Provide Three-dimensional model of employees’ empowerment evaluation Case study: an automotive manufacturer

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ABSTRACT: Some researchers considered structural aspects of empowerment. Later researchers pointed to motivational-Psychological aspects. Necessity of appropriateness among abilities of job and employee lead to consider both approaches in parallel. aim of this paper is to provide a model to evaluate employee’s empowerment, in three dimensions: 1) employee’s psychological empowerment, 2) actual structural empowerment, 3) potential structural empowerment. Different combinations of these dimensions emerged eight areas that each one’s has its own unique empowerment policies. So, it will determine that employees are in jobs which are appropriate to their abilities? If not, what policies should be making to improve it? By applying this model, managers are able to spend organizational resources for improvement of different organization’s sectors. To indicate the application of model, a questionnaire which provided via experts advices, distributed among 13 different departments of an automotive company in Iran. Finally, some improvement policies suggested at micro and macro levels for each of eight areas.

Keywords: empowerment, psychological factors, structural factors, three-dimensional model

INTRODUCTION

The role of manager in traditional and classic organization was intensive control of manpower. Today, however, in modern organization, people are empowered to decide ands to run the affairs. Therefore, empowerment highly differs from traditional concept of organization. In traditional organizations, simply employees’ energies are managed while 21st century organizations need to manage intellectual power and creativity of their employees in addition to energy. Under such conditions, not only normative – controlling hierarchical methods but also employees should express their initiative and to resolve their problems rapidly and to play their roles in self-run teams. Thus, the necessity to educate employees with self-management abilities has caused that empowering manpower as a new paradigm is attracted by many management connoisseurs.

Some authors believe that the aim of empowerment is to facilitate the achievement of organizational goals. They believe that any increase in power should not increase the conflicts between managers and employees. The aim of empowerment is to provide the best intellectual resources related to organizational performance. Likewise, the aim is that the most competent employees have the highest influence over not to participate more people in organizational decision-making process rather it is to apply employees’ thoughts in order to find better methods and to make the best possible decisions. The aim of empowerment is not to organize and to develop the teams; rather it is to improve competencies in order to create new ideas and to resolve the problems through interactions among team members.

In fact, employees’ empowerment is one the most recent techniques used by organizations. Salazar believes that in recent years, empowerment is used as a workforce guideline to create efficiency, productivity and satisfaction of employees in their workplaces. Likewise, authors have admired empowerment as a technique to encourage and enhance decision making in lower levels of an organization and to enrich employees’ experiences. Therefore, it is necessary to adapt managerial techniques with status quo conditions for all organizations that are looking for providing higher quality products and services in today challenging circumstances. Many connoisseurs believe that both employees and managers will benefit the advantages of empowerment. In fact, by breeding self-sufficiency and creating a free act space for employees, empowerment provides the opportunity for them to
improve their capabilities and skills and to pave the ground for their effectiveness. On the other hand, by breeding motivated and capable staff, empowerment provides the manager with an opportunity to react properly against the dynamics of their competitive ambience. Actually, the aim of empowerment is that the brains of people work like their tongues.

Table 1. macro strategies to improve psychological empowerment

<table>
<thead>
<tr>
<th>Empowerment strategies</th>
<th>The sense of being effective</th>
<th>The sense of competency</th>
<th>Meaningfulness</th>
<th>The right of choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charismatic leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authorization</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Contributive decision making and formalism mitigation</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encouragement to self-management and award system</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Jobs enrichment and building self-run working teams</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Creating tasks with internal feedback</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishing upward performance appraisal</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Supportive culture and encouraging to set aims</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Employees' training</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Among the most important researches on empowerment in Iran, one can point out a research by Moghli et al (2009) in order to study the relationship between employees' empowerment and organizational commitment in Tehran Pedagogy; Gorji's study (2010) to evaluate the impact of empowerment on employees performance; a research by Seyed Javadin et al (2009) to study the affecting factors on empowerment of manpower in banking services; a research by Vaezi and Sabzikaran (2010) to study the relationship between organizational structure and employees empowerment in National Iranian Oil Products Distribution Company; a research by Khan Alizadeh et al (2010) to study the relationship between empowerment and organizational learning in universities and a research by Abes and Kord (2009) in identifying and clarifying employees' empowerment model in Iranian public organizations.

