Adopting Modern IT Systems Is Vital in Employing Accountants and Internal Auditors (Educational Perspective): A Case Study in Jordan Cement Company – Lafarge

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ABSTRACT

This study aimed at identifying the role of adopting accounting information systems as a modern IT tool within the employment process inside both of accounting department and internal audit and control department in the practical field. The study depended on the following dimensions (IT infrastructure, information system transformation and IT skills) as a base for employment in the organization, which form the independent variables, while the employment process for accountants and internal auditors forms the dependent variables.

By using the analytical descriptive method, a questionnaire was developed and distributed, consisting of (38) sections connected with the study variables within the study society (Jordan Cement Company - Lafarge) as a case study. The society of the study was all of the employees in accounting, internal audit and control and HR departments with a total of 34 employees.

The results showed that there was a role of adopting modern IT systems on the employment process for accounting department and internal audit and control department. The modern information system transformation had made the greatest contribution in accountants' and internal auditors' employment process.

Considering the study results, several recommendations are made, including improving and developing educational skills for accountants. The study recommends educational accounting departments inside universities to employ faculty members who have the capabilities to teach and use information systems in the practical fields of accounting or auditing. Also, organizations need to support employees' training to improve their IT skills to match the needs within the computerized information systems transformation.

Keywords: Modern Accounting Information Systems**,** IT, Employment Process, Education Process, Accountants, Internal Auditors.

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أهمية اعتماد أنظمة تقنيات المعلومات الحديثة في توظيف المحاسبين والمدققين الداخليين (منظور تعليمي): دراسة حالة في شركة الإسمنت الأردنية – لافارج

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ملخص

تهدف الدراسة الحالية إلى تحديد دور تبني نظم المعلومات المحاسبية كأداة حديثة لتقنيات المعلومات في عملية التوظيف داخل كل من قسم المحاسبة وقسم التدقيق والرقابة الداخلية في الحقل العملي. اعتمدت الدراسة الأبعاد التالية (البنية التحتية لتكنولوجيا المعلومات، وتحول نظام المعلومات، ومهارات تقنية المعلومات) كقاعدة توظيف للمنظمة تشكل المتغيرات المستقلة، وتشكل عملية توظيف المحاسبين والمدققين الداخليين المتغير التابع.

باستخدام المنهج الوصفي التحليلي، تم تطوير استبانة تتكون من (38) قسمًا ترتبط بمتغيرات الدراسة، وتم توزيعها داخل مجتمع الدراسة (شركة إسمنت الأردن – لافارج) على جميع الموظفين في أقسام المحاسبة والتدقيق والرقابة الداخلية والموارد البشرية بمجموع 34 موظفًا.

أظهرت النتائج وجود دور في تبني تقنيات المعلومات الحديثة في عملية التوظيف لكل من أقسام المحاسبة والتدقيق والرقابة الداخلية. وساهم تحول نظم المعلومات الحديثة مساهمة كبيرة في عملية توظيف المحاسبين والمدققين الداخليين.

بالنظر إلى نتائج الدراسة، تم تقديم العديد من التوصيات، بما في ذلك تحسين وتطوير المهارات التعليمية للمحاسبين حيث تنصح الدراسة الأقسام المحاسبية التعليمية داخل الجامعات بالعمل على توظيف أعضاء هيئة تدريسية لديهم إمكانات وقدرات لتدريس أنظمة المعلومات واستخدامها في الجانب العملي للمحاسبة والتدقيق، كما توصي الدراسة المنظمات بأن تدعم تدريب الموظفين للعمل على تحسين مهاراتهم في تقنيات المعلومات لتتناسب مع الاحتياجات في التحول إلى أنظمة المعلومات المحوسبة.

الكلمات الدالة: نظم المعلومات المحاسبية الحديثة، تقنيات المعلومات، عملية التوظيف، العملية التعليمية، المحاسبون، المدققون الداخليون.

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INTRODUCTION

Technology is an integral part of living in the 21th century (Cloete, 2017). In addition, technology and systems have changed a wide range of jobs over the past decades, where digital languages have replaced the traditional languages of business. It is not only about careers in technology fields, but also about other careers that interact with technology, such as accountants and auditors. (Al Manaseer et al, 2019) emphasized that there is a positive impact of information technology on organizational performance. (Daft, 2010) mentioned that information systems are an essential source for providing management with appropriate information in view of the decision-making process.

