

# Suitability of the high performance organization framework to Egyptian ICT companies

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## Abstract

**Purpose** – The purpose of this paper is to deal with the need for Egyptian ICT companies to adopt high performance practices in order to be able to contribute more to the development of Egypt. However, as not much research has been done into management practices which can support these organizations in the Egyptian context, a framework which was developed based on Western and non-Western data – the high performance organization (HPO) framework – was tested on its suitability in the Egyptian context.

**Design/methodology/approach** – The study used a questionnaire which was distributed to seven Egyptian ICT organizations after which a confirmatory factor analysis (CFA) was performed on the collected data.

**Findings** – The CFA showed that the original five factors from the HPO framework achieved a high reliability while 26 out of the original 35 underlying characteristics applied in the Egyptian ICT context.

**Originality/value** – This study fills the gap which currently exists in empirical research about organization performance practices in Egypt. The study also has practical implications as management of Egyptian ICT companies are now able to undertake focussed improvement actions.

**Keywords** Egypt, Management practices, High performance organizations (HPOs), ICT companies

**Paper type** Research paper

## Introduction

Much research has been conducted on the topics of organizational performance and the key success factors for a transformation toward high performance. Thus in the extant literature many factors can be found that allegedly contribute to organization performance, such as culture, management qualities, customer satisfaction and a unique strategy. What stands out is that each researcher identified different factors depending on the influences of their academic discipline, angle of research, and personal views and interests (Owen *et al.*, 2001; Gupta, 2011). For instance, Drucker (1995) and Van de Ven (1999) highlighted the need to align behavior and strategy to improve organization performance. Deming (mentioned in Jamrog *et al.*, 2008) emphasized the importance of the quality and interrelation of people, processes and outcomes. Peters and Waterman (1982) stated that excellent organizations focus on thinking rather than allowing tools to dominate them, and they fight complexities and maintain mature relationships with



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customers. Collins (2001) emphasized the importance of leaders, employees, culture and technology, while de Waal (2012a) focussed on management, openness and action orientation, long-term orientation, continuous improvement and quality of employees. Although these authors identified different factors creating high organizational performance, they nonetheless agreed on some common factors. Jamrog *et al.* (2008) summed up the components of high performance organizations in five factors which match these common factors: clear vision supported by a good strategy, having a customer approach, having a leadership approach, having processes and structure that reinforce the strategy, and well-established values and beliefs (culture).

Despite the numerous research studies conducted in high performance, there has been a distinct lack of empirical research that explores management practices aimed at achieving high performance in the Middle East in general and in Egypt specifically (Ismail, 2007). In fact, the literature indicates that management practices in Egypt in general lag behind those applied in the western world (Elbanna, 2009). Elbanna (2009) even remarked that Egyptian companies face obstacles when dealing with competition as they do not adequately master the rules of the competition. This is evident from the fact that many Egyptian companies did not adopt sophisticated quality management systems and human resource management practices (El-Shobery *et al.*, 2010). There has been a limited number of studies into leadership capabilities of Egyptian managers and HRM practices adopted by Egyptian organizations. These studies indicated that in Egyptian organizations there is mainly “bureaucratic leadership,” “passive management,” “authoritarian leadership” and “reluctant decision making” (Shahin and Wright, 2004). Leaders are not used to consult employees because seeking subordinate opinions is considered to be a weakness. Employees tend to agree with their leaders and prefer to do the same job for a long time due to their inclination to avoid uncertainty (Parnell and Hatem, 1999). In addition, Egyptian employees prefer to work in teams which provides them with a sense of satisfaction; however, they do not seek control over the tasks that they work at as their values and attitudes prevent them from seeking autonomy in task ownership (El-Kot and Leat, 2005). In the field of HR, Leat and El-Kot (2007) showed that Egyptian organizations have minimal interest in the concept of promotion from within, and HR selection criteria for new employees are usually based on job skills fit rather than the fit of the candidate with the organizational culture. Additionally, Egyptian organizations tend to have limited career planning initiatives with limited supportive training customized to individual needs. They prefer job-specific trainings offered to groups rather than tailored trainings suitable to individual needs (Leat and El-Kot, 2007). Further research by Ismail (2007) indicated that Egyptian managers tend to not value non-financial measures of performance. There is a widespread use of balanced scorecards as a means of performance measurement in Egyptian organizations; however, the level of use of the balanced scorecard’s multi-dimensional indicators is low in Egyptian organizations. In regard to innovation, the literature indicates that innovation in developing countries is still maturing, which also applies to Egypt (Reda, 2011). Innovation is tied to risk taking, but in the Egyptian culture risk taking and experimenting is not a common trait of Egyptian managers and it is unlikely for employees to welcome taking risks as they want to avoid undesirable consequences (Shahin and Wright, 2004). In addition, innovation in Egyptian organizations suffers from different obstacles such as excessive red-tape, legal and regulatory obstacles, lack of resources for innovation, and an organizational culture which does not promote innovation in order to achieve greater outcomes (Reda, 2011). As a result, as Apaydin and Wahsh (2014) found in a comparison of eight Egyptian

companies with a global sample of 68 companies on their level of knowledge and organizational innovation, Egyptian companies lag behind on virtually all aspects of organizational innovation, and their innovation strategies are mainly based on exploitation rather than on exploration.

