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Examining the Impact of Strategic Intelligence and Information Technology on Production Decisions: Exploratory study in the General Company for Food Products

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Abstract. This study is presented to examine the impact of strategic intelligence (SI) on the production and operations decisions (POD) mediated by information technology (IT) in an industrial company in Iraq, using the descriptive analytical approach. A questionnaire was adopted as a main tool in collecting data and information as a purposive sample consisting (315) individuals who hold administrative positions in the company. The results of the field analysis showed that there is an interest in the General Company for Food Products in the issue of strategic intelligence (SI), and this is a good thing for which the company's management is credited, noting that the results of the analysis showed that there is a lack of interest in some of the dimensional items, and this is what the company must address to rise to the level of what it is like in other organizations, whether at the local, regional or international level. The production and operations decisions received great attention from decision-makers in the company under study, as they are considered an influential weapon in its success, which requires attention from the leadership in the company under study.

Keywords: Strategic Intelligence (ST), Information Technology (IT), Production and Operations Decisions (POD)

1. Introduction

The first beginnings of strategic intelligence (SI) go back to past periods and decades (Al-Qaisi, 2014). Strategic intelligence (SI) has an ancient history, and the first use of the concept of strategic intelligence (SI) was in the fourth century BC, through the military operations that took place at that time, and its purpose was to achieve strategic plans and provide decision-makers with planned intelligence and strategic information (Ahmed et al., 2021). A person enjoys intelligence because he is a rational person and can manage his affairs and do things in the environment in which he lives. The mind is highlighted by the fact that it is the home of intelligence and not just a description. The origin of the word "Intelligence" goes back to the well-known Greek philosopher Aristotle. He explained the moral and emotional functions (orexis) and the mental and cognitive functions (Dianoia), which describes intelligence, as well as the philosopher Cicerone, who was the first to use the word "Intelligence" to denote the mental capabilities of humans, and this is what made (Guilford, 1967) explained that the term intelligence is older in terms of its origin from psychology and its experimental studies. The term "Intelligence" goes back to the Latin word "Intelligential" (Al-Azzawi, 2008). Information and communications technology (IT) in enhancing strategic intelligence (SI), as information and communication technology (IT) is considered an important and essential factor in organizations achieving their goals, and its basic idea lies in describing it as a group. It is one of the fundamental activities through which the organization is able to develop long-term strategies and plans and make decisions that contribute to Enhancing strategic intelligence (SI), and then achieving distinction over competing organizations, and here the role of attention and focus on technology dimensions appears Information and communication in enhancing strategic intelligence.

In the field of organizations work, strategic intelligence (SI) of all types and forms can provide managers, administrative leaders, and administrative decision makers with the necessary opportunities to achieve success, gain opportunities, and better achieve goals and plans, through many contributing indicators, most of which focus on increasing profits and continuing the work of organizations. And its development and growth, in addition to the goals related to obtaining the highest leadership and administrative positions and strengthening social roles and work relationships. Intelligence helps practically in strengthening the process of making administrative decisions, as it shows the role of the decision maker and strategic thinkers in the possibility of making the correct and practical decisions and with the participation of workers and administrators and activating their contributions in generating alternatives. Searching for opportunities and sources of information that benefit the decision maker, and opinions and ideas that help them in forming a clear vision regarding what organizations face in the short and long term, and drawing up the steps and procedures to be implemented and how to achieve them. (Al-Adwan, 2013) stated that the importance of strategic intelligence (SI) (Mandel, 2014) helps support decision-making and draw their expectations about future developments, and it supports leaders and senior government officials in clarifying and gaining insight into developments and events, how to avoid disasters, and making appropriate decisions. (Kotler, 2000) defined information technology (IT) as a group of people, equipment and procedures used to collect, process and store data and information in order to obtain a comprehensive picture of the organization's activities and work. Both researchers (Al-Abadi, 2006) and (Faraj, 2009) indicated that the five variables used in the study (human resources, hardware and equipment, software, databases, networks and communications) are interactive and integrated dimensions at the same time. This reflects integrated interaction enhances the value of productive decision makers' use of information technology. By providing modern, visible devices and providing operating programs for these hardware components, data can be entered, maintained, and updated. Information can be organized and stored through databases, prevent duplication of information, provide security to protect it, and facilitate its maintenance. Providing information of interest to individuals and beneficiaries in any location through communications networks, especially strategic intelligence leaders, to help and support them in the field of decision-making and making. The availability of a useful information technology (IT) is achieved through the integration of these

dimensions, as each dimension affects the other. What is the value of information if it is stored in the database, and if it is valuable for the stored information, it is organized by an information technology (IT), and what is the value of the system if it is difficult to communicate with it, and if human skills are not available, in which there is knowledge and experience on how to use the information system to make the correct decisions based on it, The organization in its decisions and the sustainability of its work in the local and international markets.

However, there are some research gaps regarding recent strategic intelligence (SI). Previous studies were very limited in addressing the subject of strategic intelligence (SI) and information technology (IT) and their impact on production and operations decisions (POD), because the researchers did not find a study linking strategic intelligence (SI) with production and operations decisions (POD), as most studies linked strategic intelligence (SI), and administrative decision-making only, without referring to decisions. The production and operations (POD) in particular, therefore, the current study came in order to fill the research gap, by linking the topic of strategic intelligence (SI) and information technology (IT) to production decisions. Also, most previous studies relied on only five sub-variables in their study of strategic intelligence (SI): foreseeing, organized thinking, future vision, motivation, and partnership. Such as studies, (Mahmoud, 2019; Hashim, 2020; Al-Azzawi, 2008), while the two researchers used seven sub-variables of strategic intelligence (SI) and determined the effect of the two variables (intuition and creativity) on production decisions, filling the research gap. All studies related to the research were applied in a service environment only and not an industrial organization, as our current study was applied in an important industrial organization in Iraq. The research seeks to determine the impact of the strategic intelligence (SI) of managers in industrial companies and its impact on the quality of production decisions in particular. Figure (1) shows the hypothetical plans for the study.

