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Full Length Research Paper

Accounting professionals' perceptions concerning the influence of information technology in decision-making process

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Accounting role today as a primary provider of information to organizations becomes more and more prominent; its agent executor, the accountant, makes extensive use of information technology both in generating information and in decision-making. The aim of this study consists of mapping out accounting professionals' perceptions regarding the influence of information technology on the individual decision-making process. An online questionnaire was developed. It replicated the Decision-making process instrument along with questions to characterize the respondents, as well as the application they had been using in their professional activity and in their organization. 362 (three hundred sixty-two) answers were obtained back. Factor Analysis was used to have them validated, and *Cronbach's Alpha* coefficient to check their reliability of scale. Such a process made the main findings described here possible. Such findings show that the benefits of information technology are higher at the beginning, in Intelligence phase; smaller and equivalent to each other, in Design, Selection and Implementation phases. Accounting professional's role in the three levels of the decision-making process (operational, tactical and strategic) has also been examined by applying *Cluster Analysis*, which resulted in the conception of five groups of respondents: The Trainees, Operational Managers, Department Heads, Vice-directors and General-directors.

Key words: Information technology, accounting, decision-making process.

INTRODUCTION

In the twentieth century the dominant thinking was that the administrative reality should be rational, controllable and capable of being standardized. As a result, the

decision-making process was essentially logical and centered in the chief executive officer (CEO) of the organization. It was thought that such an executive

should possess a full knowledge of all alternatives and their consequences, since he did not need to explain the criteria he had been using to make his choices (Pereira, 2003).

From the 1960s on, according to Pereira et al. (2007), IT (Information Technology) began to be used, through mathematical models, to support the decision-making process. At the time, it was expected that the resources made available by IT would enable the analysis of several alternatives and their consequences. In the last decades, contrasting such expectations, according to these same authors, an increasing in complexity, hostility and unpredictability of the external environment on businesses organizations have been seen, thus turning the decision-making process difficult. Ruggiero and Godoy (2006) also say that the decision-making process in organizations has been changing, due mainly to the advancement speed of IT.

In recent years, the organizational environment is becoming more competitive and complex, causing greater difficulties for managers to make informed decisions. Therefore, information becomes of paramount importance for the present and future organizations: the main feedstock used at the operational, tactical and strategic levels of any decision-making process. Sacilotti (2011) says that organizations using information technology either to support their decisions or as a strategic tool of management are a step ahead of those which still do not use it.

It is true that technology alone is not capable of supplying all organizational needs. The human element, according to Santana (2004), plays a major role in the use of technology, and in the interaction with every other component. Its absence results in a non-functional and useless technology. It is therefore important for organizations to be attentive to the integration of IT with their users in order to ensure the flow of information in a safety way and in the right time in all their decision-making levels. In such a context, accounting has an important role to provide relevant economic, physical, productive and social information to help users judge and confidently take their own decisions.

Considering the importance of accounting, as a primary provider of information on transactions and / or business events, the accountant, as an agent, has a prominent role in organizations as he intensively uses information technology to carry out and perform his duties (Borinelli, 2006). In this sense, the AICPA (2011) considers the ability to use IT effectively and efficiently as one of the main competencies required from accounting professionals.

To understand how IT impacts on organizations, at individual level and on the professional activity of the actors, that is, accounting professionals, is not only

challenging but a great opportunity for further studies. Torkzadeh and Doll (1999) say that the study of the impact of IT in organizations is wide and multifaceted because it provides many research opportunities and significant challenges.

Antonelli et al. (2010) have used some national and international journals, which were published from 2005 to 2009, as a database in order to investigate the thematic and methodological trends of researches on the impact of IT in organizations. One of their findings refers to the lack of research at the individual level, just two out of 38 selected articles. Such results are in accordance with Torkzadeh and Doll (1999) study which, at the time, revealed there was no research centered on the individual level.

Therefore, this article aims to answer the following research question: What are the perceptions of accounting professionals about the influence of information technology in the Intelligence, Design, Selection and Implementation phases of the decision-making process? Consequently, the aim of this study consists on mapping out such professionals' perceptions regarding the influence of information technology in the individual process of decision-making.

The study of the benefits of IT at the level of the individual, in the decision-making process, is particularly important due to accountants' need (1) to generate information to managers, (2) to consider the human factor in IT-related studies, and (3) to fulfill the absence of researches related to accounting professionals, approaching the individual.

Benefits of information technology in the decision-making process

Simon (1916-2001) is considered a groundbreaking in studies on the process of decision-making. For Simon (1960), decision-making is the most important and risky task for any executive agent, whose responsibility is not only making own decisions, but also making the organization itself to take decisions effectively. Following Simon (1960), other studies have come up with different approaches. Regardless of the decision-making model under consideration, all of them have common features. In this sense, the study of different approaches provides a more comprehensive view of the process since every author always brings some differentiated elements (Luciano, 2000).

Simon (1960, 1977) says that decisions may be programmable or non-programmable, and arranged in stages. Such decisions make up a continuum, from highly programmed to extremely unplanned ones. Programmable (or structured) decisions are repetitive, routinely,

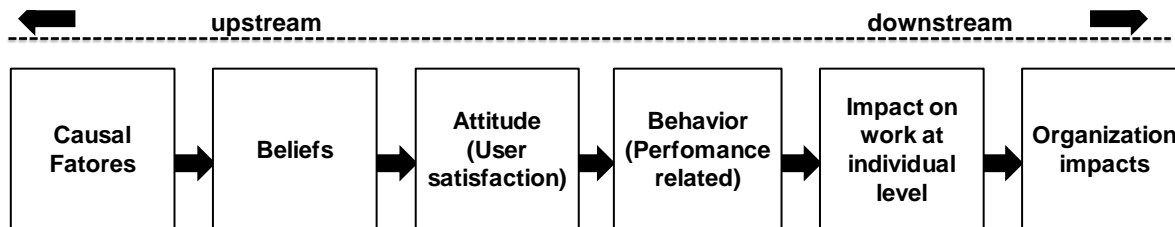


Figure 1. System of value chain. Source: Torkzadeh and Doll (1991).

involving an already known procedure, requiring from the decision maker fairly simple procedures. Non-programmable (or unstructured) ones result from new situations, without any established procedure to be followed and the decision maker needs taking some sort of judgment of greater complexity.

The decision-making process, according to Simon (1960), encompasses three phases or stages, which are carried out at different times: (i) intelligence or investigation, (ii) design or drawing and (iii) choice. In the intelligence phase, the process starts with the exploration of the environment. The goal is to identify the problem and its variables, and to collect information on which the decision should be based. In the design phase, creation, development and analysis of possible alternatives take place in order to choose an alternative from the available ones in the third stage.

It is worth noting that, to Laudon and Laudon (2007), the phases of the decision-making process are not performed at the same time, and they do not follow a standard path either. Simon (1965) extends the initial model by adding a fourth phase to it: (iv) implementation. According to Luciano (2000), between the phases of the model Simon proposed (1965), constant feedback, takes place, allowing to return from any of them to the previous ones in case the decision maker does not feel comfortable with the available information he has got at any of the previous phases.

Pereira (2003), with such theories in mind and aware of the role of IT in any decision-making today, developed and validated the construct "individual decision-making process". It has been developed from Simon's studies (1960; 1965). In Pereira's view, the decision-making process is a managerial function which is susceptible to the use of IT. The main objective of his study was to investigate bank employees' perception regarding the impact of IT on their work.

In conducting his research, Pereira (2003) used a strategy grounded on the cognitive process of the individual, who presents a scheme of his own to understand the outside world. This cognitive process is based on the Administration Behavioral Theory as well as in Torkzadeh

and Doll's study (1999). It is represented as a system of value chain in order to explain the relationship between the use of IT and its impacts (Figure 1). For the authors, the impact of IT is a key concept that incorporates downstream effects; studying it at the individual level is a direct reflection of the use of technology which precedes organizational effects.

Other researchers have also studied the importance of analyzing IT impacts on individual work, preceding organizational impacts. Delone and McLean (1992; Frezatti and Aguiar, 2007), for example, have researched the success of Information System in the organizational environment and, like Torkzadeh and Doll (1999) proposed a taxonomy with the following dimensions (i) quality of the system and (ii) quality of information, affecting (both individually and as a whole) other two dimensions, (iii) use of the system and (iv) user's satisfaction. These last two interdependent dimensions affect managers' individual behavior, and, consequently, the behavior of the organization, or organizational performance.

Torkzadeh (1999) and Delone and McLean (1992) models have a commonality: both of them consider the effects of IT on the individual (on people) prior to the ones on the organization. Such an understanding enhances the appropriateness and importance of researching the relationship of IT at professionals' individual level, specifically those from the accounting area.

Due to the importance of the individual, Pereira (2003) formulated 15 questions for checking the respondents' perception related to the phases of the decision-making process, according to what had been proposed by Simon (1960). The 15 questions were pre-tested with elements from the survey sample. Though the results showed a very high value for *Cronbach's Alpha* - 0.90, the survey proceeded being implemented without any modification for the questions of this module.

To provide a better possible accuracy for the statistical analyses employed here and to verify the validity of the constructs, to the instrument proposed by Pereira (2003), Exploratory Factor Analysis (EFA), and Confirmatory Factor Analysis (CFA) have been performed in this study

as well as an adaptation of the method MTMM (multi-trait/multi-method). The author's final survey resulted in ten of the fifteen questions originally formulated, representing a percentage of the variance explanation equals to 77.7% in the AFC.

Later, other studies also make use of the decision-making process instrument, such as: (i) Ruggiero and Godoy (2006) tried to identify and analyze human-resource managers' opinions regarding the issues related to IT use in their work; (ii) Lucht *et al.* (2007) extended Torkzadeh and Doll's (1999) model, including aspects related to the decision-making process from Pereira's instrument (2003), and to information security, in order to build a conceptual model able to measure such impacts in individual work users of an information system.

Given the above, one can observe the importance of the individual decision-making process for organizations, and of more researches related to the issue, as Ruggiero and Godoy (2006) quoted it, since studies in decision-making reflect the need for continuous search to improve the ability to decide.

METHODOLOGY

This survey has been carried out replicating the instruments developed by Pereira (2003). Babbie (2001) describes the three main purposes of a research *survey*: to describe, to explain and to explore. Therefore, this study aims to measure, following an ordering scale, the intensity of IT benefits in professional activity from the point of view of its own users' considerations; and it can be classified as a quantitative and descriptive research.

The selected population for this research consists of Brazilian accounting professionals, from the state of Paraná, who were asked to take part in it by the following institutions: CRCPR (*Conselho Regional de Contabilidade do Paraná*), SESC-PR (*Sindicato das Empresas de Serviços Contábeis e das Empresas de Assessoramento, Perícias, Informações e Pesquisas no Estado do Paraná*) and IPMCONT (*Instituto Paranaense da Mulher Contabilista*). In the survey date, there was in the State of Paraná, according to the CRCPR (2011), 20,228 accountants and 10,355 accounting technicians, totaling 30,583 registered and active professionals. Only accounting professionals with registered e-mails in the institutions mentioned above were invited to take part in this research.

These propagator institutions sent out e-mails to their contact lists in order to explain the survey aims, to ask for participation and to inform about the access *link*. For data collection, an on-line questionnaire was provided in the form Qualtrics®, a specific software for web surveys. The e-mails to the possible respondents were sent out on the following dates: (i) CRCPR on 14/07/2011 and 28/07/2011, (ii) SESC-PR on 04/08/2011 and (iii) IPMCONT on 11/07/2011 and 29/07/2011. The filled in questionnaire should be back until 17/07/2011. Incomplete ones and those answered in less than five minutes were not considered. The total number of valid answered questionnaires is 362. The data collection instrument (see appendix) has ten questions originated from the instrument by Pereira (2003) *Likert*-type, with five levels, ranging from "1" (very little) to "5" (very much), aiming to measure the intensity of perception of IT benefits along the decision-making process. The

ten questions are divided into four constructs, corresponding to the four phases of the decision-making process (Intelligence, Design, Selection and Implementation). To characterize the respondent, eight questions, fragmented into three groups, have been used.

The first group is related to the application being used, with three assertions to verify: (i) the trademark of the application, (ii) if the application is in its implementation phase, so that if the answer is affirmative, it is expected that its impact is smaller when compared to those which are not being implemented, (iii) if the application is or not part of an ERP (Enterprise Resource Planning), since studies in literature show that the ERP brings major changes in the environment where it is inserted, for example, the study by Newman and Westrup (2005), who said that the introduction of ERP systems represented a fundamental change for accountants.

The second group features the organization, with a question that inquires about the economic sector to which the respondent's organization is linked to. The third group is related to the individual, with the following assertions: (i) age of the respondent, (ii) professional experience, (iii) activity area, and (iv) intensity of decisions professionally taken in each one of the three levels: operational, tactical and strategic.

To analyze data statically, it has been used: descriptive statistics and univariate analysis, multivariate statistics, through *Cronbach's* Alpha, Confirmatory Factorial Analysis (CFA) and Cluster Analysis.

RESULTS AND DISCUSSION

The results are described in four parts. The first of them is about the sample characterization. The second one performs the validation and analysis of Pereira's instrument (2003). The third carries out Cluster Analysis to define groups of respondents in relation to the intensity they take decision at organizational level. Finally, the results of the instrument are related to the characteristics of the sample besides accomplishing the Crosstabs analysis (cross tabulations) to find important characteristics between the groups of the sample.

Sample characterization

From the 362 answered questionnaires the following characteristics were observed:

1. The most used application in the respondents' professional activity is the software *Cordilheira*® [16%], followed by *Dominio*® [9.9%]. Despite the high diversity of applications on the market, the sample shows that those two ones and other five of them are used by more than half [53%] of the respondents: *SAP*®, *Viasoft*®, *Oracle*®, *Questor*® and *Totvs*®;
2. The software being used by accounting professionals is fully implemented [74%] for the most part of them, which allows to assume that these applications can offer all of their functions;
3. The ERP technology is available in 43% of all the applications being used; only 30% do not have it, and

Table 1. Cronbach's Alpha of the surveys decision-making process.

Constructs	Survey	Pereira (2003)
Intelligence	0.74	0.78
Design	0.87	0.90
Choice	0.81	0.74
Implementation	0.87	0.72
Total	0.94	0.89

Source: Research.

27% did not know how to answer the question;
 4. The organization economical sector to which the respondent is bound to is essentially the private one, with 84%. Then, the public sector, with 11%; the mixed one, with only 3%; finally, the third sector, just 2%;
 5. 66% of the respondents are between 19-35 years of age, an essentially young sample;
 6. In relation to professional experience, respondents with up to five years of work account for 35%, the largest group; those within the range 6-10 years are 24%, the second largest group. Interestingly enough, the ones within the range 16 to 20 years of experience are 9%, the smallest group; the ones over 21 years amount to 14%;
 7. The sector "responsible for the accountability of the company" had more answers with 38%. It's followed by the "management accountant", with 7%; and the "responsible for the human resources department", 6%. Several other areas of practice have been mentioned, but with low representation.

Validation and analysis of the decision-making instrument

The validation process of the instrument had two phases. In the first one, Cronbach's Alpha coefficient was used to carry out the scale reliability; then the validation with CFA. In order to implement the Factor Analysis, the following parameters have been used:

Method for extracting the factors: the method of principal components has been used due to concerns in determining only the linear components existing within the data, and the way in which variables can contribute to each component (Field, 2009);

Criterion for extracting the number of factors: the *a priori* criterion has been used. According to Hair *et al.* (2005), it is *a priori* because the researcher already knows the number of factors to be extracted before performing the factor analysis; and

Rotation of factors: the option was for the orthogonal rotation *Equamax*, aiming at minimizing the number of factors required to explain each variable, and also at

maximizing the explanation of the variables within a single factor, besides ensuring the factors to remain unrelated (Hair *et al.*, 2005; Field, 2009).

The testing of Cronbach's Alpha coefficient was at first performed for each assertion, and later for each construct. In this analysis, much care has been taken with regard to the assumptions of the coefficient, so that there was no correlation with negative values. In Table 1, the values of the coefficients of Cronbach's Alpha test come in detail, and they are also compared to previous studies. The coefficient which has been obtained in the survey [0.94] is higher than all the previous ones, which demonstrates that such values are acceptable and also confirm the reliability of the model. The results of the constructs have as well been satisfactory, so enabling the CFA.

When implementing the Confirmatory Factorial Analysis in the instrument of the decision-making process, after due verifications, it has been found there were no need for a new generation of FA (Factorial Analysis), because: (i) the table of commonalities did not show any indicator with low explanatory level, (ii) the correlation matrix did not indicate any high level of correlation among the indicators, (iii) the KMO test, which indicates the data degree of explanation from the factors found in the FA, was 0.96, a value highly enough to make the FA possible, (iv) Barlet's test of sphericity, which indicates enough existence of relationship between the indicators in order to implement the FA, was satisfactory and (v) the anti-image matrix, which indicates the explanatory power of the factors in each one of the analyzed variables, got high values in the lower diagonal, indicating the high explanatory power of all variables.

Table 2 details the distribution of questions and factors. The four factors which have been achieved with *Equamax* rotation [1, 2, 3 and 4] have got 81.86% of explanatory power, and they individually explain, respectively 22.88, 20.93, 20.11 and [19.93%]. The distribution of variable loads among the four factors obtained in the survey is similar to the work of Pereira (2003), except for the questions Q14 and Q17 with results not according to previous expectations. The Q14 (*this application helps*

Table 2. CFA of the survey decision-making process.

Rotated Component Matrix ^a		Component			
Constructs	Question	1	2	3	4
Intelligence (Factors 4 and 2)	Q13				0.880
	Q14		0.763		
Design (Factors 2 and 1)	Q15		0.588		
	Q16		0.575		
	Q17	0.531			
	Q18			0.823	
Choice (Factor 3)	Q19			0.676	
	Q20	0.768			
Implementation (Factor 1)	Q21	0.635			
	Q22	0.612			

Extraction Method: Principal Component Analysis. Rotation Method: Equamax with Kaiser Normalization. ^a Rotation converged in 7 iterations. Source: Research.

me to describe the characteristics of the problems), linked to the construct Intelligence phase, was allocated to the questions of Design phase, whose aims are to check the available alternatives in a decision-making process. Therefore, the assertion Q14 fits better in the Design phase than into the Intelligence phase, where the problem to be solved should be verified.