To counteract these organizational and cultural problems many authors state that, for Egyptian organizations to thrive and perform better, they need to adopt better organizational practices and apply these practices in a better way (El-Shobery *et al.*, 2010). The study described in this paper focusses on researching organizational practices that can help Egyptian companies and specifically ICT companies to perform better. The ICT industry was chosen as it is an emerging industry in Egypt with a great potential to significantly contribute to the economy and GDP (Kamel *et al.*, 2009). For this research the high performance organizations (HPOs) framework (de Waal, 2012a, b) was used. An HPO is defined as “an organization that achieves financial and non-financial results that are increasingly better than those of its peer group over a period of time of five years or more, by focussing in a disciplined way on that what really matters to the organization” (de Waal, 2012a, p. 5). The HPO Framework has been tested and validated in several contexts, among which in Arab countries (de Waal and Frijns, 2014; de Waal and Sultan, 2012; de Waal *et al.*, 2014a) and as such it seemed a promising practice for the Egyptian context. Thus, the research question was:

*RQ1.* Can the HPO framework be validated for the Egyptian ICT industry so that it can be used to improve the performance of Egyptian ICT companies?

As we used a pre-existing framework the aim of our study was not to do theory-building or to test specific hypotheses. Rather we wanted to evaluate the applicability of a framework, which has been described previously in the extant literature, in a new context and as such contribute to the literature.

The remainder of this paper is structured as follows. The next section gives a brief overview of the Egyptian ICT industry, followed by descriptions of the HPO Framework and of the case companies where the HPO framework was tested. Next, the research approach and research results are discussed. The paper ends with a conclusion, limitations of the research and possibilities for future research.

### **The Egyptian ICT industry**

In Egypt the 2011 revolution had devastating effects on the economy (Shahine, 2012; Abdou and Zaazou, 2013). Unemployment rose from 8.9 percent in the fourth quarter of 2010 to 12.8 percent in 2015, and the economy suffered an estimated loss of US\$17.1 billion due to the political tribulations (Egyptian Economy, 2015). The Egyptian pound declined from US\$0.175 in 2010 to US\$0.140 in 2014. Analysts estimated that the budget deficit could increase to 15 percent of GDP in 2013 which would be well above the official governmental target of 9 percent (Glain, 2013). At this moment, Egypt is still suffering the aftermath of its revolution, noticeable in persistent low growth, high budget deficits, external vulnerabilities, and high political and social tensions (Fund, 2014). Before the 2011 revolution, organizations working in the Egyptian ICT sector had a positive perspective. They enjoyed strong support of the Ministry of Information Technology, in the form of generous funds for training and technology adoptions, and also the outsourcing trend and positive outlooks for exporting software and IT services generated optimistic expectations. The Egyptian minister of Communications and Information Technology declared in 2011 that there was “a dawn of a new era for ICT in Egypt, with even more Egyptians joining and embracing the information society as we continue to

work to forge a knowledge economy” (UNCTAD, 2011). Still, even in these good times ICT organizations lacked the maturity to perform well and were in need of learning how to achieve sustainable high performance and successful partnerships (Kamel *et al.*, 2009). This could be seen in the contribution of the ICT sector to the Egyptian GDP which was, compared to other Egyptian industries, a rather small 4.4 percent in 2013 (Ministry of Communication, 2013). It has, however, been claimed that the ICT sector had an indirect economic impact that could be considered even more important than its direct contribution, through its use and applications in different sectors of the economy (Alexbank, 2011).

After the revolution, fears emerged regarding the future of Egypt’s economy. Egypt was classified as a high-risk country for investment because of its weak GDP and increasing unemployment rates, with potentially severe detrimental effects on the ICT industry. As a reaction, the government tried to get loans and financial support to revive the Egyptian economy, and in particular new policies were introduced to encourage investments and to develop human resources especially in the field of ICT. The Ministry of Communications and Information Technology (2012) announced a new National ICT Strategy aimed at boosting investment in the ICT sector to 55 billion EGP (almost US\$8 billion). This strategy specifically aimed to create more jobs in the industry and to draw foreign investment in order to position Egypt as an ICT hub in North Africa. The strategy also sought to develop the technology infrastructure in Egypt and to update legislation surrounding ICT (Digital UKTI, 2013). Possibly as a result the number of companies operating in the Egyptian ICT sector increased by 14.9 percent between April 2012 and April 2013 to a total of 5,243 new companies, and the ICT market value was expected to grow by 12.4 percent in 2013 to reach 11.3 billion EGP (Digital UKTI, 2013). However, Egyptian ICT organizations still faced a huge challenge in sustaining their positions relative to other ICT exporting countries like India that compete on efficiency, quality and price. This is a pressing matter because the aforementioned lack of good management practices still plagued the Egyptian ICT industry and as such this industry might not become a player in global marketplace. Management of the ICT companies therefore urgently needed to adopt new techniques to leverage the performances of their organizations. Previous research indicates that applying such new techniques can have positive effects, such as in the case of Mohamed (2015) who tested a model for managing intellectual assets in Egyptian ICT companies and showed that profitability of these companies increased because of applying this new techniques. Another technique possibly suited for the Egyptian ICT industry is the HPO framework (de Waal, 2012a, b) which is briefly described in the next section.

