

# THE ROLE OF ENTERPRISE RESOURCE PLANNING (ERP) SYSTEM IN ADVANCING THE COUNTRY OF JORDAN TOWARDS INTERNATIONAL STANDARD ACCOUNTING PRACTICES AND ACCOUNTING MECHANISMS

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## Abstract

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The paper seeks to counter several functionalities of the Enterprise Resource Planning system as brought up in the title. Essentially, the system's role will be viewed in the perspective of regenerating better accounting practices in an advanced business setting and considering the size of the enterprise. However, a satisfying part of the paper attempts to bring out a clear depiction of the Enterprise Resource Planning paradigm/system as the main tool to take any credit made in the business accounts mechanics and base criteria. Subsequently, through this paper, all the roles of the tool at hand in enhancing accounting practices will substantially be played up. This research uses Jordan as the suitable setting for the realization of ERP's comprehensive capabilities. An empirical research on Jordanian mining industry is used for sampling results as well as a theoretical critical review on the organisations adoption of the ERP system on their accounting systems (Naash & Khamis, 2009). Similarly, the Jordanian banks are briefly highlighted on a theoretical mode in phase of testing the both the alternative and null hypothesis. The empirical study is analyzed using a custom bucketing methodology on measuring the trends in the open-ended questions and attributed to efficiency. The latter are the variables tested on the open-ended questions. On the other hand, the closed questions are subjected to the analysis of variance (ANOVA) where the variances between the "yes" and "no" responses is checked. The two analytical approaches of the questionnaires yields are interrelated because of the homogeneity of the question types. Objectively, the null hypotheses  $H_0$  is tested by implying on the risk factors and challenges facing the system implementation in the organization; it is from the corresponding findings where the research infer its recommendations. The alternative hypotheses  $H_1$  implicates on the massive encroachments of ERP on the Jordanian Accounting sector. The proposition is thusly tested by the overall results from bucketing and ANOVA of Jordanian Bromine and Arab Potash companies conducted surveys. The research methodology quantitatively utilized Jordanian Bromine Company and Arab Potash Company companies to test whether the was any role played by Enterprise resource planning, commonly abbreviated as (ERP), system in advancing the country of Jordan towards universal standard accounting practices and accounting mechanisms. Notably, the data as per two studies relied on for feedback on the implementation and application of the ERP paradigm/system on the structure of the Jordanian Bromine Company and Arab Potash Company companies. The final result proved true the deduction that the overall ERP structure (Enterprise Resource Planning System) greatly impacted the accounting mechanisms and standards in the Jordanian organizations. Recommendations aimed at integrating different sectors in Jordan, including the Jordanian Bromine Company and Arab Potash Company companies with the banking sector and financial institutions so that the entire system can work collaboratively under the protocols, rules and requirements of the universal standard accounting practices and accounting mechanisms.

**Keywords:** Enterprise Resource Planning, International Standards, Accounting Information System

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## 1. INTRODUCTION

Jordan as a country has businesses that are well structured and expanding into multinational corporations. It also has small and medium sized enterprises that are growing exponentially and have the need of conforming with international standards of accounting. This will make these businesses and enterprises acquire cutting-edge advantages such as easily entering into multi-billion dollar mergers and acquisitions.

ERP has been integrated into more developing countries faster nowadays since technology is growing at an expedite rate. To start off our model, it is necessary to cut into the details concerning the enterprise resource planning system. The step is vital to the realization and understanding of the rest of the information cluster focused afterward in this paper. An enterprise resource planning system is software achieved through a quite sophisticated consolidation process so as to suite all functions of a business organization. The software is thus asserted under the company management software package. Nevertheless, it should not be confused with the traditional system development; enterprise resource planning system is eased faulty transactions and output runs on different platforms and uses a database for the repository of data (see Mabert, Soni and Venkataramanan [2011]). Considering the great type functions the system provides functionality for, many activities bound to the business have been simplified and relatively supplied. In layman's, the system can be proclaimed to have automated the whole cumbersome business bodily functions.

Similar to the native human workforce, the system relies on input data of the enterprise for manipulation; this time redundantly fast. The enterprise resource planning software sequentially; collects, puts in, manage and makes sense of data as required (Naash & Khamis, 2009). This high art of artificial intelligence serves an industry engaging in a summon resources throughout the year. Ranging from service delivery and manufacturing, management of inventory, sales and marketing and finally product planning and cost, this software kind is evidently saved the industry well (Al-Akra et al., [2009]). Besides enhancing the activities of each department, the system creates an auto loop of communication between the various staff. Earlier during the infant stages of the system, only functions of the business offices were considered necessary to automate. However, it took very minimal time to pull in the public most vital functions such as e-commerce systems, Customer Management (CRM) and Supplier Management (SRM).

Following is a precise operation of how accounts are made through an enterprise system. Reckoning a company using e-commerce; for instance, an Amman-based franchise of shoe manufacturer based in China managed well. In case, the franchisee receives an order for customized shoes from a customer in Africa. The franchisee prepares a quote using the enterprise system which is sent to the client. If the customer accepts the quote, the franchise will proceed to check for their credit limit and if enough, books the order. A specification of the client's preference will then be sent to the manufacturer in China with a click (Al-

Jaghoub & Westrup, [2003]). The system will also determine the best routing channel for shipment besides scheduling it. It is evident on how the procedure which traditionally would have taken almost a month can now be achieved in a week. In the company's side, an update is made to the sales and production calculate. Similarly, the franchise or sales person account is quoted by the required commission. Also, the company makes a computation of the production cost and profitability. Finally, the process is all recorded in all the relevant consolidated balance sheets, account payable and receivables (Schneiderjans & Yadav [2014]).

Enterprise systems packages provide for different accounting processes disposable to enthusiast companies as follows:

- I. Asset accounting
- II. Financial Consolidation
- III. Profitability analysis
- IV. Profit center accounting
- V. General ledger
- VI. Executive information system
- VII. Cost element and Center analysis
- VIII. Standard and period related accounting
- IX. Cash management and forecasting
- X. Account receivables and payables

The above functions will be focused into later sections in the paper in relation to the enterprise resource planning system planning and subsequent implementation in Jordan. Relatively, significant to the previous, is the need to make a comparison to the traditional ways of preparation so as to make clear on its benefits which makes a greater scope of the research. Similarly, getting to know the extent to which the enterprise resource planning system is used for standard accounting commits in Jordan preferably backed up by a number of reasons proceeds. Considering the system implementation between both the public and private companies in the country will also create room for finding the true view and level of acceptance by the industries of Jordan. Hence, analyzing the impacts of the system in revolutionizing business operations.

In spite of the fact that there are a few associations that like to add to their projects, either by themselves or through experts, multi-business organizations as of late embraced the utilization of comprehensive business frameworks contain a few sub-frameworks including bookkeeping framework. These structures are known as ERP which is an abbreviation for Enterprise Resources Planning's framework, which is portrayed by giving coordinated incongruent results to the divisions and help them to enhance the nature of their choices and the planning of far-reaching incorporated arrangements.

### The Motivation for this study

The motivation of this study is drawn from the fact that despite advancement in information systems and increased use of enterprise systems by many companies, Jordan has been slow to adopt these practices. Similar to other developing countries, Jordan harbours several national and organizational cultures to an extent hinder the adoption of enterprise systems. Furthermore, the status of the economy in third is also a great hindrance to adopting enterprise systems considering the high

level of cost it requires for initialization (Naash & Khamis, [2009]). Third is the infrastructure, putting through a nation to the cloud requires great advancement on the internet base development. Extensive studies on the performance of information systems presents contrary outcomes regarding the gains and value of enterprise resource planning systems (ERP). Performance of IS is mainly measured in three main areas: quality, effectiveness and efficiency. Accordingly, this research is motivated to explore the value of ERP system in Jordanian business and accounting environment while utilizing empirican test to supporting the study outcome. Despite the value of ERP in business practices having been investigated by a number of scholars, this studies have not been adequately extended into accounting sector and more particularly in Jordanian accounting sphere. This study is therefore, set at identifying the significance and impact of ERP in accounting within the Jordanian business sector.

### a. Background to the Study

Worldwide monetary and sovereign obligation emergencies of late years have delineated the need of better budgetary reporting by governments worldwide and the requirement for auspicious enhancements in the administration of open segment assets. Actualizing IPSAS is a significant stride forward as the Ministry of Finance attempts to understand its vision of driving an excellent open budgetary administration framework. Similarly regarding an organization that adds to improving monetary and financial security; over the Kingdom and in light of a legitimate concern for the Jordanian individuals (Seo, 2013). IPSAS urges open part elements to receive a collection based, rather than the native money based bookkeeping strategies. The adopted pattern is of a hearty advantage as it will enhance monetary administration and expansion straightforwardness. Resultantly, it brings about a more far reaching and precise perspective of the administration's budgetary posit.

