

# The Concept of “Organizations as Machines” And the Meaning of Human Factor in Bureaucratic Organizations

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**Abstract:** *In Sociology of Work and Sociology of Organizations, there are several concepts related closely to the metaphors of social organizations. We can call them the nature of organizations as well. Since metaphors are able to develop theories of organizations and management, we would like to describe one of them as precisely as we can do it. The famous sociologist Morgan Gareth in his book named “Images of Organization” proposed several interesting metaphors of organization [Morgan G. Images of Organization. Sage publications, Thousand Oaks, London, New Delhi, 2006, p 6-7]. All metaphors raised interests in Sociology of Work and Sociology of Organizations as independent subjects. Looking through them carefully, we prefer to focus attention on human factor in organizations in the concept of “Organizations as Machines” in this scientific article.*

**Key words:** organization(s); management; bureaucracy; bureaucratic type of organization(s); machine(s); Scientific Management Theory; Classical Management Theory.

**Introduction:** The concept of Organizations as Machines (Bureaucratic type of Organization) is based on the following idea: “Mechanization takes command”. What does it mean? Morgan in his book gave as an example the opinion of an old man who said that a person who uses machines does his work as a machine; who does his work like a machine grows a heart like a machine and he who carries the heart of a machine in his breast loses his simplicity; he who has lost his simplicity becomes unsure in strivings of his soul [Morgan G. Images of Organization. Sage publications, Thousand Oaks, London, New Delhi, 2006, p 12.].

We can see the influence of machines in all aspects of our life. Our productive abilities increased a many fold due to the influence of machines. Using machines transformed the nature and character of productive activities. Mechanistic interpretation of a natural world was stated by scientists. Mechanistic theories of human mind and human behavior were articulated by philosophers and psychologists.

The main idea of the theory of Organizations as Machine is that employers are designed like machines; employees are expected to behave as if they were parts of machines. In addition, employees are monitored in their performance and they are often trained how to interact with clients and/or customers. All of them are based on the code of instructions. Company policy programs the smile, greeting, comment and suggestions of sales assistants. A simple task: serving a customer can be mechanized, observed and evaluated in a mechanical way at the management observation checklist. In a word, organizations which are designed and operated as if they were machines are nowadays called bureaucracies. So we can firmly call the concept

of Organizations as Machines like Bureaucratic type of Organization as well.

Using machines especially in the field of industry required that organizations would be adapted to the needs of machines. What did this lead to? Many self-employed family groups and experienced artisans gave up working in their homes and workshops to work on unskilled jobs in factory settings. At the same time, factory owners and their engineers realized that the efficient operation of their new machines required major changes in work’s design and control. Since manufacturers tried to increase efficiently by reducing the discretion of employees, division of labour at work became intensified and specialized. New procedures and techniques were introduced to discipline employees as well.

**Material and methods:** A German sociologist and political economist **Max Weber** was the father of modern bureaucratic management theory. In his work, we find the first definition of bureaucracy as a form of organization. The parallels between the mechanization of industry and the proliferation of bureaucratic forms of organization were observed by him. M. Weber viewed bureaucracy as a positive development from past management and leadership. He did it based on traditional authority. M. Weber noted that the bureaucratic form routinizes the process of administration exactly as the machine routinizes production. In addition, he saw that a bureaucratic approach had the potential to routinize and mechanize almost every aspect of human life eroding a human spirit and capacity.

According to M. Weber, a bureaucratic organization is the most rational means to exercise a vital control over the individual employees. A bureaucratic organization is one which has: a hierarchy of authority; specialized

work force; standardized principles; rules and regulations; trained administrative personnel. We can emphasize that M. Weber’s ideal bureaucratic model is characterized by the following features (1-table)

[Гайденоко П. П., Давидов Ю. Н. Проблема бюрократии у М. Вебера. Вопросы философии. 1991 г. № 3].

1-table. Max Weber’s ideal bureaucratic model	
1	<b>High degree of division of work (specialization)</b> under which tasks are divided into very specialized jobs and each member performs his specialized job according to rules and regulations of the enterprise
2	<b>Rules, regulations and procedures</b> which govern the work behavior of job-holders. Strict adherence to rules, regulations and procedures is a must for individuals for orderly-performance of tasks
3	<b>Hierarchy of authority</b> which is clearly defined and is created by downward delegation of authority
4	<b>Record keeping</b> under which every decision and action in the organization is recorded in an array of written documents
5	<b>Technical competence of people</b> is the criterion for their selection and promotion
6	<b>Impersonality</b> according to which, in a bureaucratic organization, there is no place for emotions, sentiments and personal attachment
7	<b>Democracy</b> Bureaucracy leads to a democratic functioning of the organization as via the hierarchy of management, total authority gets divided among a number of managers
8	<b>Systematic and orderly functioning</b> Bureaucracy makes for systematic and orderly functioning of an organization because of a strict adherence to rules, regulations and procedures of an organization
9	<b>Efficient functioning</b> A bureaucratic organization has the advantage of efficient functioning because technical competence of people is the exclusive guiding criterion for their selection and promotion

