DETERMINANTS OF EMPLOYEE EMPOWERMENT AS APPLIED ON THE EGYPTIAN PETROLEUM SECTOR

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ABSTRACT

This paper aims to investigate the role of empowerment on employee performance in petroleum industry - EMS department- in order to improve the application of the EMS ISO 14001.

The study addresses two perspectives of empowerment (i.e., structural and psychological). Research population three hundred and seventy-seven questionnaires. Findings reveal that both forms of empowerment have a positive and significant impact on employees’ performance. However, psychological empowerment has a stronger impact on employees’ behavior than does structural empowerment. Three dimensions of structural empowerment (communications, training, and knowledge and skills) have a significant positive impact on the dependent variable. In addition, three dimensions of psychological empowerment (meaning, competences and impact) have significant and positive impacts on employees’ performance. This study offers new insights into the existing literature and provides implications and directions for future research.

INTRODUCTION

A rapidly changing environment threatens the survival of many organizations. The global economy propelled by booming regional economies, new media and information technology, universal consumer cultures, emerging global standards, and opportunities for corporate cost-sharing, has dramatically changed the environment in which organizations exist today (Reza Borghei 2010)
Oil and gas (OOG) production is rapidly expanding to meet increasing energy demands. Since the environment is sensitive, attention is increasingly devoted to environmental issues associated with OOG operations. An Environmental Management System (EMS) can be utilized to systematically manage all activities in OOG operations that give rise to environmental impacts.

Common EMS frameworks have the following limitations: (1) they are not very effective to convey and interpret sufficient information for decision-making; (2) there is no specified performance evaluation system to drive improvement; and (3) there is a burden of extensive documentation. This requires academic researches examine the employee empowerment as a new trends in human resources management. This research was carried out to discuss this issue.

Organizational adaptation theory “proposes that organizational variability reflects designed changes in the strategy and structure of individual organizations in response to environmental changes, threats, and opportunities”. These theories suggest that an organization’s ability to adapt to environmental changes affects its survival. Organizations need to be flexible in order to react in a timely manner to environmental pressures. The popularized literature commends an empowered organization” as a strategy to enhance organizational performance and insure survival (Graetz and Smith, 2006).
Employee empowerment has become an important organizational issue. It is seen as a critical variable in internal organizational changes and an important element inorganic organizations with the capacity to adapt to an ever-changing external environment. “Rigid work structures that provided relative stability and prosperity for 150 years have given way to a more fluid postindustrial economy, driven by new technology and global competition.”

Changes in business environment and environmental pollution have forced organizations to review management systems in order to remain competitive in today’s turbulent economy. Empowering employees has become a central theme of related management and leadership practices that have been endorsed to allow organizations to become more competitive (R. Ramesh, K. Shyam Kumar 2014)

“Where yesterday’s organizations were typically rigid, bureaucratic and rule-bound. Today’s successful competitors are flexible, fast and dependent on their front-line employees to act independently in the best interest of the organization”. “Success in the global market place will come to the organization built on synergy, collaboration, flexibility, and partnership, an organization that expects individual accountability in return for individual freedom (Fortier, p. 18, 2009).

Traditional measures of business performance such as return on investment (ROI) and return on assets (ROA) have less significance today than does return on people (ROP). When leaders look beyond purely financial yardsticks and measure their organization’s productivity, responsiveness, innovation, and knowledge base, they are measuring their (ROP).
Increasingly, it’s that (ROP) that provides the most significant competitive advantage (Cornis van der Lugt, 2012).

In response to a rapidly changing economy, organizations are evaluating the utility of traditional management practices grounded in command and control governance structures vis-a-vis alternative practices that advocate employee empowerment. The role of management has become one of creating an environment that “allows” employees to maximize their performance. “True leaders ignite the capacity to achieve and to lead, in others” (Brown, 1998, p.9). Bill Hewlett, cofounder of Hewlett-Packard stated that “Men and women want to do a good job, a creative job, and if they are provided the proper environment they will do so” (Nelson, 1997, p. 35).