Employment in IT industry rose quickly, as many businesses began to invest in computer systems. Between 2001 and 2011, employment in computer system design and related services increased by 232,300 jobs (Csorny, 2013). This reflects the skills of accounting information systems needed by employers in the process of employing accountants and internal auditors.

Accountants and internal auditors form one of the employee groups where employers are looking for skilled and will-prepared employees to meet the working field requirements, especially within an environment full of technological tools.

Jordan Cement Company – Lafarge is one of the major manufacturing companies in Jordan. Today, it faces a kind of fierce competition with other cement companies that started in 2008 (where the company had a monopoly agreement with the Jordanian government for 10 years starting in 1998). Therefore, the company's policy is now looking for hiring employees with high level of knowledge and skills, especially in the modern computerized environment.

Thus, this study illustrates what dimensions affect the employment process in the accounting, internal audit and control departments under the presence of modern computerized accounting information systems. Therefore, how this will be reflected on the education process of accounting students inside education organizations will be clarified throughout the study.

The use of information technology has become widespread because of the speed and accuracy of these technologies in the completion of work. This makes the education process face challenges concerning how to improve and develop the knowledge and skills of students to meet the needs of practical fields.

(Cloete, 2017) clarified that technology is more than gadgets that could be utilized, meaning also implying an attitude towards life.

Study Questions

The following questions can form the study problem about what is the role of accounting information systems' skills in the employment process within accounting, internal audit and control departments in Jordan Cement Company – Lafarge.

The main question of the research is:

Is there a significant impact at the level of ($\alpha \leq 0.05$) for accounting information systems on the employment process inside accounting and internal audit and control departments?

The following are sub-questions of the main question:

1-1 Is there a significant impact at the level of ($\alpha \leq 0.05$) for IT infrastructure on the employment process in accounting and internal audit and control departments?

1-2 Is there a significant impact at the level of ($\alpha \leq 0.05$) for the transformation to computerized

information systems on the employment process inside accounting and internal audit and control departments?

1-3 Is there a significant impact at the level of ($\alpha \leq 0.05$) for IT skills on the employment process inside accounting and internal audit and control departments?

Literature Review

Large organizations adopt modern technology to enhance the decision-making process. Small and medium-sized enterprises (SMEs) also use information and communication technology to participate in the international market (Al Bar and Hoque, 2017). Thus, the use of IT inside organizations and SMEs needs IT infrastructure and skilled employees who can deal with the computerized environment.

(Gibbs, 2017) mentioned that the information technology revolution has had dramatic effects on jobs and the labor market. Also, the report of the (World Bank Group, 2015) entitled: "The Effect of Technology on Employment and Implications for Public Employment Services" mentioned that the most important interventions are related to skill development. There are many worldwide programs that focus on bridging the gap between formal education and employable skills and competencies. This indicates the importance of IT within the employment field.

With regard to employee IT skills, there are many studies in human resources (HR) management which indicated the role of IT in (HR) systems and operations, such as (Qubailat, 2013) who found that there is a positive relation between IT dimensions (clearance of IT importance, transformation to electronic management, IT infrastructure and e-learning services) and (HR) management. Also, (Zisiadis, 2015) and (Rafaeli, 2007) revealed that there is a need to understand the relation between human resources and technology and that there is a positive dimension of the performance of employees who have computer skills compared to others who lack these skills. This means that (HR) is now focusing on IT skills as a (PKI – Performance Key Indicator) for employees within the organization.

The importance of new audit applications and the extent of their use are greatly influenced by the IT experiences of auditors and policies of electronic data retention and security (Tarek et al., 2017). Thus, emphasis on IT and system skills is vital for accountants and auditors to be employed within the practical field. Also, (Zureigat, 2015) found that employers in Saudi Arabia considered computer skills among the most important skills needed for accounting graduates.

In addition, other researchers have indicated that employers value more generic skills, because they enable employees to make successful use of their acquired technical skills (Jackling and De Lange, 2009). Moreover, this means that computerized systems are spreading wildly through the business environment which also needs the necessary infrastructure to meet computerized environment requirements.