2. Hypothetical Outline of The Research

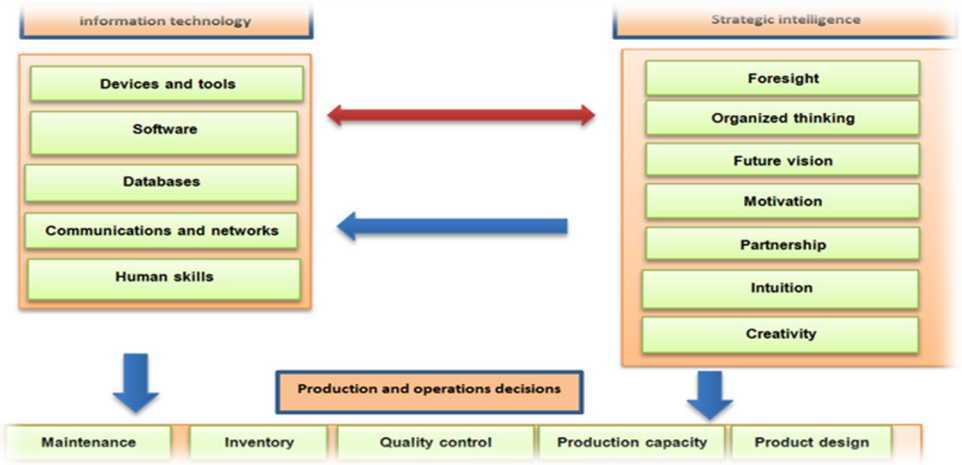

Fig. 1: Hypothetical outline of the research

3. Literature Review

3.1. Independent variable: strategic intelligence

3.1.1. The concept of strategic intelligence

One idea that has attracted the attention of authors and researchers in the field of management and organizational work is the idea of strategic intelligence. They have provided numerous definitions and concepts for this idea, including one that was defined by (Kori et al. 2020, 133) as theories of power connected by Max Weber. Attaining objectives through managing activities, resources, and people,

(Ahmed et al., 2021, 2) promised to be the process of obtaining information from the environment to create strategic value and help in making rational decisions. The researchers define strategic intelligence as a strategic approach to obtaining valuable information. It helps decision-makers take advantage of available opportunities**.**

3.1.2 Dimensions of strategic intelligence

- **Foresight**: It is the ability to anticipate and identify trends that could pose a threat to an organization or provide opportunities for it (Gitelman et al., 2021 p. 298).
- **Organized thinking**: It is the ability to collect or combine elements instead of dividing them into parts for analysis (Al Kharasani & Hassan, 2021, 2259).
- **Future vision**: It refers to perceptions and expectations of what the organization should be like, and it represents the future outlook for the future and the expectations that can be obtained in the long term (Abuktaish & Alkshali, 2020, 261).
- **Partnership:** This means the ability to create strategic alliances with individuals, groups of people, and other forces inside and outside the organization to achieve goals (Gitelman, al., 2021, 295).
- **Motivation**: This is a procedure that enhances the motivation that motivates a person to act. It is up to the individual to decide whether or not he or she is motivated to do so (Shaheen, & Farooqi, 2014:13)
- **Intuition**: It is embodied in the abilities and abilities that intuitive strategists possess in understanding themselves. Communication begins with the deliberate application of strategic thinking (Al-Adwan, 2013, 29).
- **Creativity:** Expresses something related to new ideas in areas such as management, product development, team leadership, and improving customer service (Marni and Al Busaidi, 2019, 163).

3.2. The mediating variable is an information technology

3.2.1 The concept of information technology

The concepts of information technology have varied according to the opinions of those interested, writers, and researchers in information technology topics. Several definitions of information technology have been provided, as (Abdelraheem et al., 2021:192) defined it as information that has been processed for a specific purpose or a specific use, with the aim of Decision-making, and (Asuquo et al, 2020, 298) stated that it is a radical change in the balance of power between institutions, the government, and the people on a large scale, and the dissemination of important information and achieving this to a large extent. The researchers define information technology as (all the devices and techniques necessary to process and classify information and data. It is classified and disseminated to help decision-makers obtain timely information.

3.2.2 Dimensions of information technology

- **Devices and Equipment**: A group of tools (hardware) such as processors, monitors, keyboards, printers, mainframe computers, and computers (Kazim, 2016: 15).
- **Software**: A set of detailed, pre-programmed instructions or instructions to control and coordinate computer hardware components in an information system (Laudon & Laudon, 2014, 51).
- **Databases**: It creates a database that simplifies the complex flow of information within the institution, and creates an organizational network by linking institutions together (Rezaei et al., 2014: 1210).
- **Human Resources**: Human resources and their development are among the most important factors for the success of any organization in the work environment, as they contribute directly to achieving the goals that the organization seeks (Sardone, 2019:102).

- **Communications networks**: Are an electronic network tool or means of communication that enables information technology users to connect directly to any site and communicate with any other user (Benitez et al, 2018:26).

3.3. The dependent variable is production and operations decisions

3.3.1. The concept of production and operations decisions

It is the essence of the production and operations function and the main means of achieving its competitive dimensions (cost, quality, flexibility, delivery, and creativity), thus helping the organization's management to continue its activities and achieve its goals of survival, growth, and development. This goal requires making the correct decisions in the areas of production, operations, etc. of the organization's strategy, which represent the basic operational decisions.

3.3.2. Dimensions of production and operations decisions

- **Product design**: The process of updating product designs over a continuous and continuous period to provide products with designs that meet the ever-increasing needs of customers (Slack et al, 2013 p. 130).
- **Production capacity**: It is a measure of the outputs of organizations' production and service operations, and is expressed in the number of units produced or services provided (Krajewski & et al., 2016 p. 223).
- **Quality control:** meeting requirements and translating them into product specifications through research, and then the manufacturing process is organized based on these specifications (Heizer & et al., 2017p. 217).
- **Inventory**: Maintaining inventory speeds up the process of meeting customer orders on time and reduces fears that orders will not be met on time (Krajewski & et al., 2016: 340-341).
- **Maintenance**: All activities that contribute to the maintenance of systems and equipment (Heizer & et al., 2017, 667).

4. Hypothesis Development

Strategic intelligence is one of the most prominent characteristics of the human mind, and many studies, including the study of (Qasim, 2011), and study (Seitovirta, 2011) have prominently confirmed that there is a statistically significant correlation between strategic intelligence and the decision-making process. Accordingly, the first and second hypotheses can be formulated:

The first main hypothesis: The components of strategic intelligence and the choices made in production and operations do not significantly correlate. This theory has the following offshoots: Decisions about production and operations do not significantly correlate with (foresight, organized thinking, future vision, motivation, and collaboration, intuition, creativity).

