

## Performance Measurement in Services: Using Return on Investment to Human Capital

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### Abstract:

*Nowadays, with the availability of various information and communication technologies, it is possible to quickly communicate and exchange information. People can get their latest information in every field wherever they are. However, undoubtedly the greatest impact of the emergence of information and communication technologies has been on business environments. In the present era, called the knowledge revolution, knowledge is more important than the other factors of production, such as land, machinery, etc., and is recognized as the most important factor in production. The main goal of this research is to identify the effect between intellectual capital and the organizational performance of human resources in the organization. It should also be noted that this research has been done in four chapters, in chapter one, research generals, in the second chapter, theoretical foundations and research background, in the third chapter, the methodology of the research, and in the fourth chapter, the analysis of data were presented. In the end, the student has concluded that every element of human history has special values that are the index of that period. It seems that our era is the era of globalization, which is about moving towards the further development of human communication in the global arena. Organizations' investment has a positive impact on*

*the value creation of human resources and intellectual capital of the organization. It was also found that the three indicators of intellectual capital, such as human capital, have a positive and significant effect on the value creation of the organization and the development of internal talents, as well as on the completeness of human capital and the uniqueness of human capital.*

**Key words:** Management, Human Capital, Intellectual Capital, Information Technology

## **INTRODUCTION**

In the early issues of HBR, during the 1920s, ROI was the emerging tool to place a value on the payoff of investments. In recent years, the application of the concept has been expanded to all types of investments including training and education, change initiatives, and technology (1). Subsequently, the use of the term human capital was observed in neoclassical researches in Mincer's research. In an article in the Economics Magazine, in 1958, he examined investment in human capital and personal income distribution, and then Schultz helped develop this issue. However, human capital owes to Barker's (2) efforts. In 1963, he published a book titled Human Capital in the Economic Literature, whose book is the standard reference of many of the research done in this field. It may be more difficult to research, evaluate and control human resources than other sources of the organization, because the rarest and most complex resources in today's knowledge-based economy are the human resources. Most executives focus their strategies on tangible agents of the organization, such as technology and the use of physical and financial resources, given the current features of the global economy and the emergence of such phenomena as globalization and the ever-increasing growth of technology and the use of Modern technologies in offering new and diverse products cannot create competitive advantage for organizations

lonely. Thus, organizations focus on other factors, such as human capital and intellectual capital, to achieve competitive advantage and to grow their survival. The significance of this issue can be seen in the fact that McKennie, in a war book for talents published in 1990, states that top managers are increasingly emphasizing the organization's needs for effective attraction ,creating motivation, development, and preservation of talents. According to the statements made today, human capital is more significant than any other perceptible source for administrations. "Return on investment (ROI) is a ratio that has come into increasing use over recent years. ROI indicates how much economic advantage is derived from a program in relation to its prices Frazis (3)." This ratio, calculated to establish how relevant investments are, "has the esthetic value of being remarkably .synthetic. Both private sector and non-profit firms use it to stimulate co-investments. Foundations, for example, seek to attract more moneys for their activities by demonstrating to their money partners that money is wisely invested".

"In current years, there has been increasing .research interest in ROI use in the public health sector, (4) mainly to .demonstrate the financial value of public health programs in a situation of rationed public spending. In this paper, we explore the benefits and threats of using ROI to defend public health Programs. The issue is salient for the reason that ROI based public decisions will essentially influence the public good and people's well-being and may have an impact on .resource allocation and use. To orient our discussion, we .current two recent examples of ROI use in public health and explore the context within which its use is expanding in public health economic evaluation. We then discuss the benefits and risks of using ROI to defend public health programs. Lastly, we offer .suggestions for using ROI data while acknowledging the full range of effects of curriculums...

