

# “IMPLEMENTATION OF AN ENTERPRISE RESOURCE PLANNING (ERP) AND ITS EFFECT ON THE MANAGEMENT ACCOUNTING SYSTEM”

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**Abstract:** In the previous period, organizations from very different sectors have successfully adopted ERP systems. In this study, we will research the impact of ERP in the accounting industry regarding the case study from company in Bosnia and Herzegovina. By many theorists, accounting is usually described as the process of collecting, analyzing, and presenting financial data required for taking appropriate management decisions. Studies have explored the effects of IT in the business and accounting, but they didn't cover complex technologies such as ERP. Utilizing ERP in accounting allows spending more time on analyzing the data instead of collecting it. This is possible because all information is stored in one place (database) which is easily accessed by everyone allowed to use it. With the successful implementation of ERP in company, accountants have more time to spend for analyzing and reporting, enhancing their roles, and shortening common tasks and activities. The aim of this paper is to explore the significance of ERP systems in management accounting. This research will try to understand what is the role of modern accountants. Enterprise resource planning software has shaped activities and processes in the accounting sector.

**Keywords:** accounting software, ERP, Enterprise resource planning, modern accountants.

**JEL Classification:** M41, L86.

## **Introduction**

In this paper, we will analyze recent sensational changes that have reshaped accounting practice and research. In particular, the advanced upheaval, has changed the very way of work for accountants and constrained analysts and specialists alike to battle with a large group of new threats and opportunities confronting.

Accounting specialists specifically should manage a wide cluster data handling and choice making issues that did not exist before two decades. Thus, we are meant to research how accounting is moved to another level of value and importance by joining the effect of information technologies on human mentality and performance.

In this work, we will look at the part of certain elements that impact the accounting, in light of innovation. We will likewise concentrate on the collaboration impact between a possibility variable and the data framework.

In today's time of computerized innovation, each business is going digital. From exceptionally old organizations to incipient developing organizations, this change is universal and exponentially expanding, with incredible number of rate of new businesses now picking an advanced stage on which to acquaint themselves with purchasers. We will focus our area of research mainly on the accounting sector, and

we will try to give the answer on the question what is the role of modern accountant.

Opposing achievement and disappointment results consolidated with the way that there is no accord on the effect of ERP implementation identified with business is the motivation behind why scientists, specialists and researchers are progressively inspired by breaking down components which decide ERP achievement and ERP client fulfillment. The utilization of big enterprise resource planning (ERP) innovation has encouraged us to analyze this vision.

### **Literature review**

The presentation of ERP innovation has in a general sense changed the accounting practices either at the budgetary reporting and administration bookkeeping level or at the reviewing strategies and assessment level (Scapens and Jazaeyri, 2003). As per Malinić and Todorović (2012) the genuine center and desire of ERP is coordination of the considerable number of offices and elements of big business into one data framework, which can address specific issues of different clients.

As contended in Grabski et al. (2007), ERP frameworks are not the same as customary frameworks in scale, unpredictability, authoritative effect, cost and resulting business sway. The ascent and fall of the e-transformation has been breathtaking; be that as it may, the guaranteed connection will continue to go on (Desmukh, 2006).

Peccarelli (2004) sees the achievement of accountants in light of how they utilize their time, how quick and simple they get to information from various sources, and how well they comprehend coordinated frameworks and virtual office capacities using the web.

While, IT specialists and ERP specialists can be considered as interpersonal channels to give illumination and extra data on the ERP framework and along these lines encourage the presentation of new accounting work (Daoud and Triki, 2013).

Pierce and O'Dea (2003) have analyzed managers' sentiment concerning the future part of management accounting and found that the real components include: association, physical area, collaboration and comprehension of the business. Pierce and O'Dea (2003) propose that future management accountants need information of accounting and back as well as learning of the organization's business, particularly comprehension of production and sales exercises.

Organizations which have better AIS, have upper hand. Additionally, organizations need to enhance their frameworks with a specific end goal to coordinate their data requirements for better basic leadership (Ballada and Ballada, 2012).

Cutting edge period of organized registering is described, in programming sense, by the control of customer server design. Key programming components of this configuration are system programming and administration database framework. By their specialized attributes and exhibitions, they give, as administration suppliers, for the clients (customers) to get to and utilize the information and data from databases in system environment. On the bases of customer engineering, business data or coordinated data framework (ERP) was created (Malinić and Todorović, 2012).

Despite the fact that ERP frameworks are outlined by non-accountant specialists, they prompt bookkeeping forms (Chapman, 2005). Since modules of accounting are the heart of ERP framework which include: ledger, receivable records, payable records, settled resources, transferable and non-transferable resources, administration of money, cost control and planning.

