

# The Influence of Knowledge Integration Mechanisms on Quick Response Manufacturing in Supply Chain (Case Study: Views of Doctors in Mosul Hospitals)

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**Abstract-** The aim of this study is to explore the consequence of applying the practices of knowledge integration in the promotion of quick response in the supply chain, in order to reduce the time required for waiting in the emergency hall of government hospital located in the city of Mosul. The study employed a questionnaire structural design by adopting a set of scientific sources from the sample of doctors working in some selected hospitals in Mosul. From the set of the statistical methods in data analysis, some conclusions that support the practices of knowledge integration practices were issued. These practices are meant to promote a quick response in supply chain and reduce the time required to treat patients and save their lives in the emergency room. This study is therefore recommended to strengthen the mechanisms of integration of knowledge in hospitals under the advanced level of cognitive integration of doctors in Mosul hospitals as it has a prominent role in promoting rapid medical service.

**Keywords-** *quick response Manufacturing, knowledge integration, supply chain, hospitals, Mosul.*

## 1. Introduction

In accordance with the cooperation and collaboration between staff members working in the hospitals, the integration of knowledge mechanisms is an administrative approach to achieve the objectives of the organization. The objectives are to reduce the time limits through quick response among the medical staff working in the emergency room and at the hospital as a whole; also to use the practices to spread, develop and promote knowledge among the hospital workers; and to achieve effective

communication. The practices of integration of knowledge by integrating knowledge among the staff in the hospital lead to a reduction in the response time to emergency cases. This study is divided into different section which comprises the methodology of the research, theoretical framework, data analysis and proposal development, conclusion and recommendation.

Regardless of whether the organizations are concerned with the production of goods or the provision of services, the knowledge of modern organizations has become a cornerstone. It is well known that knowledge in organizations must be integrated into various aspects in order to achieve maximum utilization, reduce the problems facing the organization and consequently solve them. The quick response industrialization strategy is the modern approach adopted by most international organizations and it has been proving worthwhile and successful in the production of goods. Notably, a quick response in services is more prominent than in the field of services as services are produced and consumed in the same place. Dealing with emergency situations must be done with care in the area of medical services (especially emergency services) at the same time while minimizing the delay of the patient to the maximum extent possible to avert the chance of death of the patient.

Hence, the practices and integration of knowledge from clinical diagnosis and medical consultations with the intervention of emergency obstetricians will contribute to deadline issues and waiting period for patients to receive appropriate treatment and attention. Taking into consideration the practice of knowledge integration and quick response in Mosul hospital, the following research questions are developed within the framework:

1. What is the nature of the relationship between the practices of knowledge integration and quick response services?

2. Does the impact of the practices of knowledge integration in terms of importance vary in the quick response services?

The importance of this study is outlined from the objectives of the study. The answers to the research questions developed from the problem statement and the results from the hypotheses tested indicated the importance of the study. Also the importance is derived from two dimensions: first one is the theoretical dimension of the framework which consists of two variables that will contribute to the study; secondly, the quick response service. The field dimension is the expected answers to the research problem in the direction of proving or negating the validity of the research hypotheses related to the role of the practices of knowledge integration in promoting quick response services.

The main aim of this study is to promote the concepts and importance of the practices of knowledge integration and to examine the effect of adoption of knowledge integration practices in promoting the quick response service. The outcome is expected to reduce the time required to treat any condition in the hospital and provide medical services to patients admitted to the emergency room. Based on the previous studies conducted on these variables, it is hypothesized that:

1. The practices of knowledge integration are related to a significant relationship with confidential response in the services of the selected hospitals.
2. The knowledge integration practices significantly affect quick response services of the selected hospitals.
3. The knowledge integration practices in terms of importance and impact on services vary by the quick response in the hospitals being investigated.

## 2. Literature review

### 2.1 Knowledge Integration

Studies have increased over the past decades to make emphasis on the importance of knowledge to the

organization through actions such as reducing the time of waiting, extensive feeding and progressive technical development. The literatures suggest that knowledge-bound capabilities are critical at the organizational level and in order to stimulate the global competitive environment and high dynamic markets [1]. Most operations in the organization require a wide range of specialized knowledge possessed by individuals in different departments of the organization. [2] Stated that knowledge integration is the expression of the formation or transformation of the specialized knowledge of individuals into a comprehensive knowledge in any given situation.

In addition, the specialization of individuals working in an organization transforms the organization into distributed knowledge systems where a variety of knowledge is required to produce and create commodity or service and all the members acquire knowledge as the final result. In an organization, there should be an integration of different parts of the expertise knowledge involved. In line with this, the integration of knowledge is a matter of organization, ability to create and find a creative group that is crucial to the organization. The integration of the identifier implicitly synchronizes the routines and in such a way, a group of staff in the organization will contribute to a particular task through the representation and interaction of implicit individual knowledge applied.

