model is the fifth level (ROI level).

Many establishments measure their training results with the help of ROI method. In order to complete the ROI measure, all levels in the model must be taken into consideration. Benefit-cost analysis and finding net profit are the important calculations of ROI. Generally, profit can be planned for the subsequent year following the training period. After several years, the impact on profit starts to decrease (i.e., Phillips, 1996: 43; Phillips, 1996: 28).

Table 2 ROI Levels

Measurement Levels	Measured Attribute
1.Reaction	Satisfaction levels of participants
2.Learning	New knowledge / skills of participants
3.Behaviour	Behaviour changes of participants
4.Results	Results at work
5.ROI	Benefit-cost analysis

Source: Chmielewski T.L. and Phillips J.J. (2002) Measuring Return-On-Investment in Government: Issues and Procedures, Public Personel Management, Summer, 31 (2): 227

The ROI measurement can be seen in Table 2. The first three levels measure effects of human resource functions. The fourth level measures the effects directly to establishment; and the fifth level shows costs and benefits of the training program. With ROI model it is possible to analyse

monetary and non-monetary results of training programs (i.e., Chmielewski and Phillips, 2002: 227).

Reviewing the related literature has shown that more than 1000 establishments in 40 countries are using ROI method. Among these establishments, it is possible to find production and service sector representatives or educational institutions. The American Society for Training & Development (ASTD), International Quality and Productivity Center (IQPC) have organized many meetings focussing ROI applications.

As stated earlier, in measuring training results, the benefits and costs of training are crucial. Having accurate and updated information is vital for ROI. Results are used for ROI and payback (amortization). The formula of ROI is:

$$\text{ROI} = \text{Total Training Benefits} / \text{Total Training Costs} \times 100$$

The formula of payback period is;

$$\text{Payback Period} = \text{Total Training Costs} / \text{Monthly Benefits} \text{ (Phillips and Stone, 2000), (Phillips, 2003).}$$

These measures might be regarded as ‘soft measures’. Until recently it was not possible to measure results of ‘self-confidence’ or ‘communication’ increases of an individual post-training. Therefore, establishments accepted that measuring training results did not encompass all factors, especially non-monetary aspects. Establishments, therefore, should regard training as useful and as it helps reaching organizational targets (www.insankaynaklari.com: reaching date: 22.09.2005).

OBJECTIVE OF THE STUDY

The object of this study is to determine the results of training using Sales-Food & Beverage software program. Consequently, payback period of this program was measured. The research was carried out between 19.04.2007 and 07.05.2007 for a 5-star hotel in the city center of Antalya. The hotel has 204 rooms, 420 beds, 1 restaurant (450 pax indoor capacity), one restaurant (150 pax outdoor capacity), one convention center, in addition to all equipment and facilities related to a 5-star hotel. A questionnaire was used for gathering the primary data. The rationale for choosing a 5-star hotel, is that the authors’ consider that 5-star hotels have

greater capacities than other types of hotels in Turkey. They recruit more personnel; and experience suggests that it is easier to collect accurate information from them. Due to Turkey's regulations, 5-star hotels are more likely to give continuous training to their employees.

METHODOLOGY

Questionnaires regarding evaluation of training period were distributed to participants (10 employees) at the first day, last day of training, and 10 days after training (a total of three occasions). Additionally, a second type of questionnaire was given to supervisors (2 managers) of participants 10 days after training; (this questionnaire was distributed only once). Participants who undertook Sales-Food & Beverage software training program were from front office, food & beverage and sales departments of the sampled hotel.

DATA COLLECTION TOOLS

Benefiting from Jack Phillips' ROI model and Kirk Smith's ROI study (Smith, 2004: 9-21), questionnaires were developed and used for collecting data from the sampled hotel. Questionnaires facilitate data collection of demographic aspects of participants and their perceptions of training. By giving participants questionnaires on three occasions (first day, last day of training and 10 days after training) it was possible to see average differences before and after training. The averages are mean arithmetical averages of participants' replies to the questionnaires. In addition to these, the replies also showed reactions of participants to training content, training tools and training methods. Replies of supervisors (2 managers) showed how participants use their new knowledge / skills at work.

