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Elements of administrative management decision

Adrian Ioana, Anca Marinică, Augustin Semenescu, Cezar Florin Preda

Engineering and Management of Metallic Materials' Making Department, University Politehnica of Bucharest, Bucharest, Romania

Email address

adyioana@gmail.com (A. Ioana)

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Abstract

Article has as its starting point a comparative overview of general management concepts specific of Henry Fayol (father of modern operational management theory) and Frederick Winslow Taylor (the creator of scientific management). Comparative analysis of modern management theory (Fayol) and scientific management (Taylor) is based on specific managerial functions and principles. As a result of this comparative analysis, the article presents the pros and cons of adopting a decentralized or centralized administrative management.

1. Introduction

Fayol proposed that there were six primary functions and fourteen principles of management (Ioana, 2007, Ioana, Semenescu and Preda, 2012).

The six primary functions of management stated by Fayol are: to forecast and plan, to organize, to command, or direct to coordinate, to develop output, to control (french – contrôler - in the sense that a manager must receive feedback about a process in order to make necessary adjustments and must analyses the deviations).

The fourteen principles of management stated by Fayol (Ioana, Semenescu, Marcu, Ghiban and Colan, 2013, Ioana, Semenescu, Preda, Marcu and Bogdan, 2012, Pugh and Hickson, 2007, Güden and Süral, 2014) are:

1. Division of work (work should be divided among individuals and groups to ensure that effort and attention are focused on special portions of the task).

2. Authority (managers must be able to give orders).

3. Discipline (employees must obey and respect the rules that govern the organization)

4. Unity of command (every employee should receive orders from only one superior).

5. Unity of direction (each group of organizational activities that have the same objective should be directed by one manager using one plan).

6. Subordination of individual interests to the general interest (the interests of any one employee or group of employees should not take precedence over the interests of the organization as a whole).

7. Remuneration (workers must be paid a fair wage for their services).

8. Centralization (centralization refers to the degree to which subordinates are involved in decision making).

9. Scalar chain (the line of authority from top management to the lowest ranks

represents the scalar chain).

10. Order (people and materials should be in the right place at the right time)

11. Equity (managers should be kind and fair to their subordinates).

12. Stability of tenure of personnel (high employee turnover is inefficient).

13. Initiative (employees who are allowed to originate and carry out plans will exert high levels of effort).

14. Esprit de corps (promoting team spirit will build harmony and unity within the organization).

Fayol differed from scientific management because he focused on efficiency through management training and behavioral characteristics (Richard, 1983). He is often compared to Frederick Winslow Taylor who developed Scientific Management.

Fayolism's concern with the humanity of employees and his focus on training management instead of focusing on individual worker efficiency draws the line between Fayol and Taylor.

Taylorism (or scientific management) is a management theory that analyzes work flows to improve economic efficiency, especially labor productivity. This management theory, developed by Frederick Winslow Taylor, was dominant in manufacturing industries in the 1880s and 1890s.

Scientific management is a theory of management of the early 20th century that analyzed workflows in order to improve efficiency (Ioana, 2009, Schulz and Voigt, 2014, Cook, Tone, and Zhu, 2014).

Created by Frederick Winslow Taylor, time studies break down each job into component parts and timing each part to determine the most efficient method of working.

Created by Frank and Lillian Gilbreth, motion studies analyzed work motions by filming workers and emphasized areas for efficiency improvement by reducing motion.

Important components of scientific management are: analysis, synthesis, logic, rationality, empiricism, work ethic, efficiency, and elimination of waste and standardized best practices (Ioana, 2013, Ioana and Semenescu, 2013).

2. Research Methodology

The main research methods and theories applied are (Li, Ragu-Nathan, Ragu-Nathan, Ragu-Nathan and Rao 2014):

➢ Transmission time of management decision (A)
➢ Comparative analysis (B)
➢ Principle of single command (unity of command) (C)
➢ Perturbation of decision (D)
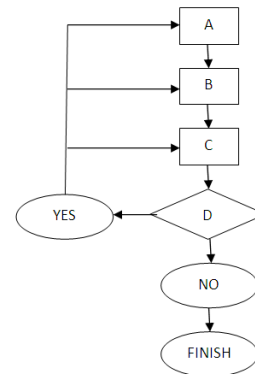
We report research methodology flowchart in Figure 1.

Figure 1. Research methodology flowchart.