Similarly, by showing a state of integration, such as collaborative work practices and comparing the concept of the level of the knowledge group. Through a combination of knowledge from several sources and changing of the knowledge available to suit solutions across specialized areas, the integration of knowledge is aimed to create new knowledge. This technique shows that the building of new knowledge requires the integration of knowledge through the active individuals according to the immediate experience, flexibility, improvisation and frequent problem solving as a response to the situation as shown in Table 1 which presents the views of a group of researchers regarding the concept of integration of knowledge.

Table 1: The views of a group of researchers on the concept of the integration of knowledge

Items	Author	Year	Definition of Knowledge Integration
1	[3]	1991	Integration of different types of specialized knowledge within the context of new product development
2	[4]	1992	The ability of a company to generate new sets of ideas and exploitation of yet-to-be-discovered technology knowledge.
3	[5]	1994	Integration and linking of the component knowledge together as a whole body to be used as a source of insight into the ways which shows difference to one another in creativity
4	[6]	1996	The ability to combine and collect professionals who engage in different tasks with different expertise in order to achieve a common interest that prepares their minds for new product creation, better service provision and higher operational efficiency.
5	[7]	1999	Collection or integration of multiple types of knowledge into a new knowledge system architecture
6	[8]	2002	Association of different knowledge specialists
7	[9]	2006	Integration of different parts of knowledge that come from whether strategies, practices or type of organizational structure with the same goal in the accumulation of knowledge and its application
8	[10]	2006	It is only a transfer of knowledge
9	[11]	2006	Demonstration of the company's ability to develop routines in facilitating the integration of existing knowledge and transfer of knowledge
10	[12]	2007	It is an extension of knowledge-based productivity that comes from integration and collection of different technologies
11	[13]	2008	Application and transfer of knowledge to other parts of knowledge.
12	[14]	2009	A catalyst for production of project management as delivered by disciplinary teams
13	[15]	2009	An extension of knowledge-based productivity from integration or collection of many different technologies

Source: [16]

From the perspective of this study, knowledge is one of the critical inputs in a production process, and if every effectiveness requires that knowledge is created and stored by individuals in a special way. If the production requires the application of many types of specialized knowledge and based on the above definition of knowledge integration from previous studies, knowledge integration is the only convergence or consolidation of different types of knowledge in an organization. Integration of knowledge teaches us how to use the same knowledge for the purpose of achieving a certain goal or accessing a specific goal.

According to [12], knowledge needs to be defined, acquired and then used at the same time. Most of the literatures focusing on knowledge management literature are held in internal processes as external knowledge needs

to acquire a pre-requisite for use or acquisition (not necessarily commercial acquisition) that precedes the stage of use for the purpose of acquiring external knowledge. It then concludes that as definition of knowledge is necessary, the acquisition stage precedes the stage of use.

[13] Developed a system called Portoki which is a microcosm of a larger model in knowledge integration. This tool is a mini-model that serves as a device under knowledge integration with the purpose to integrate new knowledge into the current knowledge base [14]. The process involves three steps:

1. Recognition: This is the stage that defines the part of current knowledge that may be influenced by new knowledge.

2. Eradication: The result of the new knowledge is determined in the system under this step in order to know some irregularities that can be detected when some contradictory conclusions are reached by a different chain of thought and when the answers of the system and the users are not consistent.

3. Adaptation: The solution to the irregularities is managed in this step as the micro-model system examines the interpretation that leads to observed irregularities.

From the above afore-mentioned steps, this study uncovers the significance of the knowledge integration despite their differences. Meanwhile, the purposes of these stages are to be accustomed with the:

- i. Definition
- ii. Possession and acquisition
- iii. Use.

## 2.2. The mechanisms of Knowledge Integration

A different range of activities can complement knowledge but not all activities can successfully integrate knowledge. According to [15], it is essential that there is coordination among the members of the organization. Previous literatures have mentioned the practices that promote a

process of integrating knowledge and knowledge integration practices itself from three different perspectives: procedural mechanism (or procedural systems); interactive mechanism; and interactive boundary.

Automated systems and procedures are the problematic incidents from rules, routines, procedures and tables that are designed to improve the efficiency of knowledge integration processes and to avoid the cost of learning and communication. [16] stated that the two basic mechanisms of knowledge integration are directional and organizational routines. The organizational routines are used to develop sequential patterns of interaction that allow the integration of specialized knowledge without the need to integrate a knowledge while the mechanism refers to the standard operational rules.

Appropriate mechanisms should be employed to integrate knowledge. Knowledge challenges where knowledge is relevant and stable must be addressed by this mechanism on how it can be accessed and when it is needed [17]. Table 2 presents the mechanism of knowledge integration from different points of view as pointed out by many researchers.

