



Enhancing the Decisions of the Ministry of Water Resources in Iraq: The Role of Human Resources and Technology

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Introduction

Email communication in the administrative field represents an essential means for making sound administrative decisions. It is a necessity for achieving individual collaboration (fahmi&ali, 2022). Continuous interaction with the institutional environment, where challenges are significant, such as competition and change, has become a part of customers' work styles and trends today. Technological changes lead successful organizations to make changes in their administrative processes to adapt to the environment (putra&ali, 2022). As change and development occur permanently, there is a need for new communication and development methods (Haitao, 2021) to increase efficiency, effectiveness, success, and organizational development. Today, electronic communications are one of the important and indispensable resources for making administrative decisions. The communication process is closely related in human interaction to achieve communication, transfer, and exchange of information, events, and experiences.

Electronic communications are considered essential within the organization. Instructions and guidance cannot be conveyed and passed to employees effectively without a proper network. An efficient network helps employees understand and comprehend their rights, duties, and roles, increasing the productivity and effectiveness of the organization (Lertpiromsuk, 2022). The communication process in administrative departments is like a thread that connects different departments and serves as a means of direction and connection between employees in public and private institutions (Chelladurai, & Kim, 2022).



Research Problem

The research problem in this context can be expressed in English as follows:

"The research problem lies in monitoring and analyzing the extent of the practice of electronic administrative communication activities in the Iraqi Ministry of Water Resources and Public Works (Sharma & all, 2022). It aims to highlight the role and importance of these activities in providing effective information that contributes to making efficient administrative decisions. The researcher, who has been working for years in the Iraqi Ministry of Water Resources and Public Works, has observed that electronic communications in this ministry suffer from some weaknesses and confusion, which can lead to the distortion of information and data. It is expected that this could negatively impact the effectiveness of administrative decisions (Vrontis& all, 2022). Therefore, this study seeks to uncover the effectiveness of administrative communication and its impact on the efficiency of decision-making within the ministry."

The research problem is framed as follows: "What role does electronic communication play in making effective administrative decisions?"

Research Questions:

1. What is the level of effectiveness of the administrative electronic communications (types, methods, and skills) used in the Iraqi Ministry of Water Resources and Public Works?
2. What are the characteristics of the information available from administrative electronic communications in the Ministry?
3. What is the impact of the effectiveness of electronic communications and the characteristics of the resulting information on achieving the effectiveness of administrative decisions within the Ministry?
4. Are there differences in the impact of administrative communications in providing information that enhances the effectiveness of administrative decisions in the Ministry attributable to the demographic characteristics (personal and professional) of the employees (gender, age, educational qualifications, years of experience)?

Study Importance:

The importance of electronic communications as a means used by managers to develop work in the organization towards achieving goals and providing information, decisions, and interpretations, both internally and externally. The function of communication is a fundamental and important function that managers carry out in their daily and strategic work, as it translates and conveys administrative information related to various organizational functions, reaching all employees within or outside the organization. The study is expected to provide recommendations and suggestions to all stakeholders to enhance various forms of electronic administrative communications in the Ministry of Water Resources and direct them towards providing information that contributes to making effective administrative decisions, which is the problem of the study and its questions.

Study Objectives:

The study aims to achieve the following objectives:

- To understand the nature of electronic communications used in the Iraqi Ministry of Water Resources from the perspective of management, by knowing the patterns, means, and skills of administrative communications.
- To understand the characteristics of the information available and resulting from electronic communications in the Iraqi Ministry of Water Resources, considering the timing of information availability, accuracy, comprehensiveness, clarity, flexibility, and ease of access.
- To examine the relationship between electronic communications, the effectiveness of administrative decisions, and the characteristics of the resulting information in achieving their objectives within the Ministry.
- To propose recommendations and suggestions for providing information that contributes to making successful administrative decisions.