Classical theorists **Henri Fayol, F.W. Mooney and Col. Lyndall Urwick** were interested in problems of practical management. They tried to codify their experience of successful organization for others to follow. All of them asserted that management is a process of planning, organization, command, coordination and control. These classical management theorists also set the basis for lots of contemporary management techniques, for instance management by objectives; planning; programming, budgeting systems; other methods of planning and control. We can

emphasize that classical theorists were in effect designing an organization exactly as if they were designing a machine.

H. Fayol started looking at how management could improve labor productivity. He created the Fourteen Principles of Management which focused on management. When H. Fayol created new principles for management, at that time he hinted to the importance of human relations as well (2-3 - tables) [Фуломов С. С. Менеджмент асослари. Т: “Шарқ”-2012, б 223].

2-3 tables. H. Fayol’s Fourteen Principles of Management

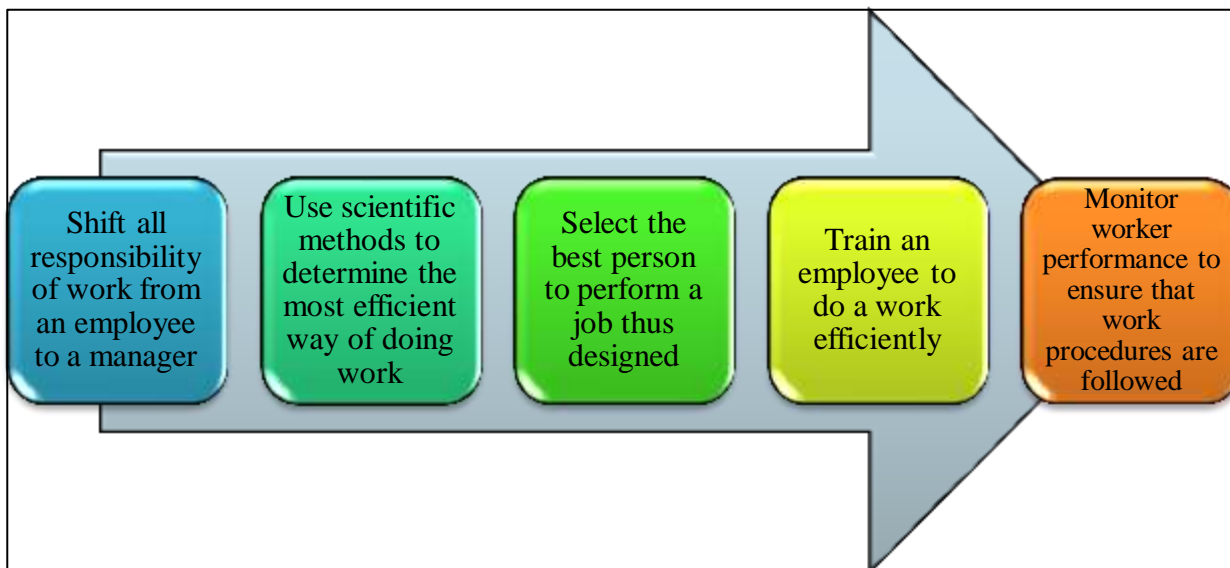
<b>Division of work</b>	<b>Authority</b>	<b>Discipline</b>	<b>Unity of command</b>	<b>Unity of direction</b>	<b>Subordination of individual interests to general interests</b>
<b>Remuneration</b>	<b>Centralization</b>	<b>Scalar chain</b>	<b>Order</b>	<b>Equity</b>	<b>Stability of tenure of personnel</b>
		<b>Initiative</b>	<b>Esprit de corps</b>		

