

**Impact of Human Competencies on Aviation Maintenance
Employees Performance. (A Case Study at JALCo).**

أثر الجدارات الإنسانية على أداء موظفي صيانة الطائرات (دراسه حالة شركة
جالكو).

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**Thesis Submitted in Partial Fulfillment of the Requirements
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Authorization

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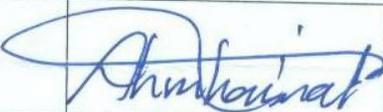
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Examination Committee's Decision

This thesis of the student Yaser Alfateh Ibrahim Wahbi, which studied **“Impact of Human Competencies on Aviation Maintenance Employees Performance. (A Case Study at JALCo)”**, has been defined, accepted, and approved on 4/6/2016.

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DEDICATION

My thanks and appreciation to my family for persevering with me throughout the time it took me to complete my MBA.

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ABSTRACT

The purpose of this study is to investigate the impact of human competencies (behavioral, functional, and managerial) on aviation maintenance employees' performance; to achieve this aim the study surveyed Jordan Airmotive Limited Company (JALCo) employees. A questionnaire was designed to collect the required data. The study sample and population consisted of 150 employees (managers, supervisors, and technicians) of (JALCo), a company that is located in Amman. A150 questionnaires were distributed, and 144 statically viable questionnaires were collected, collected data was analyzed by using different statistical techniques such as descriptive statistics, correlation, and multiple regressions through the SPSS.

The questionnaires were evaluated by a respected panel of professors, and quality manager at JALCo.

The results indicated positive relationships between behavioral, functional, managerial human competencies and the enhancement of employees' performance at JALCo. The behavioral competence was the one with the highest importance among the three competencies, and the results showed that the respondent believed that there was a strong

interrelated and strong connection between the three independent variables and the employees' performance. Finally, the study suggested recommendations that could contribute in improving the employees' performance, as the selected three human competencies are strongly interrelated and connected with each other.

KEY WORDS

Human Competencies (Behavioral, Functional, and Managerial), performance, JALCo, aviation maintenance employees.

أثر الجداريات الإنسانية على أداء موظفي صيانة الطائرات (دراسة حالة شركة جالكو). اعداد

ياسر الفاتح ابراهيم وهبي

بأشراف

الدكتور امجد طويقات

المخلص

تهدف هذه الدراسة الى التعرف على تأثير الجداريات الانسانية (السلوكية، الوظيفية، الادارية) على اداء موظفي صيانة الطائرات. تم اجراء مسح شامل للعاملين في شركة (جالكو) وكان مجتمع الدراسة هو نفسه العينة والتي تم استخدام الاستبانة عليها للحصول على البيانات اللازمة للتحليل. تم توزيع 150 استبانة وجمع 144 استبانة صالحة للتحليل، وجمعت من الاداريين، المشرفين، والفنيين العاملين بشركة جالكو، والتي تقع في مدينة عمان. تم تطوير الاستبانة وتقييمها وتحكيمها من خلال عرضها على مجموعة من المحكمين الاكاديميين و مدير الجودة بالشركة. استخدمت مجموعة من الاختبارات الاحصائية المناسبة لتحليل البيانات التي تم جمعها مثل الاحصائي الوصفي، العلاقة بين المتغيرات، كما تم ايضا استخدام الانحدار المتعدد لاختبار فرضيات الدراسة من خلال نظام SPSS. اظهرت نتائج التحليل وجود علاقة ايجابية ذات دلالة احصائية بين الجداريات الانسانية واداء الموظفين المعنيين بصيانة الطائرات بشركة جالكو، مع الاشارة الى الجداريات السلوكية كانت الاكثر اهمية بين المتغيرات المستقلة الثلاثة. ومن ناحية اخرى اظهرت النتائج وجود علاقة تداخلية وتفاعلية قوية بين كلا من عناصر الجداريات الانسانية ومستوى اداء الموظفين.

وفي النهاية توصلت الدراسة الى مجموعة من التوصيات والتي يمكن ان تساهم في رفع مستوى الاداء لموظفي صيانة الطائرات كونها متداخلة و متفاعلة مع بعضها بقوة.

الكلمات ذات الدلالة

الجداريات الانسانية (سلوكية، وظيفية، ادارية)، مستوى الاداء، شركة جالكو، موظفين صيانة الطائرات.

Chapter One

Introduction

1.1 Background:

Since the beginning of aviation history, flight safety has occupied the concern of everyone involved in the whole flying operation. As aviation and aircrafts developed over the years, the aviation maintenance became a major pillar of flying operations. It is known that any flight crew depends on receiving sound operational equipment that should operate as intended. That is the reason why a very restricted rules and regulation was presented to the whole industry, thus creating a very high quality and safety-standards working environment is a must where errors are not permitted. However, with all the rules, regulations, and high technology equipment errors still happen. And the main reason for such errors is humans. So, when aviation maintenance employees' takes into consideration the risk and the number of people depending on their knowledge, ability, and skills they will definitely put on the needed effort to provide a high quality job, and try to eliminate these errors.