3. Decentralized or Centralized Administration?

Decentralization is the process of dispersing decision-making management closer to the people, citizens, employees, or other elements of the organization or sector, including of Science and Engineering Materials Faculty.

Figure 2 shows a scheme of a Centralized Administrative Management (CAM).
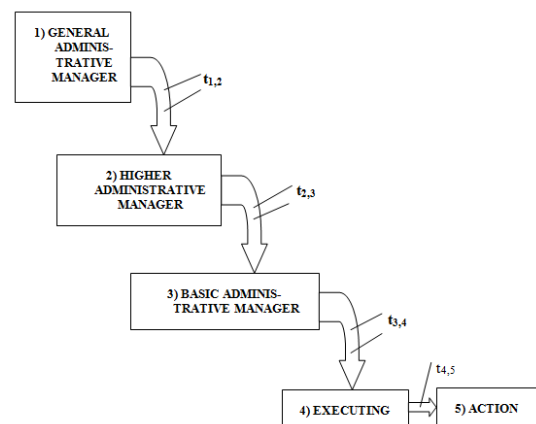

Figure 2. Scheme of a Centralized Administrative Management (CAM).

$t_{i,j}$ – is transmission time of decision (message) between "i" and "j" manager; $p_{i,j}$ – is perturbation of decision (message) between "i" and "j" manager.

According to the scheme in figure 1, total time of decision transmission in Centralized Administrative Management (CAM) variant ($t_{CAM, TOT}$) is:

$$t_{CAM, TOT} = t_{1,2} + t_{2,3} + t_{3,4} + t_{4,5} \qquad (1)$$

Where:

$t_{1,2}$ – is transmission time of decision (message) between General Administrative Manager and Higher Administrative Manager.

$t_{2,3}$ – is transmission time of decision (message) between Higher Administrative Manager and Basic Administrative Manager.

$t_{3,4}$ − is transmission time of decision (message) between Basic Administrative Manager and Executing.

$t_{4,5}$ − is time of decision (action) of Executing.

Total perturbation for Centralized Administrative Management (CAM) variant ($p_{CAM, TOT}$) that may arise is:

$$p_{CAM, TOT} = p_{1,2} + p_{2,3} + p_{3,4} \qquad (2)$$

Where:

$p_{1,2}$ − is perturbation of decision (message) between General Administrative Manager and Higher Administrative Manager.

$p_{2,3}$ − is perturbation of decision (message) between Higher Administrative Manager and Basic Administrative Manager.

$p_{3,4}$ − is perturbation of decision (message) between Basic Administrative Manager and Executing.

Decentralization involves dispersing decision-making authority, generally with more involvement from the lower levels in an organization. The management structure changes from a top-down approach to more of a peer-to-peer approach.

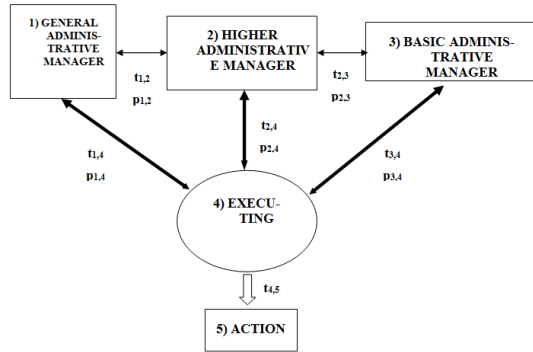Figure 3 shows a scheme of a Decentralized Administrative Management (DAM).

Figure 3. Scheme of a Decentralized Administrative Management (DAM).

$t_{i,j}$ − is transmission time of decision (message) between "i" and "j" manager; $p_{i,j}$ − is perturbation of decision (message) between "i" and "j" manager.

A decentralized organization shows fewer tiers in the organizational structure, wider span of control, and a bottom-to-top flow of ideas and decision making.

One advantage of this structure, if the correct controls are in place, will be the bottom-to-top flow of information, allowing lower tier employees to better inform the officials of the organization for any decision-making process.

According to the scheme in figure 2, total time of decision transmission in Decentralized Administrative Management (DAM) variant ($t_{DAM, TOT}$) is:

$$t_{DAM, TOT} = Max (t_{1,4}; t_{2,4}; t_{3,4}) + t_{4,5} \qquad (3)$$

Where: $t_{1,4}$ − is transmission time of decision (message) between General Administrative Manager and Executing.