Among international studies, one can refer to Badrias et al (2010) to consider employees' empowerment as a mediating role on organizational climate and justice; Thomas and Velthouse (1990) to provide empowerment cognitive model; and authors like Spreitzer (1995), Hanser et al (2003), Hichuna et al (2006) and Ku et al (2010).

The background of empowerment in management

Before popularity of “management” term, it was used in such fields as political science, social sciences, Feminist Theory and in the format of aids to the third world countries. As an idea related to organizational performance, empowerment has its most obvious roots in McGregor’s theory in 1960 and his book titles “human face of the organization”. This theory is based on conditions to move people toward satisfying the aims rather than supervising and conducting their efforts.

A more precise glance at management shows that the background of empowerment backs to industrial democracy and to involve employees in organizational decision making under such titles as team building, contribution and Total Quality Management (TQM). The most recent changes on this issue were called employees' empowerment. Afterwards, this term was widely used in organizational sciences.

Historically, the concept of employees’ empowerment reveals that preventing people to use their natural abilities to achieve a unique top level of their jobs is barrier on effectiveness in both individual and organizational levels that, otherwise, were not able to achieve such effectiveness. Generally, employees’ empowerment may be defined as a contribution process which uses full capacity of employees and the processes should be designed in a manner to enhance employees’ commitment to organizational success. Today, the concept of empowerment is interested by both organizational theorists and jobbers. Always, the finding suggests that empowered subordinates can cause managerial and organizational effectiveness. Some connoisseurs and authors believe that empowerment is more or less the same contribution. It means subordinates’ contribution in decision making and maximum involvement of employees in their organizations. Connoisseurs like Block and Peter define empowerment as a process to share power among those people who work in an organization. According to Champy and Kartson, empowerment is to re-share authority and control. Based on Schutz, empowerment is full contribution of employees and managers in decision making. According to Desler, empowerment is to provide employees with more authorities to make necessary decisions without being initially monitored and controlled by
higher managerial levels. To this end, Harari says that empowerment is a tool to allow employees to do what they think is “the best” without fearing being vetoed by their supervisors. In Webster encyclopedia, empowerment is defined as authorizing or submitting legal power to others.

Canger and Kanungo have criticized that empowerment definition in management literature is only focused on authorization or dividing the power. They state that management activities are a set of conditions which not lead into capability necessarily and they may empower employees. They recommended that empowerment should be defined based on employees’ motivational processes. They consider empowerment as “enabling” rather than “authorization process”. Thomas and Velthous (1990) revised relevant studies and by using the definition by Canger and Kanungo, they said that empowerment is a multidimensional subject and cannot be studied simply by a given concept. According to them, empowerment is “function increased inner motivation” revealed in a four-cognitive set which reflects individuals’ views on their working role. Spreitzer believes that organizations always make an ideological approach on empowerment and use it in any situation while there is no a comprehensive theoretical assumption to measure psychological empowerment in workplace. Nevertheless, he completed the definitions by above connoisseurs and provided a more comprehensive definition on such aspects in the format of psychological empowerment. Such quadruple cognitions include meaningfulness, competency sense, the right to determine the fate and the sense of being effective.

Table 1 depicts strategies that authors use to improve each above psychological traits.

Concluding empowerment definitions

Regarding what considered on empowerment definitions and attitudes, one can look at empowerment through following two macro views:

Social – structural approach: paying attention to empowerment as activities done by organization to share employees in power resources and decision making which paves the ground for more powerful staff.

Cognitive approach: paying attention to empowerment psychologically which means an internal sense by which people can make decisions in their working processes independently. In this view, it is considered that how people see their working tasks and their roles in the organization.

In the eyes of communicational approach followers, empowerment is processes by which a leader or manager tries to share the power among subordinates. In this approach, the manager is responsible for employees’ empowerment by providing needed tools and instruments and by necessary support and procurement through organizational facilities. Hence, Burke says that empowerment means authorization.

Table 2 depicts minor guidelines and plans suggested by authors to improve each structural trait.

