

## Impact of Information and Information Technology on Empowerment of Employees Private School Sector in Northern Region in Jordan

<sup>1</sup>Shaker Qudah and <sup>2</sup>Yahya Melhem

<sup>1</sup>Business Administration Department, Amman Applied University, Amman, Jordan

<sup>2</sup>College of Business Administration, Prince Sultan University, Saudi Arabia

**Correspondence Author: Shaker Qudah**

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### Abstract

*Empowering the frontline employees cannot work in vacuum. Empowerment of employees, while very important, requires an important requirements and conditions. Information and information technology are predicted to act as the most important requirements and qualities for empowering 21<sup>st</sup> century workforce. Hence, this article aims at testing the impact of information in general (GE) and information technology (IT) in particular on the impact of empowering employees in the private school sector in Northern region in Jordan. A survey questionnaire was developed to reflect a simple model of the presumed relationships. A sample of 120 employees has participated in the survey and data were collected and analyzed using means, regressions and correlations to test such impact. The study analysis and results approved the study assumptions indicating that there is a significant impact of information technology variables (Adjusted R Square= 0.035), and information variables in general on the empowerment of the frontline employees in the private school sector in Jordan (.077), and  $p < 0.05$ . Recommendation for both academics and managers were provided in this research.*

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**Keywords:** information, information technology, empowerment, private schools, Jordan

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### INTRODUCTION

It is well known that information and information technology helps organizations in many different ways and directions. The empowerment literature is full with concepts that indicate to the impact of information on empowering the frontline of any organization. However, research linking information technology and its impact on empowering people is not yet strong. However, empowerment is a concept that most modern organizational practices believe in its effectiveness and significance. Advances in communication and information technology have created new opportunities for organizations to build and manage empowerment process where members collaborate utilizing technology across space and time to accomplish important organizational tasks.

### RESEARCH OBJECTIVES

This research aims at finding the relationship between employee empowerment and information, and information technology through investigating existing theory and literature and also empirically testing the association through a survey questionnaire designed to find perceptions of a sample of IT school employees regarding the study relationships.

### PROBLEM STATEMENT

21<sup>st</sup> century organizations rely heavily on information, information technology, information systems and technology based data and information. With this fact in mind, the level of empowerment and

employee authority affected by information and information technology has not yet been explored. IT executives and technology managers have not yet realized and measured the this affect and therefore missing the value and significance of Information in general and information technology in particular in enhancing the levels of empowerment among IT people in their organizations. Hence, employee empowerment is predicted to generate valuable consequences at the individual level and at the organizational levels.

### Research Importance

Employees' task and work activities have been changed for the last two decades from manual routine tasks into more technological and IT tasks. Also the reliance on information and the levels of information flows in organizations have increased dramatically. Still many organizations are run by the command and control approach of the early 20<sup>th</sup> century. However, this study is one of few studies that tries to shed light on the importance of empowering those with information and information technology jobs, simply because the command and control approach has become so irrelevant for such knowledge workers of the 21<sup>st</sup> century organization. This gives significance to investigate such relationships specifically in a context where such research is scarce in this area.

### Research Hypothesis

1. There is a statistically significant positive impact and relationship between information (Timeliness, understandability, relevance, sufficiency, comparability, and accuracy) and empowering people.
2. There is a statistically significant positive impact and relationship between information technology (software, hardware, database, and telecommunication) and empowering people.

### Research Limitation and Future Research Avenues

A survey research ought to be complemented by some qualitative instrument using focus group interviews or unstructured interviews in such study. However, the school officials were not in favor of using such instruments given their particular situation and timing. Another problem is with generalizability. This study requires future large scale research to cover a larger sample to gain greater generalization over the schooling system in Jordan. Further research could study technology-based and IT-based organizations to test the proposed associations in a related context.

### Empowerment Process

#### Empowerment:

Employee empowerment means encouraging frontline employees to become more involved in the decision making process and activities that affect their jobs. It's the process of providing employees with the opportunities to show that they can provide solutions and that they have the skills to covert their ideas into practice and action.

Ettorre (1997) defines empowerment as employees having autonomous decision making capabilities and acting as partners in the business, all with an eye on the bottom line. Companies use different terms, but all terms have basically the same intent of employee participation and involvement (Hui *et al.* 2004). Empowered employees make decisions traditionally reserved for management. Empowerment is not just delegating decision making authority; it is also setting goals and allowing employees to participate (Riggs, 1995, p. 7). Empowerments is the process of enabling or authorizing an individual to think, behave, take action, and control work and decision making in autonomous ways.

Caudron (1995, p. 34) provides the following characteristics of an organization's environment that supports empowered employees:

1. The workplace has established self-directed teams.
2. Superiors freely share information about the company's directions and goals with the entire employee base.

3. Employees receive training needed to achieve goals, whether specific work skills or educational issues, such as time management or leadership.
4. Employees continually develop new work skills.
5. Managers understand and respect the challenges of an empowering workplace by performing more as coaches instead of bosses. They empower gradually and systematically as team members are ready and do not expect or push for immediate results.
6. Employees are in control of the resources needed to meet their goals.
7. The company provides measurements to ensure idea effectiveness of the teams.
8. Team members are treated to continual positive feedback and reinforcement.

Looy *et al* (2003:232), points out that the most important reason for empowerment at the individual employee level is the belief that autonomy motivates people, and encourage them to take initiative and make decisions. Not only that, but empowering the frontline employees when performed right would energize them to produce high quality results with deep internal commitment rather than external compliance. According to Looy *et al* (2003:233), there are five dimensions as a driving force behind individual work motivation:

**Meaning:** the extent to which an individual experiences a task as personally meaningful.

**Competence:** the extent to which an individual feels confident about his/her capabilities to perform the task.

**Self-determination:** the degree of influence that an individual has as a driving force behind individual work motivation on how to perform the job.

**Strategic autonomy:** the degree of influence an individual has on the content of the job.

**Impact:** the degree of influence an individual has on the direct work environment.

This framework has been emphasized and reinstated by many authors including Spreitzer, (1996) such framework demonstrates the wholeness of empowerment and the power associated with it. Empowerment however, is not the absolute resolution for al l(Argyris, 2000; 1998; 1994). It requires the right climate induced by flow of information, knowledge, communication, technology and incentives (Srivastava, and Bartol, 2006).

### The Model

The study model as described in the figure below illustrates the impact of information and information technology on employee empowerment. (Looy *et al.*, 2003; Zeithaml *et al.*: 2006), describe employee empowerment as having many dimensions ranging from the individual employee level to the organization level of empowerment. Looy *et al* (2003:232), points out that the most important reason

for empowerment at the individual employee level is the belief that autonomy motivates people, they further argue that people are willing to take initiatives and make decisions on the spot. For employees to be successfully empowered, the organization needs to create the environment where such attitudes and behaviors can be developed. Empowerment of employees would be unsuccessful if they have no access to information about the (a) service concept (b) the service delivery process as a whole (c) past and current performance of the organization as a whole and (d) setting of goals in the organization by knowing what needs to be done, not what is allowed to be done. The process of empowering employees involves the establishment of a supportive communication climate. Supervisory personnel have the opportunity to set up and maintain an atmosphere of open communication through both their words and deeds. Something as simple as a sincere word of encouragement or praise from a supervisor has been shown to foster and encourage subordinates' reciprocity of an open and honest dialogue with the supervisor and aid the employee in feeling empowered (Valerius, 1998).