Table 2: the mechanisms for the integration of knowledge from the views of previous researchers

Item	Authors	Year	Mechanisms of Integration
1	[16]	1996	This integration follows: Organizational routines, Sequence, the rules, Problem solving and decision making group
2	[17]	1998	Monuments Time management
3	[18]	2000	Knowledge experiences Recognize the necessity of the expertise Experience to the workplace different mechanisms such as routines, milestones, and discussion sessions supports the integration mechanism
4	[19]	2002	time management Interactive session Information sharing
5	[20]	2005	Relational capital Absorbability
6	[21]	2010	Time management Deadline for work completion

Source: [20]

Previous studies, like [19], [20] stated that there are four basic mechanisms accredited by the organization to achieve knowledge integration. This study agrees with the view of the above literatures. The mechanisms are:

- i. Directives and rules
- ii. Routines

iii. Sequences

iv. Problem solving and decision- making in groups

The following section explains the mechanisms in details:

### 2.3. Directives and rules

This is a type of coordination that applies non-personal entries such as policies, procedures, standard information, tables, plans, communication systems, predictions and forecasts [20]. This mechanism can be applied to complex activities. The purpose of the rules and regulations as the responsibility of the organization is to ensure that the employees have social networks, specialized to access the required skill of the job. [21] Stated that this is very important for new employees.

### 2.4. Sequences

There is a need for knowledge specialist in every activity and every specialist has a specific time to execute the given task. Thus, the integration of all workers is important and necessary irrespective of their experience while the workers can promote their integration plan. [19] Referred to the sequence as the act of making specialization while reducing communication and promoting continuous coordination of the organization of activities in chronological order.

### 2.5. Routines

These are common practices that emanated from the accumulation of experiences and lead to models of collective behavior which are included in the work procedures. These procedures include a set of responses and models that enables the inputs of serial workers and the use of implicit knowledge, thereby enhancing complex interaction in the absence of other coordination mechanisms. [20] Stated that the trend of routines comprises coding implicit knowledge into explicit rules and orders; then transforming implicit knowledge into explicit knowledge (Phenomenon) in the form of rules, instructions, and formulas of expert systems and loss of material knowledge.

The idea of routines stands for a mechanism that involves a wide range of practices such as decision-making applications, the procedure of research and development, creative processes, training, structure and strategies.

### 2.6. Problem Solving and Decision-making in Group

The problem-solving group is highly interactive and is a major source of knowledge integration, unlike the non-explicit mechanisms of integration. There is occurrence of knowledge change through beliefs, suggestions and expressing opinions in the activities of the problem-solving group. Furthermore, by increasing the complexity of tasks,

there is a need for interaction with the problem-solving group which represents the latest mechanism presented by [20]. This represents the problem-solving and decision-making group. This mechanism allows more personal interaction between the official liaison engineers and knowledge brokers and integrated operational teams.

### 2.7. Quick Response Manufacturing in Supply Chain (QRM)

This study at the first place clarified a very important issue surrounding the fact that quick response service is a commodity-related issue before the introduction of the concept of quick response service. The service sector is a vast and diverse sector where delivery of services can be benefitted from quick response services. These sectors include banking, health care and transportation; sectors like education and health care provide services on a non-profit basis. In contrast, hotel services, consultations from lawyer offer service on a profit basis.

It is difficult to come to a conclusion on the definition of services; this is because the service concept itself and the service industry have undergone a major shift. The service industry achieved independence and growth from the processes from physical goods. [21] Stated that the service is a work and duty while [20] indicates that the services are intangible delivered in a self-contained manner and consumed at the same time (when the service is consumable); it is also characterized by the prevention of production, according to the need of the customer. This study provides the following in order to provide a proof for the system of service.

Firstly, services can be considered as an integral part of the industry, which has nothing to do with the production of goods as the service industry includes distinctive sections such as telecommunication services and medical services which are separate from the systems of commodity production. Also, the service is considered as the final result of what the customers receive and it is believed to be normal as the manufacturing in services is different from manufacturing of goods from four perspectives:

1. Intangible
2. Heterogeneity
3. The correlation between production and consumption
4. The service is considered wasted if it is not utilized at the time of production

In addition, service can be defined as the process by which the result of a process is transferred directly to the

customer; it is a step by step process of interaction between the participants. In general, the process of delivering the service includes customer participation, customer contact between manufacturing of goods and services. Therefore, it is possible to derive from the manufacturing by the quick response to the services. In other word, products are goods or services created from manufacturing processes. Manufacturing processes need more than the production of goods in the service sector.

Another important issue is the quick response in the areas of service manufacturing. Quick response service is a comprehensive strategy for a company to follow due time in all aspects of the company's activities. The first bases of the concept of quick response delivery were developed from the strategies adopted in 1980s from a Japanese project, which is known in America as time-based competition. There was an urgent need to reduce the time limit in the US companies.

Similarly, it is known as a specific application in the field of manufacturing regarded also as quick response manufacturing in a supply chain system that maximize the importance of time-based competition with many new dimensions. The aim of the concept of quick response manufacturing in the supply chain is to continuously restructure the manufacturing process and business modification for both external and internal change. The idea of rapid manufacturing is a previous adjustment to the systems; it focuses on time pressure in all areas of work. Quick response to services ensures effective time management, the collaboration between processors and recipients, and a flexible response to marketing consulting and improving the company's long-term competitiveness.

[18] Indicates that a quick response delivery is a response regarding the request of the customers which are achieved by rapid action and internally manufacturing for goods and services. This implies increasing response speed, improving quality and reducing deadlines for all tasks. Time-reduction and other results are achieved from quick response manufacturing in the supply chain through the concepts of analysis of techniques, step-by-step, manufacturing methods, detailed management, analysis of techniques and tools that use basic concepts of system dynamics. Quick response manufacturing in supply chain emphasizes more on creation of intellectual orientation to pursue time constraints.