<table>
<thead>
<tr>
<th>Plans to improve structural empowerment</th>
<th>Suggested guidelines to execute the plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorization</td>
<td>Devising authorization process, holding training courses on how to authorize for organizational managers, employees’ involvement in decision making</td>
</tr>
<tr>
<td>Employees’ access to needed information</td>
<td>Establishing mechanized systems to update employees’ knowledge, employees access to proper information and statistics in organization through integrated systems</td>
</tr>
<tr>
<td>Feedback to people based on performance</td>
<td>Executing performance management systems, 360 degrees appraisal, performance reporting meetings</td>
</tr>
<tr>
<td>Team building and self-run teams</td>
<td>Systemizing building working teams, building workgroups for problem solution, Kaizen teams, etc.</td>
</tr>
<tr>
<td>Contributive management</td>
<td>Establishing recommendation system, devising strategies for employees’ contribution, etc.</td>
</tr>
</tbody>
</table>

According to the followers of cognitive (motivational) approach, empowerment is to provide employees with their needed resources and to enhance the sense of being important and responsibility, the sense of competence, etc.

Empowerment is referred to motivational techniques which try to increase employees’ contribution in order to improve their performance. Table 3 outlines the minor guidelines and plans suggested by authors to improve each psychological trait.
Table 3. minor guidelines and plans to improve psychological empowerment

<table>
<thead>
<tr>
<th>Plans to improve psychological empowerment</th>
<th>Suggested guidelines to execute the plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promoting job skills</td>
<td>Holding training courses, executing job turnaround system, etc</td>
</tr>
<tr>
<td>Introducing successful working models and acknowledge them</td>
<td>Creating a process to selected model staff, material or spiritual awards for successful employees in various ceremonies, sharing successful experiences in organization</td>
</tr>
<tr>
<td>The sense of belonging, value and trust among employees</td>
<td>Respecting human values, clarifying organizational plans for employees, using employees’ opinions in organizational decisions, providing cash and noncash, treatment and supportive facilities</td>
</tr>
<tr>
<td>Desired workplace</td>
<td>Establishing professional management and health security systems as well as environmental management to promote employees’ safety and health levels</td>
</tr>
<tr>
<td>Acknowledgement based on performance</td>
<td>Establishing an accord fair distribution system and material/spiritual awards based on performance results</td>
</tr>
</tbody>
</table>

In Oxford encyclopedia, empowerment is defined as enabling. Empowerment is referred to a set of motivational techniques which looks for increasing employees’ contribution level in order to improve their performance. The main trait of empowerment is to harmonize their individual and organizational aims.

**Theoretical framework**

In terms of background, the first approach (structural) was paid attention by scientists. After studies by Conger and Kanungo; Thomas and Velthouse; and Spreitzer, however, propensity was shifted toward cognitive empowerment so that in less than 20 years, there were conducted more than hundreds of scientific and probing works on this basis. In one hand, this was due to the fact that structural empowerment studies never achieved positive results in different workplaces and, on the other hand, employees’ physical empowerment is not effective when they are not prepared mentally. In the meantime, Spreitzer believed that before any action, organizational managers should empower their staff mentally. According to Thomas and Velthouse, four levels of psychological empowerment are combined to create high levels of energy, initiative, flexibility and the stability of working behaviors. Conger and Kanungo say that although authorization is considered as the basic process of employees’ empowerment, mental conditions are necessary to achieve it completely.

Other authors like Laickoth and Nilson have considered empowerment along with an integrative approach. According to them, empowerment is to provide employees with needed resources and to enhance the feeling of being important.

In present paper, a three-dimensional model is provided based on above structural and psychological approaches so that the management can make the best decision on the basis of employees’ empowerment and their job structural capability (structural or communicational). Noteworthy, since this model is niche and concerning the simultaneous study of various aspects of employees’ empowerment, no similar studies are found in this field.

**3D model to assess employees’ empowerment**

In this study, various aspects of empowerment (psychological and structural) were assessed in parallel in the format of a 3D employees’ empowerment assessment model.

**The first aspect: employees’ cognitive empowerment**

Since the competitive ambience is getting more complicated, senior managers are paying attention to optimized resource consumption more than ever. In organizations, it is important that who are in high level of empowerment and who needs empowerment. By clarifying this issue, the resources of organizations are only spent for empowering those people who need it.

On this basis, the theoretical framework of present study is based on Spreitzer’s cognitive empowerment as a motivational construct which includes four cognitions: meaning, competence, self-determination and effectiveness.

- **Meaning:** it refers to a degree by which an employee feels that he/she has an objective and personal dependence to work.
- **Competence:** it refers to a degree by which an employee believes that he/she has necessary skills and capabilities to do his/her job rightly.
- **Self-determination:** it refers to a degree by which an employee feels freedom in doing to their job.
- **Effectiveness:** it refers to a degree by which an employee believes that he/she can be effective in the organizational system he/she in inserted.