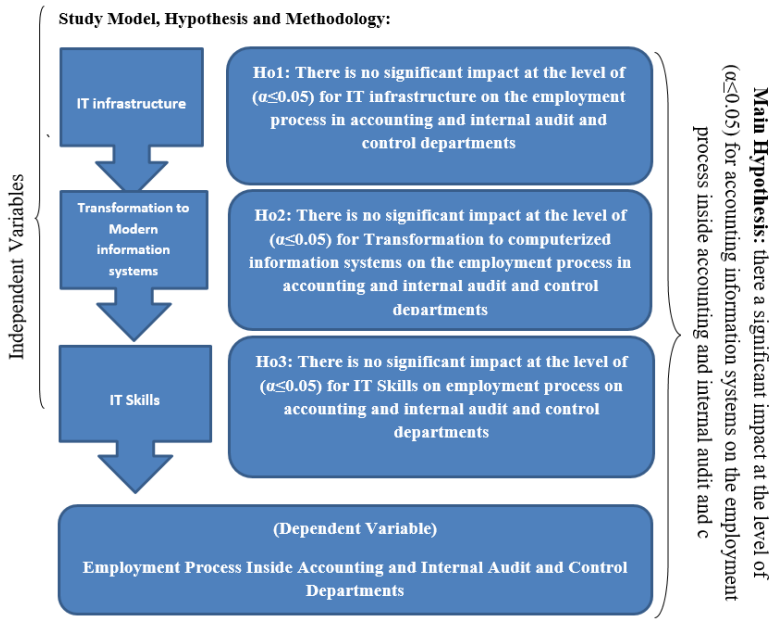
Teaching process in accounting departments within universities needs to improve education plans and syllabus to be more in parallel with modern IT using internal practical fields. This should be reflected on universities accounting students. Thus, Hakim (2016) concluded that there is a perception gap between employers and fresh graduates about the preparedness for the accounting profession.

(Law et al., 2016) found that in accounting research, employers' expectations of an ideal accounting graduate in terms of technical skills, require at least a sound understanding of the fundamental accounting skills.

Also, in a comparative study between traditional accounting and cloud accounting, (Lonescu et al., 2013) came out with that cloud accounting operations can be moved to cloud-based electronic platforms for cost savings and this is an indicator of the role of knowledge and skills related to modern information systems in the employment process for accountants and internal auditors.

Moreover, Fichten et al. (2015) asked: What Do College Students Really Want When It Comes to Their Instructors' Use of Information and Communication Technologies (ICTs) in Their Teaching? The answer revealed that students have tendencies to (ICTs) within their teaching process by their instructors.

(Cloete, 2017) was wondering about how technology plays a central role in education today and concluded that the integration of technology in education should be realized and could be directly linked to other social developments and processes in order to utilize technology more effectively and in a responsible manner in education. Thus, this is an indication of the vital role of the needed (IT) skills within the educational process for accounting students to meet current practical field requirements.



Study Methodology

The research adopted the analytical descriptive methodology to identify whether there is any role for accounting information system dimensions (IT infrastructure, transformation to computerized information systems and IT skills) on the employment process inside accounting and internal audit and control departments in Jordan Cement Company – Lafarge.

For achieving the study objectives, a group of accountants, internal auditors and human resource employees inside Jordan Cement Company – Lafarge was selected and a questionnaire was developed as a primary study tool and distributed o 34 employees to answer the study questions and then to be analyzed statistically, in addition to test the validity of hypotheses in order to provide a conclusion and

recommendations based on the results. The most appropriate statistical method for determining this effect is the parametric method which is the most appropriate one for the nature of the data collected.

The questionnaire contained two parts; the first part was developed to collect the demographic data about the study members, while the second part was developed to identify the dimensions related to (IT) and accounting information systems.

Lafarge Cement Jordan (Background)

Jordan Cement Factories (JCF) was established in 1951 in Fuheis with a plant and a head office. The Fuheis site was chosen due to its proximity to water sources and the abundance of geological formations suitable for cement manufacturing. The first cement production line began operating in 1954 with a daily capacity of 200 tons of clinker. (JCF) is the leading cement company in Jordan and one of Jordan's largest and oldest industrial companies. It was established in 1951 as a shareholding company with a capital of JD 1 million. In 1985, (JCF) acquired the Southern Cement Company and raised its capital to JD 60 million.