From the above submission, this study posits that the concept of manufacturing by secret response is a system that allows companies to achieve competitive advantage compared to other competing companies through the

development of maximum flexibility. Quick response in manufacturing helps in adjusting the speed of change in customer request by reducing the occurrence of stalemate and high correlation of manufacturing-oriented schedule. Also, companies that implement quick response services benefit from the greater reduction in social capital, have better quality, and greater flexibility for employees.

Notably, manufacturing tools provide quick response with great benefit as the organization can control processing, manufacturing, and distribution in accordance with the demand rather than assumptions. The manufacturing tools are:

1. Easily controlled treasures
2. Luxor production line
3. Equipment with the cost of preparation
4. Lower stocks
5. Workers who are good in multi-tasking
6. Working hours with more compatibility with employer's assessment
7. Less use of space
8. Less disadvantage
9. Reduction in quality cost by reducing the recycle work, the high responsibility of the production teams and the place of cellular production to increase the quality of products (goods or services).

## **2.8. The Principles of Quick Response Manufacturing in Supply Chain**

Quick response manufacturing in the supply chain can serve as an effective competitive strategy for companies that operate according to make-to-order, companies that operate as engineering-to-order and a large-base for product diversity ranges with variable demand. Quick response services primarily focus on optimizing deadlines in all parts of the organization's production processing chain. Quick response manufacturing in the supply chain includes basic principles of time-based competition as stated:

1. Focus significantly on reducing waiting time.
2. Focus on the manufacturing on the project.
3. Clarification of misconception and misunderstanding of managers on how to apply time-based strategies.
4. Realization of the initiator of the expansion of the organization after the principle of the material flow (shop floor) to other areas such as office operations and the processing chain.

5. Use a cellular regulatory structure throughout the work with more stored cells
6. Incorporation of basic and dynamic principles of systems to prepare insight into how to form the best project and achieve the quick response.
7. Introduction of Control and New Resources Planning
8. How manufacturing insightful processes and decision equipment are based using principles of manufacturing with a quick response.
9. Innovative performance measurement
10. Focus on continuity and implementation
11. Manufacturing critical-path time to measure deadlines

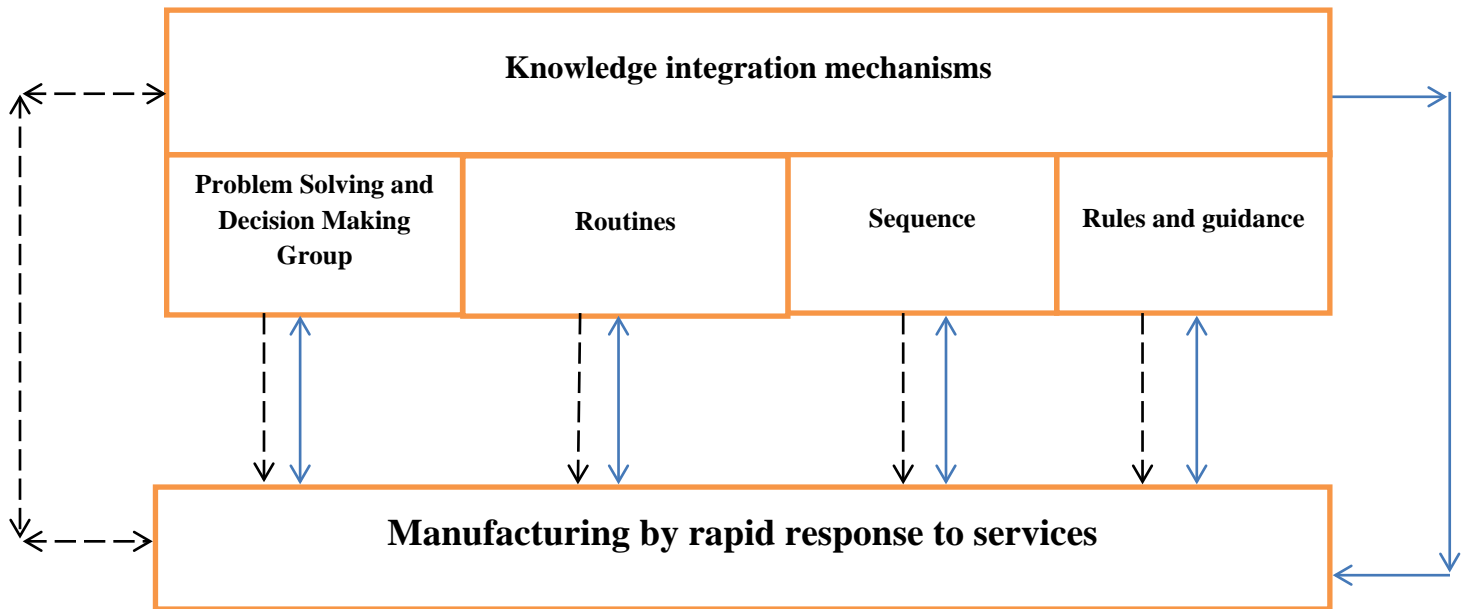
relationship effect directly with knowledge integration and the relationship is linked with an arrow as presented in figure 1 below.