In his study, Drury (2001) said that "Human error is cited as a major causal factor in most aviation mishaps, including the 15%- 20% that involve maintenance error. Errors can be described as active failures that lead directly to the incident and latent failures whose presence provokes the active failure". Ranky (2013) stated that "Losses are attributable to human error. Errors can occur not only during the implementation of various processes, but also in the design and operation control of processes". While (2004) mentioned "Aviation mishaps caused by maintenance factors vary in severity, but can cost untold sums in lives and equipment lost".

The current study proposes to demonstrate that certain specific maintenance-related competencies are significantly correlated with both mishap frequency and severity.

Reason (2000) stated that “The longstanding and widespread tradition of the person approach focuses on the unsafe acts—errors and procedural violations—of people at the sharp end”. As some reasons were stated by Hobbs, et. al. (2011) “the unregulated hours and frequent night work characteristic of maintenance can produce significant levels of employee fatigue, with a resultant risk of maintenance errors”. On the other hand, Drury, et. al. (2005) mentioned that “Although English is the language of aviation; it is certainly not the native language of most of the world. Thus, language errors may well arise in maintenance of the US civil fleet due to non- native English speakers interacting with maintenance materials in English”.

In order to try and solve this issue, Myszewski (2012) stated that “First, there are decisions made in favor of the management systems that increase risk of human errors in processes. The conflict between managers and employees’, who are blamed for the errors, may obstruct the elimination of errors and the improvement of management systems. Second, managers are expected to resolve the conflict by establishing and maintaining a policy regarding prevention against system specific mechanisms of human error”. Tretten, et. al. (2015) stated that “Due to financial and time constraints the maintenance processes need to become more effective and efficient. By taking a human factors perspective, actions can be taken to minimize human errors in maintenance work as well as to allow for an effortless work that is accomplished in the proper way”.

“As the organization begins to implement programs to prevent errors, organizations can monitor and understand the gap between procedures and practice” (Dekker, 2003).

“To improve plant operation and safety, plant designers and utilizers are placing renewed emphasis on approaches to prevent the occurrence and limit the effects of human error. One aspect of the multifaceted approach to address errors involves the choice of features that are incorporated into plant systems” (Chen-Wing, 1998). “The increasing need for Maintenance Repair Overhaul organizations (MROs) to meet customers’ demands in quality and reduced lead times are considered as a key to its survival within the Aviation industry” (Ayeni, 2011). Zheleznaia (2014) claimed that “the quality of realizable air transportation operations is evaluated according to safety, performance, efficiency, timeliness, availability to users and environmental indicators of performance”. Davahran (2014) stated that “Customer service, safety quality and benchmarking are all important aspects that airports and airlines should take into account”.

Therefore, it’s worthy to study the impact of human competencies on employees’ performance, which would lead to improvement in the safety, quality, and reduction of human errors.

1.2 Problem Statement:

Due to the importance of flying in the world today, as it is a huge industry with high profit. any accident to any flight for any airline could harm companies reputation and consequently its market share and profit, thus a big part of the operation is in the hand of the aviation maintenance employees’. That is why JALCo needs to look into their employees’ competencies and try to strengthen the weak aspect of these competencies. That is to maintain its position in a fierce industry.

“The increasing need for Maintenance Repair Overhaul organizations (MROs) to meet customers’ demands in quality and reduced lead times is key to its survival within the aviation industry” (Ayeni, et. al.2011). Zheleznaia, (2014) stated that “the quality of realizable air transportation operations is evaluated according to safety, performance, efficiency, timeliness, availability to users and environmental indicators of performance”. Davahran, et. al. (2014) stated that “Customer service, safety quality and benchmarking are all important aspects that airports and airlines should take into account”.

1.3 Problem Questions:

Previous studies had addressed information about the impact of human competencies on employees performance, on each of which handled one or two competencies, some of these studies recommended carrying out further studies using more than one human competence.

The current study problem can be perceived by having scientific answers to the following questions:

The main question:

Is there any significant impact of human competencies (behavioral, functional, and managerial) on employees’ performance in Jordanian Airmotive Limited Company (JALCo)?

The main question can be divided into the following sub-questions:

1. Is there any significant impact of behavioral competencies on employee performance in JALCo?
2. Is there any significant impact of functional competencies on employee performance in JALCo?
3. Is there any significant impact of managerial competencies on employee performance in JALCo?

1.4 Study Objectives:

The current study aims to investigate the impact of human competencies (behavioral, functional and managerial) on aviation maintenance employee's performance in Jordan Airmotive Limited Company (JALCo). In addition, to provide sound recommendations to JALCo regarding the impact of the human competencies on their employees performance.

1.5 Study Importance:

The current study might be considered an initiative study that presents the degree of effectiveness of human competencies and its impacts on aviation maintenance employees' performance in their Jordanian culture. Deeper realization of human competencies importance on Jordanian aviation maintenance setting might be very beneficial to other organizations and to the management in general.

Therefore, the importance of this study stems from scientific and practical considerations as follows:

1. The importance of human competencies and their application on Jordanian aviation maintenance setting and their role in employee's performance, and thus the company's goals.
2. Future researchers may benefit from the results of the current study in their future studies regarding human competencies in other sectors.
3. Providing top management to enact better policies that may serve their organizations goals.