Another theoretical difference from the model, arising from this research, relates to the question Q17 (*this application helps in the analysis of decision alternatives*), originated from the Design phase, which has been allocated with Factor (1) from the Implementation phase. Thus, the assertion Q17 fitted better with the assertions related to the decision-making implementation. Somehow, according to the researched sample, the impact of using IT in the decision-making process presents similarities between the Intelligence and Design phases, as well as the Design phase with its implementation. It is noteworthy that Ruggiero and Godoy (2006) also found some theoretical divergences when applying the instrument of the decision-making process to human resource managers.

Table 3 details the response means for each question and factor. The means are within a scale of 3-4, so that the ones near three suggest a moderate assistance of IT in the decision-making process ("neither little nor too much"). In Factor (2), the IT assistance is slightly lower than in the other factors, but in Factor (4) it is higher. There is a similar standard deviation in the assertions; in the factors, a lower dispersion can be observed in the answers to Factor (4).

To check whether the difference between the means of the factors in Table 3 is statistically significant, at first, the normality of the data has been analyzed by means of the test *Kolmogorov-Smirnov*. The non-normality of the factors has been proved with the following results: Factor [1] $D(362) = 0.109$, $p < 0.05$; Factor [2] $D(362) = 0.106$, $p < 0.05$; Factor [3] $D(362) = 0.145$, $p < 0.05$, and the Factor [4] $D(362) = 0.240$, $p < 0.05$. Then, the nonparametric *Kruskal-Wallis* test with *Monte Carlo* extraction has been carried out to verify any statistical differences between the means of the factors. With a significance level of 5%, the null hypothesis has been rejected, and statistically significant differences have been stated between the means of the sample [$H(3) = 116.79$, $p < 0.05$].

To identify factors with statistically different means, we applied *Mann-Whitney's* test of hypotheses with *Bonferroni's* correction for all effects with a significance level of 0.0083 [0.05/6]. The results revealed differences in two effects, accepting the null hypothesis of equality of means: of Factor (1) with Factor (3) and of Factor (2) with Factor (3). The first effect (1-3) essentially represents the Implementation and Selection phases; the second one (2-3) essentially represents the Design and Selection phases. Thus, it can be said that the benefits of IT are more intense at the beginning of the decision-making process, represented by the Intelligence phase [Factor (4)]; less intense and similar, in the Design phase [Factor (2)], Selection [Factor (3)] and Implementation [Factor (1)], with a slight difference between the factors (1) and (2).

In the search by Pereira (2003), a higher perception of

Table 3. Descriptive analysis of the decision-making process of the survey.

	Factor	Analysis by question		Analysis by factor		
		Question	\bar{X}_s^*	S**	\bar{X}_p^{***}	S
Decision-Making Process	Factor 4 (Intelligence)	Q13	3.34	0.96	2.75	0.79
		Q14	3.27	0.93		
	Factor 2 (Design + Q14)	Q15	3.25	0.90	2.21	0.55
		Q16	3.28	0.95		
	Factor 3 (Choice)	Q18	3.17	0.93	2.35	0.64
		Q19	3.22	0.96		
	Factor 1 (Implementation + Q17)	Q17	3.33	0.97	2.35	0.59
		Q20	3.31	0.96		
		Q21	3.32	0.93		
		Q22	3.34	0.96		

* \bar{X}_s : simple average; ** S: standard deviation; *** \bar{X}_p : weighted average calculated by weighting each statement with its weight factor. Source: Research.

impact has been found in the Design phase (the third one). It has been explained as a result of relevant technological developments which help the simulation of alternatives, making it easier to analyze different scenarios, for example, the use of a decision support system (DSS). The Implementation, Selection and Intelligence phases are similarly, and in a lesser degree of intensity, perceived. The first one has been expected due to its practical nature, so that implementing the alternative previously chosen increases people's direct participation, and reduces technological demands. According to the author, in the Intelligence phase, which is represented by the quest for situations that require decisions basically taken by people, the IT has just a "supporting" action. At last, Pereira (2003) refers to the Selection phase which, for being very practical, is the one needing less IT for its conclusion, so that this activity comes down to the act of deciding between yes or no or between this or that way. Therefore, it can be inferred that in the Selection phase, the perception of IT usage is linked with the earlier phases of the decision-making process (Intelligence and Design), because they prepare the way to complete the decision to be taken.

Unlike Pereira's findings (2003), this study identified the first phase of the decision-making process - Intelligence phase [Factor (4)] - as the best evaluated one, suggesting the most intense role of IT in the identification and categorization of the problems. While in the other three phases few benefits could be observed. The findings suggest that accounting professionals usually don't use much the support systems to take their decisions (DSS), for example, BI (Business Intelligence), so that once detected a problem, the process until implementing the

decision is carried out with little technological assistance.

Clusters analysis

In order to describe data in a taxonomical way and with exploratory purposes, it has been asked, in one of the questions from the characterization block, about the degree of intensity the respondents took their decisions in their professional activity, related to the three levels: operational, tactical and strategic. To that end, Cluster Analysis was used, aiming to group the sample according to its hierarchical organizational level, marked by the intensity of decision making, which were measured in *Likert* adapted scale of the six points [(0) do not do; (1) very little, (2) little, (3) neither little nor much, (4) much and (5) very much]. This kind of reflection also was a target study by Torkzadeh *et al.* (2005), who organized the sample into two groups, "upper management" and "low management".

Initial frequency analysis consisted of eight clusters, being gradually reduced. It was observed that one of the groups, with 44 representatives, did not grouped together with the others, so that its gathering with another group came just in the analysis of four clusters, with 67 representatives. Because of that, a descriptive analysis of the clusters was performed in order to see if the decision-making means of the group with 67 representatives were similar to the ones of the group with 44, which would allow joining the two groups. Similar means were observed at strategic and operational levels, but quite different at tactical level [3.39 to 0.23]. Due to that, it was opted for five clusters to represent the study sample.

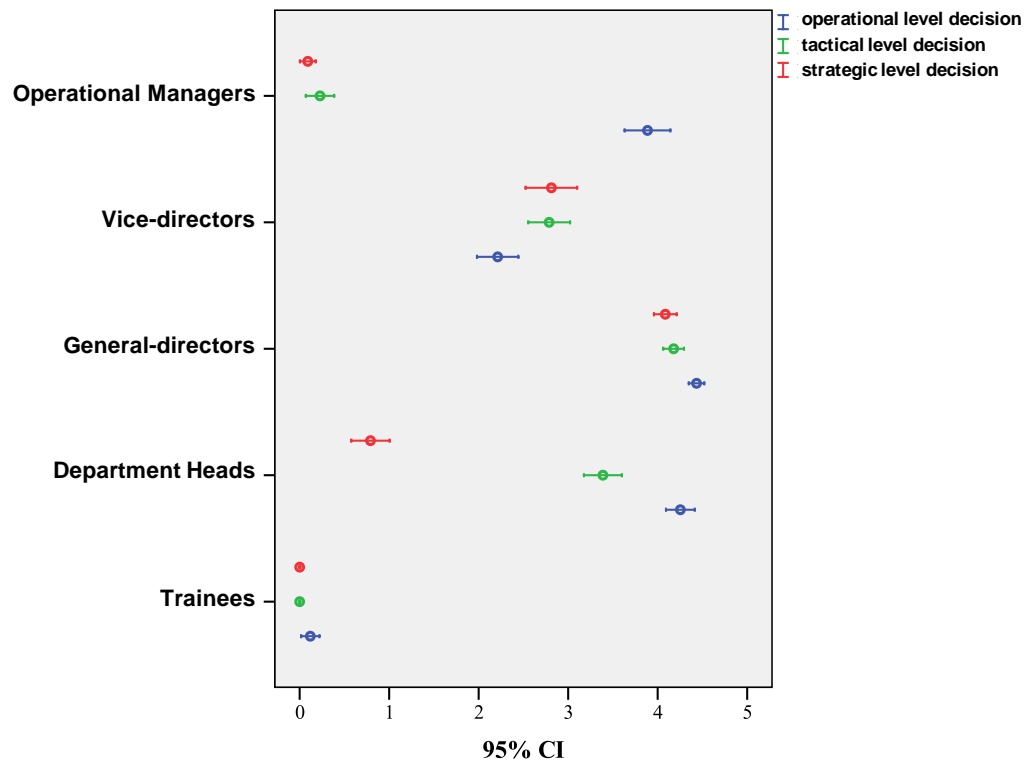


Figure 2. Clusters and their decision-making levels. Source: prepared by the authors.

To interpret the *clusters*, variance analysis ANOVA was applied. In its application, option was for *Tukey's post hoc* test of hypotheses for multiple comparisons, which is indicated when the sample sizes are equal, and to control the error of Type I. In analyzing the results of *Tukey's* tests of hypotheses, it was possible to nominate the five clusters under consideration, as it can be seen in Figure 2.

The first group is called "Trainees"; it refers to those who hardly ever take any decision, either operational, tactical or strategic. "Department Heads" are those who usually take operational decisions; sometimes, tactical ones; and occasionally, strategic. "General-directors" are those who intensively take decisions at all three levels. "Vice-directors" are decision-makers at a medium level; "Operational Managers", responsible for taking operational decisions.

Relations of the instrument with the sample characteristics

In this block, the crossings of the factors arising from the replicated instrument (Pereira, 2003) with the characteristics of the sample were carried out. Following the

sampling stratification, the mean of each one has been calculated, and also evaluated whether their means were statistically significant. To do so, when comparing two groups, *Mann-Whitney's* Hypothesis Testing was used; for more than two groups, it was at first applied *Kruskal-Wallis'* non-parametric Test; when the statistically significant difference was found, *Mann-Whitney's* Test of hypotheses was applied in order to determine in which group(s) there was the difference which has been detected by the previous test. For every test, significance level of 5% was used and, when the subsample was considered large (Field, 2009), *Bonferroni's* correction.

In Table 4, the obtained means of the factors are compared with the characteristics of the sample. The first relationship refers to the benefits of the applications which are fully implanted or not. It was observed that in all the factors there are statistically significant differences. As a result, it can be stated that fully implemented applications are more useful to accounting professionals at all stages of the decision making process than the not fully implemented ones.

Another analysis tries to verify whether the applications which has been used were ERP systems or not. This assumption is important because many studies have reported the benefits from such a technology, like the one

Table 4. Relation of the mean factors of the instrument with the questions of characterization.

Factor (construct)	(a) Implantation			(b) ERP System			(c) Organization Sector			(d) Length of experience (years)		
	Yes	No	MW*	Yes	No	MW*	Private	Other	MW*	Up to 5 years	Over 5 years	MW*
F4 (Intelligence)	2.88	2.39	≠	2.76	2.68	=	2.76	2.80	=	2.68	2.79	=
F2 (Design + Q14)	2.31	1.91	≠	2.26	2.12	=	2.22	2.13	=	2.17	2.22	=
F3 (Choice)	2.47	1.99	≠	2.38	2.27	=	2.38	2.36	=	2.26	2.40	=
F1 (Implementation + Q17)	2.45	2.04	≠	2.44	2.20	≠	2.36	2.33	=	2.29	2.37	=

*MW → Results of *Mann-Whitney's* tests Source: Research.

Table 5. List of instruments with clusters.

Factor (construct)	Clusters answer means					Results of <i>Kruskal-Wallis'</i> Tests
	Trainees	Department Heads	General-directors	Vice-directors	Operational Managers	
F4 (Intelligence)	2.71	2.68	3.04	2.45	2.60	≠
F2 (Design + Q14)	2.09	2.11	2.43	2.05	2.10	≠
F3 (Choice)	2.20	2.27	2.63	2.12	2.20	≠
F1 (Implementation + Q17)	2.20	2.36	2.58	2.14	2.18	≠

Source: Research.

by Newman and Westrup (2005), suggesting that the use of ERP systems leads accountants to fundamental changes. The results of *Mann-Whitney's* hypothesis Tests (Table 4) demonstrate that the benefits of ERP systems are prominent only in Factor 1, the last phase of the decision making process. No different benefits have been found in any of the previous phases.

With regard to the organization sector, no statistically significant differences have been found; the benefits were similar in all constructs. In relation to professional experience, it has not been detected any statistically significant differences either between the respondents with less than five years of professional experience and the ones with more than that. The last relationship refers to

the five *clusters* with the factors of Pereira's instrument (2003). Statically significant differences have been found when applying *Kruskal-Wallis'* non-parametric Test, as it can be seen in Table 5.

Because statistically significant differences have been found in Table 5, it has been necessary to try *Mann-Whitney's* hypotheses Test, aiming at establishing such differences. Then, in order to evaluate the results of *Mann-Whitney's* hypotheses Test, the significance value of 0.005 [0.05/10] was taken into account, due to *Bonferroni's* correction. In Table 6, such differences come in details.

The highest contrast of IT benefits are related to the clusters: (i) General-director with Vice-director (3-4) and General-director with Operational

Manager (3-5): they have different IT benefits in all of the surveyed factors; (ii) the General-director have the greatest benefits in every factors; and (iii) the Trainees with the General-director (1-3) and the Department Head with the General-director (2-3) have differences in almost every phases of the decision-making process, except for the initial one (Intelligence).

Cross-tabulations were also performed. The first one was between the question about using an ERP system and the sector of the organization. The predominance of ERP systems in private organizations and enterprises became clear. In the government and in organizations of the third sector, there was the greatest number of accounting professionals unable to answer the question

Table 6. Results of *Mann-Whitney's* Tests in clusters combinations.

Factor (construct)	Results of <i>Mann-Whitney's</i> Tests in clusters* combinations									
	1-2	1-3	1-4	1-5	2-3	2-4	2-5	3-4	3-5	4-5
F4 (Intelligence)	=	=	=	=	=	=	=	≠	≠	=
F2 (Design + Q14)	=	≠	=	=	≠	=	=	≠	≠	=
F3 (Choice)	=	≠	=	=	≠	=	=	≠	≠	=
F1 (Implementation + Q17)	=	≠	=	=	≠	=	=	≠	≠	=

Clusters have been numbered as follow: Cluster 1: Trainees; Cluster 2: Department Heads; Cluster 3: General-directors; Cluster 4: Vice-directors; Cluster 5: Operational Managers. Source: Research.

about the use of an ERP. In the government, it was also observed a higher percentage of professionals who do not use ERP technology, suggesting its use in a lesser extend, either due to the Government's "disinterestedness" or to a lower supply of softwares with ERP technology.

The second cross-tabulation was about the relationship between the *clusters* and the respondents' age. Vice-presidents are aged from 26 to 30 years old; Department Heads, from 31 to 40; General-directors, and Vice-directors again, between 41 and 45; at last, Trainee, over 46 years old. Except for the respondents over 46, the results highlight the importance of professional experience (age group in this analysis) when in charge of a strategic and tactical job position. The last cross-tabulation refers to *clusters* related to the respondents' professional experience length. It can be seen that those taking few strategic and tactical decisions have less professional experience, like the Trainees and the Operational Managers. In contrast, the most experienced ones hold positions which are inherent to decision-making, in the case of the General-directors or Vice-directors, as it would be expected.

Final considerations

Mapping out accounting professionals' perceptions related to the influence of information technology on the individual decision-making process have been the aim of this study. To that end, the instrument which measures the relation of IT in Decision Making (Pereira, 2003) was replicated. To validate the instrument, two out of ten assertions were allocated in factors not corresponding to the theory. On the reasons for not having obtained the same distribution, a possible cause may be related to the fact that this research was applied to accounting professionals, while Pereira's one (2003) was applied to professionals from the financial segment (banks).

Thus, the understanding for some of the assertions of this instrument should be carefully taken, considering

both the environment and the professional's interaction from one segment to another. Despite the differences, the four resulting factors represent, in essence, the theoretical constructs, so that, for accounting professionals, the benefits of IT are greater at the beginning of the process, in the Intelligence phase [2.75]; at similar levels, they are also observed in the following three phases of the decision-making process: Design [2.21] Selection [2.35] and Implementation [2.35].

The greatest benefits have been related to the Intelligence phase, showing that accounting professionals, in a decision-making process, use more technology resources when they need to detect a problem to be solved. In this sense, it can be seen that accounting softwares and the government systems, when discrepancies or errors are found in the information passed on, are able to warn the user, describing the problem(s) and requesting the necessary adjustments for the process continuity, which corroborates the largest IT support at the beginning of the decision-making process. In subsequent phases, the benefits are lower. The lowest one, in the Design phase, allows saying that accountants, generally speaking, hardly ever operate systems to simulate situations to increase their convictions in choosing an alternative.

The phases of the decision-making process which are regarded as "practical", when people's direct participation is more important than the use of IT (Pereira, 2003), have almost not been perceived either: the third one – Selection phase – where the alternative to be implemented is defined, as well as the last one – Implementation phase – which verifies the consistency of the expected results with those obtained. Such findings point out to accounting professionals who rely on their own expertise either when choosing their decision or when monitoring it, although there is a trend for softwares more and more tactical and strategic, as the Decision Support Systems (DSS), which, once a problem has been detected, assists in creating and developing possible courses of action and monitoring. Therefore, it is important that accounting professionals look for greater benefits in DSS, in order to be supported not only when

taking a decision, but also when analyzing alternatives, proposing solutions and researching the history of the decisions which have already been taken (Sprague and Watson, 1991).

Through the characterizations carried out here, it was possible to draw the sample profile. The respondents work mainly in areas related to their training in private organizations. In carrying out their professional activity, accountants usually employ ERP technology. The intensity of the three levels of decision-making (operational, tactical and strategic) has also been analyzed. Due to the differences of responses, Cluster Analysis was applied, naming five of the respondents' profiles according to the intensity in which they make decisions at the three levels.

Some speculations can be put forward for the sample taking part in the study. It has effectively been verified that users with solutions not totally implemented demonstrate lower benefits in the use of IT in the four constructs under consideration. Such a finding is important to guide forward researches, so that the researchers consider this variable in their study. It was also found that ERP systems have an advantage over the other ones (without such a technology) just when implementing a decision which has already been taken (final phase), so that in the three initial phases any advantage has been observed.

IT benefits within the five clusters have been evaluated. Considering the hierarchical positions according to the respondents' decision-making level, it has been observed, on the one hand, that distant posts, such as Trainee and Vice-Director, Trainee and Department Heads, have statistically equal benefits. On the other hand, posts hierarchically near, as General-director and Vice-director, have completely different benefits. Such findings show that the IT analyzed benefits do not follow a hierarchical line, so that an organizational post does not necessarily have similar benefits to another one with similar characteristics.