In other words, [19] highlighted the existence of four basic principles:

1. The power of time: Efficiency is used to replace traditional cost-based objectives completely and with the use of time-based targets purposely focused on reducing deadlines.
2. Organizational structure: Revision of the structure of the organization while focusing on the deadline and the main point of this change is to replace the flow of materials within the workplace from planning the process to the manufacturing body in quick response.
3. Exploitation and understanding of the mechanism of the system: there will be better guidance for the efforts of improvement of these variables by understanding the relationship between variables that affect the information time.
4. Reduction of time-lapses within the organization: Quick responses must be applied across activities within the organization such as processing chain, engineering and product development and sales and office operation.

## 2.9. Conceptual Model of the Study

To conceptualize the theoretical background, this study explores the linkages between the mechanism of knowledge integration and the response rate of the manufacturing services as the independent variable and dependent variable respectively. The knowledge integration is measured by problem solving and decision making group; routines; sequence; and rules and guidance. Quick responses from the manufacturing have a



Relation effect ←———→  
 Link relationship ←- - - ->  
 Figure 1: the model of the study

### 2.10. Benefits of Quick Response Manufacturing in Supply Chain

A few years ago, a quite number of companies achieved amazing results through implementation of quick response strategy. These outcomes have led to a reduction in time intervals between 80 to 90 percent in office and manufacturing operations; 15 to 50 percent at the right time while the performance is improved from 40 percent to 98 percent, work is restored at the rate of 50 percent more, and reduction in the defective products is also achieved. With the proper implementation of manufacturing methods, step-by-step approach, detailed management principles, analysis of techniques, tools that use basic concepts of system dynamism and rapid manufacturing focus, quick response manufacturing in the supply chain has achieved this reduction in timelines and deadlines. According to [17], there are many benefits from the implementation of quick response manufacturing such as:

1. Reduce in the space requirements in the organization
2. Reduce in storage requirements of finished products, work in progress, raw material, and purchased parts
3. Reduce in time limits

4. Optimization of employee productivity
5. Maximizing the usage of equipment
6. Reduction in paperwork and single simple planning system
7. Correct priorities for scheduling
8. Encouragement of participation among the employees
9. Increment in product quality

### 3. Research methodology

This study employed analytical descriptive approach in the research procedures as a main approach for its suitability in the context of the study. This approach involves data collection through a questionnaire and the descriptive analysis technique was conducted through SPSS and appropriate tests were conducted such as correlation and variation.

### 4. Data analysis and proposal development



#### 4.1. Description of Data Sample

The selected hospitals in Mosul are: As-Salam Educational Hospital that was officially inaugurated on 14 December, 1985; [16] Educational Hospital is known as a pediatric hospital located on the left side of Mosul in the restricted area between the archaeological gate of Narkal and the buildings of the University of Mosul; the technical institute hospital named after the son of the Ether associated with the founder established in 1985 as an emergency hospital and the transferred to another hospital for chest diseases. Later, a unit for blood and oncology was opened in 1997. In 1987, [22] Teaching Hospital, which specialized in obstetrics and gynecology was opened in the city of Mosul as a field for conducting research for several reasons. The hospital is also renowned as one of the first public educational hospitals in the city of Mosul in general. The hospital employs medical professionals in various fields of

medical specialties and those who have had experience from medical work in different disciplines. The diversity of specialties and activities of these hospitals is not limited to activities related to the treatment of patients but with a clear educational role. Similarly, Ku NHA is an educational hospital annexed from two medical colleges in the city for the purpose of training the college students in various specializations and the use of emergency lounges for emergency cases and treatments. The emergency rooms are equipped with amenities. A sample of 65 doctors working in emergency bureaus and wards was selected.

The research tool used was based on questionnaire form that was designed using many sources and relevant references to the study in order to gather data that contributes to achieving the objectives of this study as shown in table 3.

Table 3- Description of the questionnaire

Variable	Item No.	References
<b>Mechanisms of knowledge integration</b>		
Directives and rules	9	[14], [15], [16]
Routines	9	[14], [16], [17]
Sequences	9	[17], [18], [19]
Problem solving and decision- making in group	9	[19], [20]
<b>Quick Response Manufacturing in Supply Chain</b>		
	9	[20], [21], [22]

#### 4.2. The Analysis of the Variables

In order to identify the variables of this study and the extent of the agreement between the individual variables on the existence of the co-joined variables, a number of descriptive statistical tools were used as stated in Table 1.