To better understand the foreseen welfare, the GFMIS, is an electronic monetary framework that deals with the money related procedures of all divisions and organizations of the Jordanian government (DAI, 2015). The need resulted from a yearning to update people in general assets systems and raise the level of administration given to spending plan foundations in Jordan. GFMIS was an enormous change upon prior, un-coordinated personal computer based frameworks already utilized at the Ministry of Finance and different services. Expanding the proficiency and viability of the administration's money related administration is a focal mainstay of Jordan's financial and monetary change process. It specifically underpins the points of the Jordan 2025 national methodology (Schneiderjans and Yadav [2014]). Recently, congress men from the three institutions; Jordan's Ministry of Finance, the Fiscal Reform Project and the GFMIS held a conference of almost a week on the discussions concerning the standards actualization. Similarly, the meeting covered on the prior and post - troubles to anticipate; before, during and after running the set up planned for the project (Al-Akra et al, 2009).

Expanding the proficiency and adequacy of the administration's money related administration is a focal mainstay of Jordan's financial and monetary change process. The former thusly plans to handle the difficulties and monetary weights Jordan is confronting, fundamentally as an after effect of different outside stuns and the geopolitical environment. As all around perceived and embraced measures, IPSAS empowers the general population area to enhance choice providing so as to make dependable money related information and upgraded appraisals of asset allotments. Jordan enterprises mostly use audit firms for their accounts. The practice creates quite an unnecessary imperfection in the process which can easily be solved through an integration of the ERPS to each of the firms audit functions (Joshi, Bremser & Al-Ajmi, 2008]). Regardless of the claims by different audit firms purpoting to be complying with the International Standards on Auditing (ISA); substantial differences on their works are disputable. Due to the difference in size of firms and their level of finance; indifferences are created between the audits of large firms frequently differ from those of small ones. However, despite of the ability to finance for better audits the enterprises choose to deliberately or ignorantly violate standards. Therefore, employing ERPS would mean a great remedy for the country and the industry. The auditing process will be neutralized from the current biased site. Similarly, ISA- based practice manuals are sometimes not available to all audit firms hence creating the excuse of ignorance. Enterprises arrested for not complying with the nation's accounting standards would make an excuse from the deficiency of access let alone interpretation. The latter would have been a no case with the existence of the ERPS (IFAC, 2012).

Many countries especially land-locked ones have no access to reliable internet connections. Government regulation at times restricts for further growth of enterprise adoption for purposes termed best for the nation. In addition to the various drawbacks to the acceptance of the system, Jordan faces an extra assess taking to point that it is an Arabian country. As earlier mentioned the western perspective of organization operations has greatly been merged into the enterprise system as they also take substantive credit for champing its development. Nevertheless, the extremism of the Arab community in Jordan let alone the rest of Arab nations in the Middle East; dominantly Muslim cannot let through the adaptation of such a depravity to their culture (Rabaai, 2009).

Enterprise Resource Planning achievement relies on upon a consistency between the host society and also its framework society. In the Middle East setting they highlight the requirement for consideration regarding the IT administration variables, and particularly the requirement for aggregate responsibility, authority and determination inside of an organization. Enterprise Resource Planning innovation is additionally known for forcing inflexible standards of work processes. Additionally, specific practices upon working environments are inflicted and it is very much noticed that the system requests changes to authoritative society. It is this perspective, as opposed to any specialized deficiency; both of the

item or usage groups that can fundamentally influence achievement.

The paper attempts to find aid from a variety of resources for the actualization of the objective as per the generated hypothesis. Consequently, different case studies regarding the involvement of the Enterprise Resource Planning System in Jordan will be amply employed for justification of the presumption on its maturation in Jordan. Instances of Information on various companies, how conducted their accounting practices over the years prior and after the system's implementation is an excellent strategy.

## 2. LITERATURE REVIEW

Numerous researches and studies have been conducted over the years in Jordan and other Middle East nations regarding the involvement of the Enterprise Resource Planning System in most companies operations. Resultantly, questions may arise as to why Jordan is the picked setting and more focus by studies lies on them regarding the incorporation of ERP system. Answering to the questions are various reports by different studies; as they will be highlighted in this section (Jordan [2009]). Nevertheless, pointing out to that regard is the fact that Jordan is a known third world country with cultural influences on their economy. As such, conducting a study on the issue would clear up the uncertainty of the system's acceptance and reliability in the region. The section however opts to generalize the studies to a common look due to the numerous accounts of the issue by researches. Among various exact studies which have explored the relationship in the middle of ES and administration bookkeeping (Al-Akra et al, 2009).

The inefficiency of theories and the constrained experimental proves on these issues have made the need to lead preparatory examination interviews with organizations managers implementing ERP frameworks. Resultantly, exploratory meetings were utilized to encourage the examination process and the overview plan. Fundamentally, the meetings have helped Enterprise Resource Planning to organize the questionnaires utilized as the instrument for information gathering. In particular, interviews with two noteworthy ERP suppliers and two organizations embracing ERP frameworks have helped in building up the important issues and deciding the course of this study. The meetings were directed utilizing open-finished inquiries covering issues, for instance; purposes behind ERP adoption, the merits attained and changes acquired the accounting process. A rundown of elements to consider in connection with ERP benefits and conceivable changes in the bookkeeping forms have been created from those meetings and the appropriate case writings (Nordheim, 2009).

According to Beheshti (2006), organizations need Information Technology to enhance communication flow all around its operational sections and lessen production and maintenance costs in the process which in turn streamlines business forms. Keeping in mind the end goal to stay effective and hold their intensity. Grabski and Leech, (2007) expressed that undertaking asset arranging Enterprise Resource Planning (ERP) frameworks might be the most vital improvement in

the corporate utilization of data innovation. Subsequently, numerous associations need to enhance their focused position by actualizing ERP frameworks.

Utilizing ERP frameworks can decrease time and aggregate expense of operations and that the ERP framework has been utilized and implemented as a workable model by most Jordanian businesses. Naturally, ERP frameworks as business models are accepted to give the fundamental data all through the association and even the inventory network to encourage the choice making and authoritative exercises (Al-Akra et al., [2009]). Organizations would benefit by such data sharing identified with inventory chains. They also would save cash and salvage time for ERP execution in regions such as: stock magnitude, request planning variance, institutionalization applied on generation procedures, client request mix, institutionalization of human asset data, expanding item differences, stock time conveyance and viable collaboration with inventory network.

According to Beheshti (2006), organizations need Information Technology to enhance communication flow all around its operational sections and lessen production/maintenance costs. Keeping in mind the end goal to stay effective and hold their intensity. Davenport (1998) expressed that undertaking asset arranging Enterprise Resource Planning (ERP) frameworks might be the most vital improvement in the corporate utilization of data innovation. Subsequently, numerous associations need to enhance their focused position by actualizing ERP frameworks (Grabski and Leech, 2007).

A Greek study by (Galani, et al., 2010) examined clients' fulfillments concerning the impact and resultant effects of the Enterprise Resource Planning Systems on the Accounting Information System (AIS) and the pattern acts of the accountingmanagerial for a specimen of Greek organizations. The outcomes demonstrated that the Enterprise Resource Planning Systems (ERP) expanded level of fulfillment for clients of the accounting information system, framework execution and quality, decrease the expenses, and enhance the general execution of the organizations. Another Jordanian study by (Naash and Khamis, 2009) tried the effect of accountants in creating accounting information systems on the frameworks productivity and application on money related execution, besides digging into the impact of the utilization of those frameworks on the money related execution for the Jordanian modern firms. The uncovering showed that there is an essentialness measurable relationship between partaking accountants, all phases of the bookkeeping data frameworks and the execution of those frameworks. Resultantly, there are crucial factual contrasts between performance pointers prior and after the utilization of the framework aside from deals working wage (Nordheim, 2009).

Supplementing the intensity of the role of Accounting Information Systems (AIS) through The ERP, a full content of all journals recovered trashed in the definite inquiry of the information and accounting system records inspected by required accountants together with the bookkeeping data frameworks diaries were liable to examination keeping in mind the end goal to distinguish their

propriety for incorporation. To date, various experimental studies have researched the relationship in the middle of administration accounting. Notably, positivist specialists more often than not complete studies or analyses, while interpretivist analysts ordinarily lead contextual investigations (Booth et al. 2000). On the premise of the above three classes, a survey of the writing is currently led.

An audit of thesis studies demonstrates that the review strategy has been utilized broadly (Nordheim, 2009). Different researches have additionally assisted consideration on the key part of administration viewing so as to bookkeeping ERP frameworks as empowering agents of refined bookkeeping systems such as the; action based costing (ABC) and the benchmarking, balanced scorecard (BSC). In any case, following the creators needed to analyze ERP clients and also non-ERP clients, select a random organization that has an ERP experience being applied under thought (Naash & Khamis, 2009).

ERPs that have extensively been evaluated and assessed have seen bookkeeping advantages that were found by the specialists which include; enhanced adaptability of data era, enhanced nature of reports and expanded coordination of utilizations (Al-Akra et al., [2009]). Specifically, while the previous demonstrated that ERP executions are not essentially connected with the appropriation of modern bookkeeping methods, the last uncovered that few organizations used such procedures close by ERP frameworks (Nordheim, 2009). The discoveries likewise recommend that ERP frameworks build the utilization of various customary administration bookkeeping practices for instance; change examination, standard costing, minor implementing and running any Enterprise Resource Planning Systems by firms is considerably a hassle as it involves quite a bulk of housekeeping tasks.