Some limitations to be pointed out to this study are as follow: (i) the use of non-probabilistic sampling method, which does not provide accurate estimates, therefore generalizations of the results cannot be done; (ii) the findings refer specifically to professionals working in accountancy, (iii) the study focuses on the perceived relationship of IT in accountant's activity from the perspective of the individual as a professional, not from the organizational perspective; iv) as geographical boundaries, the population sample comprises accounting professionals with email addresses registered in CRCPR, SESC-PR and IPMCONT; and (iv) finally, as time delimitation, the study took place within a pre-determined time during the year of 2011.

Taking into account, the results mentioned above, as

well as this study limitations, it is suggested for other future researches: (i) replication of the instrument in a probabilistic sampling, (ii) dealing with a larger sample, like accounting professionals from other states and/or countries, in order to compare and verify possible differences and similarities among them; and (iii) dealing with other kinds of professionals (such as managers, engineers, economists, etc.) aiming at making comparisons between the IT impact rates, and also checking the practical/theoretical fitting and stability of the model Pereira (2003) created.

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Appendix. Instrument applied

Number	Questions	Response options
Q13		Este aplicativo me ajuda a ordenar os problemas identificados
Q14	Fase Inteligência	Este aplicativo me ajuda a descrever as características dos problemas
Q15		Este aplicativo me ajuda a descrever alternativas para a decisão
Q16	Fase Concepção	Este aplicativo ajuda a ponderar as alternativas de decisão
Q17		Este aplicativo ajuda na análise das alternativas de decisão
Q18		Este aplicativo ajuda a selecionar a alternativa mais adequada para a solução do problema
Q19	Fase Escolha	Este aplicativo me ajuda a escolher a melhor alternativa para a solução do problema.
Q20		Este aplicativo ajuda na revisão de uma decisão implementada
Q21	Fase Implementação	Este aplicativo me ajuda a monitorar uma decisão implementada
Q22		Este aplicativo ajuda na implementação de uma decisão
C01	Qual é a marca do aplicativo (ou módulo) mais utilizado em sua atividade profissional?	Várias
C02	O aplicativo (ou módulo) que você mais utiliza em sua atividade profissional está totalmente implantado (ou instalado), de forma que lhe possibilite utilizar todas suas funcionalidades?	(1) Sim (2) Não
C03	O aplicativo que você mais utiliza profissionalmente faz parte de um sistema ERP (<i>Enterprise Resource Planning</i> , ou no Brasil conhecido também como SIGE - Sistemas Integrados de Gestão Empresarial)?	(1) Sim (2) Não (3) Não sei responder
C04	Idade:	(1) até 19 anos (2) 20 a 25 anos (3) 26 a 30 anos (4) 31 a 35 anos (5) 36 a 40 anos (6) 41 a 45 anos (7) acima de 46 anos
C05	Tempo de experiência profissional:	(1) até 01 ano (2) 02 a 04 anos (3) 05 a 07 anos (4) 08 a 10 anos (5) acima de 10 anos
C06	Principal área de atuação profissional:	Várias
C07	Por favor, atribua o grau que expresse a intensidade das decisões tomadas por você em sua atividade profissional, considerando os três níveis de decisões, utilizando a escala abaixo: •Decisão de Nível Operacional •Decisão de Nível Tático •Decisão de Nível Estratégico	(0) Não realizo (1) Pouquíssimo (2) Pouco (3) Nem pouco, nem muito (4) Muito (5) Muitíssimo

Full Length Research Paper

FDI inflows, transfer of knowledge, and absorptive capacity: The case of Mozambique

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The literature has discussed the impact of Foreign Direct Investment (FDI) on host economies, but has overlooked the case of the least-developed countries (LDCs) and, in particular, the transfer of knowledge to these economies. Drawing on different streams of the literature (FDI impact, knowledge transfer, and absorption capacity), this paper analyzes how a country's absorptive capacity may moderate the transfer of knowledge. By collecting and analyzing secondary data of FDI inflows and education, we examine the case of Mozambique. Data show that a country's low educational level, and thus low absorptive capacity, may prevent effective knowledge transfer. We argue that policies that are aimed at expatriation, emigration, and tertiary education can help to increase the potential impact of FDI inflows. The main contribution of this paper to the literature is to examine how absorptive capacity and transfer of knowledge inter-relate within LDCs.

Key words: FDI inflows, transfer of knowledge, absorptive capacity, education.

INTRODUCTION

Foreign Direct Investment (FDI) inflows may impact hosts' economies in different ways. They may affect trade balance; shift the market structure – increasing competition or concentration; foster linkages between foreign and local firms; alter consumption patterns; and transfer resources, such as capital, knowledge, technology, and organizational practices (Dicken, 2011; Dunning and Lundan, 2008; Jones, 2005; Meyer, 2004; Blomström and Kokko, 2002; Slaughter, 2002; UNCTAD, 2001). These impacts, which may trigger positive and negative spillovers, thereby benefiting or harming the host economies are, however, not yet well understood (Meyer, 2004). Hence, they need to be further investigated. One impact that deserves more analysis is the impact of FDI on the least-developed economies. These countries have

increasingly hosted FDI inflows (UNCTAD, 2013). However the effects of the latter on the former have not received much attention in the literature.

In the case of the transfer of knowledge and technology, for instance, positive spillovers and externalities are conditioned by organizational and environmental factors, such as 'the nature of the host economy, especially its level of human capital development and the quality of its infrastructure and institutions' (Jones, 2005). Therefore, if the country has no local qualified workforce or, in other words, the local absorptive capacity does not exist, it is unlikely that knowledge will be transferred and diffused throughout the local economy. As Blomström and Kokko (2002:10) argue, '...FID and human capital interact in a complex manner. While FDI inflows create a potential for

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spillovers of knowledge to the local labor force, at the same time the host country's level of human capital determines how much FDI it can attract and whether local firms are able to absorb the potential spillover benefits.' This is a critical issue, principally for developing and least-developed countries that depend on this transfer to lever their economic development and national welfare (Meyer, 2004). Thus, national governments are likely to play a pivotal role in increasing the effectiveness of the process of transferring knowledge.

How can governments, especially those of the least-developed countries, increase the probability that knowledge, which is brought in by foreign investors, is effectively transferred to their countries? Jones (2005:261) suggests that they 'can improve the ability of their enterprises to absorb foreign technologies by investing in education and infrastructure.' Indeed, both of them are required for an effective transfer of knowledge (i.e., for local organizations to absorb and apply knowledge). However, these investments require a long time before their consequences can be evidenced. Since FDI inflows to developing countries, including those in Africa, have rapidly increased in recent years (UNCTAD, 2013), much of the knowledge may not be transferred and/or absorbed, if the host countries have no real capacity to absorb it. Therefore, the challenge for some countries, particularly those with a deficient education and infrastructure, is to prevent 'knowledge waste' - knowledge that is transferred to the country, but it is not absorbed and used to benefit the economy and leverage its economic development.

In this paper, we contend that least-developed economies with low educational levels and poor infra-structures and institutions may adopt policies regarding expatriates, emigrants, and tertiary education that are intended to rapidly increase their absorptive capacity and, hence, their effective transfer of knowledge. Although educational investments and policies remain fundamental, these are long-term issues. Thus, complementarily, short- and medium-term policies may help both national governments and MNEs to challenge the transfer of knowledge issue. With regard to the latter, it is important to understand how institutions, mainly educational ones, may be a hindrance to enhancement of local absorptive capacity. This understanding is likely to affect decisions in Human Resources' policies and practices, such as recruitment, training, and expatriation. For the former, it is important to design institutions and educational policies aimed at maximizing positive effects of transfer of knowledge in order to increase externalities (Meyer, 2004).

We draw from three streams of literature: the impact of FDI inflows on host economies; transfer of knowledge; and absorptive capacity. The literature on the impact of FDI inflows on host economies has examined the effects that resources, which were brought by foreign firms, may have on host economies (Dunning and Lundan, 2008;

Jones, 2006; Meyer, 2004; Blomström and Kokko, 2002; Slaughter, 2002; UNCTAD, 2001), but does not examine specific impacts, such as the transfer of knowledge, on the least-developed countries. The literature has analyzed at length the transfer of knowledge issue (Kumar and Ganesh, 2009), mainly from the (inter- and intra-) organizational viewpoint (Szulanski, 1996) and within the MNE context (Kostova and Roth, 2002; Kostova, 1999). However, it disregards how the country's absorptive capacity may affect this transfer. Finally, another stream of literature has focused on the absorptive capacity issue or, more precisely, factors that determine the extent to which knowledge is transferred, absorbed, and used by a recipient organization (Cohen and Levinthal, 1990; Zahra and George, 2002). Again, this stream overlooks how the existing absorptive capacity in least-developed countries may affect the transfer of knowledge. By looking at them conjointly, we hope to disentangle the multiple *enjeux* of the impact of the transfer of knowledge to the least-developed economies.

In order to support this discussion, we consider the case of Mozambique. This case illustrates well our arguments because, on the one hand, the country has received increasing FDI inflows in recent years, which potentially can have positive spillovers and externalities on its economy. On the other hand, the low educational level of the country's population (MINED, 2011), remains a hindrance that is likely to undermine positive spillovers. Thus, beneficial effects may not be realized. First, we present data about FDI inflows to Mozambique – by amount and sector – in recent years. Secondary data was collected from the World Investment Report (WIR), which is published annually by the United Nations Conference and Trade Development (UNCTAD) and is a major source of information about worldwide FDI flows. Secondly, we present an historical account of Mozambican education since the country's independence in 1975. Again, secondary data about the country's education (World Bank, 2013; UNESCO, 2013) were collected from reports that have been published by international organizations, such as the World Bank and UNESCO, and by governmental bodies, such as the Ministry of Education. Using inductive reasoning, we discuss how education and absorptive capacity interplay and, hence, affect the transfer of knowledge. We suggest that adopting policies regarding expatriation, emigration, and tertiary education may contribute to an increase in knowledge transfer to least-developed economies.

The article is structured as follows. In the next sections, we discuss the impacts of FDI inflows on host economies, particularly the transfer of knowledge and how absorptive capacity can influence the outcome of this transfer. Subsequently, we examine the case of Mozambique: first, data about the macroeconomic environment and FDI inflows are presented, and then the latest developments concerning Mozambique's

educational system are analyzed. In the following section, we discuss the main challenges to the transfer of knowledge that FDI inflows raise and how government may act to ensure that the potential benefits of the transfer of knowledge are effectively realized.

FDI inflows and the transfer of knowledge

FDI inflows may have different impacts on host economies (Dunning, 1994; UNCTAD, 1992; Slaughter, 2002; Jones, 2005; Dunning and Lundan, 2008). For instance, foreign affiliates can affect the volume and composition of host country imports and/or exports; increase market competition or concentration, shifting the local market structure; establish links to local suppliers (linkage effect); transfer resources (knowledge, capital, and employment) that may spread to the rest of the economy (spillover effect); circumvent host government policies; and change consumption patterns. The analysis of these impacts is not straightforward. It must consider the economic sector, the MNE, the entry mode, the nature of the host economy, the degree of development, domestic policies, and so on, before the FDI impacts can be understood (Jones, 2005). For example, spillovers are related to the host economy's capacity to absorb them (Kokko, 1994).

With regard to the transfer of knowledge in particular, MNEs are major channels through which this resource flows into host economies, fostering their economic growth (UNCTAD, 1992). As Jones (2005:262) argues, 'given the central role of innovation in economic growth, such knowledge transfers might provide one of the most important ways in which firms act as engines of growth.' Knowledge and technology may be transferred within MNEs (e.g., between headquarters and subsidiaries or among subsidiaries) or between foreign affiliates and local firms. In the former case, since MNEs are major actors in the development of technologies (UNCTAD, 1992), their affiliates may access knowledge from the headquarters or other affiliates, which enables them to offer updated products and services in the host economies. This access may make them more competitive and, hence, trigger a 'demonstration effect' (Jones, 2005) that prompts domestic firms to compete more actively and to upgrade their product/services and to adopt more efficient organizational practices (UNCTAD, 1992).

In the second case, foreign affiliates may establish links with domestic firms (Dunning and Lundan, 2008; Jones, 2005; Kokko and Blomström, 2002; UNCTAD, 2001). These links constitute channels through which tangible and intangible assets are transferred from home to host economies (UNCTAD, 2001; Duarte, 2001). Jones (2005:274) argues that 'there is convincing evidence of the positive linkages between multinationals and suppliers in many developing countries over recent decades. Foreign affiliates are often more demanding in their

specifications and delivery targets, while more willing to provide assistance and advice to local firms.' For domestic firms, access to foreign technological and managerial knowledge by linkages with MNE subsidiaries can increase their competitiveness in domestic markets. A research study that was carried out by one of the authors showed that, following the acquisition of local companies by foreign companies, the acquirers tend to require suppliers to improve their product and production quality standards, while providing them with technical support so that the latter can introduce needed changes (Duarte, 2001). To sum up, there is compelling evidence that foreign investment may transfer knowledge to both the investor's affiliates worldwide and local companies.

Since knowledge transfer requires the availability of qualified and formally educated people, MNEs, which tend to be knowledge-intensive firms, may affect the host-country labor markets by increasing, for instance, the demand for skilled personnel. Blomström and Kokko (2002:16) say that 'there is increasingly clear evidence that MNCs may have a noticeable impact on tertiary education in their host countries.' As Slaughter (2002:16) argues, 'there is compelling evidence that affiliates' demand for skilled labor is stimulated by their receipt of their parent's technology and investments in physical capacity.' This higher demand for skilled workers and managers may raise some challenges for the host economy. In some countries, a scarcity of skilled employees, primarily technical, may force foreign affiliates to bring expatriates. Nevertheless, some countries restrict the employment of foreign nationals, limiting them to those whom MNEs can hire. If there is a lack of skills available locally and MNEs face restrictions in bringing in expatriates, governmental authorities need to design and implement educational, qualification and training policies that will enable local inhabitants to acquire the necessary skills or risk losing their attractiveness to MNEs. As Blomström and Kokko (2002:16) have indicated, since MNCs provide attractive employment opportunities and demand skilled labor, they may encourage governments to invest in higher education.

On the other hand, MNEs may affect the supply of skills in host country markets. First, they can bring in qualified people. In countries where there is a shortage of qualified human resources, foreigners can provide knowledge, expertise, know how, and capabilities. Secondly, MNEs can contribute to local human resource development by formal or informal training. For example, they can assist their local suppliers to develop the latter's human resources as they are vital to the success and sustainability of the linkages. This assistance can be particularly useful in countries where there is a scarcity of skilled workers, such as Mozambique, or where firms' efforts to improve their human resources face financial and institutional constraints (UNCTAD, 2001:144). Thirdly, a supply of skilled workers who have been trained by MNEs (either in-house or by suppliers) may disseminate (spillover)

knowledge throughout the rest of the host country. People may change jobs and transfer previously acquired knowledge to domestic firms (Jones, 2005: 273) or set up their own businesses (Blomström and Kokko, 2002). Although MNEs can channel knowledge into host economies, the effectiveness of this transfer depends on the local absorptive capacity.

In sum, local governments are particularly interested in designing policies to attract foreign investment as they may leverage economic growth. If they are successful in doing so, some impacts on their host countries, such as employment creation, linkages, and trade, may appear quickly. Because these impacts are highly visible, they may bring political dividends to domestic governments. Other impacts, such as the transfer of knowledge, are less tangible and may take longer to realize. However, foreign investment may generate other positive effects leading to the development of a more dynamic and diversified economy. These involve policies regarding education, research, and technology, which demand a long-term view and political determination to implement. Therefore, the main challenge for local governments, and especially for those of the least-developed countries, is to improve the country's absorptive capacity. In doing so, governments can maximize the potential outcome from the transfer of knowledge. In the following section, we will discuss how absorptive capacity determines the transfer of knowledge.

Transfer of knowledge and absorptive capacity

Since knowledge is an organization's most important asset, the ability to create new knowledge is what makes some companies more competitive than others (Grant, 1986; Nonaka and Takeuchi, 1995). This ability is particularly evident within MNEs that normally have structured R&Ds functions that are directed to the development of new products. One example is MNEs within technology-intensive economic sectors, such as pharmaceutical, chemical, and machinery, which invest massively in the creation of new knowledge and technology. Their competitiveness depends on this ability, among other factors. Aside from creating knowledge, the capacity to transfer it, either within the organization or to different organizations, may be a distinctive resource (Zahra and George, 2002), especially for MNEs. These firms may develop sophisticated systems of thinking and strategic attitudes and use advanced technologies that are not easily transferable because of cultural barriers (Kedia and Bhagat, 1988), especially when the transfer involves developing countries (Buckley and Casson, 1991). Thus, much of their success depends on their ability to transfer knowledge between headquarters and subsidiaries and among subsidiaries. The success of the transfer depends on the type or features of knowledge/technology and the absorption capacity of the recipient organization (Kedia

and Bhagat, 1988).

Nonaka and Takeuchi (1995) distinguish between tacit and explicit knowledge. The former may be associated with 'knowing how' and the latter with 'knowing about facts and theories' (Grant, 1986:111). For this author, 'the critical distinction between the two lies in transferability and the mechanisms for transfer across individuals, across space, and across time.' Zander and Kogut (1995:85) argue that the transfer of manufacturing capabilities, for example, is influenced by the degree to which these capabilities may be codified and taught. To them, how easily a capability can be codified and taught provides the most direct insight into the degree to which it is tacit and difficult to communicate, and has a significant effect on the hazard of transfer. Tacit knowledge that cannot be codified, but only observed through its application and acquired through practice, is better transferred by social interaction. However its transfer between people is slow, costly, uncertain (Kogut and Zander, 1992) and, therefore, challenging.

Arvidsson (2000) argues that there are two paradoxes about knowledge transfer. The first is the transfer paradox: the most valuable knowledge, tacit knowledge, is also the stickiest knowledge. So, tacit knowledge is expensive and difficult to articulate and materialize or codify so that others can easily absorb it. The second paradox is the evaluation paradox: tacit knowledge is also the most difficult knowledge to evaluate and assess. Arvidsson thus concludes that corporate managers cannot intentionally manage knowledge. Instead, aspects of knowledge and the recipients determine if a transfer takes place. Due to the nature of tacit knowledge, its transfer demands socialization mechanisms, such as meetings, people exchanges (expatriation, for example), technical visits, training, direct discourse or conversation, and so on. So, the more tacit the knowledge is, the stronger the links between the parts involved in the transfer need to be.