$t_{2,4}$ − is transmission time of decision (message) between Higher Administrative Manager and Executing.

$t_{3,4}$ − is transmission time of decision (message) between Basic Administrative Manager and Executing.

$t_{4,5}$ − is time of decision (action) of Executing.

$$Max (t_{1,4}; t_{2,4}; t_{3,4}) = \begin{cases} t_{1,4}; \text{ if } t_{1,4} > t_{2,4} > t_{3,4} \\ t_{2,4}; \text{ if } t_{2,4} > t_{1,4} > t_{3,4} \\ t_{3,4}; \text{ if } t_{3,4} > t_{1,4} > t_{2,4} \end{cases} \qquad (4)$$

Total perturbation for Decentralized Administrative Management (DAM) variant ($p_{DAM, TOT}$) that may arise is:

$$P_{DAM, TOT} = Max (p_{1,4}; p_{2,4}; p_{3,4}) \qquad (5)$$

Where:

$p_{1,4}$ − is perturbation of decision (message) between General Administrative Manager and Executing.

$p_{2,4}$ − is perturbation of decision (message) between Higher Administrative Manager and Basic Executing.

$p_{3,4}$ − is perturbation of decision (message) between Basic Administrative Manager and Executing.

$$Max (p_{1,4}; p_{2,4}; p_{3,4}) = \begin{cases} p_{1,4}; \text{ if } p_{1,4} > p_{2,4} > p_{3,4} \\ p_{2,4}; \text{ if } p_{2,4} > p_{1,4} > p_{3,4} \\ p_{3,4}; \text{ if } p_{3,4} > p_{1,4} > p_{2,4} \end{cases} \qquad (6)$$

From the comparative analysis of the relations (1) and (3) we have:

$$[t_{1,2} + t_{2,3} + t_{3,4} + t_{4,5}] \gg [Max (t_{1,4}; t_{2,4}; t_{3,4}) + t_{4,5}] \qquad (7)$$

Meaning:

$$t_{CAM, TOT} \gg t_{DAM, TOT} \qquad (8)$$

Relation (8) expresses an important advantage of Decentralized Administrative Management (DAM). This advantage is much lower transmission time decision (message) to the Executing.

Another advantage of Decentralized Administrative Management is receiving feedbacks from Executing.

A possible disadvantage of Decentralized Administrative Management is the contradiction of the principle of unity of command (Fayol), disadvantage reflected in Figure 2. This disadvantage can be countered by giving maximum importance for any feedbacks received from Executing. Also, this counter is symbolized in Figure 2 by emphasizing meaning transmitting the message from the Executing.

4. Conclusions

A good basis for the analysis of Administrative Management is the application of Fayol's Management Principles (FMP) and Taylor's Scientific Management (TSM).

Analysis of these principles highlighted mainly the following advantages and disadvantages:

1. Centralized Administrative Management (CAM) has the advantage of respecting the principle of single command (unity of command), principle enunciated by Fayol.

2. Decentralized Administrative Management (DAM) has the advantage of higher speed of implementation, by making less transmission times of decisions (message).

3. An important disadvantage of Centralized Administrative Management is the lack of feedbacks from execution.

4. Another disadvantage of Centralized Administrative Management is slow implementation of decisions, due to higher duration messaging.

5. A disadvantage of Decentralized Administrative Management is the possibility of redundancy, failure to Fayol's principle of single command. This disadvantage can be countered by standing and operational feedback among the top three levels of managers (General Administrative Manager, Higher Administrative Manager and Basic Administrative Manager).

Finally, comparing the advantages and disadvantages of the two types of administrative management analyzed (Centralized Administrative Management and Decentralized Administrative Management), we consider and encourage the application of Decentralized Administrative Management.

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Biography

Henri Fayol was born in 1841 in Istanbul. Fayol was a classical management theorist, widely regarded as the father of modern operational management theory. He developed (independently of scientific management) a general theory of business administration (Ioana, Semenescu, Preda and Marcu, 2012, Harrison, 2008).

Frederick Winslow Taylor was born in 1855 to a wealthy Quaker family in Germantown, Philadelphia, USA. He is considered the creator of scientific management (Papesh, 2008, Taylor, 2008). Taylor was an american mechanical engineer who sought to improve industrial efficiency (Veekay and Raghu, 1993, Witzel, 2003, Chiang 2014).