In 1998, the Jordanian Government sold 33% of its shares to the France-based Lafarge Holcim Group- a world leader in the cement industry and currently the strategic partner of Jordan Cement Factories. Today, Lafarge Holcim Group owns 50.2% of the company's shares.

The company owns two cement plants, one in Fuheis and another in Rashadiyah and has an export terminal in Aqaba that was established in 1992. Lafarge Cement of Jordan currently produces 4 million tons annually and currently ranks in the first place in the cement industry and in the third place in concrete. Other four cement companies started producing cement in Jordan in 2008, which directly affected the market share of Lafarge Cement of Jordan.

Data Analysis

- **Main Hypothesis Testing Results**

Table (1): Multiple Regression Test Results for the Impact of Accounting Information Systems on the Employment Process Inside Accounting, Internal Audit and Control Departments

Dependent Variable	Std. Error	β	Calculated (T)	(T) Sig.
IT infrastructure	0.083	0.130	1.735	0.084
Transformation to computerized information systems	0.082	0.268	0.268	0.001*
IT skills	0.075	0.219	0.219	0.002*
(R) Coefficient of correlation	0.784			
(R^2) Coefficient of determination	0.615			
(R^2_{Adj})	0.607			
Calculated (F)	77.346			
Degree of freedom (DF)	4/194			
Scheduled (F)	2.37			
Sig.	0.00*			
Main Hypothesis Result	**Reject**			

* Significant at the significance level of ($\alpha \leq 0.05$).

Table 1 shows that there is a statistically significant impact for modern computerized accounting information systems on the employment process inside accounting and internal audit and control departments in Lafarge Cement of Jordan, where the level of significance (0.00) was shown by the value of calculated (F) (77.346), which is greater than the scheduled value (2.37) at the level of significance ($\alpha \leq 0.05$), which indicates the significance of this model. The R^2Adj value (0.607) indicates that the computerized accounting information systems explained (60.7%) of the change in the employment process inside accounting and internal audit and control departments.

In addition, we can note that there is a contribution of transformation to computerized information systems and IT skills to the employment process inside accounting and internal audit and control departments in Lafarge Cement of Jordan, while there is no contribution of IT infrastructure regarding **β** and (T) values.

- **Ho1 Testing Results**

Table (2): IT Infrastructure Impact on the Employment Process Inside Accounting, Internal Audit and Control Departments

Dependent Variable	(Sig.)	Calculated (T)	Scheduled (T)
IT infrastructure	0.00*	12.738	1.96
(R)	0.672		
(R^2)	0.452		
(R^2_{Adj})	0.449		
DF	198		
Ho1 Result	**Reject**		

* Significant at the significance level of ($\alpha \leq 0.05$).

Table 2 shows the simple linear regression test that was used with one independent component (IT infrastructure) and one dependent variable (employment process inside accounting and internal audit and control departments). The results indicate a statistically significant effect at the level of ($\alpha \leq 0.05$), where the level of significance was (0.00). In addition, the calculated value of (T) was (12.738), which is greater than the scheduled value (1.96). The value of (R^2_{Adj}) (0.449) indicates that the IT infrastructure explained 44.9% of the changes in the employment process inside accounting and internal audit and control departments in Lafarge Cement of Jordan. The relation is strong and positive between the variables, the value of R = 67.2%. Therefore, the first hypothesis was rejected.

- **Ho2 Testing Results**

Table (3): Transformation to Computerized Information Systems Impact on the Employment Process Inside Accounting and Internal Audit and Control Departments

Dependent Variable	(Sig.)	Calculated (T)	Scheduled (T)
Transformation to computerized information systems	0.00*	14.121	1.96
(R)	0.709		
(R^2)	0.503		
(R^2_{Adj})	0.501		
DF	198		
Ho1 Result	**Reject**		

* Significant at the significance level of (α≤0.05).

Table 3 shows the simple linear regression test that was used with one independent component (transformation to computerized information systems) and one dependent variable (employment process inside accounting and internal audit and control departments).

The results in Table 3 indicate a statistically significant effect at the level of (α≤0.05), where the level of significance was (0.00).

In addition, the calculated value of (T) was (14.121), which is greater than the scheduled value (1.96).