In addition to type of knowledge, another determinant of knowledge transfer effectiveness is the recipient's absorptive capacity (Szulanski, 1996). Zahra and George (2002:186) define absorptive capacity as 'a set of organizational routines and processes by which firms acquire, assimilate, transform and exploit knowledge to produce a dynamic organizational capability.' Absorptive capacity has two dimensions – potential capacity and realized capacity. The first means acquisition (identification and acquisition) of knowledge and assimilation of capacities (interpretation of information). The second means transformation (combination of existing knowledge and new knowledge) and exploitation (application). Absorptive capacity is normally analyzed at the organizational level. At this level, absorption refers to a set of organizational capabilities that ease the process of absorbing outside knowledge (Zahra and George, 2002). The use of external knowledge depends on previous knowledge, because it permits one to assess and

understand the value of new information, to absorb it and to use it (Cohen and Levinthal, 1990). Thus, the absorption of external and new knowledge takes place only if there is related knowledge in the organization and there are professionals who have differing backgrounds so that new knowledge can be used more creatively.

Even though absorptive capacity is an organizational feature, it materializes only through organizations' personnel (Minbaeva et al., 2003). This means that the education, qualifications, training, and professional experience of individuals ultimately determine an organization's absorptive capacity. Thus, the issue can also be analyzed at the country level. At the country level, absorptive capacity may be broadly associated with the extent to which the population is formally educated. In other words, the higher the educational level of the host country's population, the more likely it is that the latter will absorb the knowledge and technology transferred by MNEs. Also, absorptive capacity may be related to the number of institutions that foster research and innovation. Both the case of Japan, 'which demonstrated a considerable amount of absorptive capacity as it sought to create a modern economy from the late nineteenth century onwards' (Jones, 2005:262), and, more recently, the case of China demonstrate how absorptive capacity may leverage economic growth (Lin, 2011).

Although the transfer of resources, including knowledge, may potentially leverage economic growth, this potential has not been realized historically (Jones, 2005:266). As Blomström and Kokko (2002:15) indicate, there is strong evidence that points to the potential for significant spillover benefits from FDI. However, whether these spillovers will be realized depends on local firms learning to absorb foreign knowledge. Thus, education is a key requirement of achieving spillover benefits. Several reports from such international organizations as UNESCO, UNDP, and the World Bank have demonstrated that education is commonly a critical issue in the least-developed countries. So, it is not unlikely that benefits that FDI inflows may bring about are not realized. Both national governments and MNCs may have a role in improving existing absorptive capacity and, consequently, the extent to which knowledge is transferred into host economies. For national governments, the challenge is to design short-, mid- and long term educational policies. The MNCs may impact formal education, mainly tertiary education, and provide training for their employees.

METHODOLOGY

In order to discuss how education may influence absorptive capacity and, hence, transfer of knowledge to the least-developed economies, we opted to use a case study. As Yin (1994:12-3) indicates, a case study is 'an empirical enquiry that investigates a contemporary

phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.' The case study method copes with different variables of interest, relies on multiple sources of evidence, and benefits from the prior development of theoretical propositions to guide data collection and analysis. Thus, the case study method is a comprehensive research strategy that 'comprises an all-encompassing method – with the logic of design incorporating specific approaches to data collection and to data analysis.' The case study may use different sources of evidence including documentation, archival records, interviews, direct observation, participant observation, and physical artifacts. The advantage of using multiple sources of evidence is that findings and/or conclusions are more convincing if based on several different sources of information (Yin, 1994).

Three major reasons led us to select Mozambique as a case study. First, it has one of the world's lowest Human Development Indices (HDI). A factor that contributes to this low HDI is the low educational level (adult illiteracy). Secondly is the low number of students enrolled in primary and secondary schools and the low number of students enrolled in sciences at the tertiary education level. Thirdly, the country has received growing FDI inflows in recent years. These facts combine to make Mozambique an exemplary case for the examination of FDI inflows and transfer of knowledge to least-developed economies. As noted earlier, an effective transfer of knowledge depends on the existing absorptive capacity. Therefore, a low HDI level and HEI enrollment should affect the extent and type of knowledge transferred. As Yin (1994) suggested, we discuss a contemporary phenomenon within its real life context. The boundaries between it and context are not clearly evident.

As documentary sources on FDI inflows and education are relatively scarce in Mozambique, gathering facts and figures about the country is a challenging task. So we have relied on data compiled by international organizations. The data on the country's macroeconomic figures (economic growth, GDP, and GDP per capita) and FDI inflows (volume and economic sectors) were collected from reports that were published by both international (the United Nations Conference on Trade and Development, the United Nations Development Program, and the World Bank) and national (Investment Promotion Centre) organizations. For the historical account of Mozambican education, we relied, first, on academic sources (Thomaz: 2001; Hedges, 1999; Tole, 1995; Newitt 1995; Isaacman and Isaacman, 1983) to contextualize the evolution of Mozambican education before and after the country's independence in 1975. The World Bank and UNESCO publications were invaluable sources of Mozambican primary and secondary education data (illiteracy rates and enrollment). Reports that were published by the Ministry of Education, in 2000 and 2011, provided data about tertiary education (the number of students enrolled

and the academic fields that students searched most frequently).

Data concerning FDI inflows and education were analyzed from the viewpoint of opportunity and challenge. First, we discuss how Mozambique's high economic growth rates in recent years may contribute to the leveraging of FDI inflows. These investments may transfer knowledge, technology, know how, and expertise to Mozambique, although this transfer will be moderated by local absorptive capacity and, hence, education. Secondly, we analyze the extent to which economic sectors that have received foreign investment coincide with academic subjects pursued primarily by tertiary level students. If there is a gap between economic sectors and academic fields, it should help to undermine the transfer of knowledge effects, such as spillovers.

The case of Mozambique

An account of Mozambique's FDI inflows in recent years

Following the signing of the Peace Agreement in 1992, which ended a 16-year civil war, the Mozambican economy has substantially changed. Since 1993, Mozambique's GDP has grown by more than 6.0 percent annually, except in 1995 and 2000 (World Bank, 2013). Between 2001 and 2010, the country's GDP grew by 7.9 percent annually. It is expected to grow by 7.7 percent between 2011 and 2015 (The Economist, 2011). In 2011, the country's GDP amounted to \$12.8 billion (US). The Mozambican GDP per capita increased from \$260 (US) in 1992 to \$970 (US) in 2011 and is expected to grow by an average of 5.5 percent annually until 2016. Despite this growth, Mozambique's GDP per capita is still below the average for low income countries (UNCTAD, 2011; World Bank, 2013). Mozambique's Human Development Index (HDI) continues to be one of the lowest in the world (0.327), which gives the country a rank of 185 out of 187 countries that have comparable data (UNDP, 2013).

In future years, the country's economic growth will be driven by a boom in the mining industry and investment in the gas sector (UNCTAD, 2012a), as well as other factors. The country's steady economic growth, together with increasing world demand for mineral commodities, has prompted foreign companies to invest in Mozambique, mainly in the primary sector (natural gas and coal). Whereas FDI inflows to Mozambique amounted to only \$25 million (US) in 1992 and \$139.2 million (US) in 2000, they reached \$2.09 billion (US) in 2011 (UNCTAD, 2012a). FDI inflows to Mozambique amounted to \$5.2 billion (US) in 2012 (UNCTAD, 2013), almost double what the country hosted the year before. The UNCTAD FDI Attraction Index, which measures countries' success in attracting FDI (combining total FDI inflows and inflows relative to GDP), indicates that Mozambique has

improved significantly (UNCTAD, 2012; World Bank, 2013). In the group of structurally weak, vulnerable, and small national economies, Mozambique topped first in FDI inflows in 2012 (UNCTAD, 2013). The FDI inward stock increased from a mere \$ 25 million (US) in 1990 to \$ 12,632 billion (US) in 2012.

Three of the 10 largest greenfield projects in LDCs (a group that includes 49 countries) that were announced in 2011 are in Mozambique. An important infra-structural investment announced (the largest greenfield project in LDCs in 2011) the construction of a power plant by Jindal Steel & Power of India. If it materializes, this will be the largest greenfield investment in electricity in Mozambique since 2003. The investment is estimated at \$3 billion (US) and is expected to create 368 jobs (UNCTAD, 2012). The discovery of huge offshore gas deposits has also helped to attract foreign investors. In 2012, Mozambique near doubled its volume of FDI inflows (UNCTAD, 2013). Again, as in the previous, three of the largest greenfield projects in LDCs that were announced in 2012 were in Mozambique. Two of them were in the infra-structure sector (fossil fuel electric power) and one was in the real estate sector (UNCTAD, 2013).

An account of the development of education in Mozambique

During the colonial period, education was clearly not a priority in Mozambique. In the early 1960s, there were three high schools in the country's capital and only a few others in the other cities. Investments in educational infrastructure were concentrated primarily in urban areas, where most Europeans and their descendants lived. The majority of the local population did not benefit from the existing educational system. In 1960, for instance, African students accounted for only 13 percent of total student enrollment (Newitt, 1995; Hedges, 1999). Portugal, the colonial power, did not emphasize education and so could not provide its colonies with an infrastructure that was unavailable to the Portuguese population itself. The illiteracy rate in Portugal during the 1970s was 20.5 percent, but in Mozambique it was around 90 percent (Isaacman and Isaacman, 1983:12). Furthermore, ethnocentrism at colonial schools was massive. Students were obliged to study Portugal's geography despite the local reality (Thomaz, 2001: 45). The poor preparation of teachers only worsened the situation (Hedges, 1999: 121).

After independence in 1975, a major concern of Frelimo (the Mozambique Freedom Movement) was education and the educational qualifications of the local population. Despite several shortcomings – the departure of teachers and the lack of books and schools – efforts were made throughout the country to provide some education to the people. In the first five years after independence, the illiteracy rate declined from 95 percent to 75 percent

(Isaacman and Isaacman, 1983). Despite the extensive literacy campaigns, the education was biased by Marxist ideology and neglected technical and professional issues (Tole, 1995). In the 1980s, the civil war, a serious economic crisis, and political instability caused serious damage to the country's infra-structure including the educational system. Since the end of the war, government authorities, with the support of international agencies, have attempted to improve the country's educational system. However, these efforts have been undermined by such factors as widespread poverty (82 percent of the population live on less than \$2 dollars [US] a day), low life expectancy (which at birth was 50 years in 2010), and the devastating impact of AIDS (the HIV rate among adults of 15 to 49 years of age is 11.3 percent). Despite this, the educational situation has been changing. Whereas only 43 percent of children attended primary schools in 1991, 92 percent (89 percent of girls and 94 percent of boys) were in school in 2010 (net enrolment). If we take gross enrollment into account, this changes to 111 percent (it can be greater than 100 percent when students younger or older than the official age for a given level of education are enrolled in that level). Figures for secondary school attendance are less positive. In 1999, only three percent of young people attended school, but, in 2010, this figure had risen to 16 percent. If gross enrolment is considered, this figure becomes 25 percent. The primary to secondary transition rate is still 50 percent. Since 44 percent of Mozambique's population is less than 15 years of age, increasing this transition rate, as well as figures for secondary schools, remains a challenge for local governments (World Bank, 2013; UNESCO, 2013).

Regarding tertiary education, the first university (Universidade Eduardo Mondlane today) was not created until 1968. Until 1974, students of African origin represented less than one percent of all students. When the university began, it had 2,400 students. However, this number declined from 1977 to 1989 and increased only from 1990 onwards. At this time, other institutions of higher education were created and both public and private educational institutions began an expansionist movement to other cities. In 2000, there were ten HEIs in Mozambique (MINED, 2000). By 2010, the number of HEIs had grown to 44. During the same period, the number of students who attend an institution of higher education grew from 10,000 to 80,000 (Rosário, 2012; MINED, 2011).

Some issues, however, may undermine the effects that this growing number of students could have on the country's economy, particularly the lack of convergence between offer and market demands. Data from the Ministry of Education show that 9,600 students from six public and private HEIs were enrolled in 2000 primarily in economic sciences (including management), engineering (including architecture), law, educational sciences, social sciences, agricultural sciences, natural sciences and

medical sciences. More than 40 percent were in economics/management, law, and social sciences. Only 25 percent were enrolled in the engineering area (MINED, 2000). A decade later, the divergence between offer and market demands has widened. In 2009, there were around 60,949 and 20,301 students in public and private HEIs respectively. More than 75 percent of students were enrolled in educational, social, and human sciences, management, and law. In contrast, and despite Mozambique's needs, fewer than 15 percent of students are enrolled in areas, such as engineering, natural and physical sciences, mathematics, statistics, IT, and so on (MINED, 2011). A large part of foreign investments is concentrated in the infra-structure and the primary sectors, and both largely require professionals from the technical areas. This creates a gap between what the market demands and HEIs prepare (Rosário, 2012). Taking into account data about FDI inflows and education, we now discuss how foreign investments may constitute a channel through which external knowledge is transferred to the Mozambican economy, but that this opportunity will arise only if the related educational challenges are addressed.

Challenges and opportunities of FDI inflows to Mozambique

Mozambique has been receiving an increasing volume of FDI inflows that are likely to produce positive effects in the country. For example, Article 7 of Mozambique's Law on Investment says that carrying out investments addresses objectives, such as creating jobs for national workers and raising the level of professional skills of Mozambique's labor force; promoting technological development and improving entrepreneurial productivity and efficiency. Some impacts, such as the creation of jobs, should be felt shortly after investments have been made. However, it should be noted that none of the largest greenfield investments that have been announced during the last two years are expected to create numerous jobs. Other impacts, such as the raising of professional skill levels, the transfer of knowledge and the development of knowledge spillovers, should take much longer to notice. As mentioned by different authors, a requirement for these impacts to occur effectively is the existence of sufficient absorptive capacity, which depends, in turn, on education. Therefore, if rising investment means an opportunity for Mozambique to lever economic development (Meyer, 2004), it also creates challenges for the country's authorities, with education being the most important one. As Guy (p. 252) has stated, 'upgrading from low-wage assembly to higher paid, higher-skilled part of the value chain' [...] implies an increase in the absorptive capacity of a country's companies and research institutions.' How this challenge is addressed will determine the future impacts of these foreign investments on the country.

Mozambique still ranks 185th of 187 countries in the last Human Development Report (UNDP, 2013). A particular component of HDI shows the extent of the challenge. Mozambique's adult population has an average of 1.2 years of schooling. Overall, literacy among adults (older than 15 years old) was 56.1 percent in 2010, below the regional average of 62.6 percent. Such a low level of schooling is likely to undermine an effective transfer of technology, knowledge, and know how. Thus, this specific impact may remain as potential and not be realized. Such a situation obviously cannot be changed in a short period of time. It will take years and even decades before a shift is noticeable. Since the outcome of governmental investment in education cannot be seen immediately, other ways to facilitate knowledge transfer (i.e., to avoid 'knowledge waste') should be considered. However, these ways are only provisional as a consistent, continuous, and sustainable transfer of knowledge will depend on long-term education and scientific investment and public policies.

Governments tend to welcome foreign investments (Spar, 2001), but seem somewhat less receptive to foreign employees and restrict their hiring on the assumption that foreign companies need to hire local people. In Mozambique, for instance, enterprises may employ foreigners, but are subjected to quotas. The foreign workers employed in a large enterprise (more than 100 employees) may not constitute more than five percent of the total number of employees (Frey, 2007). Although this policy may be politically sensible, foreign companies will not hire locally, unless there are sufficient qualified professionals available. Restrictions on employing foreigners may actually prevent economic and business growth (Economist, 2013). However, such restrictions may eventually force MNEs to hire and, therefore, train locals (Blomström and Kokko, 2002). Even though foreign companies may provide training to local employees, there is an issue that should not be overlooked. It is that '... the methods of MNE human capital development are often likely to be firm-specific rather than aimed at developing general human capital skills such as numeracy, literacy, and problem solving' (Slaughter, 2002: 21). This sort of training may be invaluable, but not effectively improve both and realized absorptive capacities that depend on general skills that are provided mainly by formal education. In order to avoid 'knowledge waste,' we argue that short- and medium-term measures may be appropriate, whereas long-term measures do not produce concrete outcomes.

First, we argue that a more nuanced view of expatriation would be suitable in the Mozambique context. Present foreign investments are concentrated in the primary and infra-structure sectors, which are capital- and technologically-intensive. Such investments demand highly-qualified, technical professionals that the Mozambique educational system may be unable to provide. There is a divergence between the type of professionals

demanded by foreign companies and those that educational institutions prepare. While this gap remains, it is likely that foreign companies will rely on expatriates. With a serious economic crisis touching Europe and other developed economic areas, a great contingent of highly qualified, but unemployed, people may be looking for opportunities elsewhere. Mozambique may be an attractive target. Some could argue that opening its doors to foreigners would deprive nationals of valuable jobs as they cannot always compete with better qualified and experienced professionals. Although this may be true, restricting their entry means depriving a country of sources of know-how and knowledge, such as tacit knowledge, for which the success of transfer relies on people. So, restriction policies may limit somewhat one of the most valuable impacts that these FDI inflows can have on Mozambique, namely the transfer of knowledge. Thus, objective and targeted migration policies that are aimed at attracting talented professionals according to Mozambique's needs may contribute to bringing the most sought and needed knowledge to the country. Again, there are no ready formulae, but expatriates can contribute in different ways to the dissemination of knowledge throughout the host country.