### **The HPO framework**

As mentioned before the objective of this research is to identify the factors which influence the possible transition of Egyptian ICT organizations to HPOs, by evaluating a pre-existing framework, the HPO framework (de Waal, 2012a, b), which has previously been tested and validated in the Arabic context (de Waal and Frijns, 2014; de Waal and Sultan, 2012; de Waal *et al.*, 2014a). The HPO framework was developed based on a descriptive literature review (Phase 1) and an empirical study in the form of a worldwide questionnaire (Phase 2) (de Waal, 2006/2010, 2012a, b). The first phase of the study consisted of collecting 290 studies on high performance and excellence that were to be included in the empirical study. The identification process of the HPO characteristics consisted of a succession of steps. First, elements were extracted from each of the

publications that the authors themselves regarded as essential for high performance. These elements were then entered in a matrix which listed all the factors included in the framework. Because different authors used different terminologies in their publications, similar elements were placed in groups under a factor and each group – later to be named “characteristic” – was given an appropriate description. Subsequently, a matrix was constructed for each factor listing a number of characteristics. A total of 189 characteristics were identified. After that, the “weighted importance,” i.e. the number of times a characteristic occurred in the individual study categories, was calculated for each of the characteristics. Finally, the characteristics with a weighted importance of at least six percent were chosen as the HPO characteristics that potentially make up a HPO, this were 35 characteristics. In Phase 2, the 35 potential HPO characteristics were included in a questionnaire which was administered – during the period of beginning of 2004 to the middle of 2007 – during lectures and workshops given to managers by the authors all over the world. In addition, during consultancy and research projects the authors conducted in this same period more questionnaires were distributed, and this also took place during presentations at practitioner conferences at which the authors presented their work. As these courses, projects and presentations were not on the topic of HPO, a random sample of respondents, managers and employees, was thus collected. The respondents of the questionnaire were asked to indicate how well their organization performed on the various HPO characteristics on a scale of 1 (very poor) to 10 (excellent), and also how its organizational performance compared with the peer group. This subjective measure of organizational performance is generally accepted as being a good proxy of real organizational performance, as respondents take into account all important aspects of performance in their particular sector during their considerations about how their organization compares against the peers and as such capture the multidimensionality of organizational performance (Heap and Bolton, 2004; Jing and Avery, 2008).

The questionnaire yielded 2015 responses of 1,470 organizations. With a principal component analysis 35 characteristics, with both a significant and a strong correlation with organizational performance, were identified; and from these 35 characteristics with a factor analysis five factors were extracted. The factor scales showed acceptable reliability with Cronbach’s  $\alpha$  values being 0.7 and above, which is above the minimum reliability level of 0.60 (Hair *et al.*, 1998). The five HPO factors are:

- (1) Management quality: managers maintain relationships with people on all levels based on trust and respect. An HPO manager is honest, credible, committed and enthusiastic and has a strong set of ethics. HPO managers inspire and coach people to accomplish extraordinary results by being supportive, protecting them from unneeded interference, and by being available for employees whenever needed. HPO managers are results oriented and hold people responsible for their results, by defining clearly the accountabilities and responsibilities for each employee and by ensuring that the organizational strategy and values are understood and embraced by all employees.
- (2) Openness and action orientation: an HPO has an open culture that encourages employees to communicate their opinions in aspects including business and organization processes. An HPO also embraces mistakes and sees these as opportunities to learn. Management is open to change and thus seeks to apply all what is new and to be involved as active participants in all changes

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embraced by the organization. HPO management encourages knowledge sharing and learning through continuous communication.