**The second aspect: de facto structural empowerment of a unit/division where an employee works**
Empowered job means the level of a unit/division in terms of its characteristics (i.e. assigned authorities, contribution in organizational decisions, sharing in information, the rate of control). In other words, those units/divisions are empowered that need to more empowered people due to possessing such characteristics. In fact, some divisions or jobs are now empowered sufficiently and their capabilities are plausible. Likewise, some divisions and jobs are not now empowered and in the case of executing job empowerment, they should be considered as priority. Thus, resources will be allocated objectively. Devising this part of the questionnaire will aid to distinguish empowered divisions/jobs from non-empowered ones.

As pointed in literature, many authors have stated about empowerment structural traits and have highlighted traits such as authorization and contribution.

Concerning the literature and experts’ opinions, 4 traits namely authorization, information sharing, contribution in decision making, controlling and monitoring were selected as structural traits.

Abovementioned structural traits are selected from authors’ empowerment plans:

- Contribution and authorization: Richard Deft, Champy, Carston and Schutz
- Information sharing: Blanchard, Canter, Bandura and Hackman

The third aspect: potential structural empowerment of a unit/division where an employee works

Although empowering divisions and jobs is a valuable task, the important point is some divisions/jobs are sufficiently empowered and they do not need more empowerment or they are not capable for it. In fact, spending the costs for empowering such divisions/jobs leads into wasting organizational resources. This aspect attempts to recognize those divisions/jobs that are potentially empowered and enjoy the capability of more empowerment and/or lack such capability. Potential empowerment means that such divisions/jobs are capable to benefit mentioned traits (i.e. authorization, contribution, etc.).

Figure 1. Research conceptual model

**The criterion of employees’ capability and different sectors**

Questionnaires were randomly distributed among each sector. Based on Likert scale, the scores of each question was between 1 through 5. By answering the questions, the scores for each employee are gathered and by
calculating the average scores in each aspect, the final score will be achieved. Noteworthy, due to broadness of divisions and jobs in factory and to apply this model, the average of scores of employees in different divisions (i.e. personnel, financial, etc.) are computed rather than each employee individually and it will be considered as the score of relevant division. Then, the relevant guidelines are provided for each division.

Since the scores in Likert Scale are between 1 through 5, if an individual or division of the organization achieves 3, it will be considered as medium (however, by considering their organizational status, managers can select figures except than 3 (i.e. 3 – 4.5) for empowerment).

In each part of the questionnaire, each person or division with higher than 3 will be considered as capable:

**Research conceptual model**

To study employees’ capability, following three aspects are defined. Each trait is defined separately:

The first aspect: psychological capability: including meaning, competence, self-determination and self-effectiveness

The second aspect: de facto structural capability: including authorization, information share, contribution in decision making and control

The third aspect: potential structural capability: including authorization, information share, contribution in decision making and control

<table>
<thead>
<tr>
<th>Capability level</th>
<th>Results from questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees' psychological capability level</td>
<td>Positive</td>
</tr>
<tr>
<td>De facto structural capability in each division or job</td>
<td>Positive</td>
</tr>
<tr>
<td>Potential structural capability in each division or job</td>
<td>Positive</td>
</tr>
</tbody>
</table>

After studying the results of questionnaires, following categories were represented:

Categorizing people psychologically to two empowered and need to being empowered groups (concerning the acquired score by each sector)

Categorizing people in terms of de facto structural capability to two de facto capable and de facto incapable groups (concerning the acquired score by each sector).

Categorizing people in terms of potential structural capability to two potential capable and potential incapable groups (concerning the acquired score by each sector)

**Defining eight aspects**

Above table includes three aspects and two items for each aspect. The maximum options can be categorized in eight parts (23 = 8) which include:

Employees’ capability, negative/de facto capability of division or job, negative/potential capability or division or job, negative;

Employees’ capability, negative/de facto capability of division or job, negative/potential capability or division or job, positive;

Employees’ capability, negative/de facto capability of division or job, positive/potential capability or division or job, negative;

Employees’ capability, negative/de facto capability of division or job, positive/potential capability or division or job, positive;

Employees’ capability, positive/de facto capability of division or job, negative/potential capability or division or job, negative;

Employees’ capability, positive/de facto capability of division or job, negative/potential capability or division or job, positive;

Employees’ capability, positive/de facto capability of division or job, positive/potential capability or division or job, negative;

Employees’ capability, positive/de facto capability of division or job, positive/potential capability or division or job, positive.