The second main hypothesis: Decisions regarding operations and production are not significantly impacted by the strategic intelligence components. From this theory, the following hypotheses follow: In production and operations choices, there is no discernible relationship between (foresight, organized thinking, future vision, motivation, partnership, intuition, and creativity).

The study (Mahmoud et al., 2012) came to diagnose the role of information and communications technology in enhancing strategic intelligence in the health sector in the Iraqi city of Mosul. The study found that there is a high percentage of agreement among respondents that information and communications technology has an effective role in enhancing strategic intelligence and the necessity of taking advantage of it, Of information and communications technology in enhancing strategic intelligence in the studied hospital. Based on this, the following third and fourth hypotheses can be formulated:

The third main hypothesis is information technology and the strategic intelligence aspects do not

significantly correlate. From this theory, the following hypotheses follow: Information technology and (foresight, organized thinking, future vision, motivation, collaboration, intuition, and creativity) do not significantly correlate.

The fourth main hypothesis: Information technology's (IT), strategic intelligence (SI) aspects have no discernible impact. From this theory, the following hypotheses follow: In information technology, there is no correlation between (foresight, organized thinking, future vision, motivation, collaboration, intuition, and creativity).

The study (Tawfiq and Laraj, 2022) contributed to highlighting the role of information technology in improving decision-making in the Electricity Distribution Corporation in Algeria. The study concluded that information technology is one of the most important means that provides the information necessary to solve problems. It also facilitated the process of communication, coordination, and exchange of information between various departments and departments. And the external environment, as well as helping to provide accurate, appropriate, and sufficient information at the right time and in a way that contributes to improving the decision-making process. Based on this, the fifth and sixth hypotheses can be formulated:

The fifth main hypothesis: There is no significant correlation between information technology and production and operations decisions. The following hypotheses branch out from this hypothesis: There is no significant correlation between (hardware and equipment, software, communications and networks, individuals, and rules Data) and production and operations decisions.

The sixth main hypothesis: There is no significant effect of information technology on production and operations decisions. The following hypotheses branch from this hypothesis: There is no significant effect between each (hardware and equipment, software, communications and networks, individuals, and databases), in production and operations decisions.

Our current study came to fill the research gap in studying the three variables together since the researchers did not find a study that combines the three variables.

The seventh main hypothesis: There is no significant effect of strategic intelligence on production and operations decisions mediated by information technology. The following hypotheses branch out from this hypothesis: There is no significant effect between (foresight, organized thinking, future vision, motivation, Partnership, intuition, and creativity) in production and operations decisions mediated by information technology.

5. Comparisons, Similarities, and Differences with Previous Studies

Previous studies emphasized not relying on a model or method for collecting data from the study population, as most of these studies indicated that they relied on methods including questionnaires, personal interviews, taking notes, and various statistical methods to reach results that contribute to improving the general framework of the organization (Mahmoud, 2019; Hashim, 2020; Al-Adwan, 2013). Enriching the theoretical and intellectual aspects, clarifying and directing the modern theoretical framework, and arranging theoretical information to serve researchers and beneficiaries of the research, whether it contributes significantly to enriching the theoretical and intellectual aspects as previous research does, and as is the case with most previous research, benefiting from the theoretical field in building The theory of the current study and conducting an intellectual and theoretical review of the philosophical perspectives related to the variables of the study. If a number of existing sources is relied upon, they are shown in the list of sources. Our current study is applied in a different environment than previous studies, as most researchers applied the topic of strategic intelligence in a service work environment, universities, and colleges, while the current study was distinguished in its application in a purely industrial work environment and an important Iraqi research field that the country needs to advance the industrial reality in general and the reality of the company being studied in a private way. The current study represents a new addition by attempting to measure the impact of strategic intelligence

in making production and operations decisions through the mediating role of information technology.

6. Method

The descriptive analytical data approach was adopted to test the hypotheses of the effect of the two independent variables on the dependent variable. The independent variables included SI, and IT, while POD was the dependent variable. Data were collected by through direct distribution of questionnaires in the General Company for Food Products in Iraq the sample size was set at 340 managers. SII was measured using seven indicators including foresight, organized thinking, future vision, motivation, collaboration, intuition, and creativity (Gitelman et al., 2021**).** IT was measured using five indicators, such as hardware and equipment, software, communications and networks, individuals, and rules Data (Benitez et al, 2018). Moreover, were measured using five indicators, Product Design, Production capacity Quality control, Inventory, and Maintenance (Heizer & et al., 2017). using regression and linear correlation AMOS v.28 and the statistical program SPSS v.28 to analyze the research data. (340) questionnaires were distributed directly in the aforementioned factories. (326) questionnaires were retrieved and (11) questionnaires were not subject to analysis. As for the questionnaires, the valid ones that were adopted in the analysis were (315) questionnaire forms.

6.1. Respondents' Demographics

The importance of gender in studying the behavior of individuals, their actions, and their reactions to the situations and problems they face is due to the physiological nature of the individual. The results of the study showed that the group of males was larger than the group of females, which generated greater motivation to analyze matters and deal with them directly. Based on the results of the sample of the studied study, it was the percentage of males was (75%), while the percentage of females was (25%), as shown in Table 1.

Table 1: Demographics

			ت
Gender	Male	**236**	**%75**
	Female	**79**	**%25**
marital status	Married people	**306**	**%97**
	Singles	**9**	**%3**
Age	50-41	**222**	**%70**
	50 <	**90**	**%29**
	40-31	**3**	**%1**
Last education	BSC	**277**	**%88**
	Diploma	**7**	**%2**
	Senior High School	**31**	**%10**
job position	Director general	**1**	**%1**
	Assistant General Manager	**1**	**%1**
	Director of the Department	**55**	**%17**
	Division manager	**202**	**%64**
	Unit manager	**56**	**%17**
Business Period	20 <	**129**	**%41**
	20-15	**157**	**%50**
	15-10	**19**	**%6**
	< 5	**10**	**%3**