For organizations, we ought to concentrate on reinforcing its cost idea to workers, fortify the nature of development representatives, and continually upgrade their education specialists to ERP as the center, the foundation of interior control instruments and venture advancement to adjust to persistently enhance the inner administration of undertakings Level (Zheng, 2014).

Along these lines, to put it plainly, straightforward terms, Cloud Computing can be characterized as an answer for use outer IT assets (servers, stockpiling media, applications and administrations), by means of Internet. Distributed computing is just the guarantee of a simple open innovation. On the off chance that the guarantee will inevitably transform into something certain yet stays to be seen (Mihai, 2015).

### **Data**

The goal of this study is to recognize, assess and examine the effect of ERP on the management accounting framework and management accountants. A research gap appears to exist concerning how management accounting is bolstered by various information systems. Along these lines, it is the purpose for this research undertaking to build up a comprehension of the relationship between management accounting and ERP.

In this research, data is obtained from online surveys, which were distributed to the participants of the research. Sample, and participants in this survey, are employees of accounting agency in Bosnia and Herzegovina, which have successfully adopted ERP system in their work.

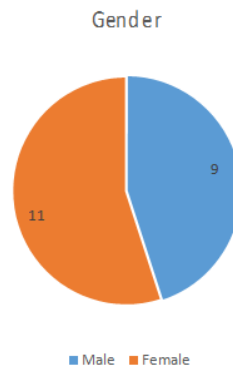
The sample is relatively small with the number of participants being equal to 20. Because of this reason we have used Nonparametric tests to analyze the data. The term nonparametric is not intended to infer that such models totally miss parameters yet that the number and nature of the parameters are adaptable and not settled in advance.

In the table 1. We have analyzed descriptive statistics of the data obtained. Variables for this analyze were age, gender and education level of respondents. We can see that N is 20, what is the number of respondents included in this research.

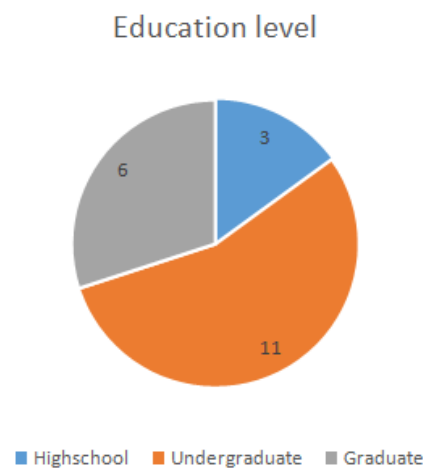
Those three variables help us shape the image of the accountants employed in one company. In the next section of this paper, we will show graphically results of the obtained data.

**Table 1.** Descriptive Statistics

		Statistic	Std. Error	
ERP_1_age	Mean	3.50	1.045	
	95% Confidence Interval for Mean			
	Lower Bound	1.31		
	Upper Bound	5.69		
	5% Trimmed Mean	2.56		
	Median	2.00		
	Variance	21.842		
	Std. Deviation	4.674		
	Range	22		
	Interquartile Range	1		
	Skewness Kurtosis Mean			
	95% Confidence Interval for Lower Bound	4.219	.512	
	Upper Bound	18.370	.992	
ERP_2_gender	5% Trimmed Mean	1.55	.114	
	Median	1.31		
	Variance	1.79		
	Std. Deviation	1.56		
	Range	2.00		
	Interquartile Range	.261		
	Skewness Kurtosis Mean	.510		
	95% Confidence Interval for Lower Bound	1		
	Upper Bound	1		
	5% Trimmed Mean	-2.18		
	Median	-2.183	.512	
	ERP_3_education	Variance	2.15	.992
		Std. Deviation		.150
Range		1.84		
Interquartile Range		2.46		
Skewness		2.17		
Kurtosis		2.00		
		.450		
		.671		
		2		
		1		
		-1.177	.512	
		-5.48	.992	

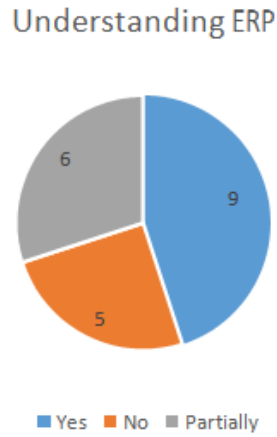
**Figure 1:** Gender of employees

From this figure, we can see that relation between male and female in the company is almost equally distributed, where number of female employees is bigger for one employee. This is interesting case, when there is a bigger number of women than men in one company.

**Figure 2:** Education level

In figure 2. We can analyze education level of employees. With only 3 employees who have finished high school, we can say that education level of employees in this company is relatively big, considering that 11 employees have finished their undergraduate level of faculty, and that six of them have graduated.