- (3) Long-term orientation: an HPO focusses on long-term gain. It spends time to understand its customers and their values, needs and wishes, and maintains good relationships with them through involving them in organizational activities and promptly responding to their needs. Good relationships with all other stakeholders are also maintained by an HPO. Stakeholders extend to include employees, suppliers, clients and society. An HPO grows leaders from within to increase the sense of ownership within employees and to teach them to serve the needs of the organization first.
- (4) Continuous improvement and renewal: employees of an HPO feel the need to continuously improve and innovate products, processes and services to be able to rapidly face competition in the market. Continuous improvement and renewal is adopted in the organizational strategy. Proper measurement of progress is used to monitor achievements of goals and to highlight non-compliances. Achievements and non-compliances are communicated to all members of the organization for better visibility and to better drive any needed improvements. An HPO capitalizes on and improves and innovates its core competencies and outsources its non-core competencies.
- (5) Employee quality: an HPO is selective in recruiting highly flexible and creative employees who fit in their culture and welcome changes and improvements. An HPO encourages their employees to share knowledge, to learn and to improve their skills. The organization also provides employees with necessary trainings that are beneficial to their jobs, and holds them accountable for their performances to emphasize the sense of ownership.

Our study is part of a larger research project in which we evaluate the applicability of the HPO framework, which has been validated on data collected worldwide, in various contexts. These contexts can be different countries and/or different industries. The HPO framework has been applied before in the ICT industry (de Waal, 2012a) but not in the context of a developing country such as Egypt. Thus this paper will contribute to the general knowledge of the high performance research field in general and the HPO framework specifically.

### **The case companies**

In order to evaluate the applicability of the HPO framework in the Egyptian ICT industry seven ICT companies, covering different ICT domains, were chosen. These companies were all well-known players in the ICT industry in Egypt and considered to be leaders in their domains. One of us knew high ranking people at these organizations personally and because of this participation was quite easily secured. Underneath follows a short description of each company:

- Company A was an exclusive media agent for some of the region's most successful and popular IT portals. It had ten years of experience in the region, 50 employees, and a diverse client portfolio (10 percent of the total survey respondents).
- Company B was a well-established Egyptian development house with more than 15 years of experience in the region, and more than 200 employees. Through its offices in Egypt, the UAE, Saudi Arabia and Qatar, Company B had gained a

good understanding of the local markets and acquired a repertoire of clients including governments, multinationals and leading local companies operating on local, regional and international levels (45 percent).

- Company C was founded in 2002 and now had approximately 80 employees. The company owned, managed and developed a wide range of portals serving different customer needs in different sectors in Egypt, Middle East and North Africa (20 percent).
- Company D, established in 2002 and now with 25 employees, provided the first International bilingual Portal in the Middle East, serving Arabic, English and French speakers. The company delivered content for 14 Arabian countries attracting more than 80 million unique visitors (5 percent).
- Company E provided mobile value added services (VAS) and platform solutions. Launched in 2003 and now with more than 200 employees, this company aimed at being a leading regional mobile VAS provider (5 percent).
- Company F provided for over 15 years with 40 employees hosting and bandwidth services for Egypt and the Middle East. The company owned and operated one of the largest data centers in Egypt, offering a high infrastructure availability guarantee (7.5 percent).
- Company G, recently established in 2010, was a holding company providing vital services to its subsidiaries, including financial services, HR services, information systems services and facilities services (7.5 percent).

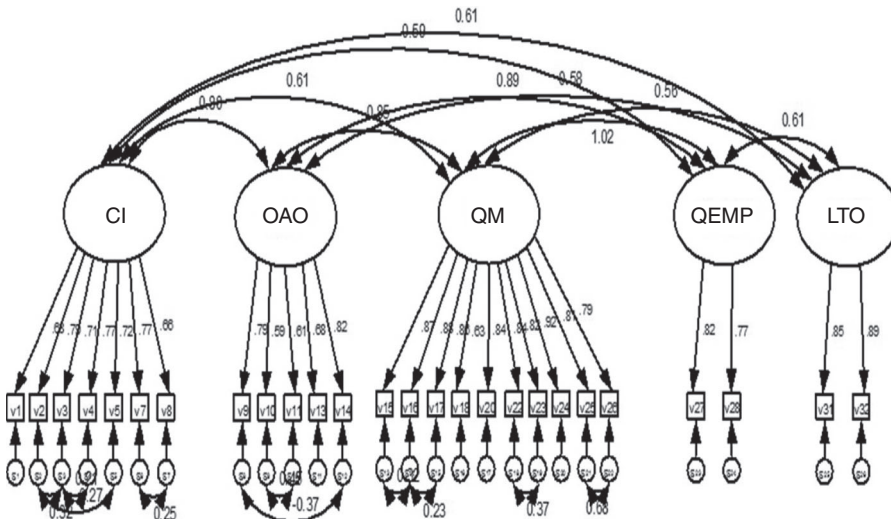
### **Research methodology and results**

In the early phases of this study, during the research design phase, we did not specify any hypotheses as our research was exploratory and inductive in nature. Although our research did use quantitative data collection and analysis techniques, it also had a qualitative part that guided the formulation of the research results. Our research adopted triangulation in both data collection and data analysis by using both questionnaires and interviews. After personally contacting high ranking people at the seven selected ICT companies and explaining to them the goal and significance of the study, the cooperation of all seven companies was obtained. Subsequently, in total 300 questionnaires were e-mailed to the seven companies, and 284 completely filled-in questionnaires were received back, yielding a response rate of 94.7 percent. The respondents were employees from different levels of the organization. In the questionnaires, the respondents indicated how well their organizations performed on the 35 HPO characteristics, on a scale of 1 (very bad) to 10 (excellent).