Numerous administrations around the world are spending cost saving methods so that they can begin leading ROI evaluation within their present budget while others are using such methods in order to growth the amount of ROI studies they conduct. Overall cost saving oncoming for evaluating programs at the ROI level” presented by Phillips (1) have been established to considerably reduction source requirements while still providing sound, credible data. Although these reasons, establishing an evaluation culture is no easy task. In numerous methods, employing a system-wide ROI effort is similar to employing a large-scale change initiative. The perception of ROI has been used for centuries. The 75<sup>th</sup> anniversary issue of Harvard Business Review (HBR) traced the tools used to measure the results in administrations. ”

A study was conducted by Reed (5) to determine the net impact of Job Training Partnership Act (JTPA) training. (A measure of net impact expresses only those gains due to training and not those due to other reasons.) Job service applicants were chosen as a comparison group whose recent labor market experiences would parallel those of JTPA participants. All results were positive. For men who participated in JTPA in 1983-84, the estimated effect of training was an additional \$1,400 earned during 1985. It appeared likely that the benefit persisted in 1986. For white women, the estimated effect of training was an additional \$1,000 earned in 1985. A separate estimate of the impact on earnings was made for recipients of Aid to Families with Dependent Children (AFDC). For them, the effect was an additional \$1,200 in 1985 earnings. Because their initial earnings were so low, this amounted to approximately 100 per cent of the 1979 income. The reduction in AFDC grant amounts attributable to training was another measure of impact used. Twelve months after enrollment, AFDC recipients who participated in training were 86 per cent more likely not to be receiving assistance than were their counterparts who did not

participate. Acevedo (6) concluded from their study that wisely allocating financial resources is essential to the success of every health care organization. Therefore, health care managers must be able to determine if dedicating the necessary funds for employee training results in an adequate return on investment.

This case study examines how training programs can be evaluated in terms of business results and describes one method, simple regression analysis that health care administrators might use, to help decide if the preparation was financially advantageous to the organization. Philips (1) describe the ROI methodology, a dimension process that was established almost 30 years ago and refined over the years to the point that it is now becoming a staple for many HR functions. Throughout difficult times in the economy, not anything is more significant to top executives than significant the true value of a specific project or programed. "Show me the money" has come to be a battle cry for many executives demanding that any new HR development or program d shows its value even before it is implemented and, certainly, the impact and return on investment (ROI) after it has been implemented. All over the place the "world, HR executive's .are looking .at the ROI procedure as a way to show .credible values, including financial ROI. This article describes why and how ROI is used to show the contribution of HR programs and increase them additional so that they can add more value, build support for HR, improve commitments, and concretize significant business associations. This way can be used to show the value of major programs and assignments and establish HR as a business partner. With the ROI procedure, the HR staff and the .client would know the particular involvement of an HR programed."

## **STATEMENT OF THE PROBLEM**

Investment in management training and improvement by food and agroindustry firms epitomizes both a significant tool of approach to build competitive benefit and an important commitment of economic resources. As such, there is improved interest in evaluating the influence and efficiency of such management increase investments. However, few managerial training programs measure training effectiveness at the business impact level. The few companies that do evaluate preparation at this level use subjective data in the measurement determination (7). Due to the increasing pressure on training costs and demands for training efficiency in food and agroindustry firms, a way for assessing the financial impact of training is needed. The current trend is to evaluate curriculums using all levels of Kirkpatrick's 1959 framework. The enormous investments in preparation budgets and the need to show the value of the programs are the key drivers for improved interest in evaluating return on training investment.

This assessment can be obtained through the financial analysis of return on investment, ROI. An important problem is that return on investment from training programs is typically unknown. More specifically, the results of training and development programs are not evaluated in terms of their effect on business results. The impact of training and development on organizational profitability is difficult to evaluate and often not attempted. The benefits of programs are often subjective and difficult to quantify in monetary terms. Benefits also accrue over time and the optimal point of time to evaluate is ambiguous. Because of the lack of evaluation, the effort put into developing human capital is often seen as an expense and not an investment (8).