DATA ANALYSIS TECHNIQUE

For the numerical data analysis, an Excel program was used to undertake mathematical calculations. Gender, education and departmental distribution frequencies of data were taken. For measuring 'reaction' level, arithmetic averages were taken for instructor, environment, software program, job impact and turnover subjects. In order to measure the learning level, the arithmetic average of learning effectiveness was used. To determine behaviour level, arithmetic averages of new knowledge / skills application to work, time spent at work, importance of

training at work, the percentage of training applied to work and training support tools were taken. Regarding results level, arithmetic averages of productivity increases, effects of training on productivity, performance improvement, needed time for work, improvement rate because of training, adjustment factor for confidence and adjusted percent improvement due to training were taken.

For measuring ROI, arithmetic averages of all replies and 'benefits of training program' were used. After calculating program benefits, training costs were found. In determining training costs, a face to face method was used for each supervisor. After defining training program benefits and costs per participant ROI was measured with the help of three formulas, stated as follows;

ROI= Training Program Benefits Per Participant / Training Cost Per Participant X 100

Payback Period= Total Costs / Monthly Benefits

Monthly Benefits= Training Program Benefits Per Participant X Number of Participants / 12

Whilst participants from the sampled hotel have similar levels of age, education and responsibility, it will be a misleading to think that their knowledge / skills levels will be the same after training. Therefore, measuring the changes after training period is important. Generally, questionnaires used before training show current skill-levels of the participants. This permits a comparison with post-training period, thereby determining accurate current levels of participants.

Application of questionnaires during and after training will show the performance of instructor and participants. To see the durability of new knowledge / skills, application of a subsequent questionnaire will have additional value to establishments (for example some days after training). In this study durability of new knowledge / skills and its applicability were asked ten days after training.

In order to define behavioral changes of participants' and their problem-solving situations, both participants and their supervisors replied to the questionnaires. All questionnaires from participants and supervisors were compared. Data from before and after training period were compared. Statistically significant differences were noted for effectiveness of the training program.

DATA FINDINGS

Demographic aspects of participants can be stated as follows:

- Distribution of participants in terms of gender is equal (50 % female, 50 % male). In addition to this, all participants coming from a sales department consist of females, 40 per cent of participants from food & beverage department and 60 per cent from front office department are male.

Table 3 Comparison of Training Evaluation Averages

Statements	Averages (First Day of Training)	Averages (Last Day of Training)
1) I believe that with the help of Sales-Food & Beverage software program we will give better service to hotel guests in terms of Customer Relations Management.	3.5	3.6
2) Sales-Food & Beverage software program is easy to learn, pratic and functional.	4	3.4
3) I believe that Sales-Food & Beverage software program will decrease guest and personel complaints.	3.9	3.3
4) I believe that Sales-Food & Beverage software program will give support in preparing departmental activity reports.	3.8	4
5) I believe that Sales-Food & Beverage software program will support cooperation of front office, housekeeping, sales and food & beverage departments and creates sinergy.	3.9	3.5
6) I believe that Sales-Food & Beverage software program will suit to our hotel's guest database.	3.6	3.5
7) I believe that Sales-Food & Beverage software program will give solutions especially to big group's sales, accomodation, coordination and audit problems.	3.7	3.9
8) I think Sales-Food & Beverage software program will help to all hotel employees to learn something (learning organization).	4	3.9
General Average	3.8	3.6

- 50 per cent of participants belong to 20-30 age group, 40 per cent 31-40 age group and 10 per cent 41-50 age group. 90 per cent of them belong to 20-40 age group (ie, middle age group).
- 80 per cent of participants have university-level degrees and 30 per cent of them have worked in the same hotel for 2 years, 70 per cent have worked more than 2 years. In Table 3, comparison of training evaluation averages of participants in the first and last days of training are given.

From Table 3 it can be seen that there is a little difference between ‘before’ and ‘after’ training periods (-0.2). High expectancy levels of participants from training and experiences of different course content are possibly two main reasons for this result. In Table 4, averages of last day of training, 10 days after training and general averages of replies were given. This table also shows averages of learning effectiveness. General average difference between last day and 10 days after training period is 1.08. This result shows there is a positive change (increase) in terms of learning effectiveness.