Study Hypotheses:

Several null hypotheses were formulated in the study:

1. There is a statistically significant relationship between the patterns of electronic communications (upward, downward, and horizontal) in the Iraqi Ministry of Water Resources and the provision of required information for making the correct administrative decision.
2. There is a statistically significant relationship between the means of electronic communications (written, oral, electronic) and the provision of required information for making the correct administrative decision.
3. There is a statistically significant relationship between the skills of administrative communications (writing, speaking, reading, listening) and the provision of required information for making the correct administrative decision.
4. There is a statistically significant relationship between the characteristics of the required information (timeliness, accuracy, comprehensiveness, clarity, and ease of access) and the achievement of the effectiveness of administrative decisions in the Ministry.

Research Methodology:

The study utilized a descriptive research methodology to describe and explain a specific phenomenon. The research design included a closed-ended questionnaire that was pretested to ensure comprehensibility, inclusiveness, and relevance. The validity of the questionnaire was confirmed, and the Cronbach's alpha coefficient was used to test reliability. The study conducted fieldwork within various departments of the Iraqi Ministry of Water Resources.

The study was conducted in the Iraqi Ministry of Water Resources, and it included various departments and organizations within the ministry, including:

- The General Authority for the Operation of Irrigation and Drainage Projects
- The General Authority for the Maintenance of Irrigation and Drainage Projects
- The General Authority for Dams and Reservoirs
- The General Authority for Survey
- The General Authority for Groundwater
- The General Authority for Irrigation and Reclamation Projects
- The Marshlands and Wetlands Revival Center

- The National Center for Water Resources Management
- The Center for Studies and Engineering Designs
- The General Directorate of River Basins
- The Public Company for the Implementation of Irrigation and Drainage Projects (Al-Rafidain)
- The Public Company for the Implementation of Irrigation and Drainage Projects (Al-Fao)
- The Center for Water Resources Studies for the Northern Region.

Construction of the Research Tool:

The research tool, which is a closed-ended questionnaire, was developed based on the study's objectives and the data and information required. The questionnaire was pretested to ensure its comprehensibility, inclusiveness, and relevance. The validity of the questionnaire was confirmed, and the Cronbach's alpha coefficient was used to test its reliability. The questionnaire was also piloted on a limited group of individuals to gather their feedback on its clarity, comprehensiveness, and the adequacy of the questions for collecting the required information. This process ensures what Gay (2012) referred to as face validity, which is the extent to which a test measures its intended purpose for a specific group.

Validity and Reliability Testing:

The study conducted an alpha Cronbach reliability test to validate the research tool, and the results are presented in Table 1. The findings indicate the following:

(You may want to provide the specific results from the reliability test if they are available, as this part appears to be missing from your text.)

Table 1: Cronbach's Alpha Coefficient Results for the Employee-Related Survey Study