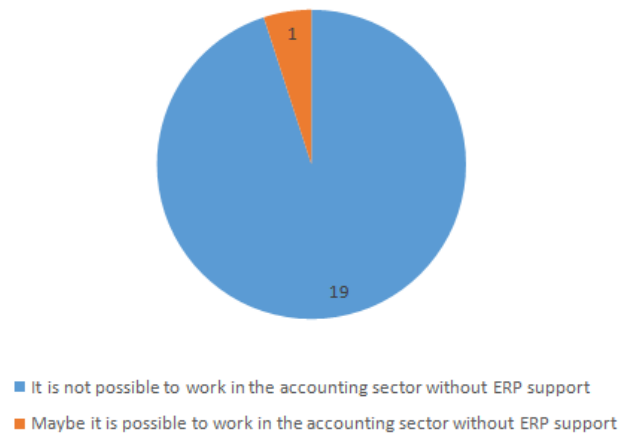
**Figure 3:** Understanding ERP



In the figure number three we have analyzed understanding of the broader term of ERP. We can see from the figure 3, that less than half of employees are aware of term ERP. Nine employees answered that they understand ERP, five of them don't understand ERP concept, and six of them answered that they understand partially. We can comment that maybe they have heard of that term but are not sure what does it represent truly, or so what does it contains from the operational side of it.

**Figure 4:** Work in the accounting sector without ERP support

Work in the accounting sector without ERP support



In this question, respondents were asked if they are able to work in the accounting company, without ERP support. It is reasonable that 19 of them have answered that they are not able to work in the accounting sector without proper IT software. In our case, it is ERP software. From the figure 4, we can see that only one employee think that it is possible to properly do the job without ERP support. We can comment, that it is reasonable that not all employees in the company are accountants, and that this answer can come from the non-accountant.

H1. IT doesn't shape the role of modern accountants

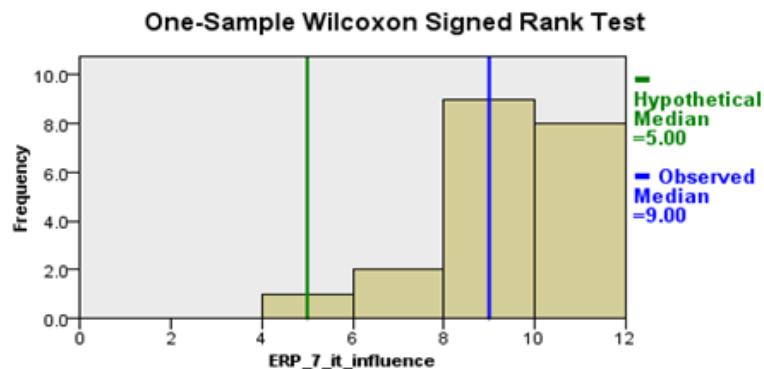
**Table 2:** Information technology influence

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The median of ERP_7_it_influence equals 5.00.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

We have analyzed our hypothesis in statistical software IBM SPSS, and following data has been obtained. With the significance level of 0.000 which is less than 0.05 our hypothesis is rejected what means that IT strongly influence and shape the role of modern accountant. In the table 3. we can see that observed median is 9.00 what is bigger than the hypothetical median 5.00.

**Table 3:** One-Sample Wilcoxon Signed Rank Test



<b>Total N</b>	20
<b>Test Statistic</b>	190.000
<b>Standard Error</b>	24.536
<b>Standardized Test Statistic</b>	3.872
<b>Asymptotic Sig. (2-sided test)</b>	.000