There is a unique challenge in volunteer leadership today; associations have difficulty recruiting and retaining volunteer leaders, yet most associations cannot survive without

them (Nelson, 2009). Authors (9) capture the need for associations and volunteer leaders to remain relevant in today's environment. "Nowadays association is in a race for importance. The track is fast and associations are at a risk of falling seriously behindhand. Worse yet, some are possible to drop out of contention altogether. So what is an association professional or volunteer leader to do? Soldier on, hoping things will get better? Or challenge the status quo, hopeful to keep one's job (if on staff) and one's reputation and position within the association (10). In 2008, ASAE conducted a study that looked at why association members volunteer their time (11)." In that study they discovered the dichotomy of why people begin volunteering and why they stay: People may be drawn to a cause, a need, or an opportunity to make a difference on an issue that matters to them, but the perceived benefits of their volunteer experience might come from another source entirely: the opportunity to learn something new, strengthen skills, build a social network, receive training, or enjoy status & public recognition. It takes organizational resources to understand what benefits volunteers expect to receive and to ensure that they get them. In addition, that means that successful volunteers are created not only by their own initiative but also by the organizations that help them reap the benefits of volunteering. The Journal of Philanthropy states that utilizing volunteers to manage other volunteers creates a strong return on investment (ROI) for both individuals and organizations (11). There is a gap in the research on the specific career benefits of volunteer leadership; developing a comprehensive list of benefits and a compelling return on investment for volunteer leaders may help associations recruit and retain volunteer leaders, and may help individuals discover new ways to leverage career development opportunities that can increase their level of career advancement, and ultimately improve the capacity for directing and managing their own career path (12). More information and clarity is needed about the specific career

benefits and return on investment of volunteer leadership. Today, the role and importance of human resources in the process of production and delivery of services in human societies is recognized as the most important factor. In the present day, everybody knows the importance of human resources in organizations and firms, industry, economy, and services. The evolution that has emerged over the past two decades in terms of concepts and debates in this area has led the traditional and prevailing conception of human resources' responsibilities, that is, the implementation of administrative work to new concepts such as: strategic partnership, balanced assessment, roles and new competencies of human resources, the management of change, the management of culture, the creation of intangible assets and values, talent management, value-creating human Capital and similar concepts(13).

These companies, not because of physical assets, have created value and market because of their intangible assets. Today's executives experience courses in which the real capital is human capital. In other words, the leading organizations are alive in the field of their competition and their challenges only with the help of intelligent and knowledgeable people who can surpass other organizations. Value-based and knowledgeable human resources are the most important source of competitive advantage for organizations and a major factor in knowledge-based economics. Today, relying on qualitative and knowledge-based human capital, many powerful international companies and brands have created legendary wealth and value. Human capital in today's competitive world is the most important and most valuable capital of countries. Hence, the identification, absorption, use, development, growth and replacement of this capital in this space are the most important decision and expertise of policy makers. Differences in existing resources, advantages, markets, cultures and values of countries make it difficult to compete in this space and design a proper management pattern (14).



Despite the recognition of the extraordinary importance of human capital in the value creation of knowledge-based organizations and the perceived necessity of investing in human resources and justifying its long-term and guaranteed profitability for the organization, human resource specialists have not already represented a specific guidelines on how to invest in human resources for The conversion of these resources into the main value capital and the way of creating value by the organization's human capital. This research seeks to determine whether the organization's investment methods affect the value creation of human resources, with an emphasis on human capital in the education organization of Sari.

## **METHODOLOGY**

The goal of the present study is an applied research, since the purpose of the applied research development is to apply knowledge in a particular context, this applied research is directed toward the scientific use of knowledge. The research method of the present research is correlation study. Also, this research is a descriptive study in terms of research data collection methodology (research design), which describes the characteristics of the sample and then generalizes these features to the statistical population. Descriptive studies are divided into several categories, which this research is a survey of its kind (20). A survey study describes, predicts and analyzes the relationship between variables. And according to the time of data collection, it is a type of cross-sectional research. In this research, a questionnaire was used. In fact, this research seeks to collect information to describe the existing conditions and test the hypothesis to answer research questions. The statistical population of this research includes all the people who are interested in studying a particular subject on them. Therefore, all staff of education organization of Sari, which was .5739 people in 2017 participated in this research. The sample

is randomly selected and each person in the community has the same chance to be selected. The sampling method was simple random sampling. A good sample is the one that is, firstly, economical and, secondly, represents the entire population. According to the Krejcie and Morgan table, 357 people will be eligible for 5739 people. So the sample volume is 357 people. For data analysis, software was used which analyze data in two sections of descriptive statistics and inferential statistics. Descriptive statistics section includes frequency, mean, standard deviation and statistical tables and charts. In the inferential statistics, the standardization tests and Pearson and Spearman correlation coefficients were used.