Cronbach's Alpha	Number of Items
0.74	34

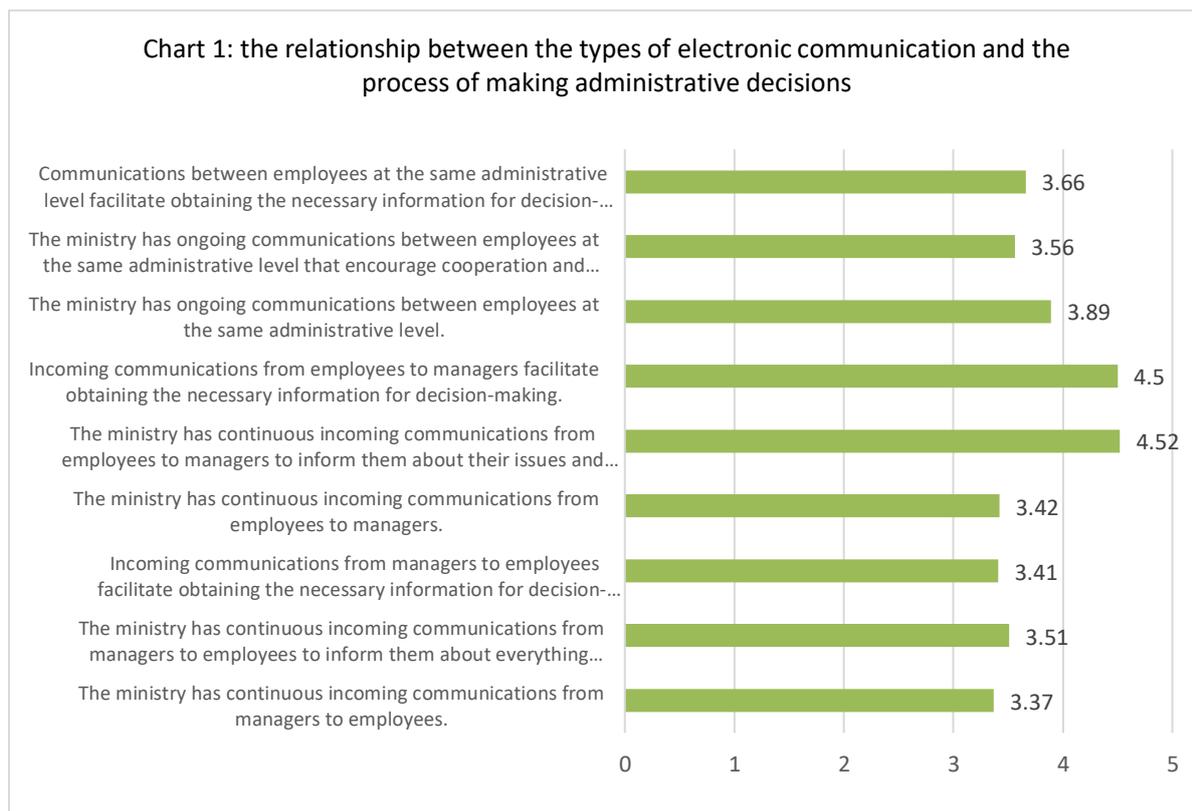
The previous table shows that the number of items in the survey for this study is 34 items. These items were presented to the study participants through several interviews to achieve the desired goal. The average Cronbach's alpha coefficient is 0.74, indicating the reliability and stability of the survey items. After ensuring face validity of the questionnaire and incorporating feedback from experts in the College of Business Administration, as well as feedback obtained from the study's survey group.

Distribution of the research tool (the questionnaire)

The number of distributed questionnaires reached (350), and we received only (124) valid questionnaires for statistical analysis. This was due to incomplete responses to the remaining questionnaire questions, failure to respond, or random responses. Thus, the response rate was (36%) of the total questionnaires sent to them via their email. It is worth noting that the questionnaire items were formulated with clear wording and vocabulary, covering all areas related to electronic communication and effective administrative decision-making.

The First Axis: Types of Electronic Communication (Upward, Downward, and Horizontal)

In this axis, we will study the relationship between the types of electronic communication and the process of making administrative decisions by obtaining the opinions of administrative employees working in the ministry. Especially since the communication process is one of the most important operations that take place within the ministry, both within its various divisions and with external stakeholders. If this process is successful, the ministry achieves its intended goal through effective communication. However, if it is not successful, the ministry may lose part of its time, objectives, and reputation in the eyes of stakeholders.