6.2. Construct Validity and Reliability Test

Content validity and face validity are important tests that show the extent to which the scale is viewed personally and determine the transparency or appropriateness and improvement of acceptability and quality required for the face scale (Connell et al., 2018, 1894). Face validity is called the credibility of experts and arbitrators, while content validity includes determining The extent of clarity of the scale's paragraphs in terms of the content and meaning of each paragraph, the formulation and design of the

scale's content, and the possibility of covering it with sufficient space practically and in the field, in addition to the veracity of the content determines the representation of the scale's content, as the content must represent the scope of the paragraphs appropriately, as the paragraphs must be consistent and express the entirety. The dimensions it includes. To ensure this, the study tool was presented to a group of specialists who have experience in arbitration in the field of business management and production processes. To ensure the apparent validity and content validity of the scale's items and the extent of their consistency and realism with the answers of the study sample, their coherence, and consistency of their paragraphs with each other, the validity of their belonging to the dimensions that they measure, the clarity and accuracy of their paragraphs from an applied standpoint, as the paragraphs were modified based on the observations of the committee of experts and arbitrators regarding the paragraphs and variables of the questionnaire, as the researcher By making the necessary amendments and changes to some of the wordings of the paragraphs that the specialists stressed on the necessity of drafting them in a way that is more clear, compatible and harmonious with the company under study.

6.3. Statistical analysis methods

The questionnaire was used to collect and analyze information after presenting it to specialists in the field of scientific research, to be distributed to a selected sample more than once to ensure the validity and reliability of the questionnaire. Statistical tools were also used. To give the study variables their importance, we relied on percentages and arithmetic averages, in addition to using the standard deviation to measure the extent of the dispersion of the study sample's opinions about the arithmetic mean. The information was processed using the statistical program SPSS, Which is one of the advanced systems used to manage and analyze data in various fields including statistical applications (Abu Zaid, 2009).

6.4. Statistical analysis

Descriptive analysis of the responses of individuals in the research sample regarding the independent variable, strategic intelligence, and its seven dimensions. This paragraph explains the statistical description of strategic intelligence and its variables in general, as Table (2) shows the results of the descriptive statistics for the variable of strategic intelligence and its seven dimensions in general, as the arithmetic mean reached the general variable for the variable (4.04), the standard deviation (0.85), the coefficient of variation (21.03), and the relative importance (81%). This statistic is interpreted to indicate that the strategic intelligence variable has obtained a high degree of importance according to the data of the research sample's answers. This indicates that the company's leaders and managers, the research sample, have good strategic intelligence, which requires them to increase and maximize this level through their ability to foresight and see the future, deepen thinking in its intuitive implications, and give importance to involving the company's members in these important and decisive decisions and motivating them towards providing the best performance. The sub-dimensions of strategic intelligence came. The study sample is as follows (organized thinking, foresight, motivation, intuition, partnership, future vision, creativity) respectively and according to the data of the study sample's response results, as shown in Table 2.

Table 2: Descriptive statistics for the strategic intelligence variable and its dimensions

N	Paragraphs	Mean	Std. Deviation	Coefficient of Variation	Materiality	Arrangement of paragraphs
1	Foresight	4.25	0.52	12.24	85%	2
2	Organized thinking	4.31	0.61	14.15	86%	1
3	Future vision	3.88	0.98	25.25	77%	6
4	Motivation	4.15	0.78	18.79	83%	3
5	Partnership	3.89	0.92	23.65	78%	5
6	Intuition	3.96	0.85	21.46	%79	4
7	Creativity	3.82	0.87	22.77	%76	7
	The general average of the strategic intelligence variable	4.04	0.85	21.03	% 81	-

Descriptive analysis of the responses of the individuals in the research sample regarding the mediating variable, information technology, and its five dimensions. This paragraph explains the statistical characterization of information technology and its variables in general, as table (3) shows the results of the descriptive statistics for the information technology variable, its sub-dimensions, and five dimensions, as it reached the mean. The general arithmetic of the variable is (3.98), the standard deviation is (0.51), and the coefficient of variation is (12.81), with a relative importance of (80%). These statistical data indicate that the information technology variable has obtained a high degree of importance according to the answers of the study sample members. This explains the interest of the company's leaders in owning information technology due to their awareness of its importance in providing the company with many advantages that contribute to the development of operations and production methods and methods. As for the arrangement of the sub-dimensions of information technology at the level of the company's leaders and managers in the study sample, it came as follows (devices and equipment), communications, databases, software, individuals) respectively according to the data of the answers of the study sample members and as shown in Table 3.

Table 3: Descriptive statistics for the information technology dimension and its dimensions

N	Paragraphs	Mean	Std. Deviation	Coefficient of Variation	Materiality	Arrangement of paragraphs
1	Equipment and tools	4.26	0.50	11.73	85%	1
2	Software	3.77	0.48	12.73	75%	4
3	Telecommunications	4.21	0.90	21.72	84%	2
4	Individuals	3.69	0.57	15.44	74%	5
5	Databases	3.98	0.61	15.32	80%	3
	The general average of the information technology variable	3.98	0.51	12.81	% 80	-

Descriptive analysis of the responses of the individuals in the research sample regarding the dependent variable, production and operations decisions, and its five dimensions. This paragraph explains the statistical description of the production and operations decisions and its variables in general, as table (4) shows the results of the descriptive statistics for the variable of production and operations decisions and its sub-dimensions and in five dimensions, as it reached the general arithmetic mean of the variable is (3.98), the standard deviation is (0.51), and the coefficient of variation is (12.81), with a relative importance of (80%). These statistical data indicate that the variable of production and operations decisions has obtained a high degree of importance according to the answers of the members of the study sample. This explains the interest of the company's leaders in making decisive production and operational decisions because of their awareness of their importance in maximizing the company's material and moral resources and contributing to achieving a competitive advantage that makes the company achieve its goals in the medium and long term. As for arranging the dimensions of production decisions and sub-operations at the level of the company's leaders and managers, the research came as follows (quality control, maintenance, inventory, production capacity, and product design) respectively according to the data of the answers of the members of the research sample and as shown in Table 4.