Moreover, the management literature, there is a lack of clarity not only at conceptual level with regards to the definition of employee empowerment; at the practice level too, concerns are due to lack of appropriate model or framework or guidance on how employee empowerment can be introduces and implemented in practice, this study is introducing a model for implementation of employee empowerment. The model is validate by survey and statistics.

On the other hand little management theory or empirical results exist to guide managers in maximizing employee efforts to successfully implement Environmental management System “EMS” In response, this study examines the relationship among employee empowerment factors and employee perception of environment performance and the study model is designed and derived to fill in this gap.
PROBLEM STATEMENT

In the era of globalization there is need for employees empowerment in organization so that employees will be in position to make quick decision and respond quickly to any changes in environment. Organization that are committed to employees empowerment they are in position to motivate and retain their employees, employees empowerment is concerned with trust, motivation, decision making and breaking the inner boundaries between management and employees. (Ongori, 2009). In recent years there has been considerable academic and practitioner interest in the topic of employees empowerment, which has become a buzzword, and recent management trends in both the public and private sector (Pitts, 2005).

However, the empowerment literature still lacks consistency in terms of theoretical perspectives and often ignores theoretical implications. The purpose of this study was to develop an initial research foundation for distinguishing the empowerment construct using statistical procedures.

Implicit in the empowerment literature is the reliance on employee commitment as a form of employee control. This research asks the question, “Is there a relationship between employee empowerment and employee commitment and thus performance?” This relationship is a fundamental assumption in the empowerment literature that needs to be examined. To aid in the examination of the relationship between employee empowerment and employee performance, conceptual clarity is necessary.
It has been established that lack of knowledge with regards to employee empowerment has been the main barrier of its implementation. So, this research reviews the empowerment literature and the models that have been developed on this concept by different management experts. Moreover, based on the discussed literature, employee empowerment model is proposed for the Egyptian petroleum sector to enhance employee performance in order to develop the performance of EMS.

AIMS AND OBJECTIVES OF THE STUDY

a) Prioritization of environmental issues in OOG operations. Identification and prioritization of the important environmental issues; which are susceptible to causing significant negative impacts are necessary under the constraint of limited resources.

b) Unravel the mystery of what employee empowerment is by observing the different way it has been prescribed in the literature.

c) Attributes to pollution prevention initiatives by shedding light to incorporate the employee empowerment into all areas of EMS in an organization.

d) Determine the relationship between employee empowerment practices and the employee performance mannerly to lead to EMS development through establishing the extent to which the Egyptian Petroleum Sector “O&G companies” had put in place employee empowerment program. In view of the above a case study design was deemed appropriate to fulfill the
objectives of the study, since data for research was obtained from Egyptian petroleum sector “O&G companies”

e) **This study also provides data on the utility of Cronbach’s empowerment measure.** A scarcity of useful empowerment measures with high levels of reliability and validity compounds the problem of conducting empirical studies. This study provides information related to the application of Cronbach’s measure in empowerment research.

f) **Scopes for a new model:** since employee empowerment is a multi-dimensional approach, it is therefore very valuable that it is together with the finding on my case survey led me to prospect what I feel is a corrective response needed for an employee empowerment models.

![Survey concept (variables)](image)

**Figure:** Survey concept (variables)
LIMITS OF THE STUDY

Five petroleum companies currently certified to ISO 14001 EMS are covered by this survey. The 5 companies are derived from public sector and large in term of size. In general, large petroleum enterprises are companies with full time employees exceeding 15000 or with annual sales turnover exceeding billion dollars. The large companies are expected to manifest superior leadership and human resources management and could become learning targets for other firms in the implementation of EMS.

RESEARCH HYPOTHESES

H1: Structural empowerment has a positive and significant impact on employees in the EMS department in the petroleum companies under investigation.