Table 4 Evaluation Averages of Participants Related To Learning Effectiveness

Statements	Averages (Last Day of Training)	Averages (10 Days After Training)
1. I learned new knowledge / skills from this training.	6.1	6.2
2. I have been able to successfully apply the knowledge / skills learned in this training to my job.	6.3	6.3
3. This training helped me to understand all functions in my department.	5.7	6.1
4. This training positively affected my point of view to the job.	6.1	6.2
5. This training created positive influence on my communication with superiors.	5.6	5.6
6. This training created positive influence on my relations with colleagues.	5.9	5.8

7. This training helped me in behaving more positive to other persons.	6.1	5.4
8. At the end of this training my point of view regarding having training was affected positively.	6	5.6
9. With this training I better understand my role and contribution in reaching organizational targets.	6.5	5.9
10. Please indicate your knowledge / skills increase rates when you compare before and after training periods (% 0: means no increase, % 100: means there is a substantial increase).	77	89
General Average	13.13	14.21

‘Reaction level’ is the first level in ROI measures. In this instance, ‘reaction’ refers to satisfaction levels of participants from training organization, training method, instructor, training equipments, job impact and business results. Evaluation of participants regarding ‘reaction’ over 7 Likert Scale is given in Table 5.

Table 5 Reaction (Level 1)

Topics	Averages
Instructor	6.25
Environment	6.45
Software (Sales-Food & Beverage)	6.55
Job Impact	5.25
Business Results	5.1
Return on Investment	4.45
General Average	5.67
Monthly Labor Turnover	13.46 %
*Monthly Absenteism Rate	–

Average of reaction level was high (5.67). Participants have more reaction to software (6.55), environment (6.45) and instructor (6.25) respectively. The topics that have lower reaction are; job impact (5.25), business results (5.1) and return of investment (4.45). This feedback can be useful for sampled hotel's future training activities. For measuring monthly labor turnover (Table 5), the formula can be given as follows (Sabuncuoğlu, 2000);

Monthly Labor Turnover = Number of Employees / Average Number of Employees X 100

According to the data from the sampled hotel, the result can be stated as;

$$\text{Turnover} = \frac{8}{(109 + 104) / 2} \times 100$$
$$= 7.51 \%$$

For measuring monthly absenteeism rate (Table 5) the formula is (Sabuncuoğlu, 2000);

Absenteeism Rate = The Number of Absent Employees / Average Number of Employees

*According to Work Law in Turkey, the employees strictly have to obey rules regarding absenteeism. If they have absenteeism more than 3 days without giving notice to establishment, this situation can be evaluated as a separation decision. Employer can give the decision of omit. Therefore there is no need to use absenteeism formula for Turkey's hotels. (The authors' did not use this formula in the research.)

In order to find 'learning level', the averages of last day of training and 10 days after training were compared over a 7 Likert Scale in Table 6. As shown in Table 6, there is a slight decrease (-0.6) in learning effectiveness, and as a percentage there is (-1) per cent decrease. Two possible reasons for this situation are: participants may forget the new knowledge over time or they may consider that in practice they need more application.

Table 6 Learning Level (Level 2)

Topics	Averages (Last Day of Training)	Averages (10 Days After Training)
Learning Effectiveness	5.9	5.3
Percent Increase	68	67

In Table 7, third level (behaviour) results are shown. In general, behaviour results cover critical importance of training, training support tools, application of knowledge / skills to the job etc. Regarding application of knowledge / skills to the job, participants have an average of 6.6 measured in a 7 Likert Scale (10 days after training). Of critical importance in training for the job and percentage of training actually applied to the job, have averages greater than 70 (over 100 responses). Participants have dissatisfaction from training support tools (19.7 %).

Table 7 Behaviours (Level 3)

Topics	Averages (Last Day of Training)	Averages (10 Days After Training)
Application of knowledge / skills to the job	-	6.6
Percentage of work time requiring knowledge / skills	79	80
Critical importance of training to the job	74	87
Percentage of training actually applied to the job	-	84
Training support tools	-	19.7

Regarding the results level, in Table 8 organizational gain and effect of training to the organization are shown. Participants were requested to score items that will affect their organization in a positive way, both in the short- and long-term.

Table 8 Results (Level 4)

Topics	Averages
Training's estimated impact on improved productivity	6.5
Total improvement percentage in productivity	0.7
Training's contribution to improved performance	0.74
Percentage of work time required knowledge and skills	0.88
*Improvement percentage due to training	45.5
**Adjustment factor for confidence in estimation	65 %
***Adjusted percentage improvement due to training	29.6

*In order to find improvement percentage due to training the formula is;

= **Line 2 X Line 3X Line 4 (in Table 8) X 100**

**This is a constant percentage in all ROI measurements.

***For finding adjusted percentage improvement due to training the formula is:

= **Line 5 X Line 6 (in Table 8)**

As seen in Table 8, training's estimated impact on improved productivity was 6.5 for a 7 Likert Scale. This result can be evaluated as high. Participants believed that training is productive.