The value of (R^2_{Adj}) (0.501) indicates that the transformation to computerized information systems explained 50.1% of the changes in the employment process inside accounting and internal audit and control departments in Lafarge Cement of Jordan.

The relation is considered strong and positive between the variables and the value of R = 70.9%. Therefore, the second hypothesis was rejected.

- **Ho3 Testing Results**

Table (4): IT Skills Impact on the Employment Process Inside Accounting and Internal Audit and Control Departments

Dependent Variable	(Sig.)	Calculated (T)	Scheduled (T)
IT skills	0.00*	12.768	1.96
(R)	0.673		
(R^2)	0.453		
(R^2_{Adj})	0.450		
DF	198		
Ho1 Result	**Reject**		

* Significant at the significance level of (α≤0.05).

Table 4 shows the simple linear regression test that was used with one independent component (IT skills) and one dependent variable (employment process inside accounting and internal audit and control departments).

The results indicate a statistically significant effect at the level of ($\alpha \leq 0.05$), where the level of significance was (0.00).

In addition, the calculated value of (T) was (12.768), which is greater than the scheduled value (1.96).

The value of (R^2_{Adj}) (0.450) indicates that the IT skills explained 45% of the changes in the employment process inside accounting and internal audit and control departments in Lafarge Cement of Jordan.

The relation is considered strong and positive between the variables and the value of R = 67.3%. Therefore, the third hypothesis was rejected.

Conclusions

Accountants and internal auditors are facing challenges nowadays; they should have the required skills needed to fit with the practical fields.

Depending on statistical testing and data analysis, the study found that the employment of accountants and internal auditors is affected by accounting information systems within the three main dimensions (IT infrastructure, transformation to computerized information systems and IT skills).

The results indicated that the dimension "transformation to computerized information systems" had the greatest impact on and contribution to the employment process in accounting and internal audit and control departments by 50.1%, followed by the dimension "IT skills" which came in the second place and then by the "IT infrastructure", where both had close impacts with 45% and 44.9%, respectively.

The advanced and accelerated technology has affected job designing and employment in several dimensions. Therefore, necessary recommendation and policy advice must be presented to universities and colleges, as they need to take into consideration the updating of academic contents of accounting education plans and syllabuses to enrich them with subjects related to information systems (design, analysis, practicing, audit and control). This can be clarified by more integration and corporation between organizations and universities in practical fields.

(Zureigat, 2015) also agreed with that when he recommended that accounting education should consider the restructuring of its programs in order to equip accounting graduates with the skills needed for the labor market. Also, (King et al., 2015) recommended the using information and communication technologies to reach "exemplary practices" in the use of (ICTs) and e-learning in colleges.

Today, more than ever, an inquiry comes to the surface here whether the education fields interacting with (IT) need to be renamed and reformulated, where they require some degree of (IT) knowledge. The practical fields do not only need employees who can deal with information technology, but also instructors and trainers who can deliver the qualified employees to practical fields. Managements inside companies are required to take into consideration the skills related to the use of IT systems for efficient performance.

Results of a study done by (El-Dalahmeh, 2017) in Jordan business environment showed that the Jordanian business environment needs new accounting graduates who have IT knowledge. The results revealed that both small and large companies seek new accounting graduates who possess a very good understanding of computer application programs.

(Hlásná and Klímová, 2017) studied the use of

(ICTs) in the primary education level, where the study recommended the need for adequate and continuous training courses to ensure that teachers have relevant competencies in using (ICTs) in their classrooms. Based on that, this is a priority to be taken into consideration within higher education levels. Also, based on that, there is a future research recommendation to evaluate the extent of using (ICTs) for accounting students.

Finally, the study recommends accounting educational departments inside universities to consider the professors' own capabilities in the teaching process, in order to use and deliver technology in their accounting teaching.

REFERENCES

Al Bar, Adnan Mustafa and Hoque, Md. Rakibul. 2017. Factors Affecting the Adoption of Information and Communication Technology in Small and Medium Enterprises: A Perspective from Rural Saudi Arabia. ***Journal of Information Technology for Development***, Commonwealth Secretariat, https://doi.org/10.1080/ 02681102.2017.1390437.