1.6 Study Hypotheses:

Based on the mentioned problem statement, and its elements, and according to the study model, the following main hypotheses can be developed through the following hypotheses:

There is no statistically significant impact of human competencies (behavioral, functional, and managerial) on aviation maintenance employees' performance in JALCo, at $\alpha \leq 0.05$.

The main hypothesis can be divided into three sub-hypotheses as follows:

H₁: There is no statistically significant impact of behavioral competencies on aviation maintenance employees' performance in JALCo at $\alpha \leq 0.05$.

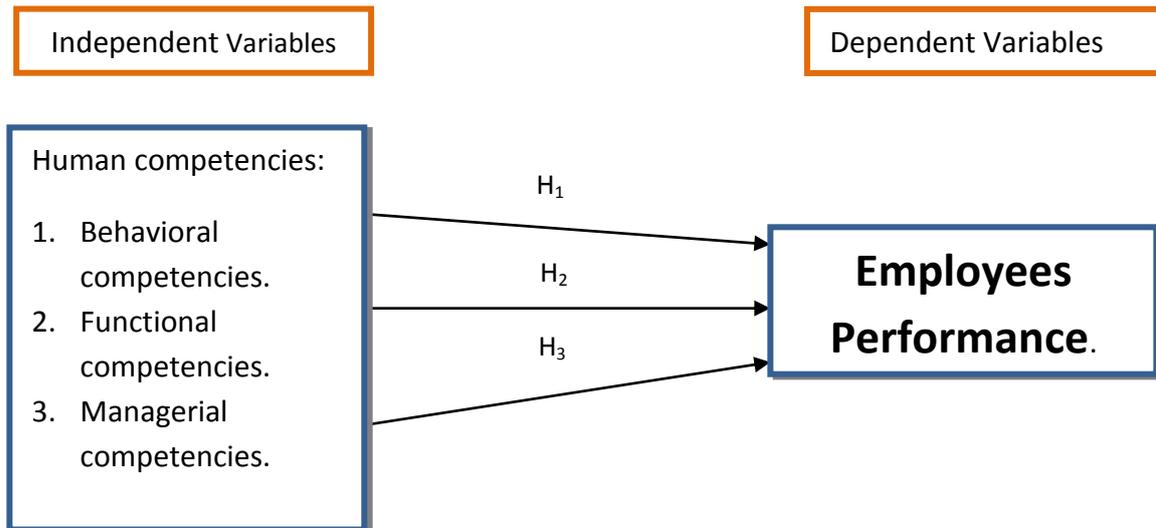
H₂: There is no statistically significant impact of functional competencies on aviation maintenance employees' performance in JALCo at $\alpha \leq 0.05$.

H₃: There is no statistically significant impact of managerial competencies on aviation maintenance employees' performance in JALCo at $\alpha \leq 0.05$.

1.7 Study Model:

The figure below illustrates the relationship between human competencies, (behavioral, functional, and managerial) and employees' performance level in JALCO.

Figure (1): Study model



***Resources:** Halim and Abhyankar, Ignacio, et.al. (2014), Masoud (2013), Ramble, et. al. (2015), the Professional HR Encyclopedia.

1.9 Study Limitations:

1.9.1 Human limitation:

this study will be carried on aviation maintenance employees' at JALCo.

1.9.2 Place Limitations:

this study will be carried on JALCo located in Amman, Jordan.

1.9.3 Time Limitations:

this study will be carried out within the period of the second semester of the academic year 2015-2016.

1.10 Study Delimitation:

The use on one industry and one company may limit its generalizability.

The study is carried in Jordan; therefore, generalizing results of one industry, one company, and/ or one country to other industries, companies, and/ or countries may be questionable. Extending the analyses to other industries, companies and countries represent future research opportunities, which can be done by further testing with larger samples within same industry, and including

other industries will help mitigate the issue of generalizing conclusions on other industries and companies.

Limitations to data access refer to the fact that data gathering through the questionnaires and basic information related to research topic which provides different ideas related to research subject Books, periodicals, journals, references and the internet were used for collecting the required data, annual reports are controlled to the period of these questionnaires, which may limit both the quality and quantity of the data collected. And may have a lack of similar studies in Jordan.

1.8 Conceptual Definitions of Key Words:

1.8.1 Human Competencies:

Competence is a commonly used term of people asserting their working potential in real activities. At present, there are many definitions for this term. In principle, the meanings on which individual definition of competencies are generally based on characterizing competencies as a power and a scope of authority associated with a certain person.

It is the potential of an individual to have an excellent performance based on his/her traits, ability, skills and talent. Thus, it can be developed through training and teamwork.

1.8.2 Behavioral competencies:

Behavioral competencies are observable and measurable such as behaviors, knowledge, skills, abilities, attitudes as well and other characteristics that contribute to individual success in the organization.

1.8.3 Functional competencies:

Functional competencies are job-specific competencies that drive proven high-performance, quality results of a given position. They are often technical or operational in nature (e.g., “backing up an Oracle database” is a functional competence), taking the form of specific skills, and are often managed at a workgroup level. Functional competencies can be applied to different roles and functions based on the maturity of the function.