H2: Psychological empowerment has a positive and significant impact on employees in the EMS department in the petroleum companies under investigation.

PROCEDURES AND DATA COLLECTION

The petroleum sector in Egypt consists of 5 strong entities. All of them certified to EMS ISO 14001 and all of them agreed to participate in the survey.
DESCRIPTION OF THE SAMPLE

The population of the current study consisted entirely of employees of the EMS department. The idea behind approaching this line of employee that employees in this position play principal position in achieving the EMS goals and development which in turn lead to improve the environment and reduce the negative impacts produced by the industry.

To specify what the EMS’ employee positions mean, it identifies several positions as including manager, assistant manager, supervisor and account representative.

The selected sampling design needed to ensure that respondents in the study sample had certain characteristics to be selected. To do that, this study employed judgment purposive sampling, which is considered a type of non-probability sampling.

SAMPLE SIZE

In terms of deciding the sample size required statistically, an acceptable sample size can be determined by multiplying the questionnaire items by five, that is, 5:1, which means that five observations are required for every single item (Hair et al., 2006). In other words, this study includes 41 items, so by multiplying them by 5, the result shows that the needed sample size should be 205 respondents or more, i.e., N ≥ 5:41 (205).

In addition, this study followes Sekaran’s (2003) assumptions in terms of the sample size. Sekaran recommends having no fewer than 370 respondents once the size of the research population is around 15,000 elements (i.e., 15,000 employees in the petroleum Egyptian petroleum companies)
Researchers collected 377 questionnaires from all the 5 companies operating in Egypt in order to satisfy and exceed suggestions introduced by Hair et al. (2006) and Sekaran (2003). However, the researchers approached only Cairo, because Cairo represents the most important city in terms of implementing and controlling the EMS policies and performances. It is worth noting that the researchers did not approach all branches of the petroleum companies in other cities, due to some geographical and time limitations.

**RESEARCH INSTRUMENT AND MEASURES**

The research instrument was designed to measure employees' perceptions of the variables under investigation. The latter section includes 41 items to measure the independent variables (structural and psychological empowerment) as well as the dependent variable (employee’s behavior in relation to empowerment). A five-point Likert scale was used as an interval scale ranging from (1) "strongly disagree" to (5) "strongly agree.”

In terms of measures of the variables under investigation, structural empowerment is measured by investigating six dimensions that emerged in the literature, namely, communications, rewarding/incentives, training, information sharing, knowledge and skills, and delegation of authority. The scale has 21 items adapted from Melhem's (2004) and Al-Dghiemat's (2008) studies, after making some minor changes in the wording of the items to fit the current study.

For psychological empowerment, four dimensions are identified in the literature, including competence, meaning, self-determination (choice), and impact. However, the 12 items and measures used to measure the four
dimensions of psychological empowerment are adapted from Spreitzer's (1995) study after making some minor changes in the wording of the items to fit the current study.

Because some items were adapted from English sources and the questionnaire had to be distributed in the Arabic language, the present study conducted back translation for some scales (psychological empowerment and EMS’ employees performance). In other words, all English items used in the research instrument were translated into the Arabic language to meet the requirement of the Egyptian context, which was the field of study. To ensure that the translated items were clear to respondents, three back translation steps were conducted. First, the original items were translated from English to Arabic by a person who is knowledgeable in the business administration field; second, the Arabic version was translated back into the English language by an independent translator; and third, the original and the translated items were compared to ensure compatibility between them. The final process was repeated several times to make the essential modifications.

THE STUDY MEASURES

The study addressed two perspectives of empowerment (i.e., structural empowerment and psychological empowerment). The EMS employee's perspective was used. The researchers collected three hundred and seventy-seven questionnaires. Findings reveal that both forms of empowerment have a positive and significant impact on employees’ performance. However, psychological empowerment has a stronger impact on employees’ behavior than does structural empowerment. Only three dimensions of structural
empowerment (communications, training, and knowledge and skills) have a significant positive impact on the dependent variable. In addition, three dimensions of psychological empowerment (meaning, competences and impact) have significant and positive impacts on employees’ performance. This study offers new insights into the existing literature and provides implications and directions for future research.