Koch and Godden (1997) argue that empowerment is a good idea but unworkable for large corporations. They believe that empowerment is an inefficient way to run a large corporation; instead, the optimal way for large companies to survive is to have strong leadership and a singular direction. They argue that large corporations benefit from market power and economies of scale. While this is on the periphery of this article, we can argue that large organizations can also empower its employees from the top to the bottom by having the right climate with the right structure.

General Electric is an example of a large corporation with hundreds of thousands of empowered employees. GE could do that through the right culture, the right federal structure and the right communication and information technology system conducive to empower all employees (Dawson and Newman, 2002). In spite of all the good news, employee empowerment programs are not the cure for all organizational problems but they can be a potent organizational performance enhancer. Empowerment allows the employee to take a more active role in the success of the company. Empowerment alone is not enough. In order for an empowerment program to be successful, it has to have the full support of everyone in the company. Management intention and efforts to change the hierarchical, chain-of-command managerial approach is a key factor in the success or failure of empowerment programs. The company needs to ensure that the systems are in place to completely support the initiative (Houston and Talbott, 1996).

Previous literature and studies have overlooked the significance of communication and information in its impact on empowerment. Hence most of the literature has tackled such construct in a rhetorically, this study will investigate empirically to measure the level of impact of information in general and information technology in particular on the degree of empowerment among IT employees in major private school systems in Jordan. Such impact if found will enable researchers and managers to invest more in studying the issue and look more into the benefits and constraints associated with such initiatives (Dawson and Newman, 2002).

### **Communication and Information, and Empowerment**

Information sharing is an essential part of high performance systems (Pfeffer and Veiga, 1999). The sharing of information according to Pfeffer and Veiga on such things as financial performance, strategy, and operational measures conveys to the organisation's people that they are trusted. Even motivated and trained people cannot contribute to enhancing organisational performance if they don't share information of important organizational issues and problems (Melhem, 2003). Communication and sharing information in this study is assumed to be associated with empowerment because communication is the means by which employees' knowledge will be developed through the flow of information throughout the organisation in order to serve the customer effectively and efficiently. Randolph and Sashkin (2002) provide a compelling rationale arguing that open sharing of information is crucial to empowerment, since without information people cannot act responsibly, even if they want to. The authors recognise that the problem in most organisations is that top managers are often reluctant to share financial, performance, and strategic information with people throughout the organisation. Perhaps managers feel that such information is too complex and too sensitive for such sharing.

The following figure is the proposed assumption for this study which will illustrate the main requirements for employee empowerment including information in general and information technology in particular.

The first factor; information, in this model underlines five variables including timeliness, understandability of information, relevance of information, sufficiency of information, comparability of information, and accuracy of information.

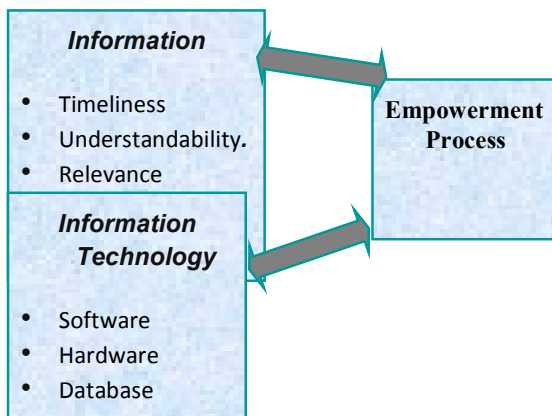


Figure 1. Information and information Technology with Empowerment Process  
(Source: Researchers' proposed framework)

## EMPOWERMENT REQUIREMENTS

### Information Technology

IT contributes to organizational change, labor demand, and improved productivity in public and private sectors. Availability of information technology within organizations has increased tremendously. The ubiquity of personal computers in organizations and dramatic increases in computer power and speed while cost is dropping continuously, have made available huge amounts of information to individuals in organizations. Information Technology includes the hardware, databases, software, networks, and other electronic devices. Some authors provide evidence of digital empowerment. For example Mäkinen (2006) contends that digital empowerment is an enabling process, which proceeds like a spiral on four components of: awareness, motivation, technical access and competence. Awareness refers to understanding the potential opportunities of using any new technology, like the Internet. Motivation also is an essential element in all kinds of learning and development. Moreover, Digital empowerment is not just about acquiring basic ICT skills like the use of cell-phones, e-mails, and word processing (Mbakwem, 2008). It also requires students' abilities to improve their abilities of being connected to widening social networks, technical skills, receiving and producing information, and learning new ways to act and participate in civic life by using information technology (Creighton, 2001; Blair, 2002).

### Emerging Information Technology

Before we go on to analyze the impact of emerging Information Technology we discuss briefly the specific technologies under question. A wide variety of systems have been developed to support different types of group work, the traditional Decision Support Systems (DSS), facilitated by advances in networking technology, group decision support systems, other software focuses on the management of shared files or the location of particular expertise within the group.

Electronic mail is probably the groupware application that has seen the widest success. Email facilitates communication and information exchange and can therefore also support shared decision making. Video conferencing systems are also intended to support meetings where group members view their remote colleagues as well as a presentation outline, viewgraphs or diagrams. Software supports real-time conferencing through the real-time exchange of messages between group members at their work places.

### The Impact of Emerging Information Technologies on Empowerment

Kanter, 1984 notes that "the powerful are those with access to the tools for action" (p.166). While she makes no specific reference to computers or information technology Clement (1994) contends that their relevance in this context is obvious. However, we cannot deduce that computers are tools for action as in most cases the employees that use them do not have the freedom to "act" but they just merely follow orders. "Many organizational actions involve the performance of information processing tasks that are amenable to computerization and thus expanding the capabilities of computers and extending their availability to a wider group of people can clearly be regarded as a process of empowerment" (p.224).

Employees are believed to be able to contribute creatively to the solution of organizational problems and, under proper conditions, not only to accept but to seek responsibility. These principles lead to a democratic and open organizational culture, where employees are given the freedom to decide and act, and managers learn to abandon their "ruling" roles. Emerging IT can support this direction by widely distributing information that is needed to build the trust of employees in management. IT can keep staff fully informed of the company's performance results (sales, profits) and competitors' performance, the company's plans and goals and sensitive issues such as sell-off options and possibilities of down-sizing (Lawler, E. E. I., S. Albers Mohrman, *et al.* 1992)

Finally, the second factor in this model will underline six variables as shown in the figure above including:

- 1- Computer hardware.
- 2- Software.
- 3- Networks.
- 4- Databases.
- 5- Information management personnel.

Infrastructures include these resources as well as their integration, operation, documentation, maintenance, and management. In summary, both information in general, and information technology components will be measured to find their level of impact on employee empowerment using the following method and instrument.

## METHODS

### Data Collection

Data were collected from a sample of 123 IT specialists from the private school system in northern region of Jordan. Respondent were selected from a list of those employees practicing and managing IT and working with data and information on a daily basis as part of their work. Questionnaires were distributed randomly by the school administration via their human resource staff. The questionnaire included questions about three dimensions; empowerment, information in general including: Timelines, understandability, relevance, sufficiency, comparability, and accuracy of information, and Information Technology including software, hardware, databases, and telecommunication.