The event of globalization implies that all around utilized advances are most certainly not just to be endorsed additionally adjusted into neighborhood societies and to their predominant standards. There is clear potential for a social conflict when these don't fit the receiving society's standards. Conflict levels on the way of life installed in the ERP package with the organization's hierarchical society has been distinguished by Zhou-Sivunen (2006). ERP achievement relies on upon consistency between the host society and the ERP framework society. Implementation of an ERP framework in a worldwide situation can be divided because of the internal culture of the enterprise, which is illustrative of societal culture. The way ERP frameworks are seen, treated, and incorporated inside of the business assumes a basic part in the achievement or disappointment of the implementation. At the point when a Western created ERP framework is executed in a nation where the way of life varies extraordinarily from that of the engineer, execution might require confinement with a specific end goal to be effective. In doing as such, vital advantages of ERP frameworks might be diminished (Srivastava and Gips, 2009).

Rasmy et al (2005) moreover affirmed that ERP usage turns out to be more testing in Egyptian setting where national and hierarchical society was

confused. These variables can result in undesirable configuration reality crevices, which tend to lead to failing to meet expectations frameworks (Motwani et al., 2007; Zu et al., 2006). Unlike conventional programming improvement approach, which advances building frameworks starting with no outside help, ERP embodies reusable best business hones dissimilar to conventional programming advancement approach, which advances building frameworks starting with no outside help; ERP catches reusable best business hones. All specialty units at various nations had their own specific manner of doing things in light of various business procedures and nearby necessities produced by national and nearby contrasts (Otieno, 2010). Hence, the allowing so as to begin arrangement must be changed restricted arrangements and decentralized ERP executions, all together to get away from the contentions (Zhou-Sivunen, 2006).

### 3. HYPOTHESIS DEVELOPMENT

In the following research, examination of Jordan's adoption to the ERP procedural system will be categorized into two dimensions. Initially, the paper's level of comprehensiveness calls for the need for a relatively comprehensive design. Hence, bearing objective in justifying the system's role in enhancing the accounting standards and mechanisms; both the null and alternative hypothesis creation will propel to the quest to exemplify the role of the Enterprise Resource Planning System in Jordan's organizations. Probing our research in the null hypothesis form, the following:

**H<sub>0</sub>** - Jordanian firms, notably Jordanian Bromine Company and Arab Potash Company companies, have a bunch of challenges to tackle and an equivalent risk factors involved concerning adoption of the Enterprise Resource Planning System.

With regard to the null hypotheses, this research will derivatively expound on the issues the System is prone and to a degree limiting its potency.

Similarly, the research would consider examining the hypothesis in an alternative form so as to reach the positive role of ERPS in Jordan. Therefore the alternative hypothesis reckoned;

**H<sub>1</sub>** - The Enterprise Resource Planning System has revolutionized the accounting organization in Jordan.

### 4. RESEARCH DESIGN

In this section, the paper presents its basic framework of research regarding the Enterprise Resource Planning System application and implementation in Jordan by two sectors of its economy; the firms and banks, distinctively. This study is going to handle the subject in two perspectives.

#### 4.1. Theoretical Approach

First, the theoretical approach; where the supporting concepts of the Enterprise Resource Planning System limitations in the Jordanian economy as per (**H<sub>0</sub>**) will be highlighted; as well as its foreseen and experienced encroachments in the country's

economic sectors measured through the firms and banks contexts as with the alternate hypothesis ( $H_1$ ). Backing up the conceptual set up, the study uses factual evidences from studies through raw to processed data frame ups. The sections are first build and expounded on the paper through a theoretical methodology. Subsequently, the primary objective is dug into sufficiently by the defined hypothesis earlier on. First delving into the literary criticism on Jordan's potential on handling the Enterprise Resource Planning System and the other means on justifying on the encompassing adoption. Reaching the supposed laid out contrive was considered possible by analyzing existing data on the Jordan's Companies performance records hence presenting on a qualitative approach.

The aforementioned is laid out in the research theoretically based on secondary data from pertained studies. Subsequently, the research progresses to the considerably gist account of justification on the corresponding vantages in the accounting standards as well as the mechanisms as per the alternative hypothesis. Derivatively, a bright outlook on the limitations that turned out in the infant stages on the Enterprise Resource Planning System's (ERP) adopting in Jordan commercial banks and firms will help test the accuracy of the null hypothesis. Similarly, some of the ongoing challenges concerning the adoption proofs will back up the prior on answering for the sub-possibilities made about the system's adopting. Finally, due credit on the phenomenal impacts and positive effects, the Enterprise Resource Planning System in Jordan will substantially be covered with backing resources (Al-Akra et al., [2009]).

#### 4.2. Practical Approach

Building up the second take of the papers research design is the practical approach. The section will be founded on quantitative grounds. The part establishes a practical basis of the research on the Jordanian organizations and bank contexts. Raw data is retrieved from the two settings primarily through the employees by formulated questionnaires. The questionnaires were assigned to two Jordanian companies; the Arab Potash and The Jordanian Bromine Company. However a general outlook was made upon the Jordanian banking sector; with a great coverage on the Internet banking adoption. The research designed both open and close questions purposefully; first, the open questions were made to expose the respondents to a sort of liberation in expressing their thoughts regarding the system's adoption. The technique was also foreseen as appropriate for retrieving; detailed information, feelings and understanding levels from the respondents, reducing the respondents disregard on reading the questions which closed questionnaires are prone to as well as building the qualitative aspect. Nevertheless, limited closed questions yet sensitive were also formulated to create a rigid basis of deduction in form of variables on the data analysis process. Closed questions would enable a quantitative analysis on data collected; similarly allowing for information consistency and distinction. The retrieved data from the closed ended questions would thus be computed statistically on comparison.

#### 5. ANALYSIS

Sampling several Jordanian companies, narrowing down to Jordanian Bromine Company and Arab Potash Company companies, data as per two studies relied on for feedback on the implementation and application of the ERP system. Qualitatively, selective information is rooted from the several studies and credible databases such as the Journals of Management System by the Macrothink Institute TM and several other online accounting databases. Empirical studies on the Jordanian Bromine Company, Arab Potash Company and one on the local and foreign Jordanian banks are used to build up the secondary data. Precise analysis on feedback retrieved from the two companies in Jordan will be used to describe some of the subsequent challenges and vantages arising from the ERP system adoption. Similarly, a review conducted on the 'Journal of Accounting - Business and Management' puts for Talal and Abu Kadhra's survey on the banks Computerized Accounting Information Systems (CAIS) adoption hence a great resource to meeting this research's objectives. Several factors described regarding the limitations of the system in Jordan are expounded on a technical basis; as per the derived studies. Similarly, the two Jordanian Mineral Companies will be used as sufficient samples to describe the potency of the ERP System nationally (Adhikari & Sarmishtha, [2006]). Testing hypothesis involved a critical analysis on the responses found from the studies. Therefore, as per the research's design, the theoretical frameworks kick starts the quest for the paper's objective: outlining the ERPS' failures and impacts on Jordanian firms and banks as per the null and alternative hypothesis respectively.

Later on in the paper, a practical design approach; where primary data is manipulated from the conducted research on the two Jordanian companies (Jordanian Bromine Company and Arab Potash Company companies) which were used to retrieve the research's secondary data is conducted. A statistical analysis is conducted on variables as per the closed questions responses. Consequently, the research conducts two separate analyses of the primary data. The first analyses includes all the respondents, categorized on the basis of their assigned experimental conditions. I separated the respondents into two classes according to the most suitable closed questions. Preferably, a distinction between the respondents who think the ERP system has improved the accounting process in an effective way from those disagreeing from the notion. Similarly, other questions that are put into consideration include;

- i. Does the ERP system provide for easy data entry and processing methods to obtain the required output? [YES] [NO]
- ii. Does the ERP system generate accounting archives and libraries for all files, programs and data processed since its implementation? [YES] [NO]

They are sample questions testing for the effectivity and efficiency of the Enterprise Resource Planning System. The methodology purposefully employed the three questions for statistical data analysis for clear elaboration by increasing the output data eminence. Moreover, the approach concurs with a random assignment of the

questionnaires although the research provides a delimiting take on that aspect. Centering the research's primary analysis on the respondents and distinguishing their preferences through standard questions grounds the research to a very powerful test of the hypothesis.