Table 4: Descriptive statistics for the production and operations decisions dimension

N	Paragraphs	Mean	Std. Deviation	Coefficient of Variation	Materiality	Arrangement of paragraphs
1	Product design	3.80	0.77	20.26	76%	5
2	Production capacity	3.86	0.83	21.50	77%	4
3	Quality control	4.14	0.88	21.25	83%	1
4	Maintenance	4.11	0.78	18.97	82%	2
5	Inventory	4.01	0.87	21.69	80%	3
	The general rate of variable (POD)	3.98	0.51	12.81	% 80	-

6.5. Testing the hypotheses of correlation and influence of the study variables

The main and sub-hypotheses are tested to determine the correlation and influence of the research variables and to test the first main hypothesis, which states (there is no significant correlation between

strategic intelligence and production and operations decisions) and sub-hypotheses branch out from it, and Table 5 shows the correlations between the dimensions Strategic intelligence, production and operations decisions, as follows:

Table 5: Correlation coefficients between the research variables

Independent variable	Foresight	organized thinking	Future vision	Motivation	Partnership	Intuition	Creativity	Strategic intelligence
Dependent variable (production and operations decisions)	**0.812***	**0.693****	**0.712***	**0.793***	**0.652***	**0.774***	**0.836****	**0.716***

Table 5 shows the following:

1. The strategic intelligence variable and production and operations decision-making have a very strong, statistically significant, and positive association with 95% confidence. At a 95% confidence level, the simple linear correlation coefficient reached (*0.716), indicating acceptance of the second major hypothesis and rejection of the first. The alternative theory supports the assertion that there is a substantial link between strategic intelligence and production and operations decisions.
2. The simple linear correlation coefficient, which was (*0.812), indicated a high, statistically significant, positive association between Foresight and production and operations decisions. As a result, we accept the first sub-alternative hypothesis while rejecting the null hypothesis.
3. As the simple linear correlation coefficient reached (**0.693), there is a substantial, statistically significant, and positively skewed association between organized thought and production and operations decisions with 99% confidence. Due to this, we adopt the second alternative sub-hypothesis rather than the null hypothesis.
4. As the simple linear correlation coefficient reached (*0.712), there is a strong, statistically significant, positive association between the future vision and production and operations decisions with a 95% confidence level. As a result, we adopt the third alternative sub-hypothesis instead of the null hypothesis.
5. The simple linear correlation coefficient, which was (*0.793), indicated a strong, statistically significant, and positive association between motivation and production and operations decisions. As a result, we adopt the fourth alternative sub-hypothesis instead of the null hypothesis.
6. The partnership and production and operations decisions have a strong, statistically significant, positive association with 95% confidence, as shown by the simple linear correlation coefficient of (*0.652). As a result, we accept the fifth sub-alternative hypothesis and reject the null hypothesis.
7. As the simple linear correlation coefficient reached (*0.774), there is a strong, statistically significant, positive association between intuition and production and operations decisions with a 95% confidence level. As a result, we accept the sixth alternative sub-hypothesis and reject the null hypothesis.
8. The simple linear correlation coefficient reached (**0.836), indicating a strong, statistically significant, and positive association between creativity and production and operations decisions. As a result, we accept the seventh alternative sub-hypothesis and reject the null hypothesis.

To test the validity of the third main hypothesis (there is no statistically significant correlation between strategic intelligence and information technology). Table 6 shows the correlation between the dimensions of strategic intelligence and information technology as follows:

Table 6: Correlation coefficients between the research variables

Independent variable	Foresight	Organized thinking	Future vision	Motivation	Partnership	Intuition	Creativity	Strategic intelligence
Mediating variable (information technology)	0.652*	0.693*	0.653*	0.732*	0.792*	0.831*	0.785*	0.783*

Table 6 shows the following:

1. The simple linear correlation coefficient, which indicates the rejection of the third main hypothesis and the acceptance of the alternative hypothesis that confirms the existence of a significant correlation relationship, reached (*0.783), indicating a very strong and statistically significant positive relationship with 95% confidence between the variable of strategic intelligence and information technology. Information technology and strategic intelligence have a significant relationship.
2. Foresight and information technology have a strong, statistically significant positive link with 95% confidence, according to the simple linear correlation coefficient of (*0.652). As a result, we accept the first sub-alternative hypothesis while rejecting the null hypothesis.
3. The simple linear correlation coefficient, which was (*0.693), indicated a substantial, statistically significant, and favorable association between organized thinking and information technology. Due to this, we adopt the second alternative sub-hypothesis rather than the null hypothesis.
4. The association between future vision and information technology is substantial, statistically significant, and positive with 95% confidence, as shown by the simple linear correlation coefficient of (*0.653). As a result, we adopt the third alternative sub-hypothesis instead of the null hypothesis.
5. The simple linear correlation coefficient, which was (*0.732), indicates that motivation and information technology have a strong, statistically significant, and positively skewed association with 95% confidence. As a result, we adopt the fourth alternative sub-hypothesis instead of the null hypothesis.
6. As the simple linear correlation coefficient reached (*0.792), there is a strong, statistically significant positive link with 95% confidence between the information technology partnership. As a result, we accept the fifth sub-alternative hypothesis and reject the null hypothesis.
7. The simple linear correlation coefficient for the association between intuition and information technology was (*0.831), which is very significant statistically and indicates a positive relationship with 95% confidence. As a result, we accept the sixth alternative sub-hypothesis and reject the null hypothesis.
8. The simple linear correlation coefficient, which was (*0.785), indicates that there is a strong, statistically significant, and positive association between creativity and information technology with 95% confidence. As a result, we accept the seventh alternative sub-hypothesis and reject the null hypothesis.

To test the validity of the fifth main hypothesis (there is no statistically significant correlation between information technology and production and operations decisions). Table 7 shows the correlation between the dimensions of information technology and production and operations decisions as follows:

Table 7: Correlation coefficients between the research variables

Mediating variable	equipment and tools	Software	Telecommunications	Individuals	Databases	information technology
Dependent variable (production and operations decisions)	**0.821***	**0.853***	**0.863***	**0.883***	**0.893***	**0.846***

Table 7 shows the following:

1. The simple linear correlation coefficient, which indicates the rejection of the fifth main hypothesis and the acceptance of the alternative hypothesis that confirms the existence of a significant correlation, reached (*0.846), indicates that there is a very strong, statistically significant, positive relationship with 95% confidence between the information technology variable and production and operations decisions. Information technology has a significant impact on production and operations decisions.
2. As the simple linear correlation coefficient reached (*0.821), there is a strong, statistically significant positive association between devices and equipment and production and operations decisions with a 95% confidence level. As a result, we accept the first sub-alternative hypothesis while rejecting the null hypothesis.
3. The software and production and operations decisions have a strong, statistically significant, positive association with 95% confidence, as shown by the simple linear correlation coefficient of (*0.853). Due to this, we adopt the second alternative sub-hypothesis rather than the null hypothesis.
4. As the simple linear correlation coefficient reached (*0.863), there is a substantial and positive association between communications and production and operations decisions with a 95% level of confidence. Determining that the third alternative sub-hypothesis is viable, we reject the null hypothesis.
5. There is a strong, statistically significant positive relationship with 95% confidence between individuals and production and operations decisions, as the simple linear correlation coefficient reached (*0.883). Thus, we reject the null hypothesis and accept the fourth alternative sub-hypothesis.
6. As the simple linear correlation coefficient reached (*0.893), there is a strong, statistically significant, positive association between databases and production and operations decisions with a 95% confidence level. As a result, we accept the fifth alternative sub-hypothesis and reject the null hypothesis.

6.6. Testing influence relationships

This analysis aims to know the effect and significance of the explanatory variables on the dependent variable, and this includes applying several statistical methods, including the explanatory or interpretation factor (R^2) the probability associated with the calculated value of F (p-value of F), the regression parameter regression coefficient, and the probability associated with the calculated value of (p-value of t).

6.6.1. The impact of strategic intelligence on production and operations decisions

Table 8 shows a test of the effect of strategic intelligence on production and operations decisions. The results show that the explanatory variable strategic intelligence contributes (51%) of the changes found in production and operations decisions, while the other variables contribute (49%), which is a good percentage that reflects the importance of this. The variable, the calculated F value was (4.54), which is greater than the tabulated F value of (3.87). Thus, we reject the null hypothesis, which states that there is no significant effect of the explanatory variable "strategic intelligence" on the dependent variable, "production and operations decisions," and we accept the alternative hypothesis, which states that there is a moral effect. For the explanatory variable, the dependent variable is making production and operations decisions. The value of the marginal slope for the effect of the explanatory variable "strategic intelligence" was (1.54), and this indicates that whenever interest in the levels of strategic intelligence increases by one unit, the levels of production and operations decisions increase by (1.54) and vice versa. Through the t-test of the significance of the explanatory variable, the value of, The t-test (1.98), which is greater than its tabular value of (1.65), meaning that the effect is significant. That

is, we reject the null hypothesis, which states that there is no significant effect of the explanatory variable, strategic intelligence, on the dependent variable, production and operations decisions, and we accept the alternative hypothesis, which states that there is a significant effect of the variable, explanatory strategic intelligence on the dependent variable. Thus, we reject the second main null hypothesis and accept the alternative hypothesis, which states that there is an effect of strategic intelligence on production and operations decisions. It is also clear from the table that all dimensions of strategic intelligence represented (foreseeing, organized thinking, future vision, motivation, partnership, intuition, and creativity) have a high moral impact on production and operations decisions, given that the value of their coefficient of determination is greater than 50% and that the value of t the calculated value is greater than its tabular counterpart, which is 1.65, and the calculated F value is greater than its tabular value, which is 3.87. Thus, we reject the null hypothesis and accept the first, second, third, fourth, fifth, sixth, and seventh alternative sub-hypotheses of the second main hypothesis.

Table 8: the effect of strategic intelligence on production and operations decisions

Explanatory variable	Dependent variable	R^2	Calculated F value	Tabular F value	Comment	Constant limit value a	β_i	Calculated t values	Tabular t-values	Comment
Strategic intelligence	Production and operations decisions	51%	4.54	3.87	Sig	0.72	1.54	1.98	1.65	Sig
Foresight	Production and operations decisions	66%	12.84	3.87	Sig	1.357	0.680	3.79	1.65	Sig
Organized thinking	Production and operations decisions	48%	5.98	3.87	Sig	0.965	1.034	1.98	1.65	Sig
Future vision	Production and operations decisions	51%	3.93	3.87	Sig	1.43	.0754	1.88	1.65	Sig
Motivation	Production and operations decisions	63%	4.24	3.87	Sig	1.234	.0743	2.01	1.65	Sig
Partnership	Production and operations decisions	42%	4.54	3.87	Sig	0.765	1.73	2.93	1.65	Sig
Intuition	Production and operations decisions	60%	4.30	3.87	Sig	2.87	1.53	2.12	1.65	Sig
Creativity	Production and operations decisions	73%	4.12	3.87	Sig	0.85	1.31	2.23	1.65	Sig

6.6.2. The impact of strategic intelligence on information technology

Table 9 shows a test of the effect of strategic intelligence on information technology. The results show that the explanatory variable strategic intelligence contributes a percentage of (61%) of the changes in information technology, while the other variables contribute a percentage of (39%), which is a good percentage that reflects the importance of that variable and was the calculated F value is (5.42), which is greater than the tabulated F value of (3.87). Thus, we reject the null hypothesis, which states that there is no significant effect of the explanatory variable "strategic intelligence" on the mediating variable, "information technology," and we accept the alternative hypothesis, which states that there is a significant effect of the explanatory variable on The mediating variable is information technology, and the marginal slope value for the effect of the explanatory variable "strategic intelligence" was (1.953). This indicates that whenever interest in strategic intelligence levels increases by one unit, information technology levels increase by (1.953) and vice versa. Through the t-test for the significance of the explanatory variable, the t-test value was (2.08), which is greater than its tabular value of (1.65). That is, if the effect is significant, we reject the null hypothesis that the explanatory variable, strategic intelligence, has no significant effect on the mediating variable, information technology, and accept the alternative hypothesis that the explanatory variable, strategic intelligence, has a significant effect on the mediating variable. As a result, we support the alternative hypothesis, which asserts that strategic intelligence has an impact on information technology, and reject the fourth major null hypothesis. It is also clear from the table that all dimensions of strategic intelligence represented (foreseeing, organized thinking, future vision, motivation, partnership, intuition, and creativity) have a high moral impact on information technology, given that the value of their coefficient of determination is greater than 50% and that the calculated t value it is greater than its tabular counterpart, which is 1.65, and the calculated F value is greater than its tabular value, which is 3.87. Thus, we reject the null hypothesis and accept

the first, second, third, fourth, fifth, sixth, and seventh alternative sub-hypotheses of the fourth main hypothesis.