A confirmatory factor analysis (CFA) applying STATA was used to analyze the data. The aim of the CFA was to verify whether the 35 items were indeed proper measurements of the HPO framework's five dimensions. The structure of the model is reflected in the questionnaire (see Table AI). We used a CFA because it allowed us to place constraints on the factor model, and to specify the number of factors and set the effect of one latent variable on observed variables to particular values (Albright and Park, 2009). Thus we specified the number of factors that existed for a set of variables and their inter-correlations (in our case five factors). CFA produced many "fit statistics" to explain the co-variation among the variables in the model, and these fit statistics tested all the model parameters simultaneously (Stapleton, 1997). We used  $\chi^2$ , RMSEA, CFI and SRMR which measure how well the model fits in comparison to no model at all,

that is, how well the HPO Framework fits the data collected in the Egyptian context. For a confirmation of the model we would expect that: the loadings of the items, on the factors that they intend to measure, would be high and statistically significant; a substantial proportion of the variance in the item scores would be explained by the factors; and loadings of the items on any of the other factors would not improve the model (discriminant validity). In line with de Waal's (2012a, b) earlier works the factors were allowed to be correlated to one another. After performing the steps mentioned above, the common goodness-of-fit statistics were checked. Further improvements were achieved by adding covariances for the error terms of items belonging to the same factor; these covariances indicated that any of the factors (or dimensions) might have sub-dimensions that were not specified in the model. The final model had less than the original 35 items. As a last step Cronbach's  $\alpha$  reliability statistics were computed for the retained items. Figure 1 depicts the resulting model.

The data collected in this research follow the well-established HPO model developed by de Waal. Whether the data collected in this research were in accordance with the HPO model has been tested using a CFA. Using the HPO model as a starting point, the CFA tested to what extent the 35 items were indeed valid and reliable measurements of the five dimensions proposed in the model. The CFA has been conducted using the following criteria in a sequence of steps. First of all, items that were poorly explained by the latent variables (the five dimensions or factors in the HPO model) as indicated by a uniqueness of 0.70 or higher were dropped (v6; v12; v19; v21; v33; v34; and v35). In a second step the model fit was improved by inspecting the modification indices. Confounding items were detected as those items with significant paths leading from latent variables that, at least theoretically, they were not supposed to be measuring (v29; v30). In the third step, further model improvements were obtained by detecting items the error terms of which co-vary with the error terms of other items. Covariance terms of error terms were added (see Figure 1); no large covariances were detected between the error terms of items belonging to different factors, which is reassuring.



Notes:  $n = 284$ .  $\chi^2(279) = 648.8$ ;  $p = 0.000$ ; RMSEA = 0.068; CFI = 0.940; SRMR = 0.050

Figure 1.  
SEM of the Egyptian  
ICT companies



Covariances between error terms of items within one and the same dimension may indicate sub-dimensions. The covariances found in the data in this research are in line with CFAs of HPO data collected on other industries and countries (cf. de Waal *et al.*, 2014b).

It should be noted that, as is the case in similar studies (see for instance de Waal *et al.*, 2014b), the five dimensions were highly correlated ( $r=0.55$  or higher). The coefficients of all retained items were significant at the 0.95 level of significance. The goodness-of-fit statistics indicated a reasonable fit. Goodness-of-fit was assessed by a combination of statistics (Acock, 2013). The RMSEA was 0.068 which constituted a reasonable fit using the strict standards of Hu and Bentler (1999) and Steiger (2007). The SRMR of 0.05 suggested a good fit (Byrne, 1998; Diamantopoulos and Siguaw, 2000). The CFI of 0.94 was close to the value that would classify it as a good fit (Hu and Bentler, 1999; Fan *et al.*, 1999). A final measure of goodness-of-fit was the ratio of the  $\chi^2$  value to the degrees of freedom: the 2.33 was a good fit according to Kline (1998).

As mentioned previously,  $\chi^2$ , RMSEA, CFI and SRMR were used to measure how well the HPO framework fitted the Egyptian ICT context, in comparison to no model at all. Items with unexplained variance > 0.70 were removed. Variables 12 and 33 were removed as they had a uniqueness > 0.80, and variables 6, 19, 34 and 35 were removed as they had a uniqueness > 0.70. Covariances between pairs of variables were added based on modification indices, and variables 29 and 30 were deleted because they were confounding variables, directly or inversely, with both the dependent variable and the independent variable (Kovera, 2010). Removing variables did not imply that these were meaningless for the applicability of the HPO framework in the Egyptian ICT context, but rather, that they were explained by other factors as well thereby violating discriminant validity. In the end, 26 of the original 35 variables loaded reasonably well on their corresponding latent constructs (see Table II). Table I summarizes the relevant goodness-of-fit stats.