### Measures and Instrument

All scales in this study were measured on five point Likert scales ranging from 1 with strong disagreement to 5 with strong agreement. A review of the literature yielded a number of measurement instruments that were employed to test the hypothesized model. Empowerment was measured using 12-item scale originally developed by Spreitzer's well known instrument of her seminal 1995 article and modified to fit the study context. The second dimension was the IT which was measured employing 14-item scale and the general information dimension using 13-item scale. The questionnaire was tested for content validity via 10 university academics from business schools at various universities in Jordan like Yarmouk University and school teachers and principals with research and academic background. The reliability coefficient for the different dimensions (Cronbach's Alpha) ranged from 0.78 to 0.91 for the various items. The empowerment dimension represents the dependent variable while the IT and General information dimensions represent the independent variables testing their impact on the levels of empowerment exercised by IT professionals in the school body.

## DISCUSSION

Table 1 shows the descriptive statistics of the demographic variables. Followed by correlations and regression analysis representing the impact of both IT and Information in general on the levels of empowerment adopted by IT employees in the school system in the northern part of Jordan. The set of demographic tables below just give a little background about the sample demographics in terms of age, gender, experience, education, job title. These figures are not directly related to the research assumptions because of the common denominator of IT specialty among the members of the study sample. Hence, demographic variables of age, education, job title, and experience might have minimal statistical significance in influencing the empowerment degree among participants. Nevertheless, around half of the

sample were below 35 years of age, around 84% male, 36% with around 6 years of experience, more than 97% with a bachelor degree or higher. Because this is the minimum educational level either in public or private schools in Jordan. 80% of the sample is either IT managers, department managers, or assistant managers. The features of such sample make it appropriate for a potential environment for the study constructs and associations.

Table (1) sample demographics

| Age   |             |           |         |               |                    |
|-------|-------------|-----------|---------|---------------|--------------------|
|       |             | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 25 and less | 3         | 2.4     | 2.4           | 2.4                |
|       | 26 to 35    | 50        | 40.7    | 40.7          | 43.1               |
|       | 36 to 45    | 57        | 46.3    | 46.3          | 89.4               |
|       | 46 to 55    | 13        | 10.6    | 10.6          | 100.0              |
|       | Total       | 123       | 100.0   | 100.0         |                    |

| Gender |        |           |         |               |                    |
|--------|--------|-----------|---------|---------------|--------------------|
|        |        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | Male   | 103       | 83.7    | 83.7          | 83.7               |
|        | female | 20        | 16.3    | 16.3          | 100.0              |
|        | Total  | 123       | 100.0   | 100.0         |                    |

| Experience |             |           |         |               |                    |
|------------|-------------|-----------|---------|---------------|--------------------|
|            |             | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid      | less than 2 | 3         | 2.4     | 2.4           | 2.4                |
|            | 3 to 6      | 41        | 33.3    | 33.3          | 35.8               |
|            | 7 to 10     | 65        | 52.8    | 52.8          | 88.6               |
|            | 11 and more | 14        | 11.4    | 11.4          | 100.0              |
|            | Total       | 123       | 100.0   | 100.0         |                    |

| Education |             |           |         |               |                    |
|-----------|-------------|-----------|---------|---------------|--------------------|
|           |             | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid     | high school | 1         | .8      | .8            | .8                 |
|           | diploma     | 2         | 1.6     | 1.6           | 2.4                |
|           | Bachelor    | 120       | 97.6    | 97.6          | 100.0              |
|           | Total       | 123       | 100.0   | 100.0         |                    |

| Job-title |                        |           |         |               |                    |
|-----------|------------------------|-----------|---------|---------------|--------------------|
|           |                        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid     | Division manager       | 8         | 6.5     | 6.5           | 6.5                |
|           | Assistant Division mgr | 15        | 12.2    | 12.2          | 18.7               |
|           | Dept-Head              | 37        | 30.1    | 30.1          | 48.8               |
|           | Assist-Head            | 38        | 30.9    | 30.9          | 79.7               |
|           | other                  | 25        | 20.3    | 20.3          | 100.0              |
|           | Total                  | 123       | 100.0   | 100.0         |                    |

Viewing table (2) regarding the degree of information sharing in general reveals that employees have relatively strong positive attitude regarding the volume of information shared with low levels of variance among respondents and the standard deviation shows a high level of agreement against such dimension. This is clear and self evident because "Information shared seems to be up-to-date" received mean average of 4.16 in a five Likert scale method, while the lowest statements reached a mean average of 4.11 for five statements. All this indicates that employees perceive the adequacy and efficiency of the information available at their organization. This view was clearly consistent with previous studies including Bowen and Lalwer, (1992; (1995).

Table (3) however, demonstrated a little more variance across statements among respondents in their perceptions regarding the provision and effectiveness of the IT system at their organization. The highest mean average was (4.47) for "IT makes data storing and data retrieval much easier" with (0.50) standard deviation. The lowest mean average reached (4.04) for "IT provides for vertical and horizontal linkages and information sharing throughout the organization" with high degree of consensus among participants; the standard deviation reached (0.27). Overall, the table shows relatively strong and positive perception towards the availability and effectiveness of the IT information system at their organization. This is in line with the previous finding regarding the information in general in table (2). It is also logically understood hence positive and effective IT information level in any organization is expected to lead to an effective and positive general information levels because information technology usually facilitates and enhances the general information and communication capabilities of any organization. This is supported by the regression and correlation analysis discussed in subsequent tables. This was not supported by most literature except for (Mbakwem, 2008, Clement, A. (1994).

Table (4) demonstrates that the attitudes and perceptions of respondents related to their degree of empowerment ranged from high to moderate with (4.02) for "I am allowed to use available resources to perform my job in the best way that I see possible" with a very good agreement among participants over this statement; (0.40) standard deviation, and (2.93) " for I am not encouraged to handle problems by myself" with standard deviation of (0.84). However, the total average of this dimension reached 3.76 indicating that the overall employees' perceptions regarding their discretion and authority was relatively high, although it was less than the previous two dimensions where Information in general approached (4.13) and Information Technology reached (4.12). These tables however will not explain the

relationship between these dimensions. The following statistics will provide more logic regarding such associations with correlation and regression analysis.

#### Correlation

The correlation Table (5) below reveals statistically significant association between empowerment and IT information and empowerment and general information. We can see from the table below that general information is more associated with empowerment than the IT information. This is comprehensible given the fact that general information via horizontal and vertical communication would give employees clear sign and support for using their own judgment in solving problems or dealing with nontraditional situations.

Table (5): Correlation Analysis

|                     |                     | Empowerment |
|---------------------|---------------------|-------------|
| IT information      | Pearson Correlation | .207*       |
|                     | Sig. (2-tailed)     | .021        |
|                     | N                   | 123         |
| General Information | Pearson Correlation | .292**      |
|                     | Sig. (2-tailed)     | .001        |
|                     | N                   | 123         |

#### The impact of IT and Generic Information

The basic hypotheses are concerned with the impact of two independent variables namely, General information (GI) and Information technology (IT) on the (EE) Empowerment of IT employees. The first regression model is employee empowerment as a dependent variable with General Information as an independent variable.

$$EE = f(GI)$$

Table (6) below shows that the regression is significant, and that GI explains only 0.077 of the variation in empowerment. Therefore, the general information dimension has a positive impact on employee empowerment and the size of Standardized Coefficients (Beta) suggests an important relationship.