## 5.1. Theoretical Design

### 5.1.1 Adoption of the ERP System

Starting off the analysis is an elucidate testing of the null hypothesis stating that Jordan Information Systems do not have viable control systems. To clear up any relating oppugn, the paper takes in a deep consideration to a test made in several countries of the Middle East with Jordan companies as the principal source of information feedback. Questionnaires were sent to the Jordanian Bromine Company and Arab Potash Company companies and also almost twenty businesses in Jordan inquiring for the management's view on the Accounting Information Systems Design impacts on the accounting system in their companies hence the nation. The introduction of individual models of accounting such as the Resource Events Agents (REA) and also another implementation and subsequent application, running and maintenance of the ERP System; whether it is object-oriented and relational; object-oriented database systems were a great bear on. The technologies were attributed to a revolutionary accounting system in the companies as well as in other business strategies (Adhikari & Sarmishtha, [2006]). Unlike the traditional accounting model based on credits and debits, the Resource Events Agents model is founded on economics. Resultantly, the model has enabled companies to gain control on both historical and future financial data as well as non-financial.

According to the test, four variables were used to determine the extent of the Accounting Information System namely; aggregation, integration, timeliness, and scope. The estimations of the builds were embraced by past studies.

### 5.1.2 ERPS Implementation

Implementing and applying thoroughly Enterprise Resource Planning Systems by Jordanian Bromine Company and Arab Potash Company companies and other Jordanian firms is considerably a hassle as it involves quite a bulk of housekeeping tasks (Adhikari & Sarmishtha, [2006]). Therefore, the paper looks forward to offset on some of the stages undergone by firms regarding to adopt the system.

#### I. Pre-Implementation:

This stage incorporates all arrangements organizations construct prior getting in the execution process. These arrangements consolidate the modules to be actualized, picking the execution group, the usage procedure and preparing. Initially, the heart of ERP framework pronounces in the unique combination of its modules. Association expected to actualize all modules in the event that it needs to get point of preference of the entire advantages. This strategy is referred to as; "Vanilla Implementation" and it's excessively costly, making it impossible to embrace. However, organizations can choose certain modules rather as per its

financial plan and prerequisites. Consequently, the expense will extensively diminish. The implementation team must be precisely chosen and seriously prepared adequately enough time prior to the framework's execution to ensure that the group is qualified to hold the usage handle professionally and proficiently. Ideally, workers get taught and prepared on the framework on this stage so they will demonstrate less resistance amid the execution. Another essential choice the top administration ought to make in this stage is whether organizations should better reengineer its procedures to fit ERP modules or modifying it to meet its extraordinary necessities. This choice is extremely basic in ERP venture and organizations ought to be totally mindful in the preferences and disservices of each alternative then taking the one that can fit its circumstance the most.

#### II. Implementation:

There are three fundamental ways to deal with actualize ERP frameworks: "Big Bang" approach, Local-wise methodology and Module-wise methodology. (Parthasarathy, 2007). In the "Big bang" approach, organizations actualizes all modules in the meantime so it can profit from framework. Nevertheless, this alternative is unreasonable, unsafe and tedious. Rather, organizations can portion the execution forms either on an area astute by executing it in a specific branch, territorial office or module-wise by executing chose module. The last two choices impressively decrease costs, dangers and length of time. In the event that easily gone, association then can then expand the execution procedures to incorporate the rest areas and modules. This stage incorporates introducing and designing the framework, moving information from old to new framework, guarantee coordination among modules, building up security and access powers, running pilot test and testing and checking yields. Sumner (2005) asserted that "ERP usage incorporates tending to arrangement issues, moving information from the old framework to the new framework, building interfaces, executing reports and pilot testing". Re-building of business procedures done in this stage and any required customizations. End-clients ought to be prepared on the framework in this stage if not prepared on the arrangements stage.

#### III. Post Implementation:

Finally, several coherent issues need to be looked at after the Enterprise Resource Planning Implementation which relatively induces challenges on organizations. This stage incorporates exercises that back the continuous and change of ERP framework, including; consistent follow-up and assessment for the system, maintenance, preparing new clients, redesigning, preparing on the new forms and troubleshooting the system of any faults.

## 5.2. Jordanian Firms (Jordanian Bromine Company and Arab Potash Company Companies)

The research referred to secondary study on an empirical analysis conducted on the Jordanian firms, Jordanian Bromine Company and Arab Potash Company companies, regarding the adoption of ERP pricesly the; Control Systems effectiveness and appropriateness in Computerized Accounting Information Systems (CAIS). The study proposes that

the ERP system has greatly enhanced against fraud on the banking sector. However, the system is also attributed to a limitation on covering for effective output security controls. The exploration populace comprised of all Jordanian local firms notably focusing on Jordanian Bromine Company and Arab Potash Company companies (nearby and remote). The quantity of local firms in Jordan incursion of the Jordanian Bromine Company and Arab Potash Company companies was twenty-three firms; three of which were prohibited from the examination due to their late foundation as they were built up just in 2005. The examination secured just the firms headquarters where the targeted respondents were expected to exist. The focused on respondents constituted of the parties that had the capacity and learning to address it; consequently, the poll was dispersed to the inner examiners and head of computer divisions (HOCD). Forty polls were circulated; thirty were gotten in a usable configuration. However, it is imperative to note that the entire research focused on the Jordanian Bromine Company and Arab Potash Company companies, but included several other firms so as to reduce result bias and to increase number of questionnaire's respondents.

#### **a) Documentation Standards**

About 90% of the respondents reported that their banks set up well-characterized standards and methods for information preparing, including the avocations and approval of new frameworks and framework changes. In addition, 60% of the respondents trusted that their banks kept documentation depicting each application framework, including account material, stream outlines and program postings. A lower percent of the respondents (half) trusted that the documentation that was kept in their banks portraying what was expected to run a system, including the gear design, projects and information documents and additionally methodology keeping in mind the end goal to setup and execute the employment. 70% of respondents reported that clients were given directions for imparting potential security ruptures to the data security group considering the end goal to screen these occurrences and to be assessed. Lastly, a lower percent (56.7%) guaranteed that current documentation contained methods that guaranteed that the issues of non-compliance with framework security approaches were speedily tended to and the remedial measures were tackled a convenient premise. This finding is supported by those of Karim (2011) who also noted that many businesses including financial institutions have considered the use of information systems in their day to day operations in facilitating and attaining effective decision making and realizing smooth operations.

#### **b) Internet, Communication and e-banking controls**

As expected by the survey, the majority of the respondents reported that their firms and banks put antivirus software, which incorporates infection

sweeps of incoming email messages and infection marks that were upgraded at any rate week after week. Again, 100% of the respondents guaranteed that their banks introduced firewalls (Software and Hardware) to control and ensure correspondence between the inside system, and the outer systems (e.g. the Internet). 63.3% of the respondents trusted that their banks appointed a particular ceiling (e.g. 2000 JD) for the monetary transactions that underwent e-banking administration. Just 43.3% of the respondents reported that their banks gave two client ID's to E-Banking administration, One ID for general asks and the other for transfers and financial exchanges. A higher rate of the respondents (66.7%) trusted that the client's record was enacted when fruitful login that was scrambled through a 128-piece SSL session. Additionally, 76.7% of the respondents asserted that financial moves in their banks were limited to the records in the same bank. Simply 50% of the respondents accepted that the unused e-keeping money accounts in their banks were cleansed consequently by the bank framework. Most of the respondents (83%) reported that the login access in their banks was ended after three unsuccessful login endeavors. On the other hand, 76.7% of the respondents trusted that their bank utilized 128-piece secure sockets layer (SSL) encryption for transmission of private or secret data over open systems, including client's IDs and passwords. Moreover, clients were required to redesign their program to the most recent adaptation tried and endorsed by the security executive. These findings aligns well with the observation of Costa et al, (2016) who explains that enterprise systems offer a unified database and integrated software modules which can be used in planning, controlling and planning business process in a more effective manner.

#### **c) Output Security Controls**

All respondents trusted that their banks have control over access to sensitive data and limited it just to the approved clients in the appropriate time. A lower percent of the respondents (86.7) reported that sensitive computer yield in their banks was secured in a lock bureau. Just 60% of the respondents trusted that the framework output was stamped with the date and time. Additionally, 83.3% of the respondents reported that their banks performed printing and circulating information and data under legitimate supervision and just by approved persons in the bank. On one hand, 76.7% of the respondents trusted that destroying machines were accessible and utilized for delicate information transfer, while, 70% of the respondents reported that destroying these delicate archives was confined just to security-cleared workforce. Ultimately, 76.7% of the respondents guaranteed that their banks performed irregular yield/information evaluating on consistent premise with a specific end goal to check right preparing. According to an article by the Financial Times (2015), banks are now more sensitive to the security of their systems owing to a consistent rise of cyber threats (Scannell and Gina, 2015).



**Table 1.** Output security controls (frequencies)

Control Procedure	Does not exists		Exists	
	Freq.	Percent	Freq.	Percent
Authorized access to sensitive information should be controlled and restricted only to the authorized users during the authorized time	0	0.0%	30	100%
Sensitive computer output secured in a locked cabinet	4	13.3%	26	86.7%
Hard copy output stamped automatically with Date /time	12	40.0%	18	60.0%
Printing and distributing data and information Performed under proper supervision and only by authorized persons in the bank	5	16.7%	25	83.3%
Shredding machines are available and used for Disposal of confidential data	7	23.3%	23	76.75
Shredding sensitive documents is restricted to Security cleared personnel	9	30.0%	21	70.0%
Random output/input auditing regularly Conducted to verify correct processing ( e.g. check book order against check books).	7	23.3%	23	76.7%

**a) Implementation problems**

Executing an ERP framework requires procuring experienced specialists who will consider the business procedures to decide the achievability of embracing an ERP framework. The statutory ERP framework to be installed tests the framework to ensure the majority of the organization's necessities have been satisfied, lastly prepare the clients for the best way to utilize the structure. Now and again, the predetermined execution period won't be met because of activity arrangements not being appropriately drawn, not apportioning the right number of assets to see the execution process through, insufficient client preparing, and customizations requested by the clients; either taking additional time than initially arranged or not being feasible.