Cronbach's  $\alpha$  is a coefficient of internal consistency, it measures how closely related our set of factors were as a group (Furr and Bacharach, 2014).  $\alpha$  coefficient ranged in value from 0 to 1. The higher the score, the more reliable the generated scale was with 0.7 being an acceptable reliability coefficient to many researchers (Acock, 2013; Furr and Bacharach, 2014). Table II lists the Cronbach's  $\alpha$  reliability scores for the HPO framework variables. The HPO framework showed  $\alpha$  values ranging from 0.77 to 0.95 which indicated adequate to good reliability coefficients (Acock, 2013).

The average HPO scores were calculated for the seven participating Egyptian ICT companies and compared to the average HPO scores for IT companies worldwide (this data originated from the database of the HPO Center in the Netherlands who collects this data). Table III gives an overview of the results.

Statistic	Comment
$\chi^2_{ms}(278) = 637.151$ $\chi^2_{bs}(325) = 6,469.354$	
Root mean squared error of approximation (RMSEA) = 0.067	The HPO framework demonstrated an RMSEA value < 0.07 which was an acceptable to good fit (MacCallum <i>et al.</i> , 1996; Hu and Bentler, 1999; Steiger, 2007)
Comparative fit index (CFI) = 0.942	In the case of the HPO framework, the value of CFI = 0.942 was very close to the benchmark of 0.95 of a good fit (Hu and Bentler, 1999)
Standardized root mean squared residual (SRMR) = 0.050	The HPO framework had a value of 0.050 which was a good fit (Byrne, 1998; Hu and Bentler, 1999)

**Table I.**  
Goodness-of-fit statistics

It was found that five of the Egyptian ICT companies (A, D, E, F, G) scored above the average of the worldwide IT HPO score on HPO factor management quality; three companies (A, D, F) scored at or above the worldwide average on HPO factor openness and action orientation; all seven companies scored at or above the worldwide average on HPO factor long-term orientation; three companies (A, D, E) scored at or above the worldwide average on HPO factor continuous improvement and renewal; and all seven companies scored at or above the worldwide average on HPO factor employee quality. However, all seven companies scored less than the average score for an HP, which is 8.5 or higher on all HPO factors (de Waal, 2012a, b). These results entail that none of the seven participating Egyptian ICT companies are an HPO. At the same time five of the participating companies score higher than the average ICT companies worldwide, while the two remaining companies come close in score. This was also to be expected, because of two reasons. As was mentioned, before the revolution the Egyptian government provided the local ICT industry with generous support helping the development of this industry considerably. This support probably had still lagging effects, helping Egyptian to be still frontrunners in the industry. A second reason is that as mentioned before for this research the leaders of the Egyptian ICT industry were chosen, which creates an upward bias.

**Discussion**

The results of the CFA indicated that the HPO framework was valid for the seven Egyptian ICT companies, for the five HPO Factors and 26 of the 35 HPO characteristics.

HPO factor	Number of original variables	Removed variables	Remaining variables	Cronbach's $\alpha$
Continuous improvement and renewal	8	V6	V1-V5, V7-V8	0.8909
Openness and action orientation	6	V12	V9-V11, V13-V14	0.8252
management quality	12	V19, V21	V15-V18, V20, V22-V26	0.9574
Workforce quality	4	V29, V30	V27, V28	0.7689
Long-term orientation	5	V33, V34, V35	V31, V32	0.8612
Total	35	9	26	

**Table II.**  
HPO scales and reliabilities for Egyptian ICT organizations

Company	Management quality	Openness and action orientation	Long-term orientation	Continuous improvement and renewal	Employee quality	Average
A	7.7	6.6	7.4	5.9	7.7	7.1
B	6.5	5.7	6.6	4.9	6.5	6.1
C	6.3	6.1	6.9	5.5	6.9	6.3
D	7.6	7.1	7.5	6.6	7.6	7.3
E	6.9	5.9	7.1	6.1	7.4	6.7
F	6.9	6.6	7.7	5.6	7.0	6.8
G	7.4	6.5	7.6	5.8	7.5	7.0
IT worldwide	6.7	6.6	6.6	5.9	6.5	6.5
HPO	8.5	8.5	8.5	8.5	8.5	8.5

**Table III.**  
HPO scores for the seven Egyptian ICT companies, compared to IT worldwide score and the average score of an HPO