For ROI level (Level 5), as stated before, training costs and benefits are needed. In Table 9 costs of training for the sampled hotel is shown.

Table 9 Costs of 5 Days Training

Participants' Time: Monthly Wage	5 Days X10XGross	5000 *YTL
Instructor's Time : Daily Fee	5 Days X	2.144 YTL
Rented Training Equipment / Meals:	5 Days	600 YTL
Administrative Time: Wage	5 Hours X Gross Monthly	100 YTL
Rented Computers for 10 Participants:		2.950 YTL
Evaluation of ROI by 1 Superior: Monthly Wage	15 Hours X Gross	300 YTL
Total:		11.094 YTL
Cost Per Participant		1109 YTL

*YTL: Symbolizes New Turkish Lira. In time related calculations, gross monthly wages of persons were thought in terms of days / hours. For defining training benefits, training benefits per participant must be measured. The formula of training benefits per participant is shown as follows:

Training Benefits Per Participant = Adjusted Percent Improvement due to Training X Average Gross Monthly Wages of Participants for 5 days

Training Benefits Per Participant = 29.6×100 YTL (This figure was taken from the sampled hotel for 5 days)
= 2960 YTL

Cost per participant (See Table 9) = 1109 YTL.

From these findings ROI measurement can be found as follows;

ROI = Training Program Benefits Per Participant / Training Cost Per Participant X 100

ROI = $2960 / 1109 \times 100$

ROI = 266.90 %

This suggests that every 1 YTL invested to Sales-Food & Beverage software training program will have a return of 0.266 YTL in the sampled hotel. This ROI rate can be regarded as low, but this training is related to showing the use of a software (so the result can be evaluated as acceptable). It is possible to see different ROI rates starting from 0 % to 700 %. After ROI measurement, payback period can be evaluated as follows:

Payback Period = Total Costs / Monthly Benefits

Monthly Benefits = Training Benefits Per Participant X Number of Participants / 12

= $2960 \times 10 / 12$

= 2466 YTL.

Payback Period = $11094 / 2466$

= 4.5 months

This figure suggests that this training will have a return of approximately 4.5 months.

In addition to training benefits, in terms of monetary aspects, there will be non-monetary benefits of training. The changes in non-monetary aspects are given in Table 10.

Table 10 Non-Monetary Aspects

Topics	Averages
Increasing of Quality	44.5
Decreasing of Costs	44.5
Decreasing of Production Time	44.5
Increasing of Productivity	44.5
Increasing of Sales	44.5
Decreasing of Risks	43
Increasing of Guest Satisfaction	42
Increasing of Employee Satisfaction	43
General Average	43.8

In terms of non-monetary benefits, the first five topics have the highest averages in Table 10. ROI measurement enables identification of monetary and non-monetary aspects of training.

CONCLUSIONS

For the sample hotels, Sales-Food & Beverage software training program was used in order to increase participants' productivity, time saving, decrease of faults and improve hotel processes. An average of 5.67 for a 7 Likert Scale was shown for 'reaction level', that indicates participants are satisfied with instructor, environment, software program, and business impact.

For 'learning level', participants have an average of 5.9 (last day of training) and 5.3 (10 days after training). Over a longer time, they may have lower averages. In this context effectiveness of software training must be considered; especially over the middle- or longer-term.

During the research period, most of the participants mentioned that training was useful for them in increasing quality of service, auditing and complying to technological standards.

This research can be evaluated as a ground-breaking study with regard to measuring training results. In future, these kind of studies will become more popular and will contribute valuable input to human resource management applications. With the increase in the number of ROI studies it will be easier to persuade management of hotels to give training.

As a limitation of the study, the findings represent only one hotel operating in Antalya city center. Therefore it is not possible to generalize

the findings. No attempt was made by the authors' to generalize the conclusions of the study.

The application in this study can be duplicated during a whole year period and differences in results could be noted for improving training programs.

Due to lack of other ROI studies in the tourism sector of Turkey, it was not possible to compare the results of this study with others.

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SUBMITTED: OCTOBER 2010
REVISION SUBMITTED: JANUARY 2011
ACCEPTED: FEBRYARY 2011
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