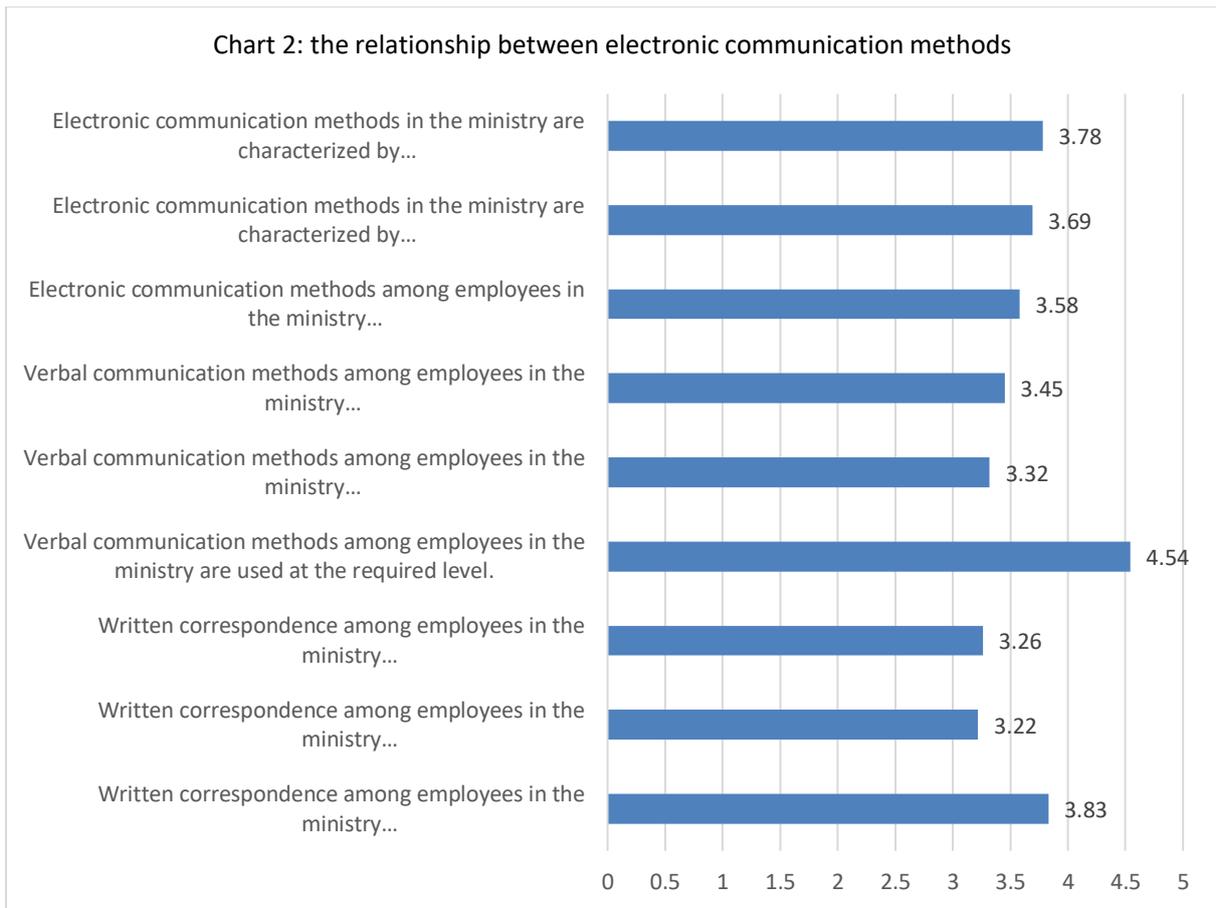


The overall average for this axis is (3.78), indicating that the adoption of electronic communication patterns is (moderate) and approaching (good).

- The results for the first axis are as follows: 43% strongly agree, 35% agree, 12% neutral, 2% disagree, and 1.4% strongly disagree. This totals to an 82% average agreement for all questions in this axis.
- Statement number 5: "Facilitates communication from employees to managers in obtaining the necessary information for decision-making" ranked first, with an average score of 4.52, representing an 88% agreement rate.
- Statement number 2: "There is continuous incoming communication from managers to employees informing them of everything relevant to them" ranked last, with an average score of 3.51, representing an 80.6% agreement rate.