1.8.4 Managerial competencies:

Managerial competencies are the skills, motives and attitudes that are necessary to a job, and which include such characteristics like communication skills, problem solving, customer focus and the ability to work within a team.

1.8.5 Employees' Performance:

The accomplishment of a given task measured against preset known standards of accuracy, completeness, cost, and speed. In a contract, performance is deemed to be the fulfillment of an obligation.

The employees performance is a value used to define the abilities of safety related parts of control systems to perform safety function under foreseeable conditions.

Chapter Two

Literature Review and previous studies

2.1. Literature Review

2.1.1 Competencies Conception:

In 1982, the US academic Boyatzis, set the building blocks of competencies framework which has become an acceptable part of modern practices in human resources management. As this framework distinguished high-performance practices from medium-performance practices and so on, all levels of activities in the organization, and all that in the light of the performance of the three axes, namely: knowledge, skill and ability (KSA).

There are many definitions of competence, for example

The general framework of competencies concept emerged in the eighties of the last century as a response to organizational changes, which is in particular related to globalization and its consequences for human resources management (Azmi, 2010).

Tett et. al, (2000) argued that “competence is a specific appearance that can be measured through behavioral reflections which affect positively or negatively the organizational efficiency”. Brans and Hondeghe, (2005) argued that “human resource management practices based on competence concept achieve two types of integration, namely: vertical integration, and horizontal integration. The vertical integration links individuals and their behavior and strategic objectives of organization, while horizontal integration links functions and practices of human resources management with each other within interactive and harmony framework”.

In addition, competence concept is linked to all practices of human resource management activities at the level of inputs and outputs.

“For inputs level competencies are determined and may lead to achievement of overall organizational goals. These competencies are called “general frameworks of competence” (Hondegem and Payrs, 2002, Milulowski, 2002).

“In this context, competencies are divided into five types: Psychomotor, Cognitive, Affective, Personality, and Social”. (Moqvist, 2002). Brans and Hondegem, (2005) classified competencies into two types, namely technical competencies, and behavioral competencies. “The two types of competencies usually represent the fundamental basis for recruitment, selection, training and career planning activities, as well as performance, Evaluating and rewarding .At the level of output, in the light of determination of these competencies Organization can make the performance output of more measurable and easy to verify”. (Hindeghem and Vadermeulen, 2000, Iihaamie, 2009). Maher (2011) distinguished between three basic types off competencies, namely: “the technical which is interested in implementation of specialized technical knowledge in work. In addition, the behavioral one cares of the ability of dealing with other and understanding their behavior, and mental competence which is interested in thinking and analyzing”.

2.1.2 Human competencies:

Individuals at work, use their competencies to perform a variety of behaviors and activities, which in turn produce outputs (products and services) which provide to others. Therefore, competence is the quality of such outputs and the reactions of those who receive them, which lead to results either with positive, negative or neutral consequences for organization, its staff, suppliers, shareholders, clients, and customers.

Human resources with knowledge and competencies are considered as key assets in assisting organizations to sustain their competitive advantage. Competitive

organizations all over the world depend on their human resources uniqueness, and human resources managing systems effectively (Imtiaz, et al, 2013).

“Competence emerges in the late 1980s and early 1990s for the purposes of expressing assessment target and development initiatives that should be relevant to management” (Cheng et al., 2003).

“Some authors treat corporate competencies as an entity, while others treat employees’ competencies in terms of specification or behavioral indicators”. (Abraham et al., 2001).

Pickett, (1998) defined competence as “the sum of individuals experiences, knowledge, skills, values and attitudes they have acquired during their work lifetime”. The United Kingdom Government Employment Department defined competence as “focusing mainly on the outcomes expected from a job when it is adequately performed” (Ahiauzu, 2006). Definition suggests “skills and knowledge is the range of qualities of personal effectiveness required to get a job done very efficiently”. Barber and Tietye (2004, p. 96) have defined competence as “the specification of knowledge and skill, and the application of that knowledge and skill to the standard of performance required”. According to Brocjbank and Ulrich, (2003) “competencies are individual characteristics, including knowledge, skills, self-image, traits, mindsets, feelings, and ways of thinking, which, when used with appropriate roles, achieve a desired result. They enable human resources organizations to contribute in performance”.

Dye and Garman, (2006, p xii) defined “competencies as a set of professional and personal skills, knowledge, values, and traits that guide a leader’s performance, behavior, interaction, and decisions”. Boyatzis (1982) stated that “it is the competence of managers that determines, in a large part the return which organizations realize from their human capital, or human resources”.

Barber and Tietze, (2004) stated that “the focus of competence concept aimed mainly to help organizations to cope with changing environment and the need to integrate an organization’s human resource strategy and its corporate strategy”.