Secondly, we contend that policies that seek to attract Mozambicans who have emigrated may also contribute to a dispersal of knowledge into the economy. The last LDC Report considers this issue extensively. Brain drain, for example, is more prevalent in LDCs than in other developing countries. Emigration data demonstrates that Mozambique is one of the LDCs with the highest share of emigrants (four percent) as a percentage of total LDC emigrant stocks in 2010. More than 30 percent of Mozambique's high-skilled labor force lives abroad (UNCTAD, 2012b:94). The same is true for a group of other LDCs. Thus, the return of students and long-term emigrants is one mechanism by which the stock of knowledge and skills of emigrants can contribute to the accumulation of human capital in the home country. Another mechanism, which was discussed in the 2012 LDC Report is the diasporas of knowledge networks that, if well organized, can serve as 'brain banks.' These diasporas can become a source of knowledge sharing and technology transfer with their home countries. As has been argued in this report, technology appears to diffuse more efficiently through culturally and nationally linked groups (UNCTAD, 2012b:106). The potential contribution to the home country of highly-skilled LDC nationals is not realized automatically. The achievement of this potential depends on institutional, political, and economic conditions. For example, as long as Mozambique's economy grows (and the economic crisis in developed countries persists) and the labor market increases (mainly for qualified people), Mozambicans who previously left may choose to return. However, highly-skilled emigrants tend to share little knowledge with their home countries if the latter do not undergo rapid structural transformation

(UNCTAD, 2012b:86).

Although actions and policies that are aimed at expatriates and emigrants may compensate temporarily for the scarcity of formally educated workers, they are unsustainable in the long-term. Only if there is a set of short- and long-term educational policies for Mozambique is it likely that the potential transfer of knowledge will be fully realized. Changing the overall education panorama will take decades, although some measures in the area of higher education may take less time to produce visible results. As technologically-intensive foreign investment should increase the demand for graduates in related areas, students are likely to look for such courses. In turn, this will increase the demand for academics by HEI. So, thirdly, we point out that governmental policies may prioritize the qualification and training of both students and academics who will help the country to respond to the demands of the labor market and, more importantly, become levers for the transfer of knowledge. More oriented tertiary education policies should help to increase absorptive capacity, hence transfer of knowledge and spillovers.

Final considerations

The literature has largely established that FDI inflows may impact host countries in several ways. Foreign companies may affect trade exports; forge linkage with domestic companies; increase competition; and transfer technology, know-how, and knowledge. However, the literature has disregarded FDI impacts on the least-developed countries, particularly the transfer of knowledge. Since these countries have received more FDI inflows lately, the study of their impact may contribute to clarifying several issues. It may help, for instance, to further understand, how transfer of knowledge and absorptive capacity relate to each other within LDC contexts and, also, how local governments can play a pivotal role by designing policies to improve local absorptive capacity.

The high economic growth rates in some LDCs should attract MNCs that looking for opportunities to expand elsewhere. Foreign companies have invested in the exploitation of natural resources and the construction of infra-structure. Such projects normally require resources – finance and knowledge – that local economic agents (private and public) do not possess. These projects can serve to channel knowledge, know how, technology, and expertise that may be later diffused throughout a country's economy by linkages or spillovers. In turn, this diffusion may help to leverage LDCs' economic growth and to create a more competitive economy. However, as many authors have argued, both transfer and diffusion are conditioned by the host country's educational level, institutions, and infra-structure.

In the case of some LDCs, such as Mozambique,

investments have been concentrated in areas (infrastructure and natural resource exploitation) that normally require highly-skilled, technical professionals. Even if these projects do not normally create an impressive number of jobs, they are – due their extension and complexity – likely to create several linkages. Thus, the demand for these professionals by (directly and indirectly) related companies should increase. However, the diffusion of knowledge (spillover) depends on its absorption by the qualified and skilled people who are employed by other organizations. As Cohen and Levinthal (1990) argue, the transfer and diffusion of knowledge depend on existing and related knowledge that permits one to assess and understand the value of new information and to absorb it and use it. In other words, there is a realized absorptive capacity, which means transformation (a combination of existing knowledge and new knowledge) and exploitation (application), only if people can absorb and use knowledge to create new value.

As LDCs commonly lack formally qualified people, the transfer and diffusion of knowledge remain a challenge for both foreign companies and local governments. As MNEs are normally repositories of updated knowledge, technology, know-how, and organizational practices, they may transfer these resources to the local economy directly or indirectly. The training of local workers and linkages to local companies are examples of ways of increasing the stock of knowledge within the host economy. In the case of LDCs, however, foreign affiliates may have to build up more adapted strategies and practices to transfer of knowledge as an organizations' most valuable knowledge is also the most difficult to transfer (Arvidsson, 2000). Local companies that become suppliers to foreign companies may have an opportunity to access more modern and updated knowledge and technology and, hence, to increase their competitiveness. If they do not have absorptive capacity, foreign companies may also design strategies and practices that ease the transfer of knowledge to their local suppliers.

Although foreign companies may transfer knowledge to LDCs and help to improve the absorptive capacity of the latter, local governments must design complementary policies to accelerate and deepen both processes. Long-term policies involve investments in primary, secondary and tertiary education. LDCs, like Mozambique, have already devoted some effort to increasing the number of children who are enrolled in primary and secondary schools. Despite the importance of these investments in changing effective absorptive capacity, they must be accompanied by other policies. More nuanced policies regarding expatriation and emigration should help to avoid 'knowledge waste' (i.e., knowledge that is absorbed, but not used). If well designed, these policies may help in the transformation and application (realized absorptive capacity) of transferred knowledge. Also, tertiary education policies that are more oriented to

technological undertakings should help to increase absorptive capacity and, hence, the transfer of knowledge and creation of spillovers. In summary, how foreign affiliates and governments deal with the transfer of knowledge and absorption capacity will determine whether FDI will have durable positive effects on LDCs.

The main contributions of this paper to the literature on FDI impacts on host economies are in the examination of the issue of FDI impacts, particularly, the transfer of knowledge within LDCs contexts and, also, how absorptive capacity and transfer of knowledge inter-relate within these contexts. This paper has some limitations that may be addressed in future investigations. As in any single case study, the intention is not to make statistical generalizations, but to contribute to the theoretical debate. Thus, since FDI inflows and education figures vary from one LDC to another, other papers can explore further how the transfer of knowledge and absorptive capacity (potential and realized) inter-relate in different countries. It would be particular interesting to explore how governments have challenged the gap between supply and demand in the job market resulting from foreign investments. Another limitation of this paper is that it does not discuss the transfer of knowledge from the micro viewpoint. A closer examination of how MNCs have dealt with the transfer of knowledge in LDCs should also clarify the role of these economic agents to shift the absorption capacity and their influence on the job market.

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Full Length Research Paper

The factors affecting employee turnover in an organization: The case of Overseas Pakistanis foundation

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The purpose of this research paper is to find out the relationship of the factors such as retirement benefits, job security and financial crises affecting the turnover of an employee in an organization. The sample data were collected from more than one hundred people working in the private, semi-government and commercial organization Overseas Pakistanis Foundation (OPF) in Islamabad, Rawalpindi and Peshawar. Questionnaires consisting of standardized scales using 5.0 likert scales were self administered. The result revealed that the retirement benefits, job security and financial crises have a very pertinent and significant impact on the Turnover of the Employee. Job security, financial crises and retirement benefits are sensitive problems in a developing country like Pakistan. The result also revealed that the retirement benefits have more positive effect on the turnover than the job security. Similarly, financial crises has a moderate effect on the turnover of the employee. These factors were verified by means of Correlation and Regression Tests. Subsequently, the presented problems when faced by the organization proved the major causes of employees' turnover. In the current competitive economy, human resources in an organization are calculated as the key assets. Implications for the organizational manager have been discussed along with limitations of the studies and direction for future research.

Key words: Commercial, welfare, pertinent, implication, job security.

INTRODUCTION

The Private and Commercial Organization of Overseas Pakistan Foundation does not have proper rules and regulation on job security. It mainly focuses on the proper utilization of the employee at the maximum level rather than facilitating and compensating the employee accordingly in terms of retirement benefits and job security. When employees are not comfort with the retirement benefits and job security they will definitely leave the organization for the best opportunity offer (Igharia and Greenhaus, 1992). This will badly affect indirectly the organization objective because the well trained, expert and professional employee space is not immediately

fulfilled. The literature review will reveal the significance of such type of research in terms of employees' retirement benefits, job security and financial crises effects which have never been analyzed for the Commercial Organization mentioned above in Pakistan. The independent variables, that is retirement benefits, job security, and financial crises have a fatal impact on the turnover of the Employee in the Private and Commercial Organization in the developing country, Pakistan. Institutions make their policies according to their own orientations. Some are objective oriented and some are made subjectively. The main focus is to retain the

professional and well expert employees in the organization (Maslo, 1970; Herzberg, 1973) .

In March 1979, Overseas Pakistanis Foundation was set up according to Emigration Ordinance, 1979 with the aim to facilitate its rolled workers and their families in Pakistan and Azad Jamu and Kashmir. The rate of turnover of employees of different organization is similar. Different organizations have different problems which affect their employees positively or negatively. There is also in the rate of turnover between private sector jobs and public sector. Its rate is high where unemployment rate is at low level where people can get alternative job better than the previous one. Some time, turnover impacts an organization positively e.g. by replacing the poor performer with more skilled employee, recruiting a young one in place of a retired old employee. Our research article focuses on employees' turnover due to poor retirement benefits, financial crises and job security.

If organizations face such situation in the present knowledge economy when their employees leave them or try say good bye to them the management must address these factors on priority basis. It is one of the crucial problems of an organization (Armstrong, 2009; Reiss, 2008). This problem affects not only their recent recruitments of human resource but also relentlessly those loyal and experienced employees who have worked for the organization for many years (Branham, 2005; Katcher and Snyder, 2007; Somaya and Williamson, 2008). It can be desirable and undesirable. It is the inter-company flow of employees.

Theories give more importance to individuals in organization. In many organizations, talents and creativities are shut up. These can energize the progress of the organization but when shut up it results in high turnover of employees (Fisher, 2000).

LITERATURE REVIEW

Turnover is defined simply as "the reverse position of an employee in organization". Many scholars have defined it very cutely. Cotton and Tuttle (1986) referred to it as an individual's estimated probability that they will stay with an employing organization. Tette and Meyer (1993) defined it as "Conscious willingness to seek for other alternatives in other organizations". This is mentioned in the Attitude Behavior theory of Fishbein and Ajzen (1975). Price and Mueller (2001) also described that turnover intentions construct alternative in measuring actual turnover.

Job turnover of employees can play a crucial role in an organization's long term achievements and success because the more workers contend the more the low ratio of employees' turnover, which will in return yields to the organization. It drives the performance towards the targets of its firms and institutions. The vital quality of human resources services which they may render in

future is typically polished by retaining the well experienced old employees. Employee's satisfaction is interlinked with rewards of retirement benefits or life time benefits and job security.

The topic employee's turnover is widely studied with multiple perspectives and suggested various factors are the causes of turnover of an employee in an organization. Some factors are demographics and some are biographic e.g. financial rewards, work environment, promotion, feeling of employee's self accomplishment and self_recognition, over stress of employees etc. No one can deny the fact that demographic variables have constant positive or negative links with turnover ratio like tenure, educational level, age, etc. It was found that turnover and age, tenure and income level have negative relationships (Arnold and Feldman, 1982; Cotton and Tuttle, 1986; Gerhart, 1990; Mobley et al., 1979; Price and Mueller, 1986; Wai and Robinson, 1998; Weil and Kimball, 1995). While, education level has positive relationship with turnover (Berg, 1991; Cotton and Tuttle, 1986).

Job satisfaction and employees' turnover are inversely proportional. With decrease in the strength of one, there is increase in the strength of the other. "Job satisfaction and turnover are negatively related" (Griffeth et al., 2000). Another researcher proclaimed that future good career and turnover are opposite related (Koh and Goh, 1995). There are many other factors which seem to be the core factors of turnover and job satisfaction according to Price and Mueller (1986). They stated that promotion factor will decrease employees' turnover.

Turnover of employees is one of the challenging issues of modern business because employee is the soul of an organization. With turnover of well trained employees the organization will die. Several organizations have faced this problem and maximum time of high management and directors is consumed over it in order to minimize it to some extent or reduce its negative and damaging impacts on organization. One of these factors is the person-environment fit which is the degree of relevancy between the organization and employees. It is concerned with the responsibilities of Human resource management to see the compatibility of workforce and business organization (Hatton and Emerson, 1998; Kristof, 1996).

Turnover means the intention of an employee to quit his concurrent organization. Turnover, according to Price (1977), is the ratio of number of employees who has let the organization divided by the average number of people in the concerned organization during the specified periods.

In this modern world of technologies and entre-preneurship it is considered important and crucial to equip their employees with the latest trends in business. Turnover of employees is a serious controllable facet. It is natural that frequently employees want change of environment and seek new challenging job. To accommodate their employees with these facets economically is really difficult and to provide them on annual basis, but

unavoidably they have to provide these for their survival. Every organization plans to have low turnover ratio and high productivity efficiently and effectively.

It is proper to manage the turnover of employees by providing them fringe benefits in order to satisfy their needs at Government level and Non-government level because both sectors contribute to the economy of the country. This strategy is not successful because there are so many other facets which have a vital role in the turnover of employees like job security, retirement benefits and financial crises which are the research areas of this manuscript. Very few researchers have focused on these variables so far. While studying further we have come to know that there are still rooms for researches on this topic.

Turnover of employee can be controlled when the organization takes some pre-emptive measures like providing job security, long term retirement benefits etc. Controlling and maintaining turnover is very necessary because the rhythm of successful operation cannot face halts and breaks. An employee's perception must be studied before his selection as some researchers revealed that employees' attitude and behavior show how much they will yield to the business firm and how much they will affect the work environment positively or negatively. When workers perceive the working environment to cordial and genial they will stay there for long time (Moorman, 1991).

The key workers continuously energize the operations as time passes. It is an open fact that turnover severely hits many best qualities of an employee particularly the organizational commitment. When an employee feels discontentment definitely he will seek alternative job accordingly. The ratio of turnover also depends upon the attitude and emotion of employee. The feeling of job dissatisfaction has proved to be the one of vital causes of turnover of employee (Saifuddin et al., 2008).

High turnover ratio brings both direct and indirect costs. As Staw (1980) found that expenditures of selection, recruitment of new employees, training and development are called direct costs. Similarly, the expenditures of learning, loss of social characteristics are indirect costs (Dess and Shaw, 2001). Job satisfaction and turnover are opposite related. The combination of psychological, physiological and environmental circumstances causes a person to say, "I am fully satisfied" (Hoppock, 1935). Turnover of employees has been measured by many researchers with slightly differences like Khatri and Fern (2001) cleared that there is the modest relationship between job satisfaction and turnover and Sarminah (2004) found a moderate link. There is a negative relationship between job satisfaction and turnover (Korunka et al., 2005).

Up till now there is no globally accepted framework of turnover despite the large researches on it. But, its information assists the high management authority to be alert for the threats of turnover. That is why the focus of

this research article is to provide more sophisticated predictors. These are retirement benefits, job security and financial crises. Tackling these factors devotedly can keep their talented employees. Some jobs intrinsically attract skilled employees from anywhere.

Some time, an employ possesses more skills and he is not compensated for it accordingly. He remains unhappy with the present job description. Then definitely he will try to seek desired job which can compensate him financially for it. It is very serious for managers and directors to know how many employees are trying to leave their organization and secondly why they want to leave their jobs. These two concerns need to be addressed on priority basis. Annually, it becomes natural to train and guide their workers at proper level. Especially new employees deserve more facilitation and support in order to make them familiar with the ups and down of the organization. Various researchers have done research work on the variable employees' turnover relationship with age and recruitments which showed negative relationship (Weil and Kimball, 1995; Gerhart, 1990; Price and Mueller, 1986). In the initial stages most employees try to quit their job (Mitchel and Braddock, 1994).

Turnover on willingly basis is the major problem of many well established countries economically and politically like Taiwan, S. Korea, Hong Kong etc (Barnett, 1995; Chang, 1996; Syrett, 1994). Another well developed country, China has this problem (Adweek, 1993; Machachlan, 1996). Job turnover ratio has compelled Singapore progress to decline gradually (Chang, 1996; The Straits Times, 1996). There is a great difference in the ratio of turnover of employees among countries due to difference in culture, economics, religions and political phenomena (Cotton and Tuttle, 1986).

If we compare the turnover ratio of male and female then we can see some drastic difference among the work of researchers. We see that there is a variation keeping in view the gender of human beings. Turnover of female employees is greater than male employees (Cotton and Tuttle, 1986; Weisberg and Kirschenbaum, 1993). While other known researchers say male are more inclined to quit their jobs as compared to female (Elaine, 1997; Summers and Hendrix, 1991). In other research articles we have studied that gender and turnover have no links (Berg, 1991; Miller and Wheeler, 1992; Wai and Robinson, 1998). Maximum scholars proclaim that lack of job satisfaction is a major factor which affects the turnover ratio of employees. Porter et al. (1974), in their research, predicted that organizational commitment can reduce turnover more than job satisfaction.

Turnover can be possible due to over work load on employees. It can be defined as a conscious and deliberate willfulness to leave the organization (Tett and Meyer, 1993). Turnover can be measured by the given formula as number of leavers /Avg number of Working * 100). Job satisfaction reduces turnover and absenteeism. Similarly, if there is no fair justice in work load among the

employees of organization the definitely maximum employee will seek alternative jobs (Moorman, 1991). In American organizations, organizational justice affects negatively (Randall and Mueller, 1995; Dailey and Kirk, 1992; Berg, 1991; Price and Mueller, 1986). We may argue that labour shortage also compounds turnover because labour market fluctuates frequently with the global economy. A well trained employee easily switches off his present job for a few extra dollars or money (Pakistani Currency).

Jobs in modern life trends are being joined on the basis of old age benefits. These old age benefits are the foreseen benefits for women gender (Brown and Warner, 2008; Wong and Hardy, 2009). The nature of job has changed and become more stressful (Johnson, 2004). Retirement financial bonus directly addresses the employees in the sense that in old age, earnings are not the same with that of before. So it has become natural to plan who will support you financially in old age. That is why an employee of business firm is keenly interested in the retirement scholarships, that is pensions remuneration, free treatment of life time, free children education, tax-advantaged saving, obtaining well skill of know-how etc. A question arises as why an employee wants premature retirement. It may be possible that the employee desires to replace wages with income or he may be physically unfit. The formal age of Retirement is different in different countries that is 66, 65, 64, and 62.

Financial crises have gifted organization with downsizing globally. Downsizing may be the major issue of turnover due to some critical financial crises (Gandolfi, 2008). It is the process of reducing the total number of employees for bringing operation in linear procedures. It affects also the work process. This is because of two reasons: first, removing non-fruitful workforce and second to cope with the irregularities in economic markets. An organization can reengineer their employees and workforce or simple restructure their organization for coping with the coming challenges.