Table 9: The impact of strategic intelligence on information technology

Explanatory variable	Mediating variable	R^2	Calculated F value	Tabular F value	Comment	Constant limit value a	β_i	Calculated t values	Tabular t-values	Comment
Strategic intelligence	Information technology	61%	5.42	3.87	Sig	0.851	1.953	2.08	1.65	Sig
Foresight	Information technology	42%	4.10	3.87	Sig	0.784	1.09	1.84	1.65	Sig
Organized thinking	Information technology	%48	4.97	3.87	Sig	0.954	1.32	1.893	1.65	Sig
Future vision	Information technology	%43	4.89	3.87	Sig	0.94	1.17	2.54	1.65	Sig
Motivation	Information technology	53%	5.61	3.87	Sig	1.84	2.63	2.34	1.65	Sig
Partnership	Information technology	%63	4.89	3.87	Sig	1.34	2.03	2.56	1.65	Sig
Intuition	Information technology	%69	5.72	3.87	Sig	1.25	2.53	2.74	1.65	Sig
Creativity	Information technology	62%	6.74	3.87	Sig	1.23	2.63	2.96	1.65	Sig

6.6.3. The impact of information technology on production and operations decisions

Table 10 shows a test of the impact of information technology on production and operations decisions. The results show that the explanatory variable information technology contributes (71%) of the changes found in production and operations decisions, while the other variables contribute (29%), which is a good percentage that reflects the importance of this. The variable calculated F value was (4.96), which is greater than the tabulated F value of (3.87). Thus, we reject the null hypothesis, which states that there is no significant effect of the explanatory variable "Information Technology" on the dependent variable, production and operations decisions, and we accept the alternative hypothesis, which states that there is a significant effect of the explanatory variable. On production and operations decisions, the marginal slope value for the effect of the explanatory variable "information technology" was (2.06), this indicates that whenever interest in the levels of information technology increases by one unit, the levels of production and operations decisions increase by (2.06) and vice versa. Through the t-test for the significance of the explanatory variable, the t-test value was (1.95), which is greater than its tabular value of (1.65). That is, the effect is significant, meaning that we reject the null hypothesis, which states that there is no significant effect of the explanatory variable, information technology, on the dependent variable, production and operations decisions, and we accept the alternative hypothesis, which states that there is a significant effect of the explanatory variable, information technology, on the dependent variable. As a result, we support the alternative hypothesis—that information technology influences production and operations decisions— and reject the sixth major null hypothesis. Given that the value of its coefficient of determination is greater than 50% and that the calculated t value is higher than its tabular counterpart, it is also evident from the table that all aspects of information technology (hardware and equipment, software, communications, people, and databases) have a highly significant impact on production and operational decisions. The value of F is 1.65, and the calculated F value is greater than its tabulated value of 3.87. Thus, we reject the null hypothesis and accept the first, second, third, fourth, and fifth alternative sub-hypotheses of the sixth main hypothesis.

Table 10: The impact of information technology on production and operations decisions

Explanatory variable	Dependent variable	R^2	Calculated F value	Tabular F value	Comment	Constant limit value a	β_i	Calculated t values	Tabular t-values	Comment
Information technology	Production and operations decisions	71%	4.96	3.87	Sig	0.952	2.06	1.95	1.65	Sig
equipment and tools	Production and operations decisions	67%	5.74	3.87	Sig	0.843	1.07	2.73	1.65	Sig
Software	Production and operations decisions	73%	7.37	3.87	Sig	0.943	2.02	2.99	1.65	Sig
Telecommunications	Production and operations decisions	74%	6.87	3.87	Sig	1.47	1.95	3.65	1.65	Sig
Individuals	Production and operations decisions	78%	4.97	3.87	Sig	1.45	2.84	3.04	1.65	Sig
Databases	Production and operations decisions	80%	6.04	3.87	Sig	1.11	2.53	3.41	1.65	Sig

6.6.4. Testing the seventh main hypothesis

The absence of a significant effect of strategic intelligence in terms of its components on production and operations decisions mediated by information technology and through the relationships of the variables, which show the values of the explanatory coefficients and marginal slopes (standard regression coefficients) as shown in Table 11.

Table 11: Marginal slope estimators with significance test

Comment	Probability test statistic	Marginal propensity estimators	Variables		
Sig	**0.014**	**0.033**	Foresight	--→	information technology
Sig	**0.012**	**0.044**	Organized thinking	--→	information technology
Sig	**0.006**	**0.046**	Future vision	--→	information technology
Sig	**0.020**	**0.048**	Motivation	--→	information technology
Sig	**0.047**	**0.031**	Partnership	--→	information technology
Sig	**0.032**	**0.011**	Intuition	--→	information technology
Sig	**0.044**	**0.045**	creativity	--→	information technology
Sig	**0.075**	**0.039**	information technology	--→	Production and operations decisions
Sig	**0.011**	**0.023**	Foresight	--→	Production and operations decisions
Sig	**0.01**	**0.045**	Organized thinking	--→	Production and operations decisions
Sig	**0.109**	**0.03**	Future vision	--→	Production and operations decisions
Sig	**0.176**	**0.001**	Motivation	--→	Production and operations decisions
Sig	**0.02**	**0.033**	Partnership	--→	Production and operations decisions
Sig	**0.284**	**0.001**	Intuition	--→	Production and operations decisions
Sig	**0.343**	**0.001**	Creativity	--→	Production and operations decisions

It is clear from Table 10 that there is a positive significant effect between (strategic intelligence and all its sub-dimensions) and (production and operations decisions) mediated by (information technology). Therefore, the null hypothesis can be rejected and the alternative hypothesis can be accepted.