The Second Axis: Electronic Communication Methods (Written, Verbal, and Electronic)

This axis aims to study the relationship between electronic communication methods, whether written via email, verbal through direct communication, or electronic through digital applications, and effective administrative decision-making.

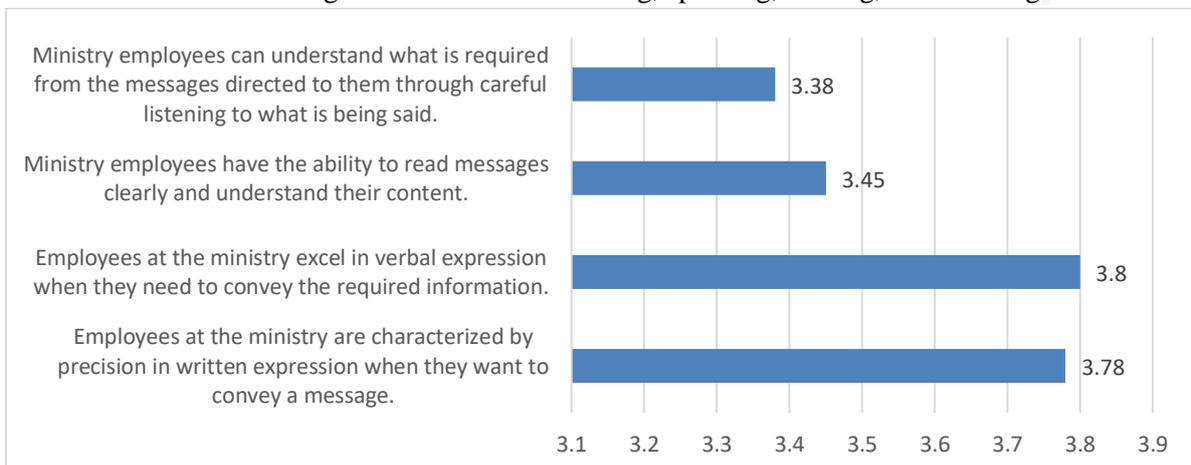


The overall average for the mean score is (3.65), which indicates a moderate level.

- The results for the second axis are as follows: 47% strongly agree, 32% agree, 10% neutral, 11% disagree, and 1.4% strongly disagree, with an average of 85.2% for all axis questions.
- Statement number 4: "Verbal communication among employees in the ministry is at the required level" ranked first with an average score of 4.54, or 84.4%.
- Statement number 2: "Written correspondence among employees in the ministry is clear" ranked last with an average score of 3.22, or 80.6%.

The third axis: Administrative Communication Skills (Writing, Speaking, Reading, and Listening).

Through this axis, we will highlight the importance of possessing administrative communication skills through four dimensions: writing, speaking, reading, and listening.