Dillard and Yuthas (2006), asserted that a fair size of various enterprises have commenced applying, running and maintaining ERP systems within their organizational structures. According to Helo et al., (2008), unlike other information systems, the significant problem of ERP are unrelated to innovation, for instance, any mechanical intricacy, similarity, institutionalization, and so forth. Rather, general organizations and human-generated and related issues like; reluctance and imperviousness to change, authoritative society, contrary business forms, project bungle and top administration commitment.

**b) Cost problems**

There are two sorts of costs entrapped with receiving an ERP framework. The first is obvious costs spoke to in the full cost of introducing the structure while the other is covered up fetched. Preparing costs, mix and usage costs, information change and information movement, high counseling costs, and time allotments not being met are shrouded costs which are usually underrated and ignored. According to cashlessindia (2016) an ERP framework has a typical aggregate expense of responsibility for million yet compensates the business with a standard negative net present estimation of \$1.5 million. Organizations, companies and enterprises must understand the ever increasing price of ERP execution together with survey on the off chance that it sporadically increases

preparedness. It is imperative to note that ERP usage mandates an extensive variety and rich inclusion of information together with outside skill; without external offer it would be truly hard for any organization to have the capacity to execute ERP effectively.

**c) Management Change**

Change administration or management change can be described as the procedure of dealing with various transitionals revolving around people, distinguished groups, and association to a sought future state. Following the explanation for executing another ERP, the framework is to enhance the association's execution and rate of profits by improving its representatives' execution. This can be a noteworthy change for an organization, particularly at the point when the execution process has poor venture administration and end clients, who have never utilized an ERP in the past and have no information on what the framework can accomplish for them.

Project and Change are two key orders required to acquire transformed life, in light of the fact that:

I. Venture administration is the use of information, abilities, apparatuses and procedures to venture exercises to meet venture necessities. Notably, the entire administration venture comprises of its execution, commencing with various activities such as implementation, evaluation, execution, maintenance and control.

II. Change administration system, strategies and instruments applied so as to control and manage any society's process of growth in order to enhance business which will operate conclusively along administrative apparatuses.

**d) Customization**

Since customization is considered as a major aspect of an advancement exertion, it should be tried commonly to ensure that it doesn't contain any bugs. This implies setting up a testing domain and in situations where bugs are available re-coding the customization and retesting. This will likewise incorporate numerous customization overhauls with each new framework discharge. Information relocation is the procedure of reassigning information between storage spaces, organizations,

or PC frameworks. It is an essential thought for any ERP framework execution. Most organizations use spread sheets to follow along of their financials and stock before changing over to ERP frameworks; which implies that information must be changed over into another configuration with a specific end goal to be utilized as a part of the recently introduced framework. Being that as it may, a few errors, for example, covered up data, or information is not being completely relocated may happen amid information relocation because of inability to affirm and test the information to be relocated. Also, preparing is critical in an ERP usage venture not just to adjust clients to the new ERP framework additionally to help in the hierarchical change process.

Resultantly, below are some of the arousal effects on the ERP systems implementations in Jordan from the cultural aspect.

### Management culture

The investigation of national social contrasts and resultant repercussions for management has been overwhelmed by the portrayal of society along an assortment of predetermined attitudinal measurements or inclinations to activity. Understanding society is a key action for top administrators since it influences key development, effectiveness, and learning at all levels of management. Initiative society is a key to the achievement of IS reception and successful authority is the methods by which the way of life is made and oversaw. Administration dispositions and qualities concerning control, administration, and correspondence can block fruitful execution. As indicated by Srivastava and Gips, (2009) it was exceptionally basic in China that there was an absence of key hope for ERP reception and administration did not see the vital advantages. Cross-utilitarian collaboration was lacking since the same number of directors put the necessities of their specialty over the necessities of the project. Consequently, they acted on the fact that the undertaking was thought of as IT related and did not have a vital center or support in top administration

thus the IT staff played the lead parts on the task groups.

### Cultural change

ERP perspective is process-based, as opposed to functional-based in this manner inciting problematic hierarchical changes (Nordheim, 2009). ERP innovation is likewise known for forcing rigid standards of work processes and specific practices upon work environments and it is all around noticed that ERP requests on changes to authoritative society (Rabaa'i, 2009; Jha and Joshi, 2007). Whenever national or social borders are crossed, execution in a worldwide environment tackles another measurement. Nations with long histories of very conventional society such as Jordan have a tendency to have the society implanted in the present day hierarchical society, which affects business choice making (Srivastava and Gips, 2009). Jordanian business society sees change uniquely in contrast to Western society, setting awesome quality on the past and are hesitant to change, which confines process development.

### Subcultural diversity

Sub-social dissimilarities exist due to contrasts between assignments, aptitude and exercises fulfilled by various authoritative gatherings. Given these distinctions, an authoritative society can't essentially be affirmed to be an accumulation of different subcultures (Kalbasi, 2007). On his part, Anheier et al, 2010 explains that subculture speaks to a particular arrangement of shared qualities, attitudes and standards that mirrors a gathering's social character. Gelder (2007) points out that the sub-society contrasts as a result of paradigmatic differing qualities between hierarchical individuals. This might block cross-functional joint effort and the usage of far reaching activities. The need to consider the flow of sub-social contrasts while investigating the procedure of ERP reception inside of a hierarchical connection (Nordheim, 2009).

**Table 2.** Various constituent failures regarding the Enterprise Resource Planning System as per a case study undertook on four companies in Jordan of different sizes

Failure factors	Company A	Company B	Company C	Company D
Over-reliance on heavy customization		x		x
Poor go live support	x	x	X	
Poor knowledge transfer	x		X	
Poor project management effectiveness	x	x	X	
Unclear concept of the nature and use of ERP System from the user perspective	x		x	X
Unrealistic expectations from top management consuming the ERP system	x			X
Users resistance to change	x			X

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Organization A is a quickly developing business, experienced in offering biomedical machines and supplies to centers and healing centers. Organization B offers refreshments while organization C is had practical experience in conveying card installment and ATM administration policies to its clients, and lastly, organization D is a primary quick moving customers products in the

Jordanian market. It was found while watching the components, which prompted ERP execution disappointments in these organizations, and meeting the clients, that different reasons were behind ERP failures in numerous phases of the execution process.

Organization A has the most elevated rate of disappointment variables took after by organization

D in correlation with organizations B and C. Yet three of out four organizations offer two critical disappointment variables, which are poor go live backing and poor undertaking administration. Moreover, poor learning move was normal in organizations A and C and the indistinct idea of nature also, utilization of ERP framework from the clients' point of view were comparable. Disappointment variables in organizations A, C, and D, overreliance on overwhelming customization was found in organizations B and D, lastly, improbable desires from top administration concerning the ERP System and User's imperviousness to change were normal in organizations A and D.

The null hypotheses has thus been adequately addressed; from already conducted studies, the implementation and application and implementation of ERP System has been attributed to the five major hindrances. The justification is yet to be primarily comported in the practical foundation, later in this research.

**5.1.3. Impacts and effects of the Enterprise Resource Planning System**

After the clear elaboration; considerably testing for the alternate hypothesis, the paper takes a paradigm seeking to test for the alternative hypothesis. A deep scrutiny on the operations of two Jordan's companies in the mining and mineral processing industry keeps on the analysis, seeking to find the implications of the ERP system and structure in the country. Notably, the ultimate aim and objective of the section is to highlight the impulses created by the Enterprise Resource Planning (ERP) System in companies; especially regarding accounting standards and mechanisms.

**Table 4.** Column portraying a sample questionnaire used in collecting opinions on the employees of the company of Jordan Bromine Company regarding implications and effects of Enterprise Resource Planning as a system

1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly agree
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**Table 5.** The transactional consistency of the tool of study.