H2. Accountants are not fully aware what ERP concept represents

**Table 4:** Understanding of ERP concept

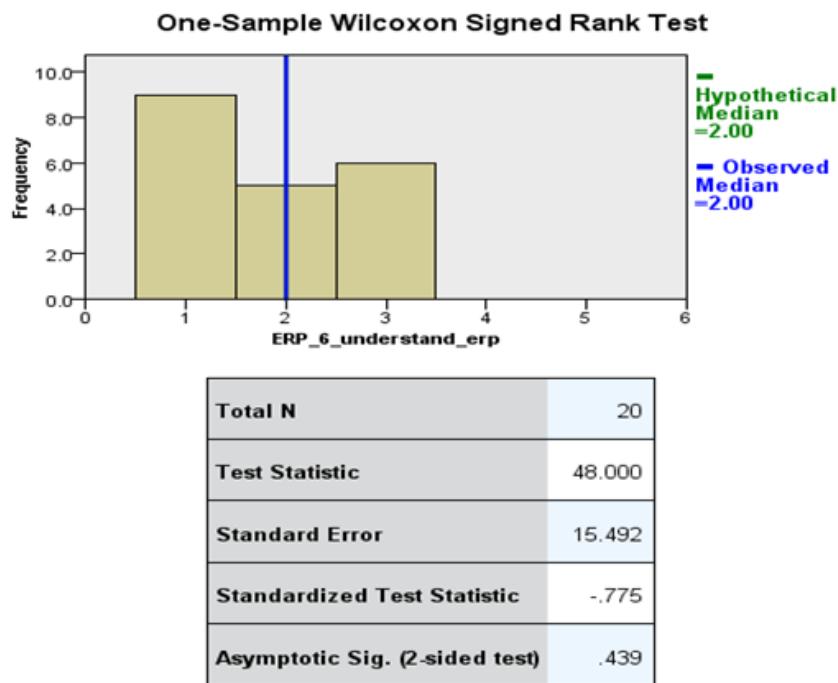
**Hypothesis Test Summary**

	Null Hypothesis	Test	Sig.	Decision
1	The median of ERP_6_understand_erp equals 2.00.	One-Sample Wilcoxon Signed Rank Test	.439	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

In the table 4 we have analyzed understanding of ERP concept. This means that employees are fully aware and have understanding what actually ERP bring to them. With the result of 0.439 which is bigger than 0.05 we accept H0. In table five we see that observed median is equal with the hypothtetical.

**Table 5:** One-Sample Wilcoxon Signed Rank Test



H3. There is relation between extent that organization's information system have impact on reporting, and whether IT influence employees' work



**Table 6:** Correlations

		ERP_13_extent information	ERP_7_it_influe nce
Spearman's rho	Correlation Coefficient	1.000	.604**
	ERP_13_extent_information		
	Sig. (2-tailed)	.	.005
	N	20	20
	Correlation Coefficient	.604**	1.000
	ERP_7_it_influence		
	Sig. (2-tailed)	.005	.
	N	20	20

In this table we have analyzed correlation between extent that organization's information system have impact on reporting, and whether IT influence one's work. With the significance level of 0.005 our hypothesis is accepted. Correlation Coefficient is 0.604. This is highly positive correlation.

H4. There is a relation between department of studying concerning employees and their opinion on actual changes in the accounting processes brought in via ERP systems

**Table 7:** Correlations

		ERP_15_taxatio n	ERP_4_departm ent
Spearman's rho	Correlation Coefficient	1.000	-.592**
	ERP_15_taxation		
	Sig. (2-tailed)	.	.008
	N	20	19
	Correlation Coefficient	-.592**	1.000
	ERP_4_department		
	Sig. (2-tailed)	.008	.
	N	19	19

\*\* . Correlation is significant at the 0.01 level (2-tailed).

In the table 7. we have analyzed correlation between department of studying concerning employees and their opinion on actual changes in the accounting processes brought in via ERP systems. With the significance level of 0.008 which is less than 0.05 our hypothesis is accepted. Correlation coefficient is -0.592, with the negative sign, what means that this is a negative correlation.

H5. Accountants agree that organization's information system has impact on Operational planning, Reporting and Flexibility and efficiency.

**Table 8:** Kruskal-Wallis Test

**Hypothesis Test Summary**

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of ERP_13_extent_information_Samples planning is the same across categories of ERP_1_age.	Independent-Samples Kruskal-Wallis Test	.511	Retain the null hypothesis.
2	The distribution of ERP_13_extent_information_Samples reporting is the same across categories of ERP_1_age.	Independent-Samples Kruskal-Wallis Test	.464	Retain the null hypothesis.
3	The distribution of ERP_13_extent_information_Samples flexandeff is the same across categories of ERP_1_age.	Independent-Samples Kruskal-Wallis Test	.202	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05

In the table 8. we have analyzed whether accountants agree based on their ages if organization's information system has impact on Operational planning, Reporting and Flexibility and efficiency. With the significance level of 0.511; 0.464 and 0.202 all respectively bigger than 0.05 we accept the null hypothesis in all three cases which concern planning, reporting and flexibility and efficiency.

**CONCLUSION**

A research gap appears to exist concerning how management accounting is bolstered by various information systems. Along these lines, it is the purpose for this research undertaking to build up a comprehension of the relationship between management accounting and ERP.

The fact is that technology is a key driver of progress, and more particularly, it highlights the developing significance of the web, knowledge management and the computerization of financial information taking care of.

Information technology progressions have incredibly helped the accounting frameworks of business units. Because of today's modernized accounting data frameworks, business framework seems to move forward. Numerous exchange procedures were streamlined consequently making productive operations. The reasonableness of information innovation for business units makes new way for these elements to enhance their business.

In the years to come, business sector union will be an absolute necessity, to make strong arrangements that would draw in consideration and would assemble trust of the business sector in this better approach for overseeing organizations.

ERP systems likewise have the capacity to help in the present management accounting processes. This conclusion strengthens the case that having an ERP system is still superior to having no ERP system.

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