## **FINDINGS**

The number of 225 employees equal to 63.2% of the total number of respondents were male with the highest frequency. Also, 132 people equal to 36.8% of respondents were female and have the lowest frequency. 157 respondents equal to 44% of respondents have had bachelor's degrees and have the highest frequency. While 16 respondents equal to 4.3% of the respondents have had PhD degrees. 110 respondents of the survey equal to 30.8% were staff with ages between forty and one to fifty years old and having the highest frequency. While the lowest frequency was 61 which is 17.1% of the respondents with 51 years and older. 122 respondents accounted for 34.2% of the total in this survey were staff whose job experience ranged between eleven and fifteen years and have had the highest frequency. While 42 respondents whom were 12% of the total had a job experience of 21 years or more.

## **REVIEWING RESEARCH HYPOTHESES**

The main hypothesis: The intellectual capital has an impact on the organizational performance of human resources in the organization.

**Table 2-The results of regression analysis of factors affecting human resource performance**

Row	Variables' name	B	SEB	Beta	t	P
1	constant	1/273	0/143		8/910	0/000
2	X1=intellectual capital	0/540	0/043	0/631	12/425	0/000
<b>P&lt;0/000</b>	<b>F =154/386</b>	<b>A.R=0/397</b>	<b>2R=0/4</b>	<b>R=0/632</b>		

Considering the significance of the F (154.38) test amount at an error level less than 0.01, it can be concluded that the regression model of the research of the combined independent variable (intellectual capital) and the dependent variable (human resource organizational performance) is a good model and the independent variable is capable of explaining the changes in the level of organizational performance. Based on the results of this regression analysis, the effect of variable (intellectual capital) on organizational performance of human resources is significant. The variables of intellectual capital (with a coefficient of 0.63) have been affected by the coefficients of standardized and significant regression on the dependent variable of the organizational performance of human resources. Therefore, the preliminary result that can be presented in this section is that the variable of intellectual capital is a variable affecting the level of organizational performance of human resources in this research. Therefore, the null hypothesis of the research is rejected and the hypothesis of the research is confirmed.

**The first sub-hypothesis:** Intellectual capital in human capital dimension affects the organizational performance of human resources in an organization.

**Table 3- Results of Regression Analysis of factors affecting human resource performance**

Row	Variables' name	B	SEB	Beta	t	P
1	constant	1/273	0/143		8/910	0/000
2	XI=intellectual capital	0/540	0/043	0/632	12/425	0/000
<b>P&lt;0/000 F =154/386</b>		<b>A.R=0/397</b>		<b>2R=0/4 R=0/632</b>		

Considering the significance of the F (183.203) test amount at an error level less than 0.01, it can be concluded that the regression model of the research of the combined independent variable (intellectual capital) and the dependent variable (human resource organizational performance) is a good model and the independent variable is capable of explaining the changes in the level of organizational performance. Based on the results of this regression analysis, the impact of variable (human capital) on the organizational performance of human resources is significant. The variable of human capital (with a coefficient of 0.66) has owned the standardized and significant regression coefficients on the dependent variable of the organizational performance of human resources. Therefore, the preliminary result that can be presented in this section is that the human capital variable is a variable affecting the level of organizational performance of human resources in this research. Therefore, the null hypothesis of the research is rejected and the hypothesis of the research is confirmed.

**The second sub hypothesis:** Intellectual capital in structural capital affects the organizational performance of human resources in an organization.