#### 4.3. The Analysis of the Variables of Knowledge Integration

**The Rules and Guidance:** According to Table 4, it is shown that the variable of the rules and guidance on the percentage of agreement is 92.075% from the sample, with a mean of 4.1931 and a standard deviation of 7.6596. The confidence interval ranged between 80 to 96.6%. Regarding the cases entering the emergency hall, there was coordination between the emergency responses and the

consultant doctors with a response rate of 96.6%, a mean value of 4.3538 and a standard deviation of 77924. The difference of coefficient obtained was 0.607 where several consultancies are sent at the same time and for the same condition when 96.6% is needed for the mean of 4.1077, a standard deviation of 77,304 and a coefficient difference of 0.869.

**Sequences:** Table 4 shows that these variables are obtained with an agreement rate of 82.122% from the individual of the research sample with a mean value of 3.9499 and standard deviation of 722623. The variable related to elderly residence in the emergency ware is responsible for seeking advice from the ailment concerned with the diagnosis of the patient's condition and treatment. The average value calculated for the variable is 97% with a mean and standard deviation of 4.2154 and 73935 respectively. The variable of coordination between doctors

of consultancy and various specialties from the same condition is equivalent to 18% with a mean of 4.0154 and a standard deviation of 77,304.

**Routines:** Table 4 reveals that, there is an agreement rate of 89.444% in the variable of routine, a mean value of 3.6309, standard deviation of 78169 and a coefficient difference of 18% representing 60% -96.9%. Also, the presence of knowledge sharing between the employees working in the emergency room in according with each person's specialty as a variable has a ratio of 96.9%, mean value of 4.079 and standard deviation of 66867.

### Problem Solving and Decision-making in a Group:

From the table 4, an agreement of 82.122% was reached for the variables of the problem solving and decision making group on each individual of the selected sample with a mean value of 4.13795 and standard deviation of 70736. The formation of an advisory team for trading in the next cases of illness as a variable where the emergency hall must be reached when the condition is complex as 97% as mean value while standard deviation and coefficient difference is 17% and 67830 respectively.

Table 4: The repetitive and relative distributions of respondents' responses to the dimensions of the mechanisms of knowledge integration

Variable s	Response Scale										Mean	standard deviatio n	Coefficie nt of variation
	Strongly agree		Agree		Neutral		Disagree		Strongly disagree				
	Ite m	%	Ite m	%	Ite m	%	Ite m	%	Ite m	%			
<b>The Rules and Guidance</b>													
x1	29	44.6	34	52.3	-	-	-	-	2	3.1	4.3538	.77924	18%
X2	40	61.5	15	23.1	8	12.3	-	-	2	3.1	4.4	.93207	21%
X3	17	26.2	42	64.2	4	6.2	-	-	2	3.1	4.1077	.77304	19%
X4	34	52.3	29	44.6	-	-	-	-	2	3.1	4.4308	.7899	18%
X5	22	33.8	41	63.1	-	-	-	-	2	3.1	4.2462	.7504	18%
X6	-	-	57	87.7	6	9.2	-	-	2	3.1	3.8154	.58342	15%
X7	22	33.87	41	63.1	-	-	-	-	2	3.1	4.2462	.75064	18%
X8	7	10.8	56	86.2	-	-	-	-	2	3.1	4.0154	.62481	16%
X9	25	38.5	27	41.5	11	16.9	-	-	2	3.1	4.1231	.91015	22%
Total Indicat or		33.83 3		58.422							4.1931	.76596	18%
<b>Sequences</b>													
X10	10	15.4	47	72.3	6	9.2	-	-	2	3.1	3.9692	.72821	18%
X11	40	61.5	23	35.4	-	-	-	-	2	3.1	4.5231	.79270	18%
X12	25	38.5	38	58.5	-	-	-	-	2	3.1	4.2923	.76492	18%
X13	20	30.8	43	66.2	-	-	-	-	2	3.1	4.2154	.73935	18%
X14	22	33.8	41	63.1	-	-	-	-	2	3.1	4.2462	.75064	18%
X15	7	10.8	56	86.2	-	-	-	-	2	3.1	4.0154	.6248	29%
<b>X16</b>					5	7.7	45	69.2	15	3.1	1.842	.53709	18%
X17	25	38.5	38	58.5	-	-	-	-	2	3.1	4.2923	.76492	18%
X18	22	33.8	35	58.8	6	9.2	-	-	2	3.1	4.1538	.83349	20%
Total Indicato r		26.67 8		55.444							3.9499	.72623	18%