Therefore and based on this definition, it can be said that competence could be a “motive, trait, and skill, aspect of one’s self-image or social role, or a body of knowledge which he or she uses”. Harley (1995) argued that competence includes “motives, traits, self-concepts, attitudes or values, content knowledge or cognitive or behavioral skills – any individual characteristic that can be measured or counted reliably and that can be shown to differentiate significantly between superior and average performers or even between effective and ineffective performers”. Vereecken,(2000), suggested that competencies meaning ,and competence management may depend on many factors as:

- Scope: that is whether at individual or organizational levels;
- Aim: as to whether one is considering improvement of performance, or gaining market power;
- Human resource management: that is having to do with the design of Selection instruments, development.
- Structure of human resource organization: as to whether it should be centralized or decentralized.

Payne (2005) detailed 10 competencies for HRM strategic roles as follows:

- knowledge of industry trends to develop long-term strategies as they relate to HRM,
- collection and analyses of data via environmental scanning, such as SWOT analysis,

- benchmarking or other means to monitor internal and external business conditions as they relate to HRM,
- participation in the process of defining the firm's business strategies to meet its objectives,
- analytical skills,
- visioning skills,
- leadership for implementing a strategic plan,
- understanding of how corporate culture impacts strategy implementation,
- interpersonal skills,
- development of processes to link HRM plans to accomplish the firm's business strategies,

Thought schools handled competencies in some details. Some of these thoughts consider competencies as capabilities, while the others view capabilities as different from competencies.

Ulrich, et al, (2008) viewed the two as not interchangeable terms. They argued that competencies refer to knowledge and behaviors demonstrated by individuals during their performing of their work and capabilities are defined as the collective abilities of an organization. Seal, et. al. (2010) described competence as “capability or ability that leads to successful outcome. It is a set of related distinct sets of behaviors organized about an underlying purpose or goal called the ‘intent’”. In this context Xu, (2014) argued that “competence refers to potential, profound features of individuals, which can distinguish a person. It is a motivation, traits, self-image, attitude, values, domain knowledge, cognitive and behavioral skills”.

Several classifications of competencies emerged the most important classification as they basically classified competencies into two main types, namely: technical and behavioral.

“Technical competence refers to the knowledge and skills specialized in any field to achieve effective performance. While the behavioral competence refers to a set of characteristics, motivations and features that form the behavior and reflect the way through which the use and exploitation of knowledge and skill to achieve the desired results” (Boyatzia, 2009). “There are two key elements that must exist in any competence, whether behavioral or technical: competence definition which describes the actual meaning of competence, where such definition represents common and understandable language to all responsible parties. Through which behavioral pattern or the required performance level of competence is determined, and should achieve the progressive sequence logically and competence scope” (Koenigsfeld et al, 2011).

2.1.3 Behavioral Competencies:

It is worth to mention that behavioral competencies are observable and measurable behaviors, knowledge, skills, abilities, and other characteristics that contribute to individual success in the organization. Behavioral competencies can be applied to all jobs in any organization or they can be specific to a job family, position, or career level. Behavioral competencies describe what is required to success in any organization far from specific job. So behavioral competencies are specific to a person instead of job. Behavioral competencies refer to personal attributes or characteristics that describe how a job or task is performed.

“Individual performance competencies are different from organizational competencies and capabilities since they are more specific. Therefore, it is important that they should be defined in a measurable behavioral context for the purpose of validating the applicability and degree of expertise” (Nadine. et al, 2008).

Booth (2006) introduced a model regarding behavioral competencies importance based on a set of assumption for the purpose of knowing job performance determinants. Booth model identified three basic factors as performance determinants, they are: the exerted effort, abilities, individual characteristics, and individual realization of his work role. Exerted effort reflects employees’ enthusiasm degree to perform his work. His continuity with such effort expresses his motivation degree to perform the work. While individual’s abilities and characteristics determine effectiveness degree of the exerted effort. With respect to perception of individual work role, which expresses individual impressions and perceptions regarding behavior and activities that form his /her work and how he/she must practice his /her role in the organization. Based on these model behavioral abilities represented by three factors (motivation, abilities and characteristics, and perception),

There can be a kind of fundamental dimensions in enhancing and developing performance in order to achieve the desired goals. In this context, the behavioral competencies should be determined according to the organization’s needs in order to meet the current and futuristic challenges according to its vision and mission. This means that such process should be linked to the organization strategic approach. Nowadays, the public and the private sector organizations all over the world have specified behavioral competences -in particular- to increase organizational effectiveness. Based on such competence basic and supportive pillar and guide for all human resources activities come as a result.

“Behavioral competence refers to a set of characteristics, motivations and attributes which forms the behavior and reflects how to use and utilize knowledge and skill to achieve the desired results” (Boyatzis, 2009).

There are two key elements that must coexist in any competence, whether behavioral or technical :(Koenigsfeld et al, 2011):

1-The competence definition describes the actual meaning of competence so that this definition is the language of participation, and understandable to all parties responsible in this particular field.

2- Competence Scale: it is identified through behavioral style or the required level for competence.

2.1.4 Functional Competencies:

Based on the above mentioned information, the concept of competence is associated with two- main parts: the first part represents skills, knowledge and values, and the second part, is the performance that is considered as a dependent variable for the first part, which is considered as independent variable. If skills, knowledge and professional values are applied and used well, this will be reflected on the performance excellence achievement of , and the concept of functional competencies can be achieved.