Testing Hypotheses:
To summarize the findings, the following table shows the mean and standard deviation scores for all dimensions in table 1.

**Table (1) Descriptive Statistics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>No.</th>
<th>Dimension</th>
<th>Mean</th>
<th>Std Deviation</th>
<th>Responding Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural Empowerment</td>
<td>1</td>
<td>Communication</td>
<td>3.7</td>
<td>0.76</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Rewards/Incentives</td>
<td>3.33</td>
<td>0.76</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Training</td>
<td>3.65</td>
<td>0.68</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Information Sharing</td>
<td>3.69</td>
<td>0.75</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Knowledge &amp; Skills</td>
<td>3.88</td>
<td>0.65</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Authority &amp; Delegation</td>
<td>3.74</td>
<td>0.66</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Structural Empowerment</td>
<td>3.66</td>
<td>0.52</td>
<td>Medium</td>
</tr>
<tr>
<td>Psychological Empowerment</td>
<td>7</td>
<td>Meaning</td>
<td>3.88</td>
<td>0.72</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Competences</td>
<td>4.00</td>
<td>0.59</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Self-determination</td>
<td>3.76</td>
<td>0.67</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Impact</td>
<td>3.76</td>
<td>0.68</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Psychological Empowerment</td>
<td>3.86</td>
<td>0.47</td>
<td>High</td>
</tr>
<tr>
<td>EMS Employee Performance</td>
<td>11</td>
<td>Role Performance</td>
<td>3.97</td>
<td>0.57</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Extra-Role Performance</td>
<td>3.84</td>
<td>0.58</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EMS Employee Performance</td>
<td>3.90</td>
<td>0.53</td>
<td>High</td>
</tr>
</tbody>
</table>
As shown in Table 2, multiple regressions indicate a significant impact of only three dimensions of structural empowerment, namely, communication, training, and knowledge and skills, on EMS employee performance ($\alpha \leq 0.05$). However, rewards, information sharing, and authority delegation did not have a significant impact on EMS employee performance ($\alpha \geq 0.05$).
Table 3. Results of Hypotheses Testing for All Dimensions of Psychological Empowerment (Multiple Regressions)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dimensions</th>
<th>Dependent Variable</th>
<th>$R^2$</th>
<th>Beta</th>
<th>Sig</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological</td>
<td>Meaning</td>
<td>EMS Employee</td>
<td>.564</td>
<td>.21</td>
<td>.000</td>
<td>Significant Impact</td>
</tr>
<tr>
<td>Empowerment</td>
<td>Competences</td>
<td>Empowerment</td>
<td></td>
<td>.52</td>
<td>.000</td>
<td>Significant Impact</td>
</tr>
<tr>
<td></td>
<td>Self determination</td>
<td></td>
<td></td>
<td>-.01</td>
<td>.770</td>
<td>Significant Impact</td>
</tr>
<tr>
<td></td>
<td>Impact</td>
<td></td>
<td></td>
<td>0.19</td>
<td>.000</td>
<td>Significant Impact</td>
</tr>
</tbody>
</table>

The findings of multiple regressions displayed on Table 3 show that there is a significant impact of meaning, competences, and impact on EMS employees performance ($\alpha \leq 0.05$). However, self-determination did not have any significant impact on EMS employee performance ($\alpha \geq 0.05$).