Restructuring, as Black and Edwards (2000) said, is the major role of financial crises along with the change in strategy of organization. These major activities lead to lack of job security and turnover of employee because it collapses the sincere behavior of workforces. The intention of turnover has been accelerating with the increasing job insecurity sense (Tett and Meyer, 1993). The inflow of downsizing because of financial crises has totally change the attitude, loyalty, trust and behaviors of employees as they feel insecure and their lives have been documented with glaring evidences (Armstrong-Stassen, 1998; Brockner, 1998; Brockner et al., 1987; Cascio, 1991; Kets de Varies and Balazs, 1997; Ryan and Macky, 1998; Wager, 2001).

The next thing which was imposed by The Financial Crises is "Recession in Economy". This has been improved that it is a major antecedent of job insecurity undoubtedly. We have seen that the lack of job security

can reduce tremendously the sense of commitment (Ugboro, 2006). In the 1970s and 1980s, financial market faced economic crises and recession overlapped the minds of experts and researchers which later proved in form of major job losses and unemployment. These grave waves have inflicted the work force psychologically. Job security and financial crises are interlinked. The occurrence of one of them may cause the other. Job insecurity feelings, according to researchers, belong to subjective feelings and can be based upon the interpretation of field work situation (Ber and Tinka van 1999).

Another harmful wave of financial crises is the fluctuation and jeopardization of economic stability of a progressive country. It produces great variation in work force demand. Destabilization of economy impacts the overall capital markets, organizations, workforce, turnover of employees and so on. So in order to find out how much financial crises can affect the turnover of employee this is the main objective of the concerned variable because every year a company spends millions of dollar on recruitment and advertisement. The ramification of these spending now becomes unbearable for the company.

According to the Hierarchy theory of Marslow, an individual has five basic needs. He hypothesized that human beings must satisfy their lower-order needs before shifting to higher level needs in hierarchy. Second, the behavior of human beings is only tortured by unsatisfied needs. The needs range from lowest to complex (Berl et al., 1984 quoted in Hartel et al., 2007). When the basic needs of workforce are satisfied then there will be low turnover. Human needs according to Marslow are (1) Physiological needs 2. Safety and security needs (seniority, working conditions, insurance and retirement plan) 3. Social needs 4. Esteem needs (reputation, recognition, status, promotions, and appreciation). 5. Self-Actualization needs (potential skill, be creative, or simply "be the best I can").

Human beings are not machines. They are social animals and by nature possess some needs for survival. They have some loopholes and expectations. These needs and expectations are constant all the times. They change with the passage of time. Some time they become so serious and even overlap all other activities due to which an employee starts having negative thinking. In such situation the management must provide an environment for exchanging thoughts with good wishes. The management must find out what their employees need now and also in future what will be their needs and expectation in order to remove the anxiety of all types and minimize them. Recently, it has been found that the decrease in job security is one of the other strong reasons and factors which can affect job security more. They are globalization, advancement in technology, demographic accelerations and the instability of govt. policies (Smith, 1999, p. 196-198).

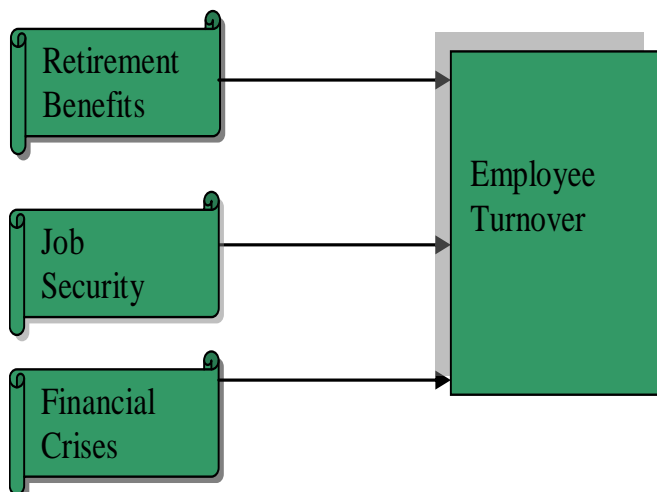


Figure 1. The main causes of an employee turnover.

Employees are the product of environment. So whatever are the environmental trends the organization must adopt for the organizational smooth operations and interest. These concerns motivate the employees to have good feeling and job security in time of financial crises particularly. Job security makes employees contribute a lot to the organization. Suppose if an organization expels an employee from his job then what will be its impact in the society? The answer is simple. Definitely this employee will disturb the rhythm of peacefulness and stability of the society (Guzel, 2001, p. 19; Taşkent, 1992, p. 38). It means it has deprived a family from its income earning rights. Nowadays, job security is the indispensable right of an employee.

There are many factors that cause the turnover of the employee in an organization and in many other organizations.

Samad (2004) described that job satisfaction and job characteristics are two important independent variables which cause the turnover of an employee. Ali (2002) regarded promotion, pay and reward as independent variable which severely cause the turnover of an employee. Maslow's (1970) and Herzberg's (1973) theories incorporated the significance of an employee to accelerate an organization. Amabile (1997) describe the extrinsic motivation need for an employee. Reward, recognition, and feedback are the extrinsic motivation used for gripping the professional employee in an organization

Demographic variables (William and Hazer, 1986) are closely related with the employee turnover. Several theories and views have been detected about the turnover and its impact on the organization's objective but no one has suggested that retirement benefits, job security, and financial crises are the main causes of an employee turnover (Figure 1).

Model

Hypotheses

Keeping in view the importance of the variables and their integrative impact on the employee turnover, further venues for investigation can be explored because there is a room for it. Therefore, this research paper is extremely keen in answering the following hypotheses.

H1: Retirement Benefit has positive effect on the turnover of the employee.

H2: Job Security can affect positively the turnover.

H3: Financial Crises can impact negatively the Turnover of employee.

H4: Retirement Benefit will have more positive impact on Turnover than Job Security.

H5: Job Security will impact less negatively the turnover of an employee than Financial Crises .

METHODOLOGY

This research was conducted in best commercial and private organization, OPF (Overseas Pakistan Foundation). It pays a lot of tax to the country. Above 200 questions were distributed to the employees of the Organizations in Islamabad, Rawalpindi, Peshawar and Kohat. We have prepared two types of questions: first one for the employees personnel views and attitudes and the second for the Management Directors and Recruiters about their plan on how to control or minimize the turnover of their employees. Usable questions of about 160 were returned. Analyzing the response showed the turnover rate is 72%. Convenient Method was used with the Likert scale of 5.0. The variable was measured with five items. The questionnaires were self administered. They consisted of independent variable which are 'retirement benefit, job security and financial crises'. And the dependent variable is the turnover of employee. Correlation and regression analyses were carried out to analyze the data. Descriptive Method was used to analyze the demographics of the sample (Table 1).

Measurement

Dependent variable

Turnover of an employee is the dependent variable. It was measured and tested following Donnely and Ivancevich (1985) with the following questions like (1) I have enough freedom to quit the job for a better job (2) I have received threats from the supervisor (3) I leave the job because the supervisor does not assist us in career development, etc. Each statement is presented with Likert Scale of 0.5 to find out the turnover of an employee in the organization. The reliability of the test revealed that the coefficient is 1.91.

Independent variables

Retirement benefits, job security and financial crises are the independent variables. They were measured with the likert scale of 0.5 from strongly disagree to strongly agree. The reliability of coefficient of the retirement benefits is 2.3. The job security was measured with the above likert scale of 0.5. The response received was from strongly disagree to strongly agree. The reliability of the

Table 1. Demographic statistic of the sample.

Sub items	Mean	Standard Deviation	N	%
Age	38.42	10.27	--	--
Gender :				
Male			102	68
Female			48	32
Marital Status :				
Married (M/F)			82	54.7
Unmarried (M/F)			68	45.3
Education (Master, MS, Ph.D)			75 (ave)	50

Table 2. Regression analysis relationship of independent .Var and dependent .Var.

Variables	Mean	St.D	1	2	3	4	5	6
Turnover	5.41	1.91	(.90)					
Retirement Benefits	4.12	2.3	-.73*	(.95)				
Job Security	4.10	1.54	-.51*	.24*	(.89)			
Financial Crises	3.52	1.52	-.63*	.53*	.29*	(.90)		
Task Significance	4.1	1.89	-.54*	.34*	.55	(.65)*	(.84)	
Response	4.5	1.97	-.30	.29*	.23	.24*	.30	(.77*)

coefficient of job security is 1.54.

The independent variables financial crises have been measured with the likert scale of 0.5 as above and the coefficient reliability is 1.52.

COMPARISON AND DISCUSSION

The purpose of the research paper was to find out the association between the Independent variables i.e. retirement benefits, job security and financial crises with the dependent variable i.e. turnover of employee. The correlation of retirement benefits, job security and financial crises showed negative and significant relationship. It clarifies that retirement benefits and, job security explain the turnover more than the financial crises. The demographic variable has also contribution in the turnover of employee. This result is similar to the finding of the study conducted by Samad (2004). The key points of minimizing turnover are to equip human resources according to the latest trends of employee carrier development, sharing information and motivating open communication. Moreover, according to personal theory "it is necessary to take into account needs of employees at different levels of development". We may not neglect these vital factors like safety and security, friendship, self-recognition and fulfillment. Generally speaking, an employee strongly wishes and needs motivation through job security,

retirement benefits from multiple angles for improving his efficiency and feeling of self-esteem, usefulness and importance.

The regression result showed that retirement benefits, job security, financial crises, and task significance have negative relationship with the turnover of employee.

Respondents' profile

The respondents' average age is 38.42 years. The ratio of male and female is 68 and 32%. In the first part of the study, the internal consistency and reliability of the scales were tested by computing the Cronbach's alpha values. The scales of the factors such as retirement benefit, job security, financial crises and turnover have good internal consistency and reliability.

(H1, H2)

Table 2 shows the mean, St.D, coefficient and inter-correlations analysis for the independent variables and dependent variable. The mean of retirement benefits is 4.12 and its St.D is 2.3 while the mean of turnover is 5.41 and its St.D is 1.91. The mean of job security is 4.10 and its St.D is 1.54. The Cronbach's alpha showed that the

Table 3. Regression result; impact of demographic variables, retirement benefits, job security , turnover of employee.

Variables	Turnover	Retirement Benefits	Job Security	Financial Crises
	Std Beta	Std.Beta	Std.Beta	Std .Beta
	Model 1	Model 2	Model 3	Model 4
Control .Var				
Male (Female)	.01	.01	.01	.03
Age	-.19	-.26	-.27 *	-.21
Single (Married =0)	.06	.03	-.01	.01
Model Var				
Retirement Benefits		-.89*		
Job Security			-.85	
Financial Crises				
Task Significance				-.14*
Response Feedback				-.17*
R	.25	.82		-.16*
Adj.R	.24		.68	.52
R.Change	.1			
Significant Change	16.21	166.81	52.12	.41

* Significance at the .05 level; Dummy coded male=0; female=1 and Single =0 Married =1.

reliability coefficient for retirement benefits, job security and turnover of employee is at the precise level (more than .60).

The data of Table 2 exposed the inter-correlation in the independent variable and dependent variable. The data showed negatively strong to moderate and strong significant relationship between retirement benefits and job security with the turnover of employee. A significant relationship exists between the retirement benefits and the turnover. The result showed that all the correlation is in the estimated direction, opens out significantly, moderate and high magnitude of relationship between the retirement benefits, job security and turnover.

These results link the pre-estimates that significant and negative correlation will exist between independent variables and dependent variable. The higher the standard deviation of retirement benefits and job security the lower will be the turnover and vice versa. This result is in line with the finding of Bline et al. (1991) and Meyer and Allen (1997). The result of the analysis cannot confirm the hypotheses.

H3

In Table 2, the third Independent Variable Financial Crisis has Mean of 3.52 and St.D of 1.52. It has strong negative impact on the turnover of the organization. When there is a financial crisis, there will be no progress in terms of investment and profit.

H4, H5

The values of different beta in Table 3 detected that

retirement benefits , task significance financial crises and response feedback have a negative and significant effect on Turnover of employee with Beta = - .89,P-value < .05; beta= -.17;P-Value<.05; beta = -.14;P-Value < .05 and beta = - .16 accordingly. The result also detected that age has negative and significant effect on turnover with beta = -.27, < .05. The study showed that job security has negative effect on turnover with beta = -.85 less than the retirement benefits.

We can conclude that retirement benefits (Beta = -.89) have more impact on turnover than job security. Similarly job security (beta = -.85) has more impact than the financial crises (Beta = -.14). The demographic factors explain the turnover of employee.

The Pearson's correlation coefficients were calculated between the retirement benefit and job security. The results showed a significant relationship (all r values were greater than +0.25 and all the corresponding p-values were less than 0.05) between stressors and job satisfaction. The correlation analysis indicates that the factors of retirement benefit considered in the study and the job security of the overseas are statistically significant. Any modification of the factors (such as the Retirement Benefit, Job Security, and Financial Crises) adversely may definitely put the Overseas under stressful condition and ultimately the Overseas may lose more efficient employees.

Conclusion

This research was conducted with the objective to find the relationship between retirement benefits, job security and financial crises and with the intention to see its

impact on the employee turnover in an organization and to examine the contribution and effect of demographic variables on turnover intentions. The correlation analysis of retirement benefits and job security on turnover intentions indicated positive and significant relationship. This indicated that retirement benefits and job security are directly related to turnover intentions in Pakistan Overseas Foundation and consistent with the findings of Campbell et al. (1990). The results also implied that the retirement benefits and job security of task significance, autonomy and feedback tend to decrease if employees experience high level turnover intentions. These findings can be parallel with a study conducted by Samad (2004). The finding also suggests that when employees perceive their organizations as having greater concern on their retirement benefits and aspects of job security the emotion of employees will be more positive. It is in sequence with the findings of Sager and Johnston (1998) and William and Hazer (1986).

RECOMMENDATION

It is strongly recommended that the managing director should focus on the following independent variables i.e. retirement benefits, job security and financial crises and its negative and significant impact on the turnover of employee. These results can be linked with the research study of Sager and Johnston (1998). The study can alert the managing director that if they give more attention to the retirement benefits, job security and financial crises then they can reduce the level of turnover of the professional employee which is the best assets of the organization. It aggravates the employee's commitment and loyalty. The manager can change and manipulate policies keeping in view the above research study. This will minimize their tension and concern of losing best employees.

It is recommended that the Institution Overseas of Pakistan must clearly mention in their objective of mission statement job security and long term financial retirement benefits so that the rate of turnover of the institution can be minimized to a maximum level even to make it insignificant. With the inculcation of these objectives in the minds of their employees it will boost all other factors effectively and efficiently like commitment, devotion, coordination, mutual respect and communications etc. It is the responsibility of the Overseas Management Authority to inform the new workforce in the initial stage about the rules, standards, the prevailing culture and the expectations of the organization.

As we know this initial information about the job security and financial retirement benefits (life Long) will diminish the conflicts of workforce and Overseas Department of Pakistan. This first priority needs satisfaction of workforces empowers them to solve their daily minutes problems for the transparent and cordial environment. Some time these minor problems can become a major

hurdle for the organization which further gains strength by office bureaucracy. It has become now clear from the above original research that any organization that can stabilize and retain their employees in the long run long can obtain and achieve success without any doubts. Retirement benefits are those benefits for which maximum employees suffered great hardships of their service life and consider them seriously. It plays the role of cement to co-integrate workforce and retirement benefits eliminates turnover strangely.

LIMITATION AND DIRECTION FOR FUTURE STUDY

The study has shown significant and fruitful factors for managing director but it has some loopholes. It cannot be generalized for all types of organization because every organization has different back ground and objectives. It has set aside other important factors like culture, perception, religion, behaviors etc which have pertinent impact on employees' turnover in this organization and many other organizations.

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Full Length Research Paper

The role of human resources management practices represented by employee's recruitment and training and motivation for realization of competitive advantage

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The present study identified role of human resource management in the realization of competitiveness in industrial organizations and has focused primarily on some important issues related to human resource management selection, training, motivating, attracting, employing, evaluating employees, and the setting of salaries, fees and rewards and the realization of competitiveness among business organizations. This paper has undergone the evolution of HRM from past to present which will be discussed in a theoretical concept. Then the role of human resources for organizations to gain competitive advantage and the innovations in HRM in the 21st century will be analyzed in a strategic view. Data were drawn from a sample of two industrial business organizations in the city of Amman. The study results showed that there is a significance relationship between the factors such as training, motivating, attracting, employing, evaluating employees, and the setting of salaries, fees and rewards of employees and workers and the realization of competitiveness among industrial business organizations. And this result is consistent with the outcome of previous studies.

Key words: Employees' recruitment, training, competitive advantage, industrial organizations, Jordan.

INTRODUCTION

Since entering the new millennium, the world in general and the business world in particular became subjected to a spiral events and changes. Globalization and its related consequences of economic and cultural openness have imposed new burdens and challenges on business organizations, where businesses are forced to adopt to these events and changes. Competition, for example, became no longer local, and social mindedness shifted to become global mindedness, where the customer now wants to obtain the similarities of innovation between domestic and foreign products (Edwin et al., 2006); and this clearly means that competition became global and financial, causing organizations to search for what distinguishes it from others. In order to create and promote

differences in organizational performance, which is difficult to be achieved by rivals, and where the organizational strategy of the organization as a whole consists of sub-strategies such as production and marketing strategy, HRM strategy must be interrelated with the general goals of the organization. In this regard, many researchers pointed out that organizations can gain competitive advantage by improving their resources from others. Hatch and Dyer (2004) reported that the resource-based view of the firm is more likely to explain sustained differences in firm's performance by identifying differences in firm resources; their philosophy in this regard relies on, that organizations with valuable and rare resources may benefit in building competitive advantage.

And, because the human capital is one of the organizational resources, this paper will focus on the role of human resources management practices in the fields of recruitment, training and motivation in achieving competitive advantage in Jordanian industrial organizations.

Problem statement and questions

The problem of this study can be formulated according to the following statement: "Industrial organizations are able to acquire human capital, which has the talent; the ability and appropriate qualification are best placed to gain a competitive advantage in a time of fierce competition". This problem will be discussed through the following questions:

1. What is the role of recruitment strategy in identifying recruitment methods and sources?
2. How HR department can exploit the recruit practice to attract the best applicants in terms of talent, competencies and qualifications to enhance the competitive advantage?
3. How can training programs and methods contribute to the achievement of competitive advantage in industrial organizations?
4. To what extent does the flow of innovative ideas in building a competitive advantage influenced by the system of incentives?