7. Discussion

The current study aimed at examining the Impact of Strategic Intelligence and Information Technology on Production Decisions. The problem of the study and the justifications for conducting it assume that most organizational leaders, as mentioned in previous studies, do not have a clear vision or logical answers to strategic intelligence and that their perceptions of this subject are closer to routine practical practices than to being cognitive, and this is what the researchers diagnosed when conducting the field survey of the company under study and touching upon it. Its role in operational decision-making and how to employ it in our Iraqi organizations to produce high-quality operational decisions that are in the interest and aspirations of those organizations and the possibility of determining their information capabilities applied in the company and their ability to provide operational decision-makers with the information and data they need. The current study addresses the gap represented by measuring and understanding the research sample represented by the directors of the General Company for Food Products about the variables of strategic intelligence and the extent of their influence on production decisions and enhancing the role of information technology through this. It is an additional attempt that most previous researchers have not addressed in combining the three variables and knowing the extent of their influence. This lies in the strength of the operational decision, as the researchers used statistical tests to achieve this, as the results of the research showed and according to the development of hypotheses, which are:

- **For the first main hypothesis: There is no significant correlation between the dimensions of strategic intelligence and production and operations decisions.**
- **The second main hypothesis: There is no significant effect of the dimensions of strategic intelligence on production and operations decisions.**

The results showed a strong, statistically significant positive relationship. This result can be explained by the company's managers' adoption of the dimensions of strategic intelligence by mobilizing joint actions and enhancing their insight in the face of complexities and variables that have an impact on the future, and the company's adoption of organized thinking for its outlook on work activities and its keenness to enhance the principle of cooperation. Exchanging knowledge among employees and encouraging them to engage in creative ideas and activities that improve the quality of decisions made in production and operations. This is what the researchers confirmed in their study (Qasim, 2011) and (Seitovirta, 2011) and I agree with them in those results.-The third main hypothesis: There is no significant correlation between the dimensions of strategic intelligence and information technology.

- **The third main hypothesis is information technology and the strategic intelligence aspects do not significantly correlate**
- **The fourth main hypothesis: There is no significant effect of the dimensions of strategic intelligence in information technology.**

The results concluded that there is a positive, statistically significant relationship with a confidence of 95% between the two variables (strategic intelligence and information technology). Thus, this result can be explained by the company’s managers adopting the dimensions of strategic intelligence by mobilizing joint procedures and strengthening their foresight in the face of complexities and changes that have an impact on the future and adopting The company's organized thought for seeing work-related events and its keenness to activate the principle of knowledge sharing among employees and encourage them to engage in creative ideas and activities. Here I agree with the results of the study (Muhammad, et al, 2012), which confirmed the existence of a correlation and influence between both strategic intelligence and information technology.

- **The fifth main hypothesis: There is no significant correlation between information technology and production and operations decisions.**
- **The sixth main hypothesis: There is no significant effect of information technology on production and operations decisions.**

The results found that there is a strong, positive, statistically significant relationship with 95% confidence between the two variables: information technology and production and operations decisions. Thus, this result can be explained by the fact that the organization's managers apply the dimensions of information technology, including computers, devices, equipment, modern communications networks, electronic storage media, software, and operating systems, in completing the company's programmed work, and that it has computerized systems in its various departments, units, and factories, which have greatly contributed to supporting decision makers, including managers and leaders, At various administrative levels to make successful operational and production decisions that achieve their set goals. These results were in agreement with the study (Tawfiq and Laraj, 2022), which emphasized the impact of information technology, including storage and publishing, databases, human resources, devices, equipment, and software, which contribute to and enhance the ability of decision-makers with strategic intelligence to make appropriate production decisions that achieve the organization's goals.

- **The seventh main hypothesis: There is no significant effect of strategic intelligence on production and operations decisions mediated by information technology.**

The results showed that the explanatory or explanatory variables (foresight, systemic thinking, vision, motivation, partnership, intuition, and creativity) have an impact on the dependent variable, production and operations decisions and that the explanatory or explanatory variables (foreseeing, systemic thinking, vision, motivation, partnership, Intuition and creativity affect the mediating variable, information technology.

8. Difficulties and Limitations

Limited generalizability: A study may have limited generalizability if it focuses on a specific topic in Industry or geographic location, making it difficult to apply the results to other organizations, Lack of practical sources that combine the variables of the study, as the researchers took time to collect sources on the theoretical side of the study. Other limitations related to the study indicators. In light of the field visits to the company, the researchers found that the dimensions of strategic intelligence are applied vaguely, which is why the current study came to show the role of strategic intelligence and its importance in achieving the company's goals.

9. Conclusion

In summary, IT is a detailed process characterized by methods such as collecting data and transferring information to enhance management. At the same time, business 'Intelligence' uses technology to analyze data and disseminate information through both systems. Information systems management and business intelligence are related because information technology provides business intelligence applications with relevant data to make management decisions (Altarawneh & Tarawneh, 2023). The results of the field analysis showed that there is interest on the part of the General Company for Food Products in the issue of strategic intelligence, and this is a good thing that is credited to the company's management, noting that the results of the analysis show that there is a lack of interest in some paragraphs of the dimensions, and this is what the company must address to rise to what it is in other organizations, whether at the local, regional or international level. The production and operations decisions received great attention from the decision-makers in the company under study, as they are considered an influential weapon in its success, which requires attention from the leaders in the company under study.

10.Practical Implications for Management

A practical vision for the company's management can be achieved through a good understanding of strategic intelligence measuring the level of awareness of the leaders of the researched organization about strategic intelligence in its dimensions and reality in theory and practice, and knowing whether there is a discrepancy in the answers of the respondents regarding the most sub-dimensions and for both strategic intelligence and information technology's influence on production decisions. Operations, as management understands of strategic intelligence indicators, create a state of success for managers in their work and contribute to increasing production efficiency and employee effectiveness, as strategic intelligence is the link between successful management and increasing employee awareness of that.

11. Future Studies

Based on the results and discussion previously presented, the two researchers presented some future areas. Studies can be conducted within the same scope as the current study, which includes:
Conduct a study linking strategic intelligence to production decisions and other operations, such as forecasting, scheduling operations, and the internal arrangement of the factory, and knowing their impact on decisions.

12. Recommendations

Based on the analysis, results and conclusion, the current study suggested the following recommendations:

1. The need for organizations and their senior management to emphasize the application of the dimensions of strategic intelligence and their belief in its importance, as it is linked to the core work of managers at various administrative levels (lower, middle, and upper) and contributes to providing them with successful and decisive administrative and operational decisions.
2. The need for the company to adopt a coordinated, integrated, and interconnected work system within it, as this contributes to increasing the effectiveness of the administrative and production decisions taken, especially since they will be made in an appropriate atmosphere of exchange of opinions and ideas between the components of the internal system to reach the result of these mutual ideas and take productive decisions and operations related to the company's work.

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