Based on the above, an EE model for EMS development in Egyptian Petroleum Sector “O&G companies” is suggested here under. This model is based on the literature and the author’s opinion about empowerment. The proposed model will be multidimensional model as suggested by Spreitzer (1997), who stresses that a uni-dimensional model of empowerment cannot capture the full essence of the empowerment concept.
Empowered Employee EMS

*More productivity
*Quick responses
*flexibility & innovation
*Sharing knowledge
*More job satisfaction
*more creativity
*belief in personal effectiveness & efficacy
*feeling value and secured
*feeling of competency & autonomy

Multi-dimensional Empowerment
(Structural & Psychological Empowerment)
EMS

Empowering Environment EMS

* Mutual trust
* Supportive & encouraging
* Team Orientation

High performance & Developed EMS

Empowered management practices EMS

*Sharing information
*Involving employees in planning process & decision making
*Delegating authority
*Rewarding performance

Empowered Employee
EMS

*More productivity
*Quick responses
*flexibility & innovation
*Sharing knowledge
*More job satisfaction
*more creativity
*belief in personal effectiveness & efficacy
*feeling value and secured
*feeling of competency & autonomy

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RESULTS AND RECOMMENDATIONS

The model has four dimensional empowerment model is developed for the EPS. The model has four dimensions: Empowering management practices, empowered individuals, empowering working environment and developed EMS. These four dimensions interact with one another to form an empowered organization. The model combines concepts from all of the models reviewed, including, Conger and Konungo (1988) Thomas and Velthouse (1990), Altizer (1993), Thomas and Tymon (1993) and Spritzer (1995). However; the model proposed is more inclusive than any of the reviewed models. It captures the concept of empowerment through simultaneous and mutual interaction between the main components of the organization, namely, the human resources (individuals), the work structures (management practices) and the work environment. On the other hand, each of the reviewed models considers only some parts of the organization’s components.

The model proposed for the EPS is validated using field research to better determine the link between the four dimensions and their elements with the empowerment concept and motivation of the workforce to develop EMS. The validation involved developing questionnaires for the model and collecting responses from the EPS personnel.

The model was developed due to the following factors:

1. Several models have been developed on empowerment. Some models focus on relational elements, while others focus on psychological.
2. Empowerment will not happen naturally in organizations. The main components of organizations must go through major reforms and changes to push empowerment forward.

3. Concentrating on one of the organization’s components will not create an empowered organization. Only when a multidimensional approach is taken will the organization become empowered.

The model presented in this project is intended to serve as a roadmap for EMS. This model combines different aspects found in literature in a manner considered to be appropriate for EPS because it considers to simultaneously and mutually developing all the organization’s components in attempt to capture the empowerment concept.

This study presents structural empowerment as an independent variable and investigates its impact on EMS employee performance as a dependent variable. A positive and significant impact of structural empowerment on EMS employee performance was found. This result is consistent with previous studies in terms of the impact and direction. Gazzoli et al. (2009), for instance, found that employee empowerment has a positive and direct effect on employees’ attitudes and their perception of EMS. Lee et al. (2006) found that empowerment is strongly associated with extra-role employee, that is, better performance of service-oriented behavior and attitudes. Additionally, Chebat and Kollias (2000) revealed that structural empowerment is the most efficient managerial tool for achieving employees’ commitment toward performance and development of the task they are achieving.
In terms of the dimensional level of structural empowerment, only three structural empowerment dimensions (i.e., communication, training, and knowledge and skills) have a positive and significant impact on EMS employee performance among employees in the Egyptian Petroleum sectors. Such findings are consistent with previous studies (e.g., Lin, 2008; Lanjananda and Patterson, 2008; Mechinda and Patterson, 2011).

Training programs can be designed for EMS’ employees to help in solving work-related problems and in enhancing skills. Opening communication channels between employees and management also plays a significant role in increasing the attention of employees toward EMS enhancement. Employees with adequate levels of skills and knowledge show a high level of EMS understanding. Since a higher level of skills and knowledge make EMS’ employees more willing to implement better practices and approaches when dealing with environment. As a result, less negative impact and greater feasibility, quick action, reliable attitude, and effective solutions can be guaranteed by the employees of EMS.