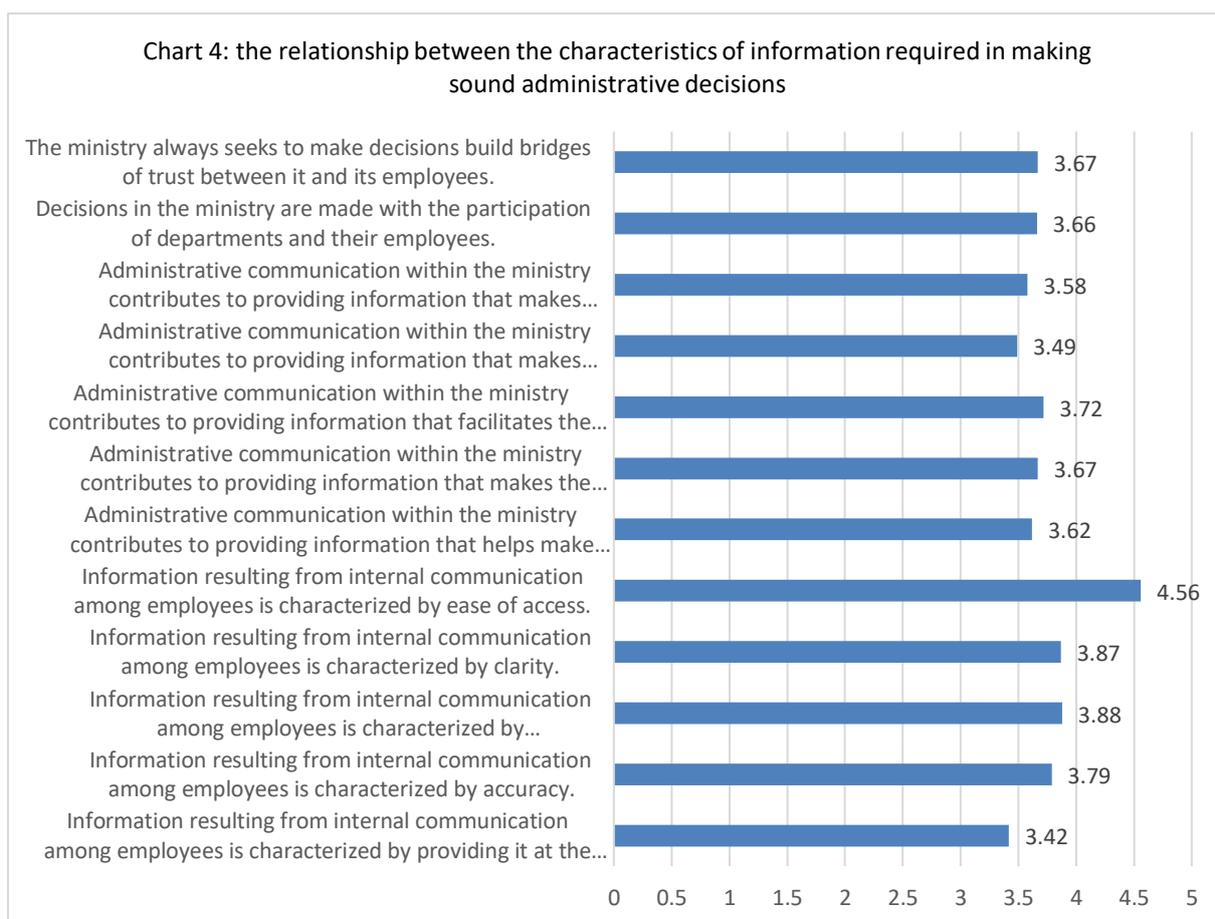


The third axis focused on administrative communication skills, highlighting their importance in correct usage, as well as the significance of developing and nurturing these skills among employees to enhance the process of decision-making and communication within the organization. The overall average for the mean was (3.66), indicating a moderate level.

- The results for the third axis are as follows: 46% strongly agree, 31% agree, 9% neutral, 11% disagree, and 4% strongly disagree, with an overall percentage of 85.2% for all questions in this axis.
- Statement number 2: "Employees in the ministry are precise in verbal expression when they want to convey the required information" ranked first, with an average score of 4.50, or 88.7%.
- Statement number 4: "Employees in the ministry have the ability to understand what is required from messages directed to them through accurate listening" ranked last, with an average score of 3.38, or 80.9%.

The fourth axis: Characteristics of Required Information (Appropriateness of Timing, Accuracy, Comprehensiveness, Clarity, and Ease of Access)

Through this axis, we will study the relationship between the characteristics of information required in making sound administrative decisions, such as the appropriateness of the timing in decision-making, the accuracy in gathering information, ensuring all relevant details, comprehensiveness when necessary, clarity in data and sources used, and ease of access to reach a decision.



The fourth axis focused on the characteristics of the information required to make sound administrative decisions. The overall average for the average score was 3.59.