Dimension	Repeated Consistency	Cronbach's alpha
training	0.85	0.83
Dissemination of knowledge in the company	0.87	0.86
Select and adjust expectations	0.85	0.86
total	0.90	0.92
Application of ERP management system	0.90	0.89

As appeared in Table 5, the study device has depicted a considerably high level of consistency that ranges from 85 to 90% for all measurements. According to the presentations of the study's results, the table below outlines the outcome with a highlight on the issues touching to the relevance of the ERP system as reported by the staff. The has been used in justification of the alternative hypotheses stating the impacts of the ERP system and its structure in the country of Jordan, with Accounting Information System (AIS) to be precise. Using the Cronbach's Alpha to measure the quality of feedback of the questionnaires, a (0.75) aggregate

**Table 3.** Reliability Analysis

Factors	Cronbach Alfa
Functional sophistication	.806
Managerial sophistication	.845
Cost leadership strategy	.795
Environmental conditions	.800
AIS design	.751
IT benefits	.803

On the table above, the factors are a derivation of the variables used in the study to determine the level of reliability of the accounting information system design as per the feedback from the two hundred and eighty questionnaires gathered from the different firms in Jordan. The factors are gauged at a five point like scale. Evidently each factor ascribed to over average (.5) score. The outcome portrayed that all the elements of the system were enjoyed by the organizations; acknowledging the ascertaining response by the accountants of each company.

**5.2. Jordan Bromine Company Study**

This study expected to distinguish the effect of progress administration on the utilization of ERP systems and structure and its application's viability in the casee study of the Jordan Bromine organization. It is important to note that this objective was realized b the poll having been filled with 28 different questions which was tied to 125 workers so as to increase the consistency, reliability and validity of the entire research process. Notably, immediately when the process of dissecting information is done, the results depict that the restoration degree and the level of proficiency increased to an all time high of '4.69' mean in mathematics and a considerably high standard deviation of 42%.

was achieved. Table D is also depicting feedback on the level of ERP system implementation which measured at a substantive (0.89). Similarly, IT benefits are were highly appreciated by the respondents aggregating to (0.80).

**Reliability of measurement**

On the determination of the quality of responses, the arithmetic mean is used to gauge the dependability of the response on a question as shown in Tables E. Derivatively, Table 6 below establishes the alternative hypothesis that the

Enterprise Resource Planning System has greatly business enterprises. been adopted by the Jordanian Industries hence the

**Table 6.** The response retrieved from questionnaires forwarded to Jordanian bromine mining firm concerning a variety of issues; a substantial number pointing to the Enterprise Resource Planning System on their operations

No.	This column is for 'Reponse'	This column is for 'Mean'	This column is for 'S.D'	This column is for 'Rank'	This column is for 'Degree'
1	Knowledge on management entails to realisation of goals and objectives	3.99	.4751	2	high
2	Devemployment training from a managerail stand are imperative	3.89	.78	6	high
3	Sharing of data and knowledge is enabled by the new structure	5.67	.12	3	high
4	Change management can only be reaslied through knowledge	6.45	.78	3	high
5	The knowledge being introduced must not be rejected by the staff and workers	4.31	.45	7	Medium
6	Change management involved publis knowledge dissemination	2.67	.59	5	Medium
7	Networking enhances sharing and spreading of knowledge	3.56	.45	3	Medium
8	Enterprise Resource Planning System cannot be exhausted completely	6.90	.78	6	Medium
9	The company should be able to deal with any future changes	4.75	.45	5	high
10	Change management helps organisation to adapt to the sorrounding environment and help them grow and survive	4.34	.53	1	high
11	The results of the actual application is similar to the excepted results	4.21	.60	2	high
12	ERPS help to explore unanticipated investment and opportunities	4.86	.73	4	high
13	ERPS can avoid various environmental threats	4.78	.75	3	high
14	ERPS has the ability to create balance between the company's capacity and and the external variables	4.78	.83	5	high
	TOTAL	4.61	0.65		HIGH

As showed in the Table 6 that the aggregate number juggling mean came high with (4.61) number-crunching mean and (0. 65) standard deviation, which shows that the similarity of estimates of the genuine utilization of the Enterprise asset arranging framework (ERP) in the Jordan Bromine Company was high.

The outcomes showed a measurably huge impact for staff preparing on the powerful utilization of the Enterprise asset arranging framework (ERP). It could be because of that preparing is a vital procedure in any association. Enterprise asset arranging framework (ERP) needs a prepared staff, so preparing is a standout amongst the most critical elements of the Department to raise the execution levels of workers, all together for the

wanting to be fruitful staff must be prepared. The outcomes demonstrated a measurably meaningful impact of scattering information between staff on the viable use of the Enterprise Resource Planning framework (ERP). It might be credited to the spread of information when the organization executed the system, and help the agents to get data about it and associate with others to share information prompts on the powerful use of the system.

From the secondary data collection, the table above was derived from the Companies feedback analysis on the reliability of the Accounting Information Systems incorporated through the Enterprise Resource Planning System in their various differentiated accounting mechanisms.

**Table 7.** The Accounting Information System’s internal control under the ERP system

Ser. No.	Statement	Arithmetic Mean	Dev. Standard
1	ERP improves the controls of breaking through or trespassing the system	0.690	1.188
2	ERP regulates the access of professionals to the system according to their level of authorization	0.797	1.402
3	ERP contributes in separating the discrepant tasks among the organization employees	0.823	1.819
4	ERP improves the execution of all works of the organization in smooth & effective way	0.760	1.104
5	ERP enables the linkage of all in and out terminals of the organization properly and appropriately	1.099	0.930
6	ERP enables the organization to follow up all the in and out operations of the organization accurately	1.286	0.723
7	ERP deals with all appropriate methods which provide security against the internal and external threats (example . antivirus)	0.901	1.843
8	ERP enhances the possibility of following up the workers or users performance to ensure proper on time completion of work and accurately	0.822	0.937
9	ERP facilitates the proper operations that enable the controller to follow up and evaluate the work in accurate way	0.186	1.286
10	ERP provides proper documents that enable the controller to follow up work and evaluate the performance accurately	0.973	0.785
11	ERP provides the methods that ensure proper data entry and processing to the obtain the required outputs	0.828	1.159
12	ERP provides a library and archive to all files. Programs and data which can be stored in separate tools	1.150	0.663
13	ERP helps to make sure make sure that the input data are accredited to the organization and were entered properly	1.290	0.548

**6. EMPIRICAL RESULTS AND RECOMMENDATIONS** The open ended questions were classified into six buckets after a critical analysis on their responses.

**6.1. Results 1: Bucketing**

**Question 1 Responses**

Integrated Applications of the ERP system

Integrated Applications of the ERP system

	<u>Bucket 1</u>	<u>Bucket 2</u>	<u>Bucket 3</u>
<b>No. of respondents</b>	25	25	7
	Software package: Postbooks Technologies - C++, JavaScript, PostgreSQL	Software package: Adaxa Suite Technologies - Java	Software package: Postbooks & Adaxa Suite Technologies - Java, C++, JavaScript, PostgreSQL

**Question 2 Responses**

	<u>Bucket 1</u>	<u>Bucket 2</u>	<u>Bucket 3</u>
<b>No. of respondents</b>	53	3	1
	The ERP system has fastened the accounting decision making process.	The ERP system has made the accounting decision making process quite slow as everyone gets to share their own opinion	Regardless of the ERP system fastening and including many in the accounting decision making process, it changes nothing on the quality of the decision as the top officials make the ultimate one.

**Question 3 Responses**

	<u>Bucket1</u>
<b>No. of respondents</b>	57
	The ERP system generates accounting archives and libraries for all files, programs and data processed

**Question 4 Responses**

	<u>Bucket 1</u>	<u>Bucket 2</u>	<u>Bucket 3</u>
<b>No of respondents</b>	20	17	20
	The ERP system tracks all the accounting data inputs and outputs accurately through the accounting clerks	The ERP system allows for input and output data authentication.	ERP system have simplified and fastened the input data transactions and generation of the bookkeeping records.

**Question 5 response**

Bucket 1

Bucket 2

Bucket 3

**No. of respondents**

34	13	12
The ERP system has ultimately transformed the accounting process making it fast, convenient and accurate	The ERP system has made the accounting process very imbalance levying the accountants from duties which are left for the clerks.	ERP system has equally challenged and improved the accounting process by increasing the number of times workers have to refer to the records and improving the record accuracy respectively.

**Question 6 responses**

Bucket 1

Bucket 2

**No. of responses**

25	32
The ERP system has ultimately changed the organization culture since the hardcopy files were to a great extent replace by computers to every office.	The ERP system has impacted the organization's culture quite negatively as many employees keep checking on the social media sites during work hours.

**Question 7 responses**

Bucket 1

Bucket 2

Bucket 3

**No. of responses**

34	13	12
The ERP system has ultimately transformed the accounting process making it fast, convenient and accurate	The ERP system has made the accounting process very imbalance levying the accountants from duties which are left for the clerks.	ERP system has equally challenged and improved the accounting process by increasing the number of times workers have to refer to the records and improving the record accuracy respectively.