<b>Division of work</b>
<ul style="list-style-type: none"><li>• Work should be divided in the most efficient way</li></ul>
<b>Authority</b>
<ul style="list-style-type: none"><li>• Authority is the right to give orders and accountability within those orders</li></ul>
<b>Discipline</b>
<ul style="list-style-type: none"><li>• Discipline is penalties applied to encourage common effort</li></ul>
<b>Unity of command</b>
<ul style="list-style-type: none"><li>• Employees should receive orders from only one manager</li></ul>
<b>Unity of direction</b>
<ul style="list-style-type: none"><li>• Everyone should move toward a common goal and understand how a team will achieve that goal</li></ul>
<b>Subordination of individual interests to general interests</b>
<ul style="list-style-type: none"><li>• The interests of one person shouldn't have priority over the interests of the organization</li></ul>
<b>Remuneration</b>
<ul style="list-style-type: none"><li>• Many things should be considered when paying employees, supply of qualified people and business success</li></ul>
<b>Centralization</b>
<ul style="list-style-type: none"><li>• The degree of importance in the subordinates' role and the amount of decision making that occurs at a central level versus a decentralized level</li></ul>
<b>Scalar chain</b>
<ul style="list-style-type: none"><li>• This refers to how authority is divided among managers</li></ul>
<b>Order</b>
<ul style="list-style-type: none"><li>• All materials and people related to one kind of work should be organized and neat</li></ul>
<b>Equity</b>
<ul style="list-style-type: none"><li>• All employees should be treated equally</li></ul>
<b>Stability of tenure of personnel</b>
<ul style="list-style-type: none"><li>• Retention of employees should be a high management priority</li></ul>
<b>Initiative</b>
<ul style="list-style-type: none"><li>• Management should take steps to encourage employees to take initiative</li></ul>
<b>Esprit de corps</b>
<ul style="list-style-type: none"><li>• Managers should encourage harmony among employees</li></ul>

**Frederick Taylor** was one of the founders of Scientific Management Theory. His five simple principles were influencing arguments for work design throughout the first half of the twentieth century and

prevail up to now (4-table) [Watson J. Tony. *Sociology, Work and Organization. Sixth edition. London – 2012, p 35*].

**4-table. Frederick Taylor's principles in Scientific Management Theory**



Frederick Taylor’s five simple principles had a major influence on the organization of office work as well. For instance, one employee would often be responsible for checking a claim against a policy; another would initiate an evaluation process; another would conduct the evaluation; another would evaluate the evaluation in mechanized systems for processing insurance claim

forms. So F. Taylor’s principles led to the development of “office factories”.

**Discussion:** There are limitations of M. Weber’s bureaucratic model as well (5-table) [A. Altay, *The efficiency of bureaucracy on public sector, 1999*, accessed on 27.10.2019 through the link: <https://dergipark.org.tr/tr/download/article-file/211469>].

**5-table. Major limitations of Max Weber’s bureaucratic model**

1	<b>Lack of flexibility</b>	There is rendered inflexibility in the organizational functioning based on bureaucracy because of tight rules, regulations and procedures of the organization
2	<b>Organizational operational delays</b>	This limitation is due to the phenomenon of red-tape which implies more complicated official rules than necessary and which prevent things from being done quickly
3	<b>Increased paper work</b>	Because of the requirements of detailed record-keeping of decisions and actions; there is increased paper work in a bureaucratic organization. This adds to operational costs of the enterprise
4	<b>Lack of initiative</b>	There is lack of initiative for managers and employees in a bureaucratic organization, due to strict adherence to rules, regulations and procedures of an organization
5	<b>No place for human consideration</b>	A bureaucratic organization is characterized by the feature of impersonality of approach to organizational functioning in which there is no place for emotions, sentiments and personal attachment. The functioning of an organization is mechanistic which retards the development of good human relations in an organization
6	<b>Concluding observations</b>	Real life organizations, both in the public and private sectors, exhibit varying degrees of bureaucracy

It would be unfair not to mention that fact that the effect of F. Taylor’s scientific management on the workplace was enormous. The method of a replacement of skilled craftspeople by unskilled employees was a firm step to increase productivity many fold. By the way, the human problems were obvious ever since they were first introduced. For instance, when Henry Ford established his first assembly line to produce the Model T, employee

turnover rose to approximately 380 percent per annum. Only by doubling wages to his famous “5 dollars a day” was he able to stabilize the work situation and persuade employees to accept a new technology. In addition, when General Motors decided to tighten up on efficiency in the late 1960s, the speed of the assembly line was raised to increase output from 60 to 100 cars per hour. At this new pace some employees had only thirty-six seconds to perform at least eight

different operations [Morgan G. *Images of Organization*. Sage publications, Thousand Oaks, London, New Delhi, 2006, p 25]. In other words, there was the following idea: “You are not supposed to think. There are other people paid for thinking” which played an important role in the F. Taylor’s system. According to his approach, employees were expected to be reliable, predictable and efficient as the robots.