The study importance

As mentioned in the introduction, organizations can make differences in their performance according to the differences in their sources from other organizations. This debate leads us to recognize the human capital as a valuable asset which can help organizations to achieve their goals including competitive advantage and superiority over competitors. The importance of this study lies in exploring methods that can help organizations to achieve their strategic goals. The greatest challenge facing organizations now to achieve their goals and maintain survival and continuity in a sharp competitive environment is the possession of human capital who has the ability and willingness to work in effective manner and who can provide innovative ideas to keep the organization safe from competitors. Hence, business world is witnessing now a race between organizations, whether local or global, to acquire the talent, skills, and distinctive competencies required from the human resource departments in various sectors to search seriously for such people. A variety of different sources can be used to attract personnel to work in a particular organization and to develop their skills, knowledge and abilities to contribute effectively towards achieving organizational goals

(Huselid and becker, 2011), and in encouraging them to stay and work in the organization (Lockwood, 2007).

Also, this study meets a demand by research and academic institutions not only in Jordan, but also in the whole Arab World to enrich the Arabic library with recent studies on human capital and its value for both the employer and the customer. The main benefit of this research will help the Arab administration in the process of transition from a traditional and narrow view, which views the employees as a mere cost, to more comprehensive strategic horizon that views human capital as a precious asset.

The study objectives

This study aims to achieve the following objectives:

1. To discern the methods and sources of employees recruitment and the advantages and disadvantages of each method and source.
2. Identify the obstacles and challenges that are facing human resource management when recruiting the best applicants.
3. To illustrate the role of training methods in the development of employees performance and behavior to realize competitive advantage.
4. Come up with recommendations for the Jordanian industrial companies to help them to achieve competitive advantage through their human capital.
5. Explore if there is a linear relationship between the methods used to recruit staff in the study sample companies, the training provided to the staff, the system of incentives and achieving competitive advantage.

LITERATURE REVIEW

Al Hamid (2002) studied "The impact of incentives on the enhancements of the performance of employees in Jordanian public and private hospitals". The study aimed to evaluate the impact of incentives on enhancing the performance in Jordanian public and private hospitals in the middle region through the ideal employment of the concept by the hospitals' administration. The study sample comprised four public hospitals, and five private hospitals, and the sample included 430 individuals, about 14% of the number of workers working in the private and public hospitals sectors in the middle region of Jordan. When distributing the sample all the various professions in these hospitals were taken into consideration, as per statistical rules. This study concluded the following: There are several differences in the way incentives affected the enhancement of performance among workers in Jordanian public and private hospitals, and disparity in the degree of impact of the how many people the incentives

system includes the performance of workers in public and private hospitals in Jordan. There are several differences in the way incentives affected the enhancement of performance among workers in Jordanian public and private hospitals. The results of the study also indicated that individual financial and moral incentives have a positive impact on the performance of workers in public and private hospitals in the middle region of Jordan.

Al Shidi (2001) studied "The Impact of Incentive of Job Satisfaction - A Study on the tendency of employees in the Administrative Units in the Sultanate of Oman". The study aimed to identify the incentive system currently employed in the Sultanate of Oman, and their consistency with the job status; it entails studying it, and identifying the other incentives that the employees wish to obtain, and the various technologies for all administrative levels, by studying the theoretical and applicable aspects of the incentives. The study community included all the employees in the administrative units in the Sultanate of Oman, and a sample was chosen for the study from the employees at various job levels stipulated in the Service Law. The study concluded that the major outcomes were: There is a medium level of disparity regarding the financial incentives in the Public Service Law. There is a high degree of satisfaction regarding the moral incentives. The study recommends the following: The importance of reconsidering the incentives relevant to the salaries of government employees, working on undertaking various training courses and linking their outcomes with the relevant incentives scales, working on sustaining incentives and identifying the individual and group incentives on job satisfaction.

Al Suheimat (2002) studied "The Efficiency of the Incentives System of the Government and Private Sectors in Jordan, the status of several Government and Private organizations in the Governorate of Karak for the period 1990-2002.

The study aimed to identify the weaknesses and shortcomings of the incentives systems applied in the various administrations in Jordan, and how efficient they are, and how they affect performance and the enhancement of productivity. The results were as follows:

First: There are differences of statistical significance in prioritizing the weakness of the work incentives and the degree of job satisfaction among the study sample toward this, as was previously mentioned in descending order:

1. Financial and moral incentives; the degree of satisfaction about these was from medium to weak.
2. Job relation incentives, the degree of satisfaction about them was from medium to weak.
3. Administrative and location work environment incentives, the degree of satisfaction about them was from medium to weak. Whereas, the degree of satisfaction

regarding incentives relevant to the nature of the work, and its contents, was high.

Second: There are statistically significant differences in the replies of the study sample regarding the dimensions of the incentives and their efficiency is attributed to the work sector variable (government, public organizations, private organization), compared to each other, whereby the advantages were for the government sector.

Third: there is a positive relationship between the interests of the sample in financial incentives, and the increase in the growth and development of society. The relationship was obvious from the status of the financial incentives that came in first place.

The study recommended the following: set a unified comprehensive salary system for workers in all private and public sectors consistent with the requirements of ensuring a dignified life, enhance the umbrella of the Civil Service Bureau to include all the various work sectors in the public and private sector, to have a flexible and comprehensive incentives system with all kinds of incentives based on clear and accurate criteria and basics through which the incentives are granted objectively based on performance.

Halaseh (2006) studied "The tendency of managers towards effective leadership training programs in Jordanian ministries during the period (2004-2005): Analytical Study". This study aimed to identify the managers' tendencies towards the efficacy of leadership programs in Jordanian ministries. The study had the following results:

There is a statistically significant relationship between the components of training program and the efficacy of these programs. There is a difference in the tendency of managers towards training program based on the variables of age, educational qualification, the administrative level, and the number of years of professional experience.

METHODOLOGY

Type of the study

The descriptive analytical approach was used to conduct this study, according to quantitative paradigm.

The study population and sample

The study population consists of the Jordanian pharmaceutical industrial companies, while the study sample consists of 100 employees working in the two companies; Al Hikma Pharmaceutical Company and ICCB Company.

Data Collection methods

Secondary data were collected from books and researches and

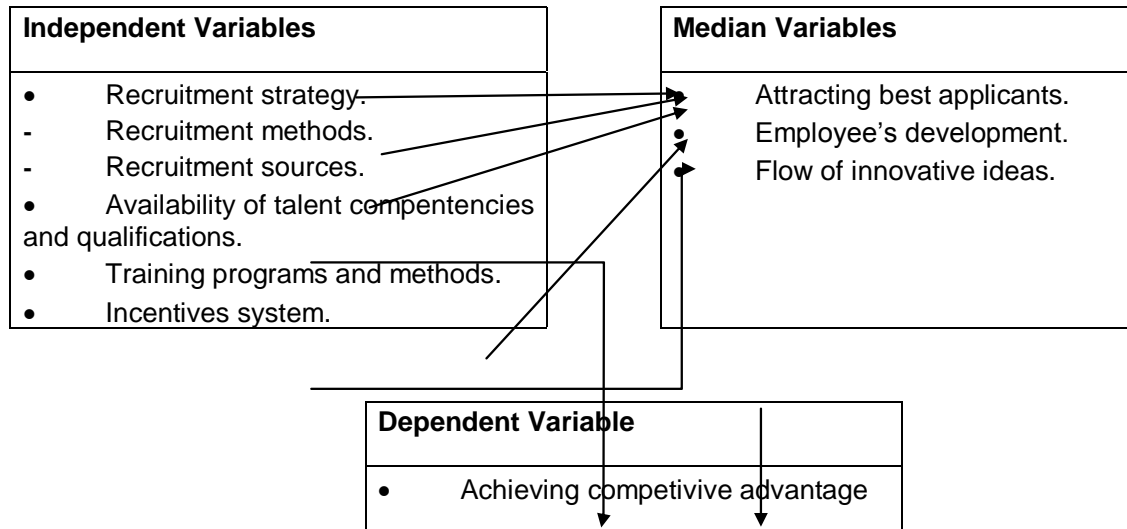


Figure 1. Study model.

related previous studies by using Google Scholar, while primary data were collected through the distribution of a questionnaire to one hundred respondents who are working in the two companies in various levels; senior management, middle management and executive management in headquarters of the companies in Amman city.

The study model

The study model is presented in Figure 1.

Hypotheses

1. The first main hypothesis: HA₁: There is statistically significant relationship between recruitment strategy and attracting best applicants.
2. The second main hypothesis: HA₂: There is statistically significant relationship between the availability of talent, competencies and qualifications in the recruited employees and achieving competitive advantage.
3. The third main hypothesis: HA₃: There is statistically significant relationship between training programs and methods, and employee's development to create competitive advantage.
4. The fourth main hypothesis: HA₄: There is statistically significant relationship between the incentives system in the company and the flow of innovative ideas to build a competitive advantage.

Procedural definitions

Competitive advantage

From the perspective of human resource management, the resource-based view of organizations provides an economic foundation for examining the role of HR in firm competitive advantage. Barney and Wright (1997) pointed out that there are three basic types of resources that can provide competitive

advantage; one of them is the human capital resources such as the skills, judgment and intelligence of the firm's employees.

Talent: A person with special knowledge or ability who performs skillfully (vocabulary.com).

Recruitment Strategy: is the important document, which drives all recruitment related processes in the organization.

The effective recruitment strategy includes practices and activities aiming to employ the best candidates in terms of high behaviors and appropriate competences (Breugh, 2008).

Employees' recruitment

Many organizations fail to achieve their goals despite the possession of material resources, technology and other devices, such as equipment and financing. The reason for this failure in many cases may be due to lack of a human element which is capable of managing and investing these resources in an effective manner to achieve the goals of the organization. This is especially so in the creation of a competitive advantage for the organization which distinguishes it from others and preserves its existence and continuation. There are many studies in the literature that tackle the recruitment process from several view points.

Historically, it could be argued that organizations believed that the most important goal of the recruitment process was to mobilize the largest possible number of employment seekers, which these organizations justified under the pretext of reducing the cost of recruitment (Wanous, 1992). Others, including Morse and Popovich (2009) saw that the traditional philosophy of recruitment was no more than the selling of the organization to outsiders. According to some researchers (Singh and Finn, 2003), organizations have relied on traditional methods of recruiting employees, such as newspaper advertisements and employee referrals, which were based on the use of relatively low-tech approaches.

Today's business environment has forced organizations to change their perspectives about the recruitment process because of the influence of a number of constraints on recruitment activities.

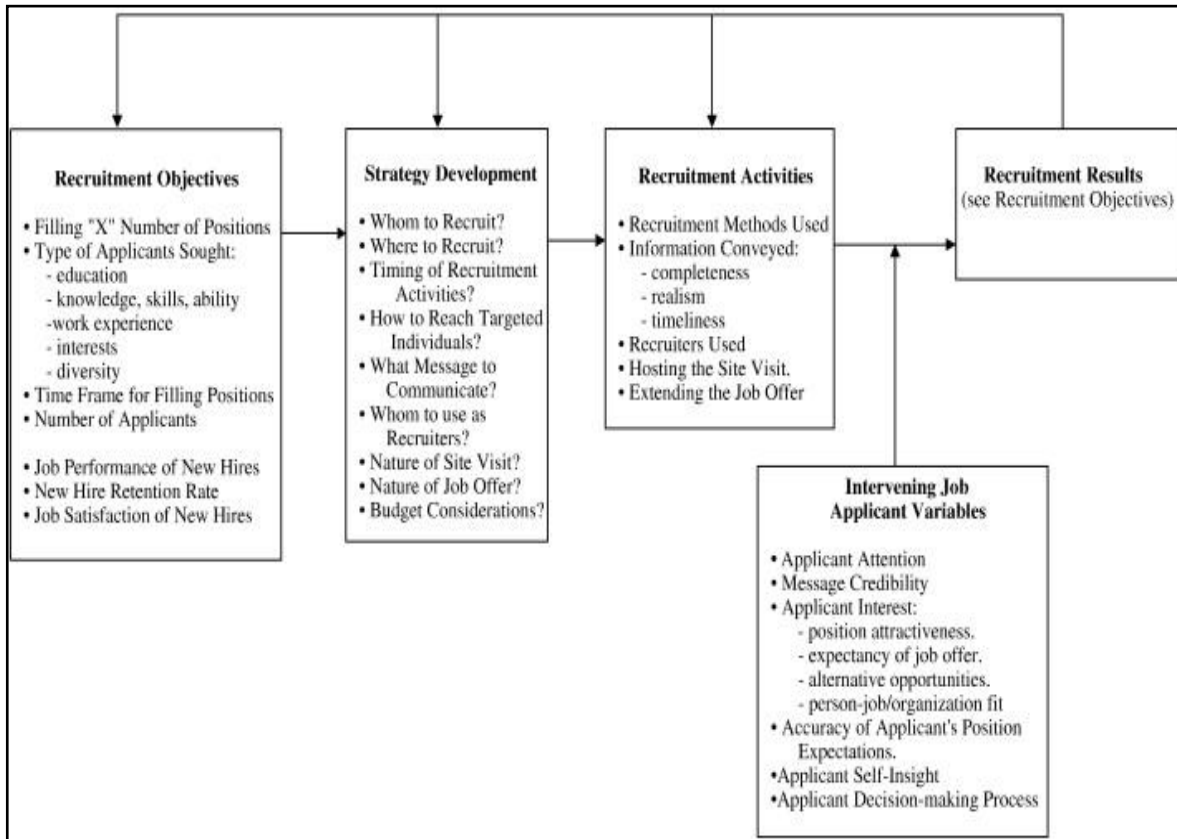


Figure 2. A model of the organizational recruitment process. Source: Braugh (2008, p. 408).

According to one piece of research (Cascio, 2003), reductions in the labor pool brought recruitment the greatest organizational attention. Another suggested reason (Thompson and Aspinwall, 2009) is that the supply of qualified workers will never match the demand in the labor market. Moreover, it could be argued that this is especially true in some professions and disciplines, such as nursing, brokering in the financial markets, banking, certified public accounting, and education (Alhusary, 2006).

Some authors also pointed to a critical issue, which is the compatibility between the expectations of the applicant to occupy the post, in terms of the benefits that will be obtained by accepting the role, and what will actually be presented by the organization (Noe et al., 2008). It has also been highlighted that employees' requirements are changing: "Today's employees are becoming increasingly concerned with balancing their work and family lives, and they are said to highly value organizations that help them achieve this balance" (Thompson and Aspinwall, 2009, p. 196).

These challenges and others have developed the concept of the recruitment process to one of an organizational strategy that includes those practices and activities carried out by the organization with the essential objective of describing the employees needed based on their skills, qualifications and abilities, and then attracting them in order to hire some of them (Braugh and Starke, 2000).

The most important characteristic of the recruitment process in this current era is that it has come to be aimed at putting the right person in the right place (Knowles et al., 2002). This goal was emphasized in the human resource literature. According to Croy and Duggan (2005), a company's most valued asset is its human

capital, as it makes the difference between success and failure (Croy and Duggan, 2005). Therefore, the recruitment process should be carried out using a systematic approach to achieve the recruitment goals successfully. Figure 2 shows a model for the organizational recruitment process.

The figure shows that the first stage of the recruitment process is to identify targets. This stage is very important because without specifying clear objectives, the recruitment strategy will become meaningless (Rynes and Barber, 1990). Some authors have indicated that recruitment must be managed through a systems approach (Carroll et al., 1999), and that the systematic procedure of recruitment can be performed in four stages, each of which constitutes a sub-system which interacts with the other three, and all interact with the recruitment process as a whole (Lewis et al., 1997). These stages have been defined as follows: an evaluation of the vacancy in terms of its need to be filled or not; the strategy development of whom, where and when to recruit; the preparation of the job analysis; and the listing of the person's specification (Carroll et al., 1999). The most important aspect in this phase, as stated in the human resource management literature, is that there must be a broad consensus between the HR strategy and the organizational strategy (Sheehan and Scafidi, 2005). In spite of the integration of HRM activities within the organizational strategy, there is recognition that the strategic role of human resource management is still in the process of verification (Michelson and Kramar, 2003). However, human resource management can impose a strategic role by harnessing its activities and practices to supporting the philosophy and strategy of the organization (Mayer, 2008).

Best practice in employees' recruitment

In order to enhance its strategic role in organizational success, HRM must design the recruitment plan after close coordination with the other departments within the organization (Mayer, 2008). In this regard, some researchers have suggested that the plan should hold answers for questions such as: when to begin recruiting? What is the most appropriate text of the message to be delivered to the targeted applicants? Who are the recruiters? (Breagha, 2008). Several studies are unanimous in including at this stage a focus on the targeted person, referred to by the term "Person Centred" (Alvesson and Willmott, 2002). In this approach, the recruitment plan should align some key questions with the recruitment goals, most of these questions taking account of the intangible qualities within a person, such as values and attitudes, and whether they match the organization's beliefs (Townsend, 2007).

The most critical issue which should be taken into account is the cost of attracting and training new candidates (Zottoli and Wanous, 2000). Therefore, in some cases, the recruitment allocation should be one of the largest items in the whole budget, especially if inexpensive resources, such as employee referrals, are not sufficient. Organizations incur considerable costs in recruiting and training new employees. Recruiting costs include advertising expenses, expenses connected with liaising with universities and other sources of prospective employees; the cost of the analysis of the applications to ensure that the qualifications and skills required are available, and then the salaries of those who are employed (Ehrenberg and Smith, 2002). Thus, organizations must bear the following in mind:

Because of the cost of recruiting and training workers, employers must decide on an overall hiring strategy. Firms choosing a high wage strategy generate many applicants for each opening and can be selective, taking only trained, experienced workers. By paying high wages they avoid explicit and implicit costs of hiring the inexperience (Ehrenberg and Smith, 2002, p. 99).

It must be noted here that HR managers can reduce the cost of screening job applicants and, at the same time, acquire the best applicants. This is achieved as soon as they understand that there is a large gap between knowledge and practice (Ryan and Tippins, 2004). This results in an understanding that performance indicators measure and compare what has been achieved as a result of the diligence of the individual, not the level of intelligence of that individual. Therefore, those organizations which screen job applicants for values have a higher employee performance than those which simply screen for intelligence (Delaney and Huselid, 1996).