**Table 4: Results of regression analysis of factors affecting human resource performance**

Row	Variables' name	B	SEB	Beta	t	P
1	constant	2/130	0/144		14/748	0/000
2	XI=intellectual capital	0/270	0/043	0/384	6/338	0/000
<b>P&lt;0/000 F=40/173</b>		<b>A.R=0/144</b>		<b>R2=0.148</b>		<b>R=0/384</b>

Considering the significance of the F (40.173) test amount at an error level less than 0.01, it can be concluded that the regression model of the research of the combined independent variable (intellectual capital) and the dependent variable (human resource organizational performance) is a good model and the independent variable is capable of explaining the changes in the level of organizational performance. Based on the results of this regression analysis, the effect of variable (structural capital) on organizational performance of human resources is significant. Structural capital variables (with a coefficient of 0.38) have been affected by the standardized and significant regression coefficients on the dependent variable of organizational human resources performance. Therefore, the preliminary result that can be presented in this section is that the variable of structural capital is a variable affecting the level of organizational performance of human resources in this research. Therefore, the null hypothesis of the research is rejected and the hypothesis of the research is confirmed.

**The third sub hypothesis:** Intellectual capital in relation to capital affects the organizational performance of human resources in an organization.

**Table 5: The results of regression analysis of factors affecting human resource performance**

Row	Variables' name	B	SEB	Beta	T	P
1	constant	2/147	0/140		15/37	0/000
2	X1=intellectual capital	0/278	0/045	0/389	6/436	0/000
<b>P&lt;0/000</b>	<b>F=41/418</b>	<b>A.R=0/148</b>	<b>R2=0/151</b>		<b>R=0/389</b>	

Considering the significance of the F (41.418) test amount at an error level less than 0.01, it can be concluded that the regression model of the research of the combined independent variable (intellectual capital) and the dependent variable (human resource organizational performance) is a good model

and the independent variable is capable of explaining the changes in the level of organizational performance. Based on the results of this regression analysis, the effect of variable (structural capital) on organizational performance of human resources is significant. Structural capital variables (with a coefficient of 0.38) have been affected by the standardized and significant regression coefficients on the dependent variable of organizational human resources performance. Therefore, the preliminary result that can be presented in this section is that the variable of relational capital is a variable affecting the level of organizational performance of human resources in this research. Therefore, the null hypothesis of the research is rejected and the hypothesis of the research is confirmed.

## **DISCUSSION**

**The main hypothesis:** Intellectual capital has an impact on the organizational performance of human resources in the organization. Considering the significance of the F (154.38) test at an error level of less than 0.01, it can be concluded that the regression model of the research of the combined independent variable (intellectual capital) and the dependent variable (human resource organizational performance) is a good model and the independent variable is capable of explaining the changes in the level of organizational performance. Based on the results of this regression analysis, the effect of variable (intellectual capital) on organizational performance of human resources is significant. Intellectual capital variables (with a coefficient of 0.63) have the effect coefficient of the standardized and significant regression on the dependent variable of organizational human resources performance. Therefore, the preliminary result that can be presented in this section is that the variable of intellectual capital is a variable affecting the level of organizational performance of human resources in this

research. Therefore, the null hypothesis of the research is rejected and the hypothesis of the research is confirmed.

**The first sub-hypothesis:** Intellectual capital in human capital dimension affects organizational performance of human resources in an organization. Considering the significance of F (183.203) at the error level less than 0.01, it can be concluded that the combined regression model of the independent variable (intellectual capital) and the dependent variable (human resource organizational performance) is a good model and the independent variable is able to modify the degree of organizational performance of human resources. Based on the results of this regression analysis, the effect of variable (intellectual capital) on organizational performance of human resources is significant. Intellectual capital variables (with a coefficient of 0.66) has the effect coefficient of the standardized and significant regression on the dependent variable of organizational human resources performance. Therefore, the preliminary result that can be presented in this section is that the variable of intellectual capital is a variable affecting the level of organizational performance of human resources in this research. Therefore, the null hypothesis of the research is rejected and the hypothesis of the research is confirmed.