Consequently, the responses retrieved from the open ended questionnaires were integrated to the close ended questions response weighing of the efficiency and effectiveness variables. Distinctively, the results open ended questions; 1, 4 and 5 were categorized to efficiency whereas questions; 2, 3 and

6 on effectiveness of the ERP system on accounting mechanisms and standards. Derivatively, the weights of the variables with regard to the open ended questions were made by finding the average of the upper quartile numbers of respondents on their justification.

$$\frac{\text{Question1} + \text{Question4} + \text{Question 5 (No. of Respondents)}}{3}$$

$$\frac{25 + 20 + 34}{3}$$

$$\text{Efficiency} = 28$$

$$\frac{\text{Question2} + \text{Question3} + \text{Question 6 (No. of Respondents)}}{3}$$

$$\frac{53 + 57 + 32}{3}$$

$$\text{Effectiveness} = 47$$

From the above process, the open ended questions therefore depict a greater belief of the systems effectiveness compared to efficiency. As per the calculation, twenty eight respondents of the survey attributed the system to efficiency compared

to a significant forty seven of the fifty 57 respondents who agreed on the systems effectiveness. Explaining the depiction would be more accurate on calculating the percentage of the two weights.

$$\text{Efficiency: } \frac{28}{57} * (100) = 49.12\%$$

$$\text{Effectiveness: } \frac{47}{57} * (100) = 82.42\%$$

**Results 2:**

**ANOVA**

This analysis is made on only two options of the close ended questions, “yes” or “no”; keeping in mind that the survey tested only twelve of the questions yet relevant to reaching to the research’s objective. The results are anticipated to yield to the paper’s thesis decision on determining the impacts and subsequent results of the Enterprise Resource

Planning System on the accounting process and standards as well as posing a recommendation on the same regard. The aforementioned is made possible by the analysis of the proceeding survey response on the closed ended questions. This analysis was limited to the results of the closed questionnaires hence;

Independent variables

1. Yes
2. No

Dependent variable

1. Efficiency and effectiveness

The choice of variables for the study was simple as depicted. The responses retrieved from all the returned questions were regarded as the independent variables whose event influences the effectiveness and efficiency of the ERP sstem thus, dependent variable.

**Table 8.** Efficiency and effectiveness

Yes	No	Questions
34	23	1
46	11	2
42	15	3
24	33	4
34	23	5
45	12	6
39	18	7
29	28	8
45	12	9
53	4	10
56	1	11
50	7	12

**F- Test**

The following is an f-test analysis conducted on the twelve questionnaire questions.

**Table 9.** F-Test Two-Sample for Variances

	Yes	No
This stands for the Mean	41.41666667	15.58333
This stands for the Variance	94.62878788	94.62879
This stands for the bservations	12	12
This represents ‘df’	11	11
This resrepresents ‘F’	1	
This resrepresents [P(F<=f) one-tail]	0.5	
This slot is for [F Critical one/tail]	2.81793047	

**Table 10.** This table blow depicts Anova: Single resrepresents ‘Factor’

SUMMARY						
resrepresents <i>Groups</i>	<i>Numbers</i>	<i>Additions</i>	<i>Average</i>	<i>Disparities</i>		
Yes	12	497	41.41667	94.62879		
No	12	187	15.58333	94.62879		
This resrepresents ANOVA						
<i>Source of Variation</i>	resrepresents <i>SS</i>	resrepresents <i>df</i>	resrepresents <i>MS</i>	resrepresents <i>F</i>	resrepresents <i>P-value</i>	resrepresents <i>F crit</i>
Occurrence in Groups	4004.167	1	4004.167	42.31447	1.52E-06	4.30095
Within Groups	2081.833	22	94.62879			
Total	6086	23				

The above test measures the analysis of variance on the collected information of the assigned close ended questionnaires. The test

fundamentally checks for the differences between the means of the two research weights: the “no” and the “yes” responses according to the survey’s closed

questions. The test is relevant to the prediction of the reported impacts and positive effects of the Enterprise Resource Planning System as per the respondents' view which is likely to be the case hence relied on by this research. The deduction is allowed by the results based on the twelve characteristics of the system's implementation asked on the questionnaire. The ANOVA test ultimately develops and confirms the results of the conducted survey data.

It was best suited for the research due to its attributed effectiveness on comparative experiments; especially with the surveys interest on "yes" as the confirmed outcome. Measuring the significance of the process is the ratio of the two variances; with a less ration indication reliability on the test. In this case the ANOVA implies an equal ration of the variance on the tested groups with a 94.62879 to 94.62879. This justifies the accuracy of the test considering only two distinct groups were examined. Consequently, the paper can now settle for a deduction that the Enterprise Resource Planning System greatly impacted the accounting mechanisms and standards in the Jordanian organizations.

## RECOMMENDATIONS

Resultantly, this research develops an array of propositions pointing to remedy the adverted flaws on the Enterprised Resource Planning System in Jordnanian enterprise and bank sector accounting mechanisms. Several instances were adequately explicated so does the section seek to recommend on their remedies respectively. Regarding the Jordnanian banking sector and Jordanina companies' implementation of the system, the major flaw expressed by respondents included the inefficiency of its documentation standards. Contending on the issue, the paper proposes that the system development process for new enterprises and maintenance for the existing ones to employ the most recent technologies as asserted by Al-Akra et al., [2009]. For instance; a new organisation seeking to put up the ERP system should consult the best vendors of the system of the functionalities to avoid inheriting generic plartforms which doesn't icorporate their business philosophies.

The cultural issues brought up after the system's incorporation in Jordan posses the greatest challenge (Al-Akra et al., [2009]). However the paper considers the ERP system's attribute to custom-make the solution. Companies in Jordan which find hitches or the mismatches in the Western engineered business plartform can through a software developer or vendor order for a custom model. The consequent factor includes all aspect on the requirement's specification by the architecture model including language.

## CONCLUSION

Finally, a recap on the main elements of the paper explains a perfect overview of the research. Introducing the paper was a brief introduction; defining the Enterprise Resource Planning System, the step was fundamental for the advancement of the paper's further elaboration. Subsequently, the paper stated two hypothesis of the study due to

conduction. The null hypothesis posited a negative proposition concerning the adoption of the Enterprise Resource Planning System, presuming some of its limitations. On the other hand, the alternative hypothesis declared a positive suggestion regarding the system. Following the hypothesis was the research design taken by the research. A theoretical approach was the preference for the study considering the objectives precision. However, the approach was fully backed up by sufficient data from previous related studies (Naash & Khamis, 2009).

Evidence on several companies implementing the system was used concerning portraying its impact on the accounting mechanisms. Comparably, the ideas of the ERP and society of progress have been appeared to be firmly related and commonly supporting. Fundamentally, the theoretical studies are subsequently backed by a series of empirical test on both the open and closed questionnaires. Bucketing techniques is utilized sufficiently to elaborate the role of ERPS on the Jordanian Bromine Company and the Arab Potash companies. Similarly, closed questionnaires of the survey are tested through the Analysis of Variance (ANOVA). The mining organizations contribute to change from the ERP which builds the way of life progress, thusly it will go ahead in the focused globalized environment (Naash & Khamis, 2009). Having set up the collaborations between the ERP what's more, culture of progress, the administration challenge now is to advance the build up the implications and suggestions emerging from the consolidated use of this control.

The cost and schedule overruns necessitates that businesses and particularly financial entities obtains sufficient funding in order to install and implement ERP in their systems effectively. This implies that the government has to ready itself in according any possible assistance to such institutions in order to generate financial, accounting and reporting benefits of ERP.

Ultimately, the documentation issue can be solved by ensuring that every employee is informed of their reckonment by a section of it. That can be enhanced by developing a clear outline of the system's functionalities and phases of operations according to the organisation's hierarchy. Regarding the cost problem on adopting the system, organisations may opt to indulge in extra income generating activities such as leases, share repurchases, merging or opt for loans from the banks. Preferrably, merging between two organisation is efficient since the cost is shared to incorporate the generic system and later the individual companies customize to suite their needs.

## REFERENCES:

1. Al-Akra, Mahmoud, Muhammad Jahangir Ali, and Omar Marashdeh. (2009). Development of accounting regulation in Jordan. *The International Journal of Accounting*, 44, 163-186.
2. Anheier, Helmut K., Stefan Toepler and Regina List, eds., International Encyclopedia of Civil Society, (Springer, 2010)
3. Adhikari, Basudam, and Sarmishtha Majumdar. (2004). Polymers in sensor applications. *Progress in polymer science*, 29 (7), 699-766.