“Functional competencies are job-specific competencies that drive proven high-performance, quality results for a given position. They are often technical or operational in nature (e.g., "backing up a database" is a functional competence)”. (Nadine. et al, 2008). “Functional competence is a set of qualities possessed and used by an individual in appropriate way to complete or achieve the desired performance, and these attributes include knowledge, skills and professional values” (David, 2004, p16). “Functional competencies are defined as the skills,

knowledge and professional values needed by an individual to perform the job effectively” (Sylvia, et al, 2002, p3). “Functional competencies are defined as a set of skills and values required in human resources in organization that lead to the successful completion of the tasks of jobs of a professional group” (Aaron, 2006,p5). “Functional competencies are also defined as knowledge, skills and values outcome , which are reflected in the acquired knowledge and skills as well as social service values that affect the professional performance of social workers during the professional practice” (Kieran,2007.p16).

Importance of Functional Competencies

Importance of functional competencies due to the following (Riyadh, p13)

1-Selection and Recruitment

Selection and Recruitment decisions rely on more attached data to a potential actual success of employee from the previous traditional methods.

2-Promotion and Career Paths:

Competence approach helps modern director in taking promotion and career development decisions based on reliable data in a person's likelihood success in the job and thus promoted to a job which is better able to perform.

3-Training and Development:

Competence approach explains the exact difference in map skills between what actually enjoyed by individual skills, and what function needs and therefore training efforts can be directed to fill this gap.

4- Performance management:

Competence data significantly reduce to some extent the argument about performance appraisal through indicators for required actions.

Human Resource Competence Models

According to Scanlan (2007) “competence models describe the needed traits, knowledge, skills, abilities and behaviors for certain job positions which effective performers have to display consistently”. “Two types of competence models have been identified through research conducted on changing role of human resources professionals. The first model type addresses all human professionals competencies, and theorizes the existence of a single set of competencies for human resources professionals” (Brockbank and Ulrich, 2003). While the second model recognizes “the difference between competencies needed by professionals of human resources to succeed in different roles and levels, such as differences in human resources professional functions: generalists, specialists, business partners, and human resources professionals levels, executive management, and individual contributions” (Schoonover, 2000).

Human resources competence and Performance

According to (Nirachon et al., 2007). “Organizations’ managers should have specific set of competencies, in order to succeed in enhancing organizational performance Human resource competence study specified five domains of human resources competencies in high-performing firms should be as follows:

1. Strategic contribution:

That includes culture management, fast change, strategic decision -making and market-driven connectivity. This domain accounted for 43% of human resources total impact on business performance, almost twice the impact of any other competence domain.

2. Personal credibility:

This includes achieving results, effective relationships, and personal communication. Personal credibility contributed 23% of human resources total impact on business performance.

3. Human Resources deliveries:

Staffing, designing development programs, structure and measurement, and performance management. This domain accounted for 18% of business performance.

4. Business knowledge:

Human resources professional's knowledge of organizations business, competition, customers, internal and external business environments, and organization's business purpose. Human Resources business knowledge contributed 11% to business performance.

5. Human resources technology:

It includes design and management of capital data. Human resources technology was statistically significant predictor of business performance, with only 5% contribution to business performance".

2.1.5 Managerial competence:

Managerial competencies are used frequently by successful managers. as Managers should have competence in their related functional field that is related to developing and improving their decisions and performance tasks. Managerial competencies are interested with peoples' behavior, identifying and developing, and manager's competencies in relation to their decision-making roles, activities and specific responsibilities.

An individual's performance is assessed in According to Allredge and Nilan,(2000) “organization’s success still depends on knowledge and skills of employees’, which are dependent upon knowledge and abilities of managers that can hinder or promote their development, therefore managerial competencies are becoming a crucial factor to organization existence organizations are able to achieve greater performance and success”.

Barber and Tietye, (2004) stated that “the focus of competence concept aimed mainly to help organizations to cope with changing environment and the need to integrate an organization’s human resource strategy and its corporate strategy”.

Medlin and Green, (2009) stated that “managerial competence identify that explain how individual cooperates with other individuals in an organization, either with his Colleagues, superiors, or subordinates. Based on managers have to devote time, Energy, knowledge, and skills for the purposed of development and promotion of employees’ so that subsequently employees’ will understand the purpose of their work”. Amagoh, (2009) stated that “managerial competence are basic requirement for performing the most types of work tasks so that they are considered one of key competencies”.

Boyatzis (1982) studied, identified, and grouped managerial competencies into two Categories:

1. Consummate Competencies: these competencies include efficiency orientation, productivity, concern with impact, diagnostic use of concepts, conceptualization, Self-confidence, use of oral presentations, managing group process, use of socialized power, and perceptual objectivity.

2. Threshold competencies: these competencies include logical thought, accurate Self-assessment, positive regard, developing others, spontaneity, use of unilateral power, self-control, stamina and adaptability, and specialized knowledge.

Barber and Tietze, (2004) stated that “the focus of competence concept aimed mainly to help organizations to cope with changing environment and the need to integrate an organization’s human resource strategy and its corporate strategy”.