Table (6) Regression Analysis and ANOVA

| ANOVA                              |            |                |                    |             |        |      |
|------------------------------------|------------|----------------|--------------------|-------------|--------|------|
| Model                              |            | Sum of Squares | Degrees of freedom | Mean Square | F      | Sig. |
| 1                                  | Regression | 1.079          | 1                  | 1.079       | 11.243 | .001 |
|                                    | Residual   | 11.613         | 121                | .096        |        |      |
|                                    | Total      | 12.692         | 122                |             |        |      |
| Independent variable is GI         |            |                |                    |             |        |      |
| b. Dependent Variable: Empowerment |            |                |                    |             |        |      |

**R=0.30, R.Square= 0.085, Adjusted R Square= 0.077, F=11.243. P< 0.05, Beta= 0.30**

$$EE = f(IT)$$

The second regression model in this study is concerned with the employee empowerment (EE) as a dependent variable and the information technology as

an independent variable predicting the level of empowerment among IT employees in the school system in Jordan. Table (7) below shows that the regression is significant with P value less 0.05 significant levels and that IT explains 0.035 of the variation in empowerment. Therefore, the IT dimension has a positive impact on employee empowerment and the size of Standardized Coefficients (Beta) suggests an important relationship.

Table (7) Regression Analysis and ANNOVA

| ANOVA                                       |            |                |     |             |       |      |
|---------------------------------------------|------------|----------------|-----|-------------|-------|------|
| Model                                       |            | Sum of Squares | df  | Mean Square | F     | Sig. |
|                                             | Regression | .545           | 1   | .545        | 5.429 | .021 |
|                                             | Residual   | 12.147         | 121 | .100        |       |      |
|                                             | Total      | 12.692         | 122 |             |       |      |
| Independent variable Information Technology |            |                |     |             |       |      |
| b. Dependent Variable: Empowerment          |            |                |     |             |       |      |

R=0.21, R Square= 0.043, Adjusted R Square= 0.035, F=, P< 0.05, Beta=0.21

## RECOMMENDATIONS

### 1- For managers

The findings in this study present an important suggestions and directions for the educational system in Jordan with regard to empowering their IT staff including their teachers and administrative staff. Its recommended that the education system should reinforce the empowerment of employees which would give them the chance to use their IT and information available in helping their institutions in making more effective decisions, and its recommended that managers must think of releasing employees' potential and competencies which will create more commitment and ownership of their jobs at work. This encourages managers to minimize their efforts in direction, supervision, and follow up through empowering those with skill, Knowledge and information at their fingertips.

### 2- For Academics

The empowerment literature is full with articles and writings about the empowerment in different aspects. However, specific measures are vital to test the particular requirements for empowering employees. Hence, this study should encourage more researchers to study the impact of information, and information technology on empowering the frontline employees in their organizations, offering managers and professionals with scientific and rigorous findings related to such constructs.

Finally, researchers are also encouraged to look at other prerequisites of empowerment to gauge their statistical significance including knowledge sharing, efficacy, and performance (Srivastava, and Bartol, 2006).

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## APPENDIX

Table 2: Means and Standards Deviation of Variables Related to Information In General

| General information*                                                                |      |                |       |
|-------------------------------------------------------------------------------------|------|----------------|-------|
|                                                                                     | Mean | Std. Deviation | level |
| 1- Information shared at our unit seems to be interpretable                         | 4.15 | .385           | High  |
| 2-Shared information at our unit seems to be understandable                         | 4.13 | .361           | High  |
| 3-Shared information at our unit seems to be direct and concise                     | 4.08 | .375           | High  |
| 4-Shared information at our unit seems to be relevant                               | 4.11 | .367           | High  |
| 5-Shared information at our unit seems to be available and accessible for all users | 4.11 | .388           | High  |
| 6-Shared information at our unit seems to be clearly identified and well organized  | 4.11 | .319           | High  |
| 7-Information seems to be up-to-date                                                | 4.16 | .371           | High  |
| 8-Information is received and circulated on time                                    | 4.14 | .369           | High  |
| 9-Information is easy to renew and update                                           | 4.12 | .375           | High  |
| 10-Information provided is suitable for decision making                             | 4.12 | .329           | High  |
| 11-Information is used to improve work efficiency around here                       | 4.15 | .363           | High  |
| 12-Information can be used to gain competitive advantage around here.               | 4.11 | .319           | High  |
| 13-Information guide us to identify problems                                        | 4.11 | .309           | High  |

Table (3) Means and Standard Deviations Related to IT Information

| <b>IT information</b>                                                                                   | <b>Mean</b> | <b>Std. Deviation</b> | <b>level</b> |
|---------------------------------------------------------------------------------------------------------|-------------|-----------------------|--------------|
| 14-IT makes faster to access information with minimum errors.                                           | 4.13        | .361                  | High         |
| 15-Software programs are available for quick sharing of information                                     | 4.11        | .309                  | High         |
| 16-IT makes it easy for us to transfer knowledge across units and departments                           | 4.07        | .261                  | High         |
| 17-IT is flexible and easy to manage                                                                    | 4.10        | .324                  | High         |
| 18-IT is easy to use, learn and respond through                                                         | 4.12        | .329                  | High         |
| 19-IT makes it easy to communicate inside our organization                                              | 4.47        | .501                  | High         |
| 20-IT makes data storing and data retrieval much easier                                                 | 4.15        | .377                  | High         |
| 21-IT enables employees to perform their jobs more effectively                                          | 4.15        | .385                  | High         |
| 22-IT enables the system for more effective and efficient controlling and monitoring                    | 4.08        | .303                  | High         |
| 23-IT speeds up the process of performing work and completing tasks                                     | 4.07        | .261                  | High         |
| 24-IT provides high quality documents and information                                                   | 4.07        | .248                  | High         |
| 25-IT minimizes managerial costs and expenditures                                                       | 4.05        | .310                  | High         |
| 26-IT provides for vertical and horizontal linkages and information sharing throughout the organization | 4.04        | .269                  | High         |
| 27-IT enables managers to monitor and control higher number of employees                                | 4.07        | .261                  | High         |

Total mean average = 4.12

Below 2.5 low, 2.5 to 3.5 moderate, above 3.5 is high level and volume

Table (4) means and standard deviations of empowerment

| <b>Employee empowerment*</b>                                                                              | <b>Mean</b> | <b>Std. Deviation</b> | <b>Level</b> |
|-----------------------------------------------------------------------------------------------------------|-------------|-----------------------|--------------|
| 28-I am allowed to use available resources to perform my job in best way that I see possible              | 4.02        | .405                  | High         |
| 29-I have the authority to solve problems whenever occur                                                  | 3.98        | .394                  | High         |
| 30-I am encouraged to use my innovative solutions in encountering work problems                           | 3.94        | .346                  | High         |
| 31-I do encounter red tape and rules around here*                                                         | 3.97        | .361                  | High         |
| 32-I have full control of how I perform my job                                                            | 3.99        | .373                  |              |
| 33-There is no need for my boss approval in handling work related problems in achieving work objectives   | 3.75        | .685                  | High         |
| 34-I do bear full responsibility in performing my tasks                                                   | 3.96        | .393                  | High         |
| 35-I am not encouraged to handle work problems by myself*                                                 | 2.93        | .837                  | Moderate     |
| 36-I can make work changes and alterations as needed                                                      | 3.83        | .623                  | High         |
| 37-I cannot handle problems that require quick solution*                                                  | 3.54        | .842                  | High         |
| 38-Rules and regulations around here don't allow me use my discretion in responding to my customer needs* | 3.67        | .695                  | High         |
| 39-Work over load reduces the quality of service I provide to others around here                          | 3.50        | .953                  | Moderate     |

Total mean average = 3.76

Below 2.5 low, 2.5 to 3.5 moderate, above 3.5 is high level and volume

## Impact of Information and Information Technology on Empowerment of Employees Private School Sector in Northern Region in Jordan