Nine variables were dropped from the original factors due to their uniqueness being  $> 0.70$  or for being confounded variables. This means that it is advisable to use the 26 variables when calculating the performance of other Egyptian ICT companies, however, the five factors and 35 variables can still be used in comparing the HPO scores of Egyptian ICT companies with those of other industries or developing countries in the Middle East. A reason for variables to not relate to their original factors, and thus having to be dropped, could be the fact that the Egyptian respondents did not relate to these variables. For HPO factor continuous improvement and renewal variable 6, "In our organization both financial and non-financial information is reported to organizational members," was dropped. The trend of employee empowerment and sharing knowledge and information with employees is known as "open book management" (Stack, 1992). This trend was encouraged especially in countries like North America and Japan and involved empowering employees through giving more responsibilities, information, knowledge and rewards (Morishima, 1991). Adopters of this trend believed that employees liked to be involved more in order to go the extra mile (Naples, 2004). Some counter arguments emerged about whether to share or keep financial information from employees. Some researchers stated that it was not always wise to share financial information with employees because it could cause confusion because employees do not understand the data, could create dissatisfaction when the results were too low, or could hurt the competitive position because of disclosure of the financial information to competitors (Meinert, 2013). Looking at the Egyptian culture, Egyptian managers are no different from other managers who might fear the disclosure of financial information of their companies. Additionally, according to Hofstede (1980), Egypt is considered to be high in power distance. This means that typical Egyptian managers are autocrats who share or withhold information based on their own feelings about what is needed and what not, and more often than not the latter is the case (Shahin and Wright, 2004; Javidan *et al.*, 2006). Thus it may be the case that the respondents to the HPO questionnaire did not relate to this variable of sharing financial information with organizations members, as this hardly ever happens to them (so they could not really evaluate this HPO characteristic).

For HPO factor openness and action orientation variable 12, "Management allows making mistakes," was dropped. As mentioned before, risk-taking and experimenting is not a common trait of Egyptian managers. In fact, it is common to have a blame culture in Egyptian companies making it unlikely for managers to allow mistakes and for employees to welcome taking risks (Parnell and Hatem, 1999; Shahin and Wright, 2004). Additionally, as mentioned above the Egyptian culture is characterized by a high power distance (Hofstede; 1980) entailing that order inside an Egyptian organization is preserved more through "autocratic decision making" than by rules and regulations. As a consequence, although employees might be encouraged to take decisions themselves within the context of their accountabilities and responsibilities, they are not likely to do this out of fear for failure and the adverse reaction of managers on their failure (Parnell and Hatem, 1999). Thus this autocratic or paternalistic attitude of Egyptian managers might explain the scores of the respondents.

For HPO factor management quality variables 19 and 21 were dropped. These variables state that the management of the organization applies fast action taking and focusses on achieving results. Research into Egyptian management practices shows that most Egyptian managers are likely to demonstrate reluctance in action making (Elbanna, 2009). This reluctance is reflected in the avoidance of taking decisions, delaying important decisions and slow problem solving, naturally having detrimental effects on their result orientation (Shahin and Wright, 2004).

For HPO factor employee quality variables 29 and 30 were dropped. These variables relate to a diverse and complementary workforce and growing through partnerships with suppliers and/or customers. Javidan *et al.* (2006) found that Egypt had low gender egalitarianism, i.e. the degree to which a collective minimizes gender inequality. Organizations operating in gender egalitarian societies tend to encourage tolerance for diversity of ideas and individuals, as a logical consequence this is the reverse in Egyptian society. This might explain the dropping of variable 29 as Egyptian society and its companies as of yet do not have much experience with the advantages of diversity. In the case of variable 30 there was some research done in a governmental setting where the results showed that there was a lack of standard collaboration practices between government agencies (Ezz *et al.*, 2004). It might be that this lack is also experienced in a profit setting which might mean that true collaboration, in an HPO sense, is still in its infancy in Egypt.

For HPO factor long-term orientation variables 33-35 were dropped. These variables are mainly related to a sense of security in the company as expressed by the years managers stay with the company, the opportunity people get to be promoted from within, and whether people feel that their job with the company is secure. The fact that these three variables have been removed might be attributed to lack of sense of security which the employees experience in their organizations. This might make sense in the context of the latest political and economic slowdown in Egypt which led many organizations to lay off significant parts of their workforce in order to minimize costs and to survive the economic crisis. The downsizing of organizations also created less space for internal promotion as there were less managerial positions to be filled than before (Abdou and Zaazou, 2013).

### **Conclusion, limitations and future research**

This paper describes the results of exploratory research conducted at seven Egyptian ICT organizations with the goal to answer the following research question:

*RQ1.* Can the HPO Framework be validated for the Egyptian ICT industry so that it can be used to improve the performance of Egyptian ICT companies?