**Results:** In spite of the fact that Classical Management theorists recognized a need for leadership, initiative, benevolence, equity, esprit de corps and other factors influencing on human motivation, they gave a little attention to the human aspects of organization; they understood organization as a technical problem. The Classical theorists` orientation was to make humans fit the requirements of mechanical organization although they knew how much it was significant to achieve a balance and harmony between human and technical

aspects. The theorists of Classical Management were criticized for this managerial approach.

F. Taylor`s approach to management was extended and used in the former USSR, Eastern Europe and in capitalist countries. It means that F. Taylor`s concept is as much a tool for securing general control over the workplace as it is a means of generating profit. In spite of the fact that a lot of scientists criticized him for his Scientific Management Theory, he was a part of social trend involving the mechanization of life. F. Taylor paid close attention to the aspect of a trend towards mechanization, specialization and bureaucratization. We can see the power of F. Taylor`s principles of scientific management when robots rather than humans are productive force and organizations can become machines.

**Conclusion:** Based on all below mentioned ideas and opinions, we can emphasize about the strengths of the machine metaphor (6-table):

**6-table. Machine metaphor`s strengths**

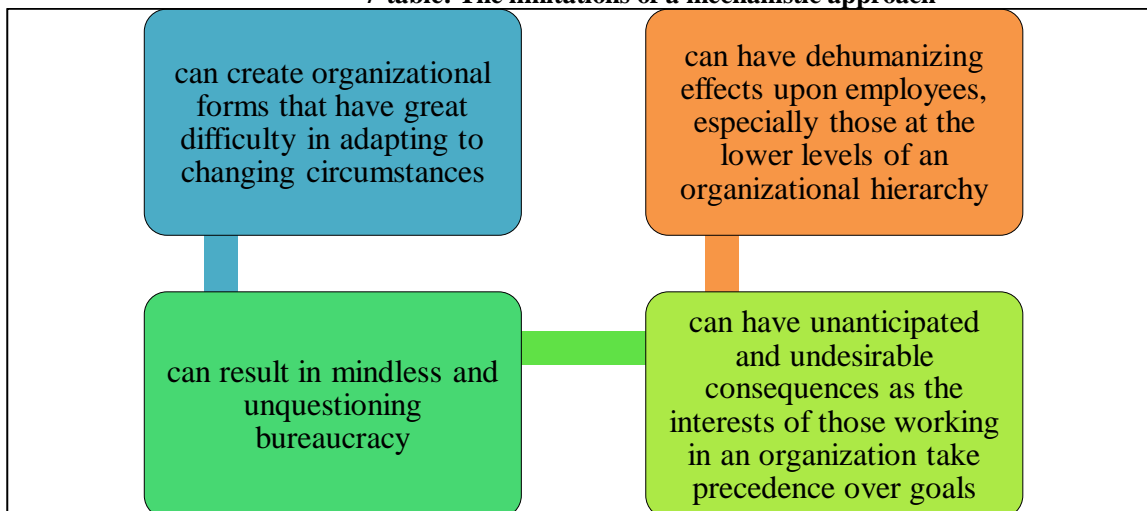
	Set goals and objectives and go for them
	Organize rationally, efficiently and clearly
	Specify every detail so that everyone will be sure of the jobs that they have to perform
	Plan, organize and control, control, control

Classical Management Theory and Scientific Management Theory were sold to managers as the “best way to organize”. In spite of the fact that early theorists believed they discovered the principles of organization and these principles could solve managerial problems, nowadays we understand they were wrong looking at the contemporary organizational

scene. We can’t ignore that fact that many modern organizational problems were at the basis of their management principles.

Although a mechanistic approach has successes in managing organization, we can see that they have the following limitations as well (7-table):

**7-table: The limitations of a mechanistic approach**



Since mechanistically structured organizations are designed to achieve goals and they are not designed for

innovation, they have difficulty adapting to changing circumstances. The main problem is that employees do not have job responsibilities as well; an employee

emphasizes that it is not his/her job to worry about that; it is somebody's responsibility, not his/hers; he/she is here to do what he/she is told. Based on these facts, we can say that employees are inherent in a mechanistic approach to organization. By the way, it is so important to mention that introducing job responsibilities has the advantage of letting employees know what is expected of them. It also lets them know what is not expected of them.

We would like to add that a mechanistic approach to organization limits mobilizing the development of human capacities. Employees and organizations lose from this arrangement. Employees lose chances and opportunities for personal growth. Although they spend many hours a day on work, they don't enjoy and don't value. Organizations lose creative and intelligent contributions which many employees are capable of.

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