After evaluating the capability of employees and jobs, managers can decide more logically. In next sector, the technique to decide correctly and its application in the format of a case study is provided.

**Case study**

After defining the aspects of the model and providing its overall framework, the application of above model is expounded in the format of a case study.

2398
Methodology

This is a descriptive research. It was conducted in 2010 and its spatial scope was an automotive company in Tehran. Its statistical population includes all employees of this company – 1860 except than exportation sector – of whom 340 individuals were selected as statistical population by using formula No 1 and collective sampling method. The findings are fully compatible with the rates mentioned in a table provided by Kirjisi and Morgan for sample volume (320 in a 1900-subject sample). To increase the similarity between the sample and population we well to enhance the preciseness of sampling and to estimate relevant parameters and to involve the traits of the population in the sample, the population was divided into equal groups and the number of sample was determined to each group. Then by using simple random sampling method, the number of needed elements for each group was illustrated. To collect statistical data and based on the literature as well experts’ ideas and suggestions, a three-segment questionnaire including 44 questions was devised by Likert five-scale range as follow:

Psychological capability: 20 questions (5 questions for each trait: meaning, competence, self-determination and self-effectiveness).

Structural capability of status quo: 12 questions (3 questions for each trait: authorization, information sharing, contribution in decision making and control).

Structural capability of desired status: 12 questions (3 questions for each trait: authorization, information sharing, contribution in decision making and control).

To measure the reliability, content reliability method was used and questionnaire’s reliability was confirmed by scholars. To measure the validity, Chronbach’s alpha was used. The confirmed domain of this ratio is between 70% and 96%. In present study, the Chronbach’s alpha for each sector was determined as below: psychological capability (82%), structural capability of status quo (89%) and structural capability of desired status (78%). These figures confirmed validity of the questionnaire.

Estimating capability average (psychological and structural) of employees

Preliminarily, the level of capability in each psychological and structural aspect (de facto and potential) was evaluated. To this end, one can use \( Z \) instead of \( t \) student distribution to estimate \( \mu \) since normal distribution and standard deviation of the population is unclear and the sample volume is greater than 30 (\( n=336>30 \)).

\[
n = \frac{N Z^2 P (1 - P)}{\epsilon^2 (n - 1) + Z P^2 (1 - P)}
\]  
\[
N = \frac{1860 \times (1.96)^2 \times 0.5 \times 0.5}{1859 \times (0.05)^2 + (1.96)^2 \times 0.5 \times 0.5} = 319
\]

Concerning above relation, the average parameter of psychological capability of the population is estimated as below:

\[
P[\bar{X}_i \pm 0.0438] = 0.95 \quad 3.1709 \leq \mu_x \leq 3.2585
\]

Therefore, with confidence as 95%, one can say that the average parameter of psychological capability of the status quo will be in such domain [3.1709, 3.2585].

Estimating de facto structural capability (status quo)
Concerning above relation, the average parameter of de facto structural capability of the population is estimated as below:

\[
P[ \bar{Y}_i \pm 1.96 \times \frac{0.76167}{\sqrt{336}} ] = 1 - 0.05 = 0.95
\]

\[
P[ \bar{Y}_i \pm 0.0814 ] = 0.95 \quad 2.9092 \leq \mu_y \leq 3.0919
\]

Therefore, with confidence as 95%, one can say that the average parameter of de facto structural capability of the status quo will be in such domain \([2.9092, 3.0919]\).

**Estimating potential structural capability (desired status)**

Concerning above relation, the average parameter of potential structural capability of the population is estimated as below:

\[
P[ \bar{X}_i \pm 0.0554 ] = 0.95 \quad 3.0811 \leq \mu_z \leq 3.1919
\]

\[
P[ \bar{X}_i \pm 1.96 \times \frac{0.51895}{\sqrt{336}} ] = 1 - 0.05 = 0.95
\]

Therefore, with confidence as 95%, one can say that the average parameter of potential structural capability of the status quo will be in such domain \([3.0811, 3.1919]\).

Table 5 depicts the level of employees’ psychological capability and status quo/desired status structural capability in various divisions of studied automotive company.