- The fourth axis produced the following results: 39% strongly agree, 38% agree, 9% neutral, 8% disagree, and 4% strongly disagree, with an overall average of 85.4% for all questions in this axis.
- Statement 5, "The information resulting from internal communications between employees is easy to obtain," ranked first with an average score of 4.56, or 86.9%.
- Statement 1, "The information resulting from internal communications between employees is provided at the appropriate time," ranked last with an average score of 3.42, or 81.2%.

Results of the study:

In light of the research results in general and the survey study results in particular, despite the obstacles faced by the researcher, especially in obtaining responses from the participants included in the sample, as the researcher faced significant difficulties in obtaining the consent of all departments within the ministry, it can still be said that the results are of great importance if they are studied by the relevant authorities, and appropriate action is taken. The following conclusions can be drawn:

1. The Ministry of Water Resources in Iraq continues to attract individuals with high qualifications, skills, and expertise, which demonstrates the sector's commitment to enhancing the quality of its higher and middle-level workforce. This makes it easier for the ministry to adopt electronic communication, which can contribute to making sound administrative decisions.
2. The Ministry of Water Resources is one of the successful ministries in Iraq. It constantly seeks to develop its payment systems and infrastructure. We observed its commitment to technological innovation and the use of cutting-edge technologies to enhance its services.
3. The ministry is committed to improving the efficiency of its employees. This is evident from the policies of its departments, as it works diligently to enhance the competencies of its employees at various administrative levels. This is achieved through keeping them informed of the latest developments and providing training through annual training courses.
4. Effective training is a management tool to transfer knowledge and experience, especially when this knowledge and experience are new to the trainees.

The above findings highlight the Ministry of Water Resources' commitment to human resource development and the use of advanced technology to enhance its administrative decision-making processes. It also emphasizes the importance of training and the acquisition of new skills and knowledge for the effective functioning of the ministry.

Study Recommendations: Based on the findings of the study, the following recommendations can be made:

1. Employees should prioritize and actively participate in training courses, whether these programs are provided by the organization or by external institutions. In today's fast-paced technological and managerial landscape, continuous learning and skill development are essential for all employees.
2. Employees should not underestimate the importance of training and consider it to be exclusive to specific roles or individuals. New employees require training to excel in their new roles, and experienced employees can benefit from skill enhancement and better job management.
3. Ambitious employees should recognize that training can enhance decision-making, problem-solving skills, and reduce anxiety and stress related to job insecurity. Training helps individuals achieve their goals and perform better.
4. Organizations must invest in their human resources, as these resources have a direct impact on all other aspects of the organization's performance. Careful selection, development, evaluation, and recognition of human resources are vital for an organization's success.

5. Human resource departments should receive special attention within organizations. The HR team should consist of knowledgeable specialists who understand the nature of the work, the organization's goals, technical work processes, relevant government regulations, and emerging technologies.
6. Organizations should understand that the key to success is the people. Finding the right person for the right position, without nepotism and favoritism, is crucial. Failure to do so may lead to inefficiency and ultimately failure.
7. Organizations should invest in employee development, offer career advancement opportunities, and help individuals achieve their personal goals. A satisfied and motivated workforce leads to lower turnover and absenteeism rates.
8. Effective management, coupled with a focus on career development and providing opportunities for advancement, leads to a productive and satisfied workforce. When employees understand the connection between their skills and capabilities and the opportunities for career advancement, it lowers employee turnover and absenteeism rates, ultimately enhancing individual motivation and performance.
9. Organizations should increase their focus on technical innovation, as it is a fundamental tool for offering new products, improving existing products, designing new processes, and improving existing ones to adapt to technological advancements and intense market competition.
10. Government departments should pay attention to research and development (R&D) departments and provide them with the appropriate resources and importance. This will enable them to offer new products and improve existing ones to meet customer requirements.

These recommendations emphasize the importance of investing in human resources, promoting training and development, and recognizing the critical role of the HR department. Furthermore, they stress the significance of technological innovation, R&D departments, and career advancement opportunities in organizations and government institutions.

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