Al Manaseer, Mothana, Maqableh, Mahmoud, Alrowwad, Ala'aldin and Masa'deh, Ra'ed. 2019. Impact of Information Technology on Organizational Performance in Jordanian Public Entities. ***Jordan Journal of Business Administration***, 15 (4): 489-516.

Cloete, A.L. 2017. Technology and Education: Challenges and Opportunities'. ***HTS Teologiese Studies/Theological Studies***, 73 (4): a4589. https://doi.org/ 10.4102/hts. v73i4.4589.

Csorny, Lauren. 2013. ***Careers in the Growing Field of Information Technology Services***. U.S. Bureau of Labor Statistics (BLS), 2, 3.

Daft, R.L. 2010. ***Organization Theory and Design***. South-Western Collage Pub., Cincinnati ,Ohio, U.S.

El-Dalahmeh, Suleiman Mustafa. 2017. Information Technology (IT) Competencies Desired in New Accounting Graduates: A Survey in Jordanian Business Environment. ***International Journal of Business and Management***, 12: 207.

Fichten et al. 2015. What Do College Students Really Want When It Comes to Their Instructors' Use of Information and Communication Technologies (ICTs) in Their Teaching? ***International Journal of Learning, Teaching and Educational Research***, 14: 173.

Gibbs, Michael. 2017. How is New Technology Changing Job Design? ***IZA World of Labor 2017: 344***.

Hakim, Rima Rosa Chaar. 2016. Are Accounting Graduates Prepared for Their Careers? A Comparison of Employees' and Employers' Perceptions. ***Global Review of Accounting and Finance***, 7: 13.

Hlásná and Klímová, Poulová. 2017. Use of Information and Communication Technologies in Primary Education: A Case Study of the Czech Republic. ***International Electronic Journal of Elementary Education***, 9 (3): 681-692.

https://www.lafarge.com.jo (Visited in Feb. 2019).

Jackling, B., & de Lange, P. 2009. Do Accounting Graduates' Skills Meet the Expectations of Employers? A Matter of Convergence or Divergence. ***Accounting Education: An International Journal***, 18: 369.

King, Laura, Jorgensen, Mary, Lussier, Alex, Fichten, Catherine, Havel, Alice, Amsel, Rhonda, Poldma, Tiiu, Budd, Jillian, Jorgensen, Shirley, Marcil, Evelyne, Nguyen, Mai Nhu, Chauvin, Alexandre, Asuncion, Jennison. 2015. ***Student and Professor Perspectives on Exemplary Practices in the Use of***

Information and Communication Technologies (ICTs) and e-Learning in Colleges. Report of a project funded by the Fonds de recherche du Québec –Société et culture (FRQSC) and its partner the ministère de l'Éducation et de l'Enseignement supérieur (MEES) for the program Actions concertées Persévérance et réussite scolaire.

Lonescu, Bogdan et al. 2014. ***Traditional Accounting Vs. Cloud Accounting***. Conference Paper, 19.

Low, Mary et al. 2016. Accounting Employers' Expectations: The Ideal Accounting Graduates. ***e-Journal of Business Education & Scholarship of Teaching***, 10: 42.

Qubailat, Ahmed. 2013. ***Impact of Information technology on Human Resources Systems and Operations in Jordan Telecommunications Company***. Master Thesis, Um Dorman Islamic University, Sudan.

Rafaeli, Anat. 2007. Employee Attitudes Toward working with Computers. ***Journal of Organizational Behavior***, 7 (2).

Tarek, M., Mohamed, E.K., Hussain, M. M., & Basuony, M.A. 2017. The Implication of Information Technology on the Audit Profession in Developing Country: Extent of Use and Perceived Importance. ***International Journal of Accounting & Information Management***, 25 (2): 237-255.

World Bank Group. 2015. The Effect of Technology on Employment and Implications for Public Employment Services. Report prepared for the ***G20 Employment Working Group Meeting***, Turkey 6-8 May 2015, 11.

Zisiadis, Miltiadis. 2015. ***Human Resource Management with Information Technology: A Systematic Literature Review***. Master Thesis 2-year level, 15 credits.

Zureigat, Qasim Mohammad. 2015. Accounting Graduates' Skills and Employers' Needs: The Saudi Case. ***Jordan Journal of Business Administration***, 11: 235.