2.1.6 Employees Performance:

Employee performance basically refers to outcomes achieved during work. Therefore, to ensure a high level of performance potential employees’ that must be selected and recruited in an employment relationship, which will develop benefits for both employer and employee, and thus will lead to performance increase. Creating a feeling of safety, and reducing failure fear is required, since fear leads to inefficiency and poor performance because employees’ must feel secure who can be achieved through making sure that they have the necessary and relevant knowledge in relation to their jobs.

“Performance in any organization represents one of the most important aspects that should be taken in consideration. Organizations face more and more a challenge to reach highest level performance, given the companies continuous development” (Armstrong, 2006). “Despite that fact that performance evaluation is the core of performance management individuals or an organization performance depend heavily on all organizational policies, practices, and design features of an organization” (Cardy, 2004). Gruman and Saks, (2011) considered “performance management and critical aspects of organizational efficiency”. They added that “performance management is a systematic process of workload planning, expectations setting,

continuous performance monitorization, development performing capacity, periodically performance evaluation and high performance recompensation”. Christian et. al,(2011) argued that “employee performance indicates financial or non-financial outcome of an employee who has direct link with organization performance and its success”.

Armstrong (2001) reported that “in performance appraisals, accuracy and fairness in measuring employee performance is considered a very important issue. Therefore performance management is deemed as a control measure that is used to determine any deviations from work tasks along with taking needed corrective action. And It is also used to show the past performance to help organization plans ahead”.

Determinants of employees’ performance

According to Shahzad et al.,(2012) “many studies indicated that strong organizational culture has a positive impact on employee performance”. In this context Gounaris, (2005) argued that “job satisfaction is an important index of performance measurement”. Gruman and Saks, (2011) agreed that “high degree of employee commitment leads to performance increase”. Ind, (2007) stated that “companies which share their profits with their employees’ have a higher financial performance if compared to companies which do not do this”. Ind, (2007) added “provide flexible working hours and development programs will encourage employees’ for active intellectual participation”. Mone and London, (2010) indicated that “employee engagement is considered one of key determinants that foster employee performance high levels”. Leiter and Bakker,(2010) suggested that “presence of employee engagement high levels enhances job performance, task performance, and organizational citizenship behavior, productivity, discretionary effort, affective commitment, continuance commitment, levels of psychological climate, and customer service”.

2.2 Previous Studies:

Hawi, et al (2015) study entitled: “Competencies and Organizations Performance”.

The study aims to explore the link between the managerial competencies and the firms’ performance in a sample drawn from 4 big airlines organizations in Jordan. Our hypothesis was tested over a much data set including 62 managers. Results showed that all the competencies (leadership, problem solving, strategic competency and the customer focus) were have a positive relationship with the organizations performance in the airline sectors in Jordan. Specifically Organizations innovation was seen linked to the strategic competency, while client focus linked with the organization competitive advantage.

Anna, (2013) study entitled: "Can competencies at selection predict performance and development needs?".

The study aimed to explore the utility of an organization-wide competence framework, linking competence ratings at selection to later development needs and job performance. The study sample consisted of 207 employees .The study was carried out in the UK..The study used candidates’ scores at a management selection event were compared to their performance appraisal scores on the same competencies 6 to 12 months later. The study found that the competence ratings at performance appraisal were significantly lower than expected at the selection interview. Correlations between ratings at interview, and at performance appraisal were generally weak, though one showed significant relationship with five of the seven performance appraisal competencies.

Masoud, (2013) study entitled: “The Impact of Functional Competencies on Firm Performance of Pharmaceutical Industry in Jordan”.

The study aims to clarify the impact of functional competencies on the firm performance of the Jordanian pharmaceutical manufacturing companies, .The study used a field survey of 17 pharmaceutical manufacturing companies in Jordan .The study sampke consisted of 85 companies' managers. .The study results showed that there is a significant impact of the functional competencies on the firm performance, and explains (57.6%) of the variation in firm performance from the sample point view. Also, results showed that production competencies, research and development competencies, and marketing competencies have the most impact on the firm performance. The study concluded that that Jordanian pharmaceutical companies need to enhance its functional competencies (marketing competencies, research and development competencies, information systems competencies, production competencies and human resources competencies) in order to have the ability to (I) Improve firm's efficiency, sales performance, customer satisfaction, and relationship development. (II) Integrate functional competencies with strategic planning at both individual level, and organizational level to achieve firm performance. (III) Identify a list of business practices, and policies that lead to improve the functional competencies.

Halil, et. al, (2013) study entitled: “Analyzing The Effects of Individual Competencies on Performance: A field Study on services industries in Turkey”.

The study aims to analyze the effects of individual competencies on performance in the services industries in Turkey. A survey research was conducted in this study. The survey was addressed to the companies in service sector in Turkey, and the questionnaires have been distributed to 3000 employees in 30 companies and 2679 completed questionnaires were returned, representing a response rate of 89 percent. The

findings revealed that there is a positive relationship between competencies and individual performance. Furthermore, core competencies are appeared to have the most significant effect on individual performance. The study recommends that further studies should be made to compare the results of this study in different sectors and regions such as Africa, Asia and Latin America to analyze the similarities and dissimilarities.