Variable s	Response Scale										Mean	standard deviatio n	Coefficie nt of variation
	Strongly agree		Agree		Neutral		Disagree		Strongly disagree				
	Ite m	%	Ite m	%	Ite m	%	Ite m	%	Ite m	%			
<b>Routines</b>													
X19	31	47.7	8	12.3	-	-	24	36.9	2	3.1	3.6462	1.4235	39%
X20	16	24.6	47	72.3	-	-	-	-	2	3.1	4.1538	.71219	17%
X21	16	24.6	47	72.3	-	-	-	-	2	3.1	4.1538	.71219	17%
X22	14	21.5	49	75.4	-	-	-	-	2	3.1	4.1231	.69614	17%
X23	25	8.5	38	58.5	-	-	-	-	2	3.1	4.2923	.76492	18%
X24	19	29.2	44	67.7	-	-	-	-	2	3.1	4.2	.7331	17%
X25	11	16.9	52	80	-	-	-	-	2	3.1	4.079	.6686	16%
X26	16	24.6	47	72.3	-	-	-	-	2	3.1	4.1538	.71219	17%
X27		9.2	57	87.7	-	-	-	-	2	3.1	4	.61237	15%
Total Indicato r		22.94 4		66.5							3.6309	.78167	18%
<b>Problem Solving and Decision-making in a Group</b>													
X28	10	15.4	53	81.5	-	-	-	-	2	3.1	4.0615	.65852	16%
X29	15	23.1	48	73.8	-	-	-	-	2	3.1	4.1385	.70438	17%
X30	12	18.5	51	78.5	-	-	-	-	2	3.1	4.0923	.67830	17%
X31	3	4.6	0	92.3	-	-	-	-	2	3.1	3.9538	.57093	14%
X32	22	33.8	41	63.1	-	-	-	-	2	3.1	4.242	.75064	18%
X33	22	33.8	41	63.1	-	-	-	-	2	3.1	4.242	.75064	18%
X34	10	15.4	53	81.5	-	-	-	-	2	3.1	4.015	.65852	16%
X35	21	32.3	42	64.6	-	-	-	-	2	3.1	4.2308	.74518	18%
X36	27	41.5	36	55.4	-	-	-	-	2	3.1	4.3231	.77273	18%
X37	23	35.4	35	53.8	5	7.7	-	-	2	3.1	4.1846	.82712	20%
Total Indicato r		28.22 2		78.622 2							4.1379 5	.70736	17%

### The Analysis of the Variables of Quick Response Manufacturing in Supply Chain

Table 5 shows that the variables of quick response manufacturing in the supply chain to an agreement rate of 82.2113% of the individuals sample with a mean value of 3.4246 and a standard deviation of 0.01269 and a coefficient difference of 4102. The variable that indicates the spirit of one team in the treatment of cases of emergency illness has an agreement rate of 97% with a mean value of 4.2154 and a standard deviation of 73935

and a variation coefficient of 18%. The staff in the emergency ward obtained full readiness in terms of tools with a mean of 96.9% and a standard deviation, of 1237.

Table 5: Frequency and relative distributions of respondents' responses to Quick Response Manufacturing in supply chain dimensions

Variables	Response Scale										Mean	standard deviation	Coefficient of variation
	Strongly agree		Agree		Neutral		Disagree		Strongly disagree				
	Item	%	Item	%	Item	%	Item	%	Item	%			
X38	6	9.2	57	87.7	-	-	-	-	2	3.1	4	.1237	3%
X39	13	20	45	69.2	5	7.7	-	-	2	3.1	4.0308	.7493	19%
X40	16	24.6	47	72.3	-	-	-	-	2	3.1	4.1538	.71219	17%
X41	2	36.9	31	47.7	8	12.8	-	-	2	3.1	4.1538	.87018	21%
X42	14	21.5	49	75.4	-	-	-	-	2	3.1	4.1231	.6914	17%
X43	15	23.1	43	66.2	5	7.7	-	-	2	3.1	4.0615	.76805	19%
X44	13	20	50	76.9	-	-	-	-	2	3.1	4.1077	.68746	17%
X45	-	-	-	-	-	-	56	8.2	9	13.8	1.8615	.34807	19%
X46	6	9.2	57	87.7	-	-	-	-	2	3.1	4	.61237	15%
X47	18	27.7	45	69.2	-	-	-	-	2	3.1	4.1846	.72656	17%
X48	19	29.2	44	67.7	-	-	-	-	2	3.1	4.2	.73314	17%
X49	1	24.	47	72.3	-	-	-	-	2	3.1	4.1538	.71219	17%
X50	20	30.8	43	66.2	-	--	-	-	2	3.1	4.2154	.73935	17%
X51	11	16.9	53	81.5	-	-	-	-	2	3.1	4.1231	.54508	17%
Total Indicator		19.54		62.6713							3.4246	0.601269	18%

### Test of Correlation and Relationships between the Variables of the Study

#### Correlation between the Variables

The correlation coefficients between the variables of knowledge integration (rules, directives, sequence, routines, problem solving group and decision making) and quick response service as adopted variable are presented in

table 6. There is a significant correlation between practices of knowledge integration and services with the value 0.05. It is clear that all the relationships are positive at the level of partial correlation between the variables of the strategy of empowerment and creation of knowledge as the value of the total correlation coefficient reached 0.906\*\* and other partial correlations of values 0.895 \*\*, 0.815 \*\*, 0.899 \*\*, 0.854 \*\* respectively.

Table 6: Total and partial correlation between the selected banks

Independent variable	Dependent variable	
		Quick Response Manufacturing in supply chain
Knowledge Integration mechanisms	Directives and rules	0.895**
	Routines	0.815**
	Sequences	0.899**
	Problem solving and decision-making in group	0.854**
Total Indicator		0.906**

### Test of relationships of the practices of the Integration of Knowledge in Quick Response Manufacturing in Supply Chain

Table 7 indicates the relationship between moral influence as a dimension of knowledge integration practices (rules, guidance, sequence, routines, problem solving and decision-making groups) in quick response services. The calculated values of F are 252, 388, 124, 486, 266.045 (0.60) while the value of the R squared is 0.883. The follow-up of the values of the coefficients ( $\beta$ ) and t (t) was found to have the highest effect on the practices of knowledge-based integration in quick response. The value of concentration of routine is 0.820 in terms of the

calculated value of t (16.331), which is significant compared with the t-value of 2.64.