<table>
<thead>
<tr>
<th>Division</th>
<th>Psychological capability</th>
<th>de facto structural capability</th>
<th>Potential structural capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light production</td>
<td>3.11</td>
<td>2.96</td>
<td>3.09</td>
</tr>
<tr>
<td>Heavy production</td>
<td>3.13</td>
<td>2.96</td>
<td>3.11</td>
</tr>
<tr>
<td>Designing and planning</td>
<td>3.33</td>
<td>2.98</td>
<td>3.03</td>
</tr>
<tr>
<td>Engineering</td>
<td>3.03</td>
<td>2.50</td>
<td>3.27</td>
</tr>
<tr>
<td>Financial</td>
<td>3.13</td>
<td>2.96</td>
<td>3.11</td>
</tr>
<tr>
<td>Communication</td>
<td>3.43</td>
<td>3.40</td>
<td>2.76</td>
</tr>
<tr>
<td>Quality</td>
<td>3.26</td>
<td>3.06</td>
<td>2.97</td>
</tr>
<tr>
<td>Guardian</td>
<td>3.33</td>
<td>3.40</td>
<td>2.93</td>
</tr>
<tr>
<td>Plan and development</td>
<td>3.25</td>
<td>3.06</td>
<td>2.93</td>
</tr>
<tr>
<td>Administrative</td>
<td>3.46</td>
<td>3.24</td>
<td>3.06</td>
</tr>
<tr>
<td>Commercial</td>
<td>3.35</td>
<td>3.30</td>
<td>3.03</td>
</tr>
<tr>
<td>Planning</td>
<td>3.33</td>
<td>3.19</td>
<td>3.13</td>
</tr>
<tr>
<td>Research and development</td>
<td>3.31</td>
<td>3.04</td>
<td>3.23</td>
</tr>
</tbody>
</table>

**How to study acquired data from questionnaire**

To analyze the capability status of each division, below table is provided.

Table 6. evaluating the capability of light production in three dimensions

<table>
<thead>
<tr>
<th>Employees/traits</th>
<th>The average of each trait</th>
<th>The result of evaluating each</th>
<th>Total average</th>
<th>The result of evaluating total average</th>
<th>Potential improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.21509434</td>
<td>1</td>
<td>3.114150943</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Competence</td>
<td>3.049056604</td>
<td>1</td>
<td>3.068056604</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Self - determination</td>
<td>2.988679245</td>
<td>0</td>
<td>2.988679245</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Self - effectiveness</td>
<td>3.203773585</td>
<td>1</td>
<td>3.307539090</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Authorization (de facto)</td>
<td>2.874213836</td>
<td>0</td>
<td>2.962264151</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Access to information (de facto)</td>
<td>3.056603774</td>
<td>1</td>
<td>3.109577238</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Contribution in decision making (de fact)</td>
<td>2.911949686</td>
<td>0</td>
<td>3.001187841</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Control (de facto)</td>
<td>3.006289308</td>
<td>1</td>
<td>3.09591195</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Authorization (potential)</td>
<td>3.176100629</td>
<td>1</td>
<td>3.352200730</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Access to information (potential)</td>
<td>3.037735849</td>
<td>1</td>
<td>3.171736284</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Contribution in decision making (potential)</td>
<td>3.100628931</td>
<td>1</td>
<td>3.20125826</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Control (potential)</td>
<td>3.6918239</td>
<td>1</td>
<td>3.881647841</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The first column (left) shows the traits of each aspect. The second one shows each trait and the third column shows the evaluation of each trait (if the average of each trait is greater than 3, 1 means capable and,
otherwise, 0 shows that it is incapable. The fourth column calculates the average of all traits totally. In the fifth
column, if the average is greater than 3, it means that 1 is capable and 0 is incapable.

Noteworthy, all three figures in evaluating the total average (fifth column) determine the area in relevant
division. For example, in table 5, after computing total average (the fifth column), it was determined that the
relevant division (light production in this paper) is located in the sixth area:

In the first aspect (employees’ psychological capability at production division is greater than 3 and is
evaluated as positive)

In the second aspect (de facto structural capability at production division is less than 3 and is evaluated as
negative)

In the third aspect (potential structural capability at production division is greater than 3 and is evaluated as
positive)

Potential improvement column (sixth column) indicates the priorities of management to improve each
aspect.