Faridahwati, (2012) study entitled: “study entitled: “Determinants of managerial competencies for primary care managers in Southern Thailand”.

The study aimed to identify the critical managerial competencies of primary care managers; and to determine the relationship between personality and motivation, and managerial competence. The study used survey involving distribution of questionnaires to 358 rural primary care managers in Southern Thailand. The study sample consisted of 308 health care managers. The study found six critical managerial competencies: visionary leadership; assessment, planning, and evaluation; promotion of health and prevention of disease; information management; partnership and collaboration; and communication. Both personality and motivation are found to significantly influence primary care managers’ managerial competence .The study recommended to carry further studies in this concern.

James, (2012) study entitled:”Understanding How Human Resources Managers Rank their competencies and the Contributions they make to strategic problem solving”.

The study aimed to investigate how competencies possessed by human resource management professionals can be used to enhance the contribution they make in their organizations and to better understand how those professionals perceive their competencies and what opportunities they recognize for applying them to strategic problems. The study used mixed-methods like (sequential, triangulation) with a

nonrandom convenience sample of 67 human resources professionals. The study data were collected through online survey. The study results indicated that significant differences were found among human resources management professionals in their self perceived competencies in Negotiation, based on gender and level of education. The study results should provide human resources management professionals with salient information regarding the most effective ways they can increase their influence and benefit the companies they serve.

Al-Zahrani, (2011) study entitled: “INTERDISCIPLINARY JOURNAL OF CONTEMPORARY RESEARCH IN BUSINESS”.

The study aimed to investigate the relationship between training strategy and employees' behavioral competencies at Saudi commercial banks. The study population consisted of (12) commercial banks working at KSA, .The study used a questionnaire which was administrated to subject (92) managers. The study concluded that there was a significant relationship between practicing of training strategy, training process stages, and using modern technology in implementing training strategy in the sample banks and their employees' behavioral competencies. It also concluded that there was a statistical significant effect of managers' educational levels and total experiences on the managers' abilities to conduct training activities and stages from a strategic approach.

Omran et. al, (2011) study entitled: “Functional Competences' as an Effective Factor for Project Leaders in the Libyan Construction Industry”.

Aimed to identify the key factors for effectiveness leadership (in Libya) and how they contribute to the success of construction companies (from the unique perspectives of the leaders). The study focused on how functional competences can contribute to an effective leadership in the construction companies in Libya. Questionnaire was used to collect the required data. The study sample consisted of (255) respondents. The study concluded that all the

functional competence factors included in the survey show a positive and significant relationship with company establishment and strategy management system.

Ismail, and Zainal Abidin, (2010) study entitled: “Impact of workers’ competence on their performance in the Malaysian private service sector”.

The study aimed to analyze the impact of workers’ competence towards their performance in the private service sector. The study sample consisted of 1136 workers who are either executive, manager or professional from three service sub-sectors, namely, education, health and information and communication technology (ICT) in Selangor, Federal Territory of Kuala Lumpur, Penang and Johor collected in 2007/2008. The study results show that workers’ competence has significant influence towards workers’ performance. Besides that, human capital and workers’ characteristics also determine workers’ performance in the service sector. The study recommended that efforts should be made to enhance an efficient labor force must consist of a human capital package.

Tawit and Swierczek, (2009) study entitled: “Management competencies: a comparative study between Thailand and Hong Kong”.

The study aimed to investigate the management competencies required by a Master of Business Administration (MBA) graduate to succeed as a global business manager in an increasingly competitive business environment in Asia. The study analyzed the differences in management competencies of nearly 600 MBA students from 13 universities in Thailand and Hong Kong. The study used the questionnaire, in which MBA students were asked to indicate the levels of the management competencies which they have gained from studying the MBA program. The study

results indicated that work competence of Hong Kong MBA students is significantly higher than Thai MBA students.

Gladson and Augustine, (2008) study entitled: “Managerial competencies and marketing effectiveness in corporate organizations in Nigeria”.

The study aimed to assess the impact of managerial competencies on organization marketing effectiveness. The study used 27-item survey questionnaire which was developed and distributed over 84 corporate organizations in Nigeria that were selected from 2005 edition of the Nigerian stock exchange gazette as a sample of this study. One hundred questionnaires were distributed and collected from key informants in the organizations. The study concluded strong association between managerial competencies and marketing effectiveness of corporate Organizations in the Nigerian context. The study also found that managerial competencies lead to marketing effectiveness in corporate organizations in Nigeria. The study recommends that Nigerian government should ensure a stable economy and make economic policies that will enhance existing business development in the country. Ans Management must consistently motivate its sales team so that it will analyze the customer’s needs, seek to satisfy them, and try to adapt the products to these needs, react to competitors’ actions and responses.

Boyatzis, (2008) study entitled: “Competencies in the 21st century”.

The study aimed to show that development of competencies needed to be effective managers and leaders require program- design and teaching methods focused on learning. The study found that emotional, social and cognitive intelligence competencies predict effectiveness in professional