The results show that the routines owned by workers accompanied by experience in the practice of business have a prominent role in quick response and services by dealing with employee immediately. Thus, different works that will increase the expertise, thereby reduce the necessary responses to cases of quick sickness but less limits for deadlines. The calculated significant value of t is 15.887 which was after the "problem solving and decision making group" in the third degree by an effect of 0.791 in terms of the significant value t of 13.030.

Table 7: The impact of the mechanisms of knowledge integration in services by quick response at the level of the organizations

Independent variable \ Dependent variable	$\beta_0$	Knowledge Integration mechanisms				$R^2$	F value	
		Directives and rules	Routines	Sequences	Problem solving and decision-making in group		Calculated	Tabulated
Quick Response Manufacturing in Supply Chain	0.819 0.777 0.820 0.791	0.819(15.887)*	0.777 (11.157)*	0.820 (16.331)*	0.791 (13.030)*	0.883	252.388 124.486 266.045 169.793	2.5252

N = 65 \*  $P \leq 0.05$

def. (4, 60)

Table prepared by the researcher in the light of the outputs of the electronic calculator.

### Test of variation of the effect of the practices of knowledge integration in the creation of quick response manufacturing in supply chain

Table 8 below shows the results of analysis regression in order to reveal the extent at which the effect of knowledge integration practices in terms of impact and importance in manufacturing has impacted the quick response in the selected hospitals. The findings indicate that there is a level of variation in the effect of explanatory variables expressed in the dimensions of the knowledge integration

practices (rules, directives, sequence, routines, problem solving group) in quick response services. Obviously, the routines alone is 0.809% of the changes in manufacturing as interpreted for the quick response, and the value 0.88% was due to random variables included in the regression model or 0.933% when not included in the stage. The explanatory power of the regression model was increased to 0.938% after the problem-solving group. The importance of the effect becomes low and limited after the sequence was excluded from the studied model in the selected hospitals.

Table 8: Results of the regression analysis of knowledge integration practices in quick response service

Stage	Variables	R <sup>2</sup>
First	Routines	0.809
Second	Routines, Directives and rules	0.933
Third	Routines, Directives and rules, Problem solving and decision-making in group	0.938

## 5. Conclusion and recommendation

### Conclusion

1. This study clearly concludes that the practices of knowledge integration are the processes of knowledge management where knowledge is incorporated into the members of the organization through interaction and teamwork in order to reduce the time required to complete the task.
2. Knowledge integration practices enhance employees to actualize their work in stipulated time with continuous improvement of the knowledge integration. This will lead to a reduction in the time required to complete any task.
3. The outcome from the analysis and description of the variable has revealed that knowledge integration practices are based on a high ratio of agreement by the concerned individuals. This shows that knowledge integration practices are important in hospital medical services.
4. The correlation coefficient between the knowledge integration practices and services showed that there is a quick response, i.e. positive correlation between them at the micro- and macro-level which indicates a close relationship between the variables.
5. The effect of the practices of the integration of knowledge on quick response services is found to be significant. It is also found that concentrated in the dimension of routine has the highest effect of the mechanisms of the integration of knowledge on quick response services. This shows that routines (referred to as common procedures in the daily work practices in the emergency hall) and other related procedures have a significant role in reducing the time required for the completion of work. This will enhance industrialization by quick response through the treatment of doctors with

different cases that will increase their expertise, which leads to the promotion of quick response and reduce the time limits for responding to the treatment of emergency cases.

6. The regression analysis shows the rate of variation in the effect of knowledge integration services in terms of impact and importance of quick response services in the selected hospitals. The acquisition of variable rotations has a high level of effect and importance on the other hand and low impact after the sequencing, correlation and previous impact. It is emphasized that the routines performed by physicians in a selected sample of the hospitals contribute immensely to the promotion of quick response services by reducing the time limits for emergency treatment.

### Recommendation

1. There is a necessity to draw attention to the outcome of the relationship in the trend of this study within the framework of mechanisms of knowledge integration and the adoption of quick response as independent variables.
2. This study suggests that the administration of the hospitals is concerned to empower the mechanisms of knowledge integration within the framework of an advanced level of procedures for the treatment of emergency cases. An emphasis should be laid on the medical intervention routines for emergency cases in the emergency hall for its role in promoting a quick response in medical service by reducing the time limits for emergency response to treat disease.
3. More attention is needed to be given to the creation and improvement of appropriate organizational climates after sequencing for success after the weakness of its effect on service delivery has been proved by the quick response. In order to improve the performance of the

hospital workers, the researcher must direct the attention of the hospital supervisors to the results of the regression analysis in this study.

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