Good practice in recruitment requires HR managers to know that the use of certain recruitment tools can affect employee effectiveness and diversity. Employee referrals, for example, affect workforce diversity adversely (Sackett et al., 2001). Good practice in recruitment also requires knowledge of how technology can facilitate a task and reduce its cost.

Recruitment sources and methods

Before moving to discuss recruitment resources and how to use them, and examining the advantages and disadvantages of each, it should be noted that relatively recently literature has raised a very important topic which can be adopted by organizations in the process of attracting the best applicants. According to one study, organizations are tending now to publish their names, their philosophies and their attributes in order to attract recruits through a technique termed "Employer Branding" (Backhaus and Tikoo, 2004). Employer branding was defined by Sullivan (2004) as a

long-term strategy to make the organization the focus of employees and potential employees, and other relevant stakeholders (Sullivan, 2004). Employer branding contributes to the formation of a positive mental image for potential employees, and even on the level of society as a whole. This drives job seekers to work in a particular organization because they will reap a number of benefits in terms of a high salary and leave allowances, as well as social respect. Other researchers have defined the term "Employer Branding" as the total of an organization's efforts to communicate with current and potential employees (Lloyds, 2002).

In research aimed at developing and validating a scale to assess employer attractiveness (Berthon et al., 2005), the study population involved students at a large Australian university. The study sample consisted of 683 students divided into two samples, the first including 340, the second, 343. The researchers used five factors to describe the underlying structure of employer attractiveness. Factor no. 1, "Interest value" evaluates the individual level of attraction to working in an organization because of the benefits and inducements offered by the organization, such as an exciting work environment, advanced work practices, and what employees would call their creations by producing innovative products and services.

Factor no. 2, "Social value" assesses the impact of a fun working environment, good relationships with peers in the workplace, and working as a team on employer attractiveness. Factor no. 3, "Economic value" assesses the extent to which an individual is attracted to an employer that pays a good salary. Factor no. 4, "Development value" assesses the impact of recognition, self-worth, confidence, and the career development programs provided by the employer on its attractiveness. Factor no.5, "Application value" assesses the impact of providing an opportunity to employees to apply what they have learned in the workplace on employer attractiveness. The research findings indicated that 153 of the respondents stated that all five factors have a significant impact on employer attractiveness, ranked by the importance of each factor as follows, the most important listed first: Economic, Social, Development, Interest and Application.

The importance of this research lies in its being considered as an intermediate between two stages of the recruitment process; designing the plan and choosing the recruitment source. This is because it means that an organization that aims to recruit the best applicants must publish factual and honest information about the working conditions and benefits granted to employees, together with other information designed to attract the required competences.

The extent of the impact of the recruitment process on an organization differs according to the recruitment resources used. Some researchers consider that there are three recruitment resources: internal recruitment, external recruitment, and walk-in (Wanous, 1992), while other researchers (Hunter and Schmidt, 1990) have described how the recruitment resources themselves may be formal or informal. Whatever the source of recruitment, the goal is to increase the attractiveness of the organization as an employer by communicating with potential applicants through the message reaching them from a particular source and an effective communication channel (Barber, 1998).

Internal sources

Internal recruitment resources are preferred by organizations because they allow the organization to fill a vacancy from a known pool of employees and because these resources are under the organization's control (Hoye and Lievens, 2005). One of the internal recruitment resources is job postings, a form of recruitment advertising (Kotler and Keller, 2000) that can be defined as any internal announcement by an organization. Employees are considered as a wide pool for job vacancies in an organization.

Internal job postings require issuing a circular regarding these vacancies for all employees in the organization, which provides an opportunity for employees who have the necessary efficiency, capabilities, and competences to apply for the vacancies (Haroon, 2010; Torrington et al., 2009).

Employee referrals are an internal channel for recruiting highly-skilled employees. Large organizations now depend increasingly on their employees to recruit specific candidates for job openings. Employee referrals are also the easiest source of recruitment because they do not require rigor on the part of the organization and the onus is on relatives and friends (Kugler, 1997).

According to Nicu and Sturz (2008) and Noe et al. (2008), the personal recruitment inside organizations offers a number of advantages, such as the following:

1. The organization has complete information about candidates, which enables HR to assess each one based on his or her strengths and weaknesses. The advantage of this format is that it can belong to the activity of recruitment and of selection, according to the current researcher's belief. Its greatest advantage is that the applicants are well known to the organization (Noe et al., 2008).
2. It is easier to attract candidates because they are better known. However, this mixes HRM activities when proposing advantages for using internal recruitment resources because better known candidate can be target by external sources (Nicu and Sturz, 2008). However, other authors are more specific when addressing the advantages of internal recruitment resources for the recruitment process itself. In this regard, the followings have been added to the previous advantages (Noe et al., 2008).
3. The applicants are relatively knowledgeable about the organization's vacancies.
4. Using internal resources to fill vacancies is cheaper and faster than using external resources. Meanwhile, it has been pointed out that the main advantage of using employee referrals is that an existing employee, through providing knowledge about the organization to the targeted person, could attract a strong candidate (Robbins and Coulter, 2005).

At the same time, using internal recruitment resources as a policy could result in the following disadvantages: recruiting from inside an organization stops the infusion of new blood and limits the number of new applications (Linnehan and Blau, 2003). This could also lead to a reduction in new ideas from outside the business and may decrease the diversity of employees (Tipper, 2004).

External sources of recruitment

According to one study (Fisher et al., 1993), the formal methods of external recruitment include newspaper, magazine and journal advertising, in addition to using employment agencies and, in the current era, job/career fairs and e-recruitment. External recruitment sources are not under the control of the organization, as job seekers can obtain information from external sources, such as word of mouth, and publicity. Publicity is an external source of information related to the recruitment process (Collins and Steven, 2002), while Hoye and Lievens (2006) define word of mouth as the exchange of information through conversation between friends and relatives or from college instructors, although such information may include negative and positive aspects.

Regardless of which resource is used, in many situations there is a good case for using different methods in combination when looking to fill the same vacancy (Torrington et al., 2009). Research conducted to measure the relationship between the different sources of recruitment and the innovative abilities of employees at work by Conrad and Ashworth (1986) reported the survival rates in

jobs arranged by the recruitment sources used with the following results: employee referrals (61.25%), employment agencies (48.4%), advertisements (44.8%), and walk-ins (58.4%). Another research has reached the following results in terms of survival rates in jobs where referrals are more effective than advertisements, referrals are better than agencies, referrals and walk-ins are of equal reliability, walk-ins are better than advertisements, and walk-ins are also better than agencies.

Employees' training and development

This research has taken training and development as a part of HR practices by discussing those two practices broadly. On the other hand, the research will measure the effect of training on the organization. The research tackles the industrial organizations in Jordan and how they apply training methods as significant activity in HR.

Today, business organizations are working within a dynamic and turbulent environment, characterized by globalization, open markets, huge information loads and easy communication. These characteristics make it a 'heavier' competitive business environment that requires organizations to compete effectively in the market place. Such purpose leads the organizations to think deeply in creating a systematic approach which enables it accomplish its strategic objectives. To help the managers in designing the business strategy, questions such as the following have to be answered:

1. How do we compete in the market place?
2. What do we need to differentiate our organization from others?
3. What abilities and capabilities are required to achieve our organizational goals?

For the purposes of this study, the focus is on inculcating a culture of customer focus in the hearts of employees of Jordanian industrial organizations as a result of training that will be represented by achieving customer satisfaction through the employees.

Employees' training and development are from the human resource management activities, which, if they are linked to the strategic objectives of the organization, contribute effectively to the achievement of these objectives. In this regard, the literature indicated that, convinced of the director, that the workers have a larger role in achieving the goals of the organization and this conviction must be translated to plans, policies and practices (Holbeche and Park, 2009). Such plans and policies would include: the quality of the employees to be hired, and how to strengthen their capacities and competencies through training and motivating them to work. When this happens, it will meet with more dedication to work by employees to achieve the goals of the organization, through which the employees' personal goals are achieved. Furthermore, motivated employees will realize that customer service is the reason for their presence in the organization. Goal such as customer focus is the point d'appui for other strategic organizational activities such as; quality control, pricing, human resources management, and production management and etc. to accomplish total quality management (TQM).

RESULTS

Sample's characteristics based on gender, age, educational qualification, management level and experience

Results of the sample's individual distribution according

Table 1. Results of the sample's individual distribution according to gender variable.

Gender	Frequency	Percentage
Male	78	78.0
Female	22	22.0
Total	100	100.0

Table 2. Result of the sample's individuals distribution according to age variable.

Age	Frequency	Percentage
Less than 25 years	39	39
25- 34 years	41	41
35 – 44 years	10	10
45 years and more	10	10
Total	100	100

Table 3. Results of the sample's individual distribution according to educational qualification variable.

Educational qualification	Frequency	Percentage
High School or less	-	-
Middle diploma	21	21.0
Bachelors	76	76.0
Higher Education	3	3.0
Total	100	100.0

to gender variable are seen in Table 1. We notice 78% of the sample are males.

Result of the sample's individual distribution according to age variable is seen in Table 2. We notice that 41% of the sample are 25 – 31 years and 39% are under 25 years old. The rest are over 35.

Results of the sample's individual distribution according to educational qualification variable are seen in Table 3. We notice that 76% carry a bachelor's degree, followed by the middle diploma carriers which show that the highest percentage of the sample is university degrees carriers.

Results of the distribution of the samples' individual distribution based on management level variable are in Table 4. We have noted that 58% of the sample is of the executive management level, followed by the middle management and then the higher one.

Results of the sample distribution according to experience variable are in Table 5. We noted that 33% of the sample have less than 5 years experience and 16% have between 11 – 15 years; whereas 45% have between

Table 4. Results of the distribution of the sample individuals based on management level variable.

Career Level	Frequency	Percentage
Executive Management	58	58
Middle Management	35	35
Higher Management	7	7
Total	100	100

Table 5. Results of the sample distribution according to experience variable.

Experience	Frequency	Percent
Less than 5 years	33	33
5 – 10 years	45	45
11 – 15 years	16	16
16 – 20 years	6	6
More than 20 years	-	-
Total	100	100

5 – 10 years and the rest have more than 15 years of experience.

The median and standard deviation for the answers were calculated as shown in Table 6. We notice that the sample's orientations regarding the paragraphs above are positive since their mean value is greater than the average measurement tool which is 3.

DISCUSSION

Results of statistical analysis of the data indicated that the sample companies apply strategies to recruit staff based on multiple sources and methods of recruitment, thereby, helping to attract the best applicants, where the mean of using internal sources amounted to 4.37 and 4.42 for using external sources. This means the proof of the first hypothesis which is, "There is statistically significant relationship between recruitment strategy and attracting best applicants". Also, the results showed that questions 14 and 15 where devoted to the importance of skills, competencies and experience in order to enable the staff to achieve competitive advantage. This proves the second hypothesis which is "There is statistically relationship between the availability of talent, competencies and qualifications in the recruited employees and achieving competitive advantage".

In order to develop the employees performance and behavior, most of the sample companies, engaged in training as a tool for developing the performance and behavior of the employees, where questions from No. 9 to No. 13 where devoted to the training activity. The

Table 6. Results of median and standard deviation.

Paragraph	Standard deviation	Mean
Choice		
1. The company uses internal hiring policy for people with educational and professional competencies, in addition to developing unique efforts.	0.52522	4.3700
2. The company's policy embodies career security which deepens the loyalty spirit amongst its employees.	0.57525	4.1800
3. Creative experience is a key factor in hiring the company's personnel.	0.58913	4.4200
Attracting		
4. The company is based on the attempt on attracting and choosing human resources that are able to accomplish the company's goals	0.63596	4.4100
5. The company is based on following competent labor and it works on employing such competencies.	0.71661	4.5400
Motivation:		
6. The company adapts compensation policy based on that pay is controlled by knowledge.	0.64354	4.1000
7. The management is interested in offering creative employees financial incentives.	0.65713	4.0500
8. The company offers its personnel good financial incentives in line with the performance level.	0.79258	4.0900
Training:		
9. The company encourages training methods that enhances self teaching.	0.85257	3.9800
10. In general, the employees are always ready for continuous learning.	0.78650	4.2600
11. The company adapts total quality management in the training plans.	0.63532	4.0200
12. The training courses of the company has modern technology based on self study electronic learning,	0.75371	4.2400
13. The training plans in the company are based on interaction between employees to enhance their knowledge.	0.75338	4.0900
Appointing		
14. Employees' appointment is based on experience and competencies that have a role in creating a competitive advantage.	0.757120	4.0500
15. Setting employment policies that are related to the company's goals has a role in creating a competitive advantage.	0.645970	4.3700
16. Periodic studies related to hiring needs are undertaken by the company in order to fulfill these needs.	0.552220	4.0900
Evaluation:		
17. Periodic evaluation for the personnel's performance has a role in obtaining a competitive advantage.	0.701800	4.1800
18. Advising the employees regarding the evaluation results has a role in obtaining a competitive advantage.	0.717110	4.5300
19. Linking the evaluation results to career progress results has a role in obtaining a competitive advantage.	0.705250	4.2600
20. Linking the evaluation with the performance and incentives has a role in obtaining a competitive advantage.	0.720270	3.9200
21. Periodic performance evaluation based on supported foundations has a role in obtaining a competitive advantage.	0.877270	3.9100
22. Setting and executing an efficient increments system has a role in obtaining a competitive advantage.		

Table 6. Cont'd

23. Continuous improvement for the increments system and benefits from time to time has a role in obtaining a competitive advantage.	0.851560	3.8900
24. Insuring the balance of the increments by periodic studies system has a role in obtaining a competitive advantage.	0.715980	4.2500
25. The employee's knowledge with the grounds of bonuses has a role in obtaining a competitive advantage.	0.666670	4.0000
26. Promoting the employee based on fair foundations has a role in obtaining a competitive advantage	0.683430	4.2400
27. Moral increments (letters of appreciation, moral support.) have a role in obtaining a competitive advantage.	0.763030	4.0600
Competitive Advantage		
28. There is a noted increase in the company's sales.	0.846860	4.1000
29. The company's market share is growing	0.790350	4.0400
30. The company is known for high quality products.	0.694200	4.2700
31. The company responds to the technological development.	0.790030	4.1100

mean for these questions amounted to 4.118 with standard deviation of 0.757. This supports the third hypothesis which is "There is statistically relationship between training programs and methods, and employee's development to create competitive advantage". Also, the fourth hypothesis was proved, where the lowest mean was for question No. 23 (3.89), which is greater than the average measurement tool of 3.

Therefore, we can say that organizations can achieve competitive advantage through the staff that are talented and have appropriate skills and experiences.

RECOMMENDATIONS

The researchers present the following recommendations: companies must focus on improving the methods used by them to recruit candidates. And they have to stop using recruitment methods which allow intervention of nepotism and cronyism in the employment process, such as newspaper advertising. Also, companies must view employees training as a way to enhance the employees' abilities and improve performance and enable them to provide new ideas that may differentiate their organization from rivals.

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Appendix

Appendix (1)

Research Questionnaire

Part One: Demographic and Career Characteristics:

Please put (✓) where applicable:

- Gender: Male Female
- Age: Less than 25 25 – 34 years
 35 – 44 years 45 and more
- Educational Qualification: High School or less Middle Diploma
 Bachelors Degree (Bs) Higher Education
- Management Level: Higher Management Middle Management Executive
 Management
- Professional Experience: Less than 5 years 5 – 10 years
 11 – 15 years 16 – 20 years
 More than 20 years

Part two. Please put (x) in the box o the closest answer in your entity.

Paragraph	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
<p>Choice</p> <ul style="list-style-type: none"> - The company uses internal hiring policy for people with educational and professional competencies, in addition to developing unique efforts. - The company's policy embodies career security which deepens the loyalty spirit amongst its employees. - Creative experience is a key factor in hiring the company's personnel. 					
<p>Attracting</p> <ul style="list-style-type: none"> - The company is based on the attempt on attracting and choosing human resources that are able to accomplish the company's goals - The company is based on following competent labor and it works on employing such competencies. 					
<p>Motivation:</p> <ul style="list-style-type: none"> - The company adapts compensation policy based on that pay is controlled by knowledge. - The management is interested in offering creative employees financial incentives. - The company offers its personnel good financial incentives in line with the performance level. 					
<p>Training:</p> <ul style="list-style-type: none"> - The company encourages training methods that enhances self teaching. - In general, the employees are always ready for continuous learning. - The company adapts total quality management in the training plans. - The training courses of the company has modern technology based on self study electronic learning, - The training plans in the company are based on interaction between employees to enhance their knowledge. 					
<p>Appointing:</p> <ul style="list-style-type: none"> - Employees' appointment is based on experience and competencies that have a role in creating a competitive advantage. - Setting employment policies that are related to the company's goals has a role in creating a competitive advantage. 					

Appendix

-
- Periodic studies related to hiring needs are undertaken by the company in order to fulfill these needs.

Evaluation:

- Periodic evaluation for the personnel's performance has a role in obtaining a competitive advantage.
- Advising the employees regarding the evaluation results has a role in obtaining a competitive advantage.
- Linking the evaluation results to career progress results has a role in obtaining a competitive advantage.
- Linking the evaluation with the performance and incentives has a role in obtaining a competitive advantage.
- Periodic performance evaluation based on supported foundations has a role in obtaining a competitive advantage.

Setting salaries, bonuses and incentives

- Setting and executing an efficient increments system has a role in obtaining a competitive advantage.
 - Continuous improvement for the increments system and benefits from time to time has a role in obtaining a competitive advantage.
 - Insuring the balance of the increments by periodic studies system has a role in obtaining a competitive advantage.
 - The employee's knowledge with the grounds of bonuses has a role in obtaining a competitive advantage.
 - Promoting the employee based on fair foundations has a role in obtaining a competitive advantage
 - Moral increments (letters of appreciation, moral support.) have a role in obtaining a competitive advantage.
-

Part Three. Competitive advantage. Please put (✓) where you agree.

Paragraph	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. There is a noted increase in the company's sales.					
2. The company's market share is growing					
3. The company is known for high quality products.					
4. The company responds to the technological development.					

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