However, an insignificant impact was found of rewards, authority delegation, and information sharing on EMS employee performance. This result is not inconsistent with the study of Mechinda and Patterson (2011). Having such inconsistent results can occur for several reasons, including standardized systems of compensations and incentives, rigid requirements for annual increases and promotions, unfair and complex practices of authority delegation, and finally, weaknesses in existing information sharing tools and
methods. As a consequence, a negative and insignificant impact of such dimensions was witnessed in the companies under investigation.

This study also measures the impact of psychological empowerment, as an independent variable, on EMS employee performance. A positive and significant impact of psychological empowerment on EMS’ employee performance was found. Such a result is consistent with previous studies in terms of the impact and direction. Chaing and Hsieh (2012) found that psychological empowerment makes employees more responsive to problems and contributes to a high quality of environmental performance. Odeh (2008) found that employees who are psychologically empowered are more likely to attain a positive relationship with each other and management beside they engage in behaviors that lead them to enhance performance.

Additionally, Hancer and George (2003) found that employees’ feelings of psychological empowerment increase their belief that they can do what is expected of them. Pecci and Rosenthal (2001) also found a positive association between psychological empowerment and EMS employee performance.

In terms of the dimensional level of psychological empowerment, three dimensions (i.e., meaning, competences and impact) show a positive and significant impact on EMS employee performance, which is consistent with Pecci and Rosenthal’s (2001) and Odeh’s (2008) findings. However, self-determination did not result in a positive or significant impact on the dependent variable, contradicting the previous literature (e.g., Pecci and
Rosenthal, 2001). Such inconsistent findings for the self-determination dimension might be attributed to cultural reasons and differences.

In order to explore the simultaneous influence of the two types of empowerment (structural empowerment and psychological empowerment) on EMS employee performance, as mentioned earlier in this study, multiple regression techniques were undertaken. The findings of the multiple regressions indicate that psychological empowerment has a greater impact on EMS employee performance than does structural empowerment. The reason for such findings may be that a high feeling of psychological empowerment makes employees more motivated and engaged in more favorable EMS employee performance. In other words, having high feelings of meaningful jobs, having more competences and giving subordinates more impact on their jobs and organizations will motivate subordinates to service their department better. On the other hand, having higher levels of structural empowerment might lead to more formality and rigidity within the organization.

This study aimed to understand the impact of employee empowerment on EMS employee performance which will lead to EMS development and enhancement in the Egyptian petroleum sector. Two types of empowerment (structural and psychological) were identified in the relevant literature. According to previous empirical studies, only one type of employee empowerment as an independent variable was tested in terms of its impact on EMS. Therefore, this study tried to investigate this relationship by using structural and psychological empowerment as independent variables in order to overcome deficiencies in the literature.
On one hand, the results of the study shows that structural and psychological empowerment positively and significantly influence EMS employee performance in the Egyptian Petroleum sector. Accordingly, Egyptian Petroleum sector should use and implement both types of empowerment to maximize EMS employee performance to reach a well developed EMS. However, the results also show a medium level of implementation of structural empowerment and a high level of psychological empowerment’s implementation in the Egyptian Petroleum sector. Therefore, that sector should give more attention to improving and designing better and more effective structural empowerment programs. This can be done by implementing better managerial practices such as work rotation, better job design, the use of up-to date communication and technology and the revision of job regulations and legislation.

This study has some limitations; therefore, it offers some recommendations for future research, as follows. First, it is limited to the petroleum sector in Egypt, and thus, future researchers are advised to conduct and reapply this study in other sectors in Egypt to have a better generalization of the findings. Second, this study measured EMS developed application by using the employee’s performance, that is, the industry’s perspective. New studies will also need to use the user’s (client’s) perspective. Third, this study did not consider all forms of empowerment such as leadership empowerment. So future research can expand knowledge by including all forms of empowerment.
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