<sup>1</sup>Shaker Qudah and <sup>2</sup>Yahya Melhem

<sup>1</sup>Business Administration Department, Amman Applied University, Amman, Jordan

<sup>2</sup>College of Business Administration, Prince Sultan University, Saudi Arabia

**Correspondence Author: Shaker Qudah**

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### Abstract

*Empowering the frontline employees cannot work in vacuum. Empowerment of employees, while very important, requires an important requirements and conditions. Information and information technology are predicted to act as the most important requirements and qualities for empowering 21<sup>st</sup> century workforce. Hence, this article aims at testing the impact of information in general (GE) and information technology (IT) in particular on the impact of empowering employees in the private school sector in Northern region in Jordan. A survey questionnaire was developed to reflect a simple model of the presumed relationships. A sample of 120 employees has participated in the survey and data were collected and analyzed using means, regressions and correlations to test such impact. The study analysis and results approved the study assumptions indicating that there is a significant impact of information technology variables (Adjusted R Square= 0.035), and information variables in general on the empowerment of the frontline employees in the private school sector in Jordan (0.077), and  $p < 0.05$ . Recommendation for both academics and managers were provided in this research.*

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**Keywords:** information, information technology, empowerment, private schools, Jordan

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### INTRODUCTION

It is well known that information and information technology helps organizations in many different ways and directions. The empowerment literature is full with concepts that indicate to the impact of information on empowering the frontline of any organization. However, research linking information technology and its impact on empowering people is not yet strong. However, empowerment is a concept that most modern organizational practices believe in its effectiveness and significance. Advances in communication and information technology have created new opportunities for organizations to build and manage empowerment process where members collaborate utilizing technology across space and time to accomplish important organizational tasks.

### RESEARCH OBJECTIVES

This research aims at finding the relationship between employee empowerment and information, and information technology through investigating existing theory and literature and also empirically testing the association through a survey questionnaire designed to find perceptions of a sample of IT school employees regarding the study relationships.

### PROBLEM STATEMENT

21<sup>st</sup> century organizations rely heavily on information, information technology, information systems and technology based data and information. With this fact in mind, the level of empowerment and

employee authority affected by information and information technology has not yet been explored. IT executives and technology managers have not yet realized and measured the this affect and therefore missing the value and significance of Information in general and information technology in particular in enhancing the levels of empowerment among IT people in their organizations. Hence, employee empowerment is predicted to generate valuable consequences at the individual level and at the organizational levels.

### Research Importance

Employees' task and work activities have been changed for the last two decades from manual routine tasks into more technological and IT tasks. Also the reliance on information and the levels of information flows in organizations have increased dramatically. Still many organizations are run by the command and control approach of the early 20<sup>th</sup> century. However, this study is one of few studies that tries to shed light on the importance of empowering those with information and information technology jobs, simply because the command and control approach has become so irrelevant for such knowledge workers of the 21<sup>st</sup> century organization. This gives significance to investigate such relationships specifically in a context where such research is scarce in this area.

### Research Hypothesis

1. There is a statistically significant positive impact and relationship between information (Timeliness, understandability, relevance, sufficiency, comparability, and accuracy) and empowering people.
2. There is a statistically significant positive impact and relationship between information technology (software, hardware, database, and telecommunication) and empowering people.

### Research Limitation and Future Research Avenues

A survey research ought to be complemented by some qualitative instrument using focus group interviews or unstructured interviews in such study. However, the school officials were not in favor of using such instruments given their particular situation and timing. Another problem is with generalizability. This study requires future large scale research to cover a larger sample to gain greater generalization over the schooling system in Jordan. Further research could study technology-based and IT-based organizations to test the proposed associations in a related context.

### Empowerment Process

#### Empowerment:

Employee empowerment means encouraging frontline employees to become more involved in the decision making process and activities that affect their jobs. It's the process of providing employees with the opportunities to show that they can provide solutions and that they have the skills to convert their ideas into practice and action.

Ettorre (1997) defines empowerment as employees having autonomous decision making capabilities and acting as partners in the business, all with an eye on the bottom line. Companies use different terms, but all terms have basically the same intent of employee participation and involvement (Hui *et al.* 2004). Empowered employees make decisions traditionally reserved for management. Empowerment is not just delegating decision making authority; it is also setting goals and allowing employees to participate (Riggs, 1995, p. 7). Empowerment is the process of enabling or authorizing an individual to think, behave, take action, and control work and decision making in autonomous ways.

Caudron (1995, p. 34) provides the following characteristics of an organization's environment that supports empowered employees:

1. The workplace has established self-directed teams.
2. Superiors freely share information about the company's directions and goals with the entire employee base.

3. Employees receive training needed to achieve goals, whether specific work skills or educational issues, such as time management or leadership.
4. Employees continually develop new work skills.
5. Managers understand and respect the challenges of an empowering workplace by performing more as coaches instead of bosses. They empower gradually and systematically as team members are ready and do not expect or push for immediate results.
6. Employees are in control of the resources needed to meet their goals.
7. The company provides measurements to ensure idea effectiveness of the teams.
8. Team members are treated to continual positive feedback and reinforcement.

Looy *et al* (2003:232), points out that the most important reason for empowerment at the individual employee level is the belief that autonomy motivates people, and encourage them to take initiative and make decisions. Not only that, but empowering the frontline employees when performed right would energize them to produce high quality results with deep internal commitment rather than external compliance. According to Looy *et al* (2003:233), there are five dimensions as a driving force behind individual work motivation:

**Meaning:** the extent to which an individual experiences a task as personally meaningful.

**Competence:** the extent to which an individual feels confident about his/her capabilities to perform the task.

**Self-determination:** the degree of influence that an individual has as a driving force behind individual work motivation on how to perform the job.

**Strategic autonomy:** the degree of influence an individual has on the content of the job.

**Impact:** the degree of influence an individual has on the direct work environment.

This framework has been emphasized and reinstated by many authors including Spreitzer, (1996) such framework demonstrates the wholeness of empowerment and the power associated with it. Empowerment however, is not the absolute resolution for all (Argyris, 2000; 1998; 1994). It requires the right climate induced by flow of information, knowledge, communication, technology and incentives (Srivastava, and Bartol, 2006).

### The Model

The study model as described in the figure below illustrates the impact of information and information technology on employee empowerment. (Looy *et al.*, 2003; Zeithaml *et al.*: 2006), describe employee empowerment as having many dimensions ranging from the individual employee level to the organization level of empowerment. Looy *et al* (2003:232), points out that the most important reason

for empowerment at the individual employee level is the belief that autonomy motivates people, they further argue that people are willing to take initiatives and make decisions on the spot. For employees to be successfully empowered, the organization needs to create the environment where such attitudes and behaviors can be developed. Empowerment of employees would be unsuccessful if they have no access to information about the (a) service concept (b) the service delivery process as a whole (c) past and current performance of the organization as a whole and (d) setting of goals in the organization by knowing what needs to be done, not what is allowed to be done. The process of empowering employees involves the establishment of a supportive communication climate. Supervisory personnel have the opportunity to set up and maintain an atmosphere of open communication through both their words and deeds. Something as simple as a sincere word of encouragement or praise from a supervisor has been shown to foster and encourage subordinates' reciprocity of an open and honest dialogue with the supervisor and aid the employee in feeling empowered (Valerius, 1998).

Koch and Godden (1997) argue that empowerment is a good idea but unworkable for large corporations. They believe that empowerment is an inefficient way to run a large corporation; instead, the optimal way for large companies to survive is to have strong leadership and a singular direction. They argue that large corporations benefit from market power and economies of scale. While this is on the periphery of this article, we can argue that large organizations can also empower its employees from the top to the bottom by having the right climate with the right structure.

General Electric is an example of a large corporation with hundreds of thousands of empowered employees. GE could do that through the right culture, the right federal structure and the right communication and information technology system conducive to empower all employees (Dawson and Newman, 2002). In spite of all the good news, employee empowerment programs are not the cure for all organizational problems but they can be a potent organizational performance enhancer. Empowerment allows the employee to take a more active role in the success of the company. Empowerment alone is not enough. In order for an empowerment program to be successful, it has to have the full support of everyone in the company. Management intention and efforts to change the hierarchical, chain-of-command managerial approach is a key factor in the success or failure of empowerment programs. The company needs to ensure that the systems are in place to completely support the initiative (Houston and Talbott, 1996).

Previous literature and studies have overlooked the significance of communication and information in its impact on empowerment. Hence most of the literature has tackled such construct in a rhetorically, this study will investigate empirically to measure the level of impact of information in general and information technology in particular on the degree of empowerment among IT employees in major private school systems in Jordan. Such impact if found will enable researchers and managers to invest more in studying the issue and look more into the benefits and constraints associated with such initiatives (Dawson and Newman, 2002).

### **Communication and Information, and Empowerment**

Information sharing is an essential part of high performance systems (Pfeffer and Veiga, 1999). The sharing of information according to Pfeffer and Veiga on such things as financial performance, strategy, and operational measures conveys to the organisation's people that they are trusted. Even motivated and trained people cannot contribute to enhancing organisational performance if they don't share information of important organizational issues and problems (Melhem, 2003). Communication and sharing information in this study is assumed to be associated with empowerment because communication is the means by which employees' knowledge will be developed through the flow of information throughout the organisation in order to serve the customer effectively and efficiently. Randolph and Sashkin (2002) provide a compelling rationale arguing that open sharing of information is crucial to empowerment, since without information people cannot act responsibly, even if they want to. The authors recognise that the problem in most organisations is that top managers are often reluctant to share financial, performance, and strategic information with people throughout the organisation. Perhaps managers feel that such information is too complex and too sensitive for such sharing.

The following figure is the proposed assumption for this study which will illustrate the main requirements for employee empowerment including information in general and information technology in particular.

The first factor; information, in this model underlines five variables including timeliness, understandability of information, relevance of information, sufficiency of information, comparability of information, and accuracy of information.

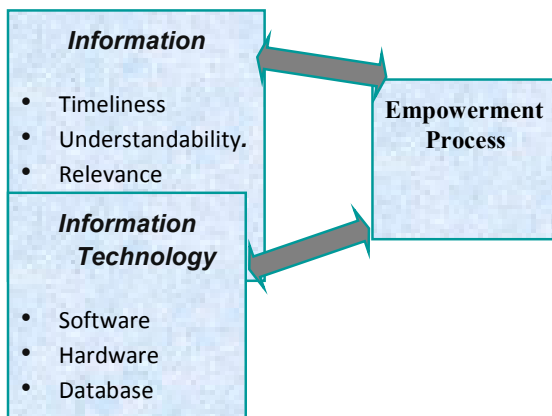


Figure 1. Information and information Technology with Empowerment Process  
(Source: Researchers' proposed framework)

## EMPOWERMENT REQUIREMENTS

### Information Technology

IT contributes to organizational change, labor demand, and improved productivity in public and private sectors. Availability of information technology within organizations has increased tremendously. The ubiquity of personal computers in organizations and dramatic increases in computer power and speed while cost is dropping continuously, have made available huge amounts of information to individuals in organizations. Information Technology includes the hardware, databases, software, networks, and other electronic devices. Some authors provide evidence of digital empowerment. For example Mäkinen (2006) contends that digital empowerment is an enabling process, which proceeds like a spiral on four components of: awareness, motivation, technical access and competence. Awareness refers to understanding the potential opportunities of using any new technology, like the Internet. Motivation also is an essential element in all kinds of learning and development. Moreover, Digital empowerment is not just about acquiring basic ICT skills like the use of cell-phones, e-mails, and word processing (Mbakwem, 2008). It also requires students' abilities to improve their abilities of being connected to widening social networks, technical skills, receiving and producing information, and learning new ways to act and participate in civic life by using information technology (Creighton, 2001; Blair, 2002).

### Emerging Information Technology

Before we go on to analyze the impact of emerging Information Technology we discuss briefly the specific technologies under question. A wide variety of systems have been developed to support different types of group work, the traditional Decision Support Systems (DSS), facilitated by advances in networking technology, group decision support systems, other software focuses on the management of shared files or the location of particular expertise within the group.

Electronic mail is probably the groupware application that has seen the widest success. Email facilitates communication and information exchange and can therefore also support shared decision making. Video conferencing systems are also intended to support meetings where group members view their remote colleagues as well as a presentation outline, viewgraphs or diagrams. Software supports real-time conferencing through the real-time exchange of messages between group members at their work places.

### The Impact of Emerging Information Technologies on Empowerment

Kanter, 1984 notes that "the powerful are those with access to the tools for action" (p.166). While she makes no specific reference to computers or information technology Clement (1994) contends that their relevance in this context is obvious. However, we cannot deduce that computers are tools for action as in most cases the employees that use them do not have the freedom to "act" but they just merely follow orders. "Many organizational actions involve the performance of information processing tasks that are amenable to computerization and thus expanding the capabilities of computers and extending their availability to a wider group of people can clearly be regarded as a process of empowerment" (p.224).

Employees are believed to be able to contribute creatively to the solution of organizational problems and, under proper conditions, not only to accept but to seek responsibility. These principles lead to a democratic and open organizational culture, where employees are given the freedom to decide and act, and managers learn to abandon their "ruling" roles. Emerging IT can support this direction by widely distributing information that is needed to build the trust of employees in management. IT can keep staff fully informed of the company's performance results (sales, profits) and competitors' performance, the company's plans and goals and sensitive issues such as sell-off options and possibilities of down-sizing (Lawler, E. E. I., S. Albers Mohrman, *et al.* 1992)

Finally, the second factor in this model will underline six variables as shown in the figure above including:

- 1- Computer hardware.
- 2- Software.
- 3- Networks.
- 4- Databases.
- 5- Information management personnel.

Infrastructures include these resources as well as their integration, operation, documentation, maintenance, and management. In summary, both information in general, and information technology components will be measured to find their level of impact on employee empowerment using the following method and instrument.

## METHODS

### Data Collection

Data were collected from a sample of 123 IT specialists from the private school system in northern region of Jordan. Respondent were selected from a list of those employees practicing and managing IT and working with data and information on a daily basis as part of their work. Questionnaires were distributed randomly by the school administration via their human resource staff. The questionnaire included questions about three dimensions; empowerment, information in general including: Timelines, understandability, relevance, sufficiency, comparability, and accuracy of information, and Information Technology including software, hardware, databases, and telecommunication.

### Measures and Instrument

All scales in this study were measured on five point Likert scales ranging from 1 with strong disagreement to 5 with strong agreement. A review of the literature yielded a number of measurement instruments that were employed to test the hypothesized model. Empowerment was measured using 12-item scale originally developed by Spreitzer's well known instrument of her seminal 1995 article and modified to fit the study context. The second dimension was the IT which was measured employing 14-item scale and the general information dimension using 13-item scale. The questionnaire was tested for content validity via 10 university academics from business schools at various universities in Jordan like Yarmouk University and school teachers and principals with research and academic background. The reliability coefficient for the different dimensions (Cronbach's Alpha) ranged from 0.78 to 0.91 for the various items. The empowerment dimension represents the dependent variable while the IT and General information dimensions represent the independent variables testing their impact on the levels of empowerment exercised by IT professionals in the school body.

## DISCUSSION

Table 1 shows the descriptive statistics of the demographic variables. Followed by correlations and regression analysis representing the impact of both IT and Information in general on the levels of empowerment adopted by IT employees in the school system in the northern part of Jordan. The set of demographic tables below just give a little background about the sample demographics in terms of age, gender, experience, education, job title. These figures are not directly related to the research assumptions because of the common denominator of IT specialty among the members of the study sample. Hence, demographic variables of age, education, job title, and experience might have minimal statistical significance in influencing the empowerment degree among participants. Nevertheless, around half of the

sample were below 35 years of age, around 84% male, 36% with around 6 years of experience, more than 97% with a bachelor degree or higher. Because this is the minimum educational level either in public or private schools in Jordan. 80% of the sample is either IT managers, department managers, or assistant managers. The features of such sample make it appropriate for a potential environment for the study constructs and associations.

Table (1) sample demographics

| Age   |             |           |         |               |                    |
|-------|-------------|-----------|---------|---------------|--------------------|
|       |             | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 25 and less | 3         | 2.4     | 2.4           | 2.4                |
|       | 26 to 35    | 50        | 40.7    | 40.7          | 43.1               |
|       | 36 to 45    | 57        | 46.3    | 46.3          | 89.4               |
|       | 46 to 55    | 13        | 10.6    | 10.6          | 100.0              |
|       | Total       | 123       | 100.0   | 100.0         |                    |

| Gender |        |           |         |               |                    |
|--------|--------|-----------|---------|---------------|--------------------|
|        |        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | Male   | 103       | 83.7    | 83.7          | 83.7               |
|        | female | 20        | 16.3    | 16.3          | 100.0              |
|        | Total  | 123       | 100.0   | 100.0         |                    |

| Experience |             |           |         |               |                    |
|------------|-------------|-----------|---------|---------------|--------------------|
|            |             | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid      | less than 2 | 3         | 2.4     | 2.4           | 2.4                |
|            | 3 to 6      | 41        | 33.3    | 33.3          | 35.8               |
|            | 7 to 10     | 65        | 52.8    | 52.8          | 88.6               |
|            | 11 and more | 14        | 11.4    | 11.4          | 100.0              |
|            | Total       | 123       | 100.0   | 100.0         |                    |

| Education |             |           |         |               |                    |
|-----------|-------------|-----------|---------|---------------|--------------------|
|           |             | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid     | high school | 1         | .8      | .8            | .8                 |
|           | diploma     | 2         | 1.6     | 1.6           | 2.4                |
|           | Bachelor    | 120       | 97.6    | 97.6          | 100.0              |
|           | Total       | 123       | 100.0   | 100.0         |                    |

| Job-title |                        |           |         |               |                    |
|-----------|------------------------|-----------|---------|---------------|--------------------|
|           |                        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid     | Division manager       | 8         | 6.5     | 6.5           | 6.5                |
|           | Assistant Division mgr | 15        | 12.2    | 12.2          | 18.7               |
|           | Dept-Head              | 37        | 30.1    | 30.1          | 48.8               |
|           | Assist-Head            | 38        | 30.9    | 30.9          | 79.7               |
|           | other                  | 25        | 20.3    | 20.3          | 100.0              |
|           | Total                  | 123       | 100.0   | 100.0         |                    |

Viewing table (2) regarding the degree of information sharing in general reveals that employees have relatively strong positive attitude regarding the volume of information shared with low levels of variance among respondents and the standard deviation shows a high level of agreement against such dimension. This is clear and self evident because "Information shared seems to be up-to-date" received mean average of 4.16 in a five Likert scale method, while the lowest statements reached a mean average of 4.11 for five statements. All this indicates that employees perceive the adequacy and efficiency of the information available at their organization. This view was clearly consistent with previous studies including Bowen and Lalwer, (1992; (1995).

Table (3) however, demonstrated a little more variance across statements among respondents in their perceptions regarding the provision and effectiveness of the IT system at their organization. The highest mean average was (4.47) for "IT makes data storing and data retrieval much easier" with (0.50) standard deviation. The lowest mean average reached (4.04) for "IT provides for vertical and horizontal linkages and information sharing throughout the organization" with high degree of consensus among participants; the standard deviation reached (0.27). Overall, the table shows relatively strong and positive perception towards the availability and effectiveness of the IT information system at their organization. This is in line with the previous finding regarding the information in general in table (2). It is also logically understood hence positive and effective IT information level in any organization is expected to lead to an effective and positive general information levels because information technology usually facilitates and enhances the general information and communication capabilities of any organization. This is supported by the regression and correlation analysis discussed in subsequent tables. This was not supported by most literature except for (Mbakwem, 2008, Clement, A. (1994).

Table (4) demonstrates that the attitudes and perceptions of respondents related to their degree of empowerment ranged from high to moderate with (4.02) for "I am allowed to use available resources to perform my job in the best way that I see possible" with a very good agreement among participants over this statement; (0.40) standard deviation, and (2.93) " for I am not encouraged to handle problems by myself" with standard deviation of (0.84). However, the total average of this dimension reached 3.76 indicating that the overall employees' perceptions regarding their discretion and authority was relatively high, although it was less than the previous two dimensions where Information in general approached (4.13) and Information Technology reached (4.12). These tables however will not explain the

relationship between these dimensions. The following statistics will provide more logic regarding such associations with correlation and regression analysis.

#### Correlation

The correlation Table (5) below reveals statistically significant association between empowerment and IT information and empowerment and general information. We can see from the table below that general information is more associated with empowerment than the IT information. This is comprehensible given the fact that general information via horizontal and vertical communication would give employees clear sign and support for using their own judgment in solving problems or dealing with nontraditional situations.

Table (5): Correlation Analysis

|                     |                     | Empowerment |
|---------------------|---------------------|-------------|
| IT information      | Pearson Correlation | .207*       |
|                     | Sig. (2-tailed)     | .021        |
|                     | N                   | 123         |
| General Information | Pearson Correlation | .292**      |
|                     | Sig. (2-tailed)     | .001        |
|                     | N                   | 123         |

#### The impact of IT and Generic Information

The basic hypotheses are concerned with the impact of two independent variables namely, General information (GI) and Information technology (IT) on the (EE) Empowerment of IT employees. The first regression model is employee empowerment as a dependent variable with General Information as an independent variable.

$$EE = f(GI)$$

Table (6) below shows that the regression is significant, and that GI explains only 0.077 of the variation in empowerment. Therefore, the general information dimension has a positive impact on employee empowerment and the size of Standardized Coefficients (Beta) suggests an important relationship.

Table (6) Regression Analysis and ANOVA

| ANOVA                              |            |                |                    |             |        |      |
|------------------------------------|------------|----------------|--------------------|-------------|--------|------|
| Model                              |            | Sum of Squares | Degrees of freedom | Mean Square | F      | Sig. |
| 1                                  | Regression | 1.079          | 1                  | 1.079       | 11.243 | .001 |
|                                    | Residual   | 11.613         | 121                | .096        |        |      |
|                                    | Total      | 12.692         | 122                |             |        |      |
| Independent variable is GI         |            |                |                    |             |        |      |
| b. Dependent Variable: Empowerment |            |                |                    |             |        |      |

**R=0.30, R.Square= 0.085, Adjusted R Square= 0.077, F=11.243. P< 0.05, Beta= 0.30**

$$EE = f(IT)$$

The second regression model in this study is concerned with the employee empowerment (EE) as a dependent variable and the information technology as

an independent variable predicting the level of empowerment among IT employees in the school system in Jordan. Table (7) below shows that the regression is significant with P value less 0.05 significant levels and that IT explains 0.035 of the variation in empowerment. Therefore, the IT dimension has a positive impact on employee empowerment and the size of Standardized Coefficients (Beta) suggests an important relationship.

Table (7) Regression Analysis and ANNOVA

| ANOVA                                       |            |                |     |             |       |      |
|---------------------------------------------|------------|----------------|-----|-------------|-------|------|
| Model                                       |            | Sum of Squares | df  | Mean Square | F     | Sig. |
|                                             | Regression | .545           | 1   | .545        | 5.429 | .021 |
|                                             | Residual   | 12.147         | 121 | .100        |       |      |
|                                             | Total      | 12.692         | 122 |             |       |      |
| Independent variable Information Technology |            |                |     |             |       |      |
| b. Dependent Variable: Empowerment          |            |                |     |             |       |      |

R=0.21, R Square= 0.043, Adjusted R Square= 0.035, F=, P< 0.05, Beta=0.21

## RECOMMENDATIONS

### 1- For managers

The findings in this study present an important suggestions and directions for the educational system in Jordan with regard to empowering their IT staff including their teachers and administrative staff. Its recommended that the education system should reinforce the empowerment of employees which would give them the chance to use their IT and information available in helping their institutions in making more effective decisions, and its recommended that managers must think of releasing employees' potential and competencies which will create more commitment and ownership of their jobs at work. This encourages managers to minimize their efforts in direction, supervision, and follow up through empowering those with skill, Knowledge and information at their fingertips.

### 2- For Academics

The empowerment literature is full with articles and writings about the empowerment in different aspects. However, specific measures are vital to test the particular requirements for empowering employees. Hence, this study should encourage more researchers to study the impact of information, and information technology on empowering the frontline employees in their organizations, offering managers and professionals with scientific and rigorous findings related to such constructs.

Finally, researchers are also encouraged to look at other prerequisites of empowerment to gauge their statistical significance including knowledge sharing, efficacy, and performance (Srivastava, and Bartol, 2006).

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## APPENDIX

Table 2: Means and Standards Deviation of Variables Related to Information In General

| <b>General information*</b>                                                         |      |                |       |
|-------------------------------------------------------------------------------------|------|----------------|-------|
|                                                                                     | Mean | Std. Deviation | level |
| 1- Information shared at our unit seems to be interpretable                         | 4.15 | .385           | High  |
| 2-Shared information at our unit seems to be understandable                         | 4.13 | .361           | High  |
| 3-Shared information at our unit seems to be direct and concise                     | 4.08 | .375           | High  |
| 4-Shared information at our unit seems to be relevant                               | 4.11 | .367           | High  |
| 5-Shared information at our unit seems to be available and accessible for all users | 4.11 | .388           | High  |
| 6-Shared information at our unit seems to be clearly identified and well organized  | 4.11 | .319           | High  |
| 7-Information seems to be up-to-date                                                | 4.16 | .371           | High  |
| 8-Information is received and circulated on time                                    | 4.14 | .369           | High  |
| 9-Information is easy to renew and update                                           | 4.12 | .375           | High  |
| 10-Information provided is suitable for decision making                             | 4.12 | .329           | High  |
| 11-Information is used to improve work efficiency around here                       | 4.15 | .363           | High  |
| 12-Information can be used to gain competitive advantage around here.               | 4.11 | .319           | High  |
| 13-Information guide us to identify problems                                        | 4.11 | .309           | High  |

Table (3) Means and Standard Deviations Related to IT Information

| <b>IT information</b>                                                                                   | <b>Mean</b> | <b>Std. Deviation</b> | <b>level</b> |
|---------------------------------------------------------------------------------------------------------|-------------|-----------------------|--------------|
| 14-IT makes faster to access information with minimum errors.                                           | 4.13        | .361                  | High         |
| 15-Software programs are available for quick sharing of information                                     | 4.11        | .309                  | High         |
| 16-IT makes it easy for us to transfer knowledge across units and departments                           | 4.07        | .261                  | High         |
| 17-IT is flexible and easy to manage                                                                    | 4.10        | .324                  | High         |
| 18-IT is easy to use, learn and respond through                                                         | 4.12        | .329                  | High         |
| 19-IT makes it easy to communicate inside our organization                                              | 4.47        | .501                  | High         |
| 20-IT makes data storing and data retrieval much easier                                                 | 4.15        | .377                  | High         |
| 21-IT enables employees to perform their jobs more effectively                                          | 4.15        | .385                  | High         |
| 22-IT enables the system for more effective and efficient controlling and monitoring                    | 4.08        | .303                  | High         |
| 23-IT speeds up the process of performing work and completing tasks                                     | 4.07        | .261                  | High         |
| 24-IT provides high quality documents and information                                                   | 4.07        | .248                  | High         |
| 25-IT minimizes managerial costs and expenditures                                                       | 4.05        | .310                  | High         |
| 26-IT provides for vertical and horizontal linkages and information sharing throughout the organization | 4.04        | .269                  | High         |
| 27-IT enables managers to monitor and control higher number of employees                                | 4.07        | .261                  | High         |

Total mean average = 4.12

Below 2.5 low, 2.5 to 3.5 moderate, above 3.5 is high level and volume

Table (4) means and standard deviations of empowerment

| <b>Employee empowerment*</b>                                                                              | <b>Mean</b> | <b>Std. Deviation</b> | <b>Level</b> |
|-----------------------------------------------------------------------------------------------------------|-------------|-----------------------|--------------|
| 28-I am allowed to use available resources to perform my job in best way that I see possible              | 4.02        | .405                  | High         |
| 29-I have the authority to solve problems whenever occur                                                  | 3.98        | .394                  | High         |
| 30-I am encouraged to use my innovative solutions in encountering work problems                           | 3.94        | .346                  | High         |
| 31-I do encounter red tape and rules around here*                                                         | 3.97        | .361                  | High         |
| 32-I have full control of how I perform my job                                                            | 3.99        | .373                  |              |
| 33-There is no need for my boss approval in handling work related problems in achieving work objectives   | 3.75        | .685                  | High         |
| 34-I do bear full responsibility in performing my tasks                                                   | 3.96        | .393                  | High         |
| 35-I am not encouraged to handle work problems by myself*                                                 | 2.93        | .837                  | Moderate     |
| 36-I can make work changes and alterations as needed                                                      | 3.83        | .623                  | High         |
| 37-I cannot handle problems that require quick solution*                                                  | 3.54        | .842                  | High         |
| 38-Rules and regulations around here don't allow me use my discretion in responding to my customer needs* | 3.67        | .695                  | High         |
| 39-Work over load reduces the quality of service I provide to others around here                          | 3.50        | .953                  | Moderate     |

Total mean average = 3.76

Below 2.5 low, 2.5 to 3.5 moderate, above 3.5 is high level and volume