4. Al-Jaghoub S & Westrup, C. (2003). Jordan and ICT-led development: towards a competition State? *Information Technology & People*, 2003.
5. Avison, D. & Malaurent J. (2007). Impact of cultural differences: A case study of ERP introduction in China. *International Journal of Information Management*.
6. Al-Zoubi, Ali. (2011). The Effectiveness of the Accounting Information System Under the Enterprise Resources Planning (ERP): A Study on Al Hassan Qualified Industrial Zone's (QIZ) Companies. *Research Journal of Finance and Accounting*, 2(11).
7. Cashlessindia.gov. Guidelines for Adoption of Electronic Payments and Receipts (EPR), 2016. Available from <http://cashlessindia.gov.in/Guidelines%20for%20adoption%20of%20EPR%20-%209Nov2016.pdf>
8. Costa, A; Ferreira, C.; Bento, E.; Aparicio, F. (2016). Enterprise resource planning adoption and satisfaction determinants. *Computers in Human Behavior*, (63), 659-671. doi:10.1016/j.chb.2016.05.090
9. DAL. (2015). USAID Jordan Fiscal Reform Project Produces Video on New Budgeting Tool. Available from <https://www.dai.com/news/usaids-jordan-fiscal-reform-project-produces-video-new-budgeting-tool>
10. DAL. (2016). Jordan Fiscal Reform Project II and Bridge Activity (FRP II, FRP Bridge). US Agency for International Development. Available from <https://www.dai.com/our-work/projects/jordan-fiscal-reform-project-ii-and-bridge-activity-frp-ii-frp-bridge>
11. Dahmash, Firas Naim, et al. (2012). Application Extent of the Enterprise Resource Planning Systems (ERP) Main Components in the Jordanian Industrial Public Firms." work 3.8 (2012).
12. Dezdar, S., Ainin, S. (2011). The influence of organizational factors on successful ERP Implementation. *Management Decision*, 49 (6), 911-926.
13. Grabski, Severin V., and Stewart A. Leech. (2007). Complementary controls and ERP implementation success. *International Journal of Accounting Information Systems*, 8 (1), 17-39.
14. Gelder, Ken. (2007). *Subcultures: Cultural Histories and Social Practice* (Routledge, March 2007; softcover ISBN 0-415-37952-0)
15. International Financial Reporting Standards. (2015). *Global Standards for the world economy*. Available <http://www.ifrs.org/About-us/IASB/Pages/Home.aspx>
16. IFAC. (2012). Basis of ISA adoption by Jurisdiction. Available from <https://www.ifac.org/system/files/uploads/MBD/Basis-of-ISA-Adoption-by-Jurisdiction-August-2012.pdf>
17. Joshi, P. L., Wayne G. Bremser, and Jasim Al-Ajmi. (2008). Perceptions of accounting professionals in the adoption and implementation of a single set of global accounting standards: Evidence from Bahrain. *Advances in Accounting*, 24 (1), 41-48.
18. Jordan, Mark. Challenges and Issues in Global ERP Implementation. Available from [http://web.mst.edu/erpcenter/lecture/Mark\\_Jordan\\_2009.pdf](http://web.mst.edu/erpcenter/lecture/Mark_Jordan_2009.pdf)
19. Karim, Akram, The significance of management information systems for enhancing strategic and tactical planning. *JISTEM J.Inf.Syst. Technol. Manag. (Online)* vol.8 no.2 São Paulo 2011.
20. Lumsden, Joanna, and Wendy Morgan. (2005). Online-questionnaire design: establishing guidelines and evaluating existing support.
21. Rabaai, A. (2009). The impact of organizational culture on ERP Systems Implementation: Lessons from Jordan. Pacific Asia Conference on Information Systems (PACIS), PACIS 2009 Proceedings.
22. Scannell, Kara and Chon Gina, "Cyber insecurity: When 95% isn't good enough" July 28, 2015 Available from <https://www.ft.com/content/251a40ea-2fcf-11e5-91ac-a5e17d9b4cff>
23. Schniederjans, D & Yadav, S n.d. Successful ERP Implementation: An Integrative Model, Emerald Group Publishing (2014), 78 (2), 411-896.
24. Seo, Goeun. Challenges in implementing enterprise resource planning (ERP) system in large organizations: similarities and differences between corporate and university environment. Diss. Massachusetts Institute of Technology, 2013.
25. Project Management Institute.(PMI) "Project Risk Management Practice Standard". 2009. Available from <https://www.pmi.org/pmbok-guide-standards/framework/practice-standard-project-risk-management>.

## APPENDIX 1: QUESTIONNAIRE

### The Questionnaires

The appendix was a framework of the questionnaires with questions that were used to retrieve information from the Jordanian companies Account departments. Open-ended dichotomous questionnaires and closed ended ones were administered to the firms' financial managers and the accountants. The questionnaires were uploaded to the companies' web portal; precisely in the Finance Department page through the systems manager from the boards consent. Certain measures were employed to ensure that the respondents got access to the page conveniently. Among them was the request to present the questionnaire as a popping ad in the web portal so that the respondents can easily access it. However, the employee identification was required to authenticate the assignment. To enhance the response also was the technique to present the questionnaire as a webpage; hence had to be designed as opposed to attaching a document file which would be quite unamusing to fill. On the other hand, the survey was considerate of the fact that not all respondents would be suited by the online platform; therefore, traditional hardcopy document files were made for the same and issued to the department as well. Further elaboration of the questionnaire design will be elaborated later in the paper.

### Population of the Study

#### Bromine Company and Arab Potash Jordanian Companies

A total thirty five hard copy questionnaires were assigned to Jordan Bromine Company Finance and Accounts department so is to the Arab Potash Company. That was considered adequate for the number of respondents who were not conversant with online procedures on taking the survey. Similarly, the number of the hard copy questionnaires was considered suitable for the survey in case of any system faults from the online survey platform in input, network connection inconveniences or power failure. Consequently, the number of respondents expected to take the survey

here was estimated to thirty five, consisting of; the vice president, the director/controller, accounting managers, accountants and analysts, accounting clerk and finally the file clerk. File clerks and accounting clerks were asked to fill the survey questions purposefully, to distinguish the work design employed after the implementation and consequent applcaitional usage of the Enterprise Resource Planning System. The survey seeks to outline the roles of the mentioned hierarchical workforce of the companies' accounting department so as to layout an understanding of their relevance in this survey.

a. The Vice President

Also referred to as the Chief Financial Officer (CFO). At the highest point of the bookkeeping hierarchical outline is the CFO or VP of bookkeeping, or finance, contingent upon organization structure. What number of chiefs are under the CFO or VP relies on upon the extent of the organization; however only single heads were reported on both of the survey companies. Small organizations would just have a supervisor or controller straightforwardly underneath this position. The CFO or VP is an individual from the official group and for the most part reports specifically to the head of operations, the president or the chief administrative officer, however the organization is set up. In the case of Jordan Bromine and Arab Potash companies, the VP of bookkeeping answers to the Chief Administrative Officer. However the VP of the head office self-hoveringly deals with the bookkeeping exercises at the particular area.

b. Controller or Director

Since the survey organizations oversee generation at a few unique offices; they have a controller or chief who reports to the VP of finance or CFO at the corporate or head office level. In the contrary, in little organizations, this position would be an accounting administrator's position, as there would not be a controller or chief.

c. Bookkeeping Managers

The Jordanian Bromine and Arab Potash companies have three accounting directors, including: a records receivable supervisor, a records payable chief and a finance head or administrator. In a little organizations, there would be one individual dealing with every one of these viewpoints in bookkeeping. Accounting supervisors report specifically to the controller, the VP or the CFO, again relying upon the organization size.

d. Accountants and Analysts

Bookkeepers and investigators come next in this progressive natural pecking order. Bookkeepers have direct obligation regarding their field of mastery - investigation, reporting, finance, invoicing, accounts payables or receivables, seller capability and the sky is the limit from there. In the survey's organizations, these obligations are however isolated on account of the workload; hence the accountants and analysts. In little organizations, the bookkeeper may perform these obligations. Bookkeepers and investigators report specifically to the bookkeeping chief or controller. Nevertheless, the study regarded the position as the same for the reason of its extensiveness. Isolating the positions would unnecessarily highlight on a similar characteristic of the respondents.

e. Bookkeeping Clerk

The agent handles the everyday exchanges and, similar to the bookkeepers, reports to the bookkeeping administrator or controller, yet more often than not works under the auspices of the bookkeepers and analysts. Agents enter the information into the PC and may prepare creditor liabilities, finance, accounts receivables and then some. The inclusiveness of the position was considered meaningful in the survey considering the study's thesis and the role impacted by ERP systems in the traditional role of the position.

f. File Clerk

To wrap things up in the bookkeeping pecking order is the document assistant. Typically prepared as a reinforcement to the bookkeeping representative, the document assistant guarantees all records are stayed with as indicated by strategy, documented conveniently, and gets appointed assignments from those higher up in the chain as required. The file clerk is an important respondent in the survey as a speculation was made that the individuals barely find a role to play considering the ERP system functionalities.

Table 1 below depicts the number of respondents used for the integrated studies on Jordanian companies. Distinctively, the two companies were mineral based; The Arab Potash and Jordan Bromine Company. According to the response obtained, the top three positions in the hierarchy received full response (100%) comprising of the VP, Controller and the Accounting managers. However the subsequent positions in the hierarchy received invariable response due to various expected and unexpected circumstances. The subsequent table 1.1 depicts the copies assignment according to the department's workforce.

Table 1. Traditional Questionnaire Survey Copies

Company	Number of Questionnaires	%
Jordan Bromine Company	35	50
Arab Potash Company	35	50
TOTAL	70	100

**Table 1.1**

Departmental Postions	Number of Qustionnaires Issued	Number of Returned Questionnaires	Response Analysis (%)
The Vice President	2	2	2.9
Controller or Director	2	2	2.9
Bookkeeping Managers	6	6	8.6
Accountants and Analysts	40	34	48.6
Bookkeeping Clerk	10	7	1
File Clerk	10	6	8.6

TOTAL RESPONSE
57 respondents
72.6 %