**The second sub-hypothesis:** Intellectual capital in human capital dimension affects organizational performance of human resources in an organization. Considering the significance of F (40.173) at the error level less than 0.01, it can be concluded that the combined regression model of the independent variable (structural capital) and the dependent variable (human resource organizational performance) is a good model and the independent variable is able to modify the rate of organizational performance of human resources. Based on the results of this regression analysis, the effect of variable (structural capital) on organizational performance of human

resources is significant. Intellectual capital variables (with a coefficient of 0.38) has the effect coefficient of the standardized and significant regression on the dependent variable of organizational human resources performance. Therefore, the preliminary result that can be presented in this section is that the variable of intellectual capital is a variable affecting the level of organizational performance of human resources in this research. Therefore, the null hypothesis of the research is rejected and the hypothesis of the research is confirmed.

**The third sub-hypothesis:** Intellectual capital in human capital dimension affects organizational performance of human resources in an organization. Considering the significance of F (41.418) at the error level less than 0.01, it can be concluded that the combined regression model of the independent variable (relational capital) and the dependent variable (human resource organizational performance) is a good model and the independent variable is able to modify the rate of organizational performance of human resources. Based on the results of this regression analysis, the effect of variable (relational capital) on organizational performance of human resources is significant. Intellectual capital variables (with a coefficient of 0.38) has the effect coefficient of the standardized and significant regression on the dependent variable of organizational human resources performance. Therefore, the preliminary result that can be presented in this section is that the variable of relational capital is a variable affecting the level of organizational performance of human resources in this research. Therefore, the null hypothesis of the research is rejected and the hypothesis of the research is confirmed. The findings of this study on "The effect of intellectual capital and intellectual capital on the organizational performance of human resources and return on investment " are almost identical with the studies of Dehghan et al (15), Riahi (16).



## CONCLUSION

The most significant single determining factor of the amount invested in human capital may well be its effectiveness or rate of return, but the effect on earnings of a change in the rate of return has been difficult to differentiate empirically from a change in the amount invested. For since investment in human capital usually extends over a long and variable period, the amount invested cannot be determined from a known "investment period." Moreover, the discussion of on-the Job training clearly indicated that the amount invested is often merged with gross earnings into a single net earnings concept (which is gross earnings minus the cost of or plus the return on investment) (17).” Every element of human history has special values that are the index of that period. It seems the feature of our age is globalization that seeks to move towards the further development of human communication in the global arena. In such a field, according to many experts, having powerful, creative and value-creating human resources is the main aid of the managers in competition, the future will go to the one that will be able to create such capacities in human resources.

The results of this research show that the investment of organizations has a positive impact on the value creation of human resources and intellectual capital of the organization. It was also found that the three indicators of intellectual capital, including human resources has a positive and significant effect on the value creation of the organization and the development of internal talents as well as the completeness and uniqueness of the human capital(18). Considering the theoretical foundations and research results of today, human resources are the most important factor of production and the most important capital of each organization and the main source of competitive advantage and creating the basic capabilities of “each organization, one of the most important organizational planning is the human resources planning. An important factor

for the .existence of human resources planning is the planning to meet the needs of skill, educational and, finally, human resource development. The most effective way to achieve .competitive advantage in the current situation is making more efficient” employees of the organizations through their improvement and what is important in the development of human resources is that improvement of human resources is not achieved only by technical and specialized training, but staff development should be urged in different ways, and this important component will be possible with the implementation of strategic management in the domain of human resources management(19). Management can be effective in improving performance by implementing the necessary plans and creating appropriate incentives for employees through awarding bonuses, delegating authority, creating a friendly and cozy atmosphere and relationships based on cooperation between employees and him/herself. All of these will encourage the staff to do their tasks surely and with more self-confident and change to useful, efficient and value crating staff. According to the results of the research, the investment in human resources have a positive impact on the value creation of the organization; strategic decision making policies improvement must be considered in investing properly in human resources. Many companies have a retrospective approach to budgeting in the field of human resources.

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