The research addressed the issue whether the HPO framework is applicable to Egyptian ICT organizations, and it consolidated the factors that potentially will transition Egyptian ICT organizations to high performing organizations successfully. The research results show that with some adaptations the HPO Framework is indeed suitable for Egyptian ICT companies to evaluate their status toward high performance, and to map the strengths and weaknesses of each company accurately. This has several practical implications for Egyptian ICT organizations. The HPO scores obtained from the seven ICT organizations indicate that they are not far away from the desired average HPO score of 8.5. The analysis of the responses confirmed that these organizations can transform to high performance if they adopted the HPO Framework tested in this research. A few variables of the HPO model might not be suitable for the Egyptian context, however, the overall factors were proven to be successfully applicable to the Egyptian context. Therefore Egyptian ICT companies are now able to undertake focussed improvement actions targeted at the specific weaknesses identified through this research. This will make these companies stronger and thereby able to contribute more to the Egyptian economy, thus raising the standard of living not only for the employees of these Egyptian ICT companies but also for their suppliers and customers. Another practical implication of this research is that Egyptian organizations have to realize that having strong managers on board of the organization is crucial to their performance. Managers should be capable to effectively take decisions

without the fear of consequences, employees must feel that their managers are: strong and confident in decision making; handle stress professionally and face crisis situations with integrity and confidence; deal with employees' mistakes in a professional and positive manner, allow a culture of making mistakes; and are transparent and more open toward their employees. A further practical implication is the understanding that the quality of employees is actually an important factor that helps an organization to improve and transform to an HPO. Improving employee quality through treating employees as assets and working on increasing their satisfaction is thus important to pay attention to. Creating a positive work atmosphere in which managers promote communication, exercise empathy, empower their employees, and provide emotional and functional support is sorely needed in Egyptian ICT organizations. Additionally, these organizations should work on their gender egalitarianism since the research results indicated some issues on this front. Regarding risk taking, as this is not common in Egyptian organizations, this aspect has to be taken into consideration as calculated risks increase the opportunities to succeed and promote innovation. Finally, managers need to work on ensuring that employees have a sense of security and trust toward their organizations.

The theoretical implication of this research is that it, being the first quantitative research to be conducted into the topic of creating high performance in Egypt and its ICT industry, it fills a clear gap in current literature. It also contributes to enlarging the general knowledge of the HPO framework.

The limitations of this research can be found both in the number and type of companies studied. As only seven companies participated data should be collected from more Egyptian ICT companies. This data should also be collected at Egyptian ICT companies which allegedly perform less well than the sample in this research. Another opportunity for future research is to collect HPO data from ICT companies in other Middle Eastern countries and from other organizations in Egypt itself, to test the general validity of the HPO framework in the Middle Eastern context. Finally, longitudinal research could be performed at the seven Egyptian ICT companies to evaluate whether these companies are able to use the results of the HPO questionnaire to actually improve their organizations and obtain higher organizational performance.

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(The Appendix follows overleaf.)



Factor	Characteristic	Description
CI	V1	Our organization has adopted a strategy that sets it clearly apart from other organizations
CI	V2	In our organization processes are continuously improved
CI	V3	In our organization processes are continuously simplified
CI	V4	In our organization processes are continuously aligned
CI	V5	In our organization everything that matters to the organization's performance is explicitly reported
CI	V6	In our organization both financial and non-financial information is reported to organizational members
CI	V7	Our organization continuously innovates its core competencies
CI	V8	Our organization continuously innovates its products, processes and services
OA0	V9	The management of our organization frequently engages in a dialogue with employees
OA0	V10	Organizational members spend much time on communication, knowledge exchange and learning
OA0	V11	Organizational members are always involved in important processes
OA0	V12	The management of our organization allows making mistakes
OA0	V13	The management of our organization welcomes change
OA0	V14	Our organization is performance driven
QM	V15	The management of our organization is trusted by organizational members
QM	V16	The management of our organization has integrity
QM	V17	The management of our organization is a role model for organizational members
QM	V18	The management of our organization applies fast decision making
QM	V19	The management of our organization applies fast action taking
QM	V20	The management of our organization coaches organizational members to achieve better results
QM	V21	The management of our organization focusses on achieving results
QM	V22	The management of our organization is very effective
QM	V23	The management of our organization applies strong leadership
QM	V24	The management of our organization is confident
QM	V25	The management of our organization is decisive with regard to non-performers
QM	V26	The management of our organization always holds organizational members responsible for their results
QEMP	V27	The management of our organization inspires organizational members to accomplish extraordinary results
QEMP	V28	Organizational members are trained to be resilient and flexible
QEMP	V29	Our organization has a diverse and complementary workforce
QEMP	V30	Our organization grows through partnerships with suppliers and/or customers
LTO	V31	Our organization maintains good and long-term relationships with all stakeholders
LTO	V32	Our organization is aimed at servicing the customers as best as possible
LTO	V33	The management of our organization has been with the company for a long time
LTO	V34	New management is promoted from within the organization
LTO	V35	Our organization is a secure workplace for organizational members

**Table A1.**  
This appendix lists the five HPO factors and the accompanying 35 characteristics of the HPO framework

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