The figures in this column are determined based on the relevant column to evaluate each trait. For
example, light production division is evaluated positively in the first aspect (psychological) and management is not
required to make an improvement policy. In the meantime, it was observed that meaning, competence and self-
effectiveness are positive while self – determination is negative (0). It means that self – determination ≤ 3 so if the
manager tends or insists to improve employees’ psychological traits in production sector, self – determination is
prior since its psychological capability score is evaluated less than 3 and its potential improvement column equals
to 1.

The figures in potential improvement column (sixth column) in the third aspect is determined by considering
the result of evaluating each aspect (third column, second and third aspects) and shows that what will be the best
decision concerning potential capability of each division and potential capability of the same division.

Potential improvement – sixth column – shows the priorities to improve the traits. In above example and in
potential improvement (sixth column) for potential structural capability (the third aspect), only those traits are
improved that their potential improvement is evaluated as positive (they are capable for improvement). Additionally,
among those traits with positive potential improvement, those traits are considered as priority that their capabilities
are currently evaluated as negative.

In above example, all traits are evaluated positively and concerning the evaluation of their de facto status,
access to information and control are now in a proper situation while authorization and contribution in decision
making are in lower levels and they should be prioritized for improvement.

In other words, only those traits are improved that their potential improvement is evaluated as positive – i.e.
the third column – and those traits are prioritized that their potential improvement is negative – i.e. the seventh
column.

Since each aspect was studied in terms of its traits, to improve each aspect and each trait, minor
empowerment guidelines table (tables 2 and 3) suggested by authors were utilized.

Findings

By using a 3D empowerment evaluation model, various divisions of the organization were evaluated in
three directions simultaneously. Likewise, it was determined that each division needs improvement in which aspect
and which trait. For each eight area, following macro guidelines were provided:

Macro guidelines for each eight area
(1) No need to execute empowerment plans;
(2) Empowering the jobber and then the job;
(3) Just to improve employees’ empowerment;
(4) The priority is to improve employees’ empowerment and, if desired, to empower more jobs;
(5) Turnaround or to change employees’ tasks;
(6) Empowering the job
(7) Not setting improvement policy
(8) Empowerment is unnecessary

Regarding empowerment evaluation model, 13 divisions of the company were evaluated and the results
are briefly provided below:
Table 7. evaluating the empowerment in different divisions of the company

<table>
<thead>
<tr>
<th>Division</th>
<th>1st aspect</th>
<th>2nd aspect</th>
<th>3rd aspect</th>
<th>Area</th>
<th>Macro guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light production</td>
<td>2.11</td>
<td>2.96</td>
<td>3.09</td>
<td>sixth</td>
<td>empowering the jobs in terms of trait</td>
</tr>
<tr>
<td>Heavy production</td>
<td>3.13</td>
<td>2.96</td>
<td>3.11</td>
<td>sixth</td>
<td>empowering the jobs in terms of trait</td>
</tr>
<tr>
<td>Designing and</td>
<td>3.33</td>
<td>2.98</td>
<td>3.03</td>
<td>sixth</td>
<td>empowering the jobs in terms of trait</td>
</tr>
<tr>
<td>planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>3.03</td>
<td>2.50</td>
<td>3.27</td>
<td>sixth</td>
<td>empowering the jobs in terms of trait</td>
</tr>
<tr>
<td>Financial</td>
<td>3.13</td>
<td>2.96</td>
<td>3.11</td>
<td>sixth</td>
<td>empowering the jobs in terms of trait</td>
</tr>
<tr>
<td>Communication</td>
<td>3.43</td>
<td>3.40</td>
<td>2.76</td>
<td>seventh</td>
<td>not necessary to set policies to improve</td>
</tr>
<tr>
<td>Quality</td>
<td>3.26</td>
<td>3.06</td>
<td>2.97</td>
<td>seventh</td>
<td>not necessary to set policies to improve</td>
</tr>
<tr>
<td>Guardian</td>
<td>3.33</td>
<td>3.40</td>
<td>2.93</td>
<td>seventh</td>
<td>not necessary to set policies to improve</td>
</tr>
<tr>
<td>Plan and development</td>
<td>3.25</td>
<td>3.06</td>
<td>2.93</td>
<td>eighth</td>
<td>not necessary to set policies to improve (improvement in the second priority)</td>
</tr>
<tr>
<td>Administrative</td>
<td>3.46</td>
<td>3.24</td>
<td>3.06</td>
<td>eighth</td>
<td>not necessary to set policies to improve (improvement in the second priority)</td>
</tr>
<tr>
<td>Commercial</td>
<td>3.35</td>
<td>3.30</td>
<td>3.03</td>
<td>eighth</td>
<td>not necessary to set policies to improve (improvement in the second priority)</td>
</tr>
<tr>
<td>Planning</td>
<td>3.33</td>
<td>3.19</td>
<td>3.13</td>
<td>eighth</td>
<td>not necessary to set policies to improve (improvement in the second priority)</td>
</tr>
<tr>
<td>Research and</td>
<td>3.31</td>
<td>3.04</td>
<td>3.23</td>
<td>eighth</td>
<td>not necessary to set policies to improve(improvement in the second priority)</td>
</tr>
<tr>
<td>development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Noteworthy, in this paper, only light production division is explained as sample. Therefore managers should prepare an empowerment table for each division (which explains all three aspects in terms of traits). For example, improvement policies in minor level should be explained for each division as below:

The improvement policies in minor level for light production (concerning table 2)

Psychological empowerment: psychologically, employees are overall empowered and it is not necessary to improve this aspect. If the management tends to improve this aspect, it should focus on self – determination.

The guidelines to improve self – determination (determining proper strategies for each trait by using table 1) Authorization, contribution in decision making, encouraging self – management, job enrichment, and establishing self – run working teams, decreasing formality, creating a supportive culture in organization and awarding systems.

Structural empowerment

Overall, existing jobs in light production division are not currently empowered but they can be empowered. All traits are able to be empowered. “access to information” and “control and monitor” are admirable now and the priority should be given to “authorization” and “contribution in decision making”.

Guidelines to improve “authorization” (devising proper strategies for each trait by using table 2) including devising authorization process, holding training courses on authorization for organizational managers, employees’ contribution in decision making.

Guidelines to improve contribution in decision making (determining proper strategies for each trait by using table 2) including recommendation system, devising strategies by employees’ participation and clarifying organizational plans.

DISCUSSION

Many authors have studied empowerment via different aspects. Their main emphasis has been on two psychological and structural aspects. By studying both aspects of empowerment, one can study status quo. Now, a question arises: to what extent it is possible to empower the second aspect (the structure of jobs) in terms of relevant traits (for instance, authorization) in order to set improvement policies? Certainly, some jobs are sufficiently empowered by management and are not capable to be empowered more and spending organizational resources to execute empowerment guidelines in such division would waste organizational resources.

Here, by providing empowerment 3D evaluation model, employees’ psychological capability, de facto structural capability of each job and potential structural capability of each job are simultaneously studied. By determining the level of structural capability of each job, decision making by management will be more logic and organizational resources will be only spent on improving those jobs that are more capable for structural
empowerment. By studying these three aspects simultaneously, eight areas are emerged that have their own improvement policies in both macro and minor levels.

Within divisions in this area, neither staff nor jobs are empowered and they are not capable for structural empowerment. Therefore, there is no need to implement empowerment plans.

It shows that neither job nor jobbers are empowered but the job is capable to be empowered. Therefore, the proper guideline is to empower jobber and then the job.

It indicates that jobbers are not empowered while the job is empowered and even if necessary, the job is not able to be empowered. Therefore, the proper guideline for this area is to improve employees’ psychological empowerment.

This area indicates that jobbers are not empowered while the job is empowered and, if necessary, job can be empowered. Therefore, the priority is to improve psychological empowerment and more empowerment of the job if tended.

It indicates that jobbers are empowered while the jobs are not empowered and even if necessary, the job is not capable to be empowered. Therefore the proper guideline is to turnaround or change employees’ tasks.

It depicts that jobbers are empowered while the job is not so. However, the job can be empowered. Therefore, the proper guideline is to empower the job.

It shows that jobbers and jobs are empowered but the job is not able to be empowered. Therefore, the proper guideline is not to make improvement policy.

It indicates that jobs and jobbers are empowered and, if necessary, the job is able for more empowerment. Therefore, the guideline for this area is that empowerment is not necessary.

By using this model, one can hope that organizational management can make improvement policies by considering existing capabilities and facilities in jobs and organization after evaluating employees’ empowerment. It is also recommended that future researches on this subject try to study structural, legal, human and cultural barriers on the way of employees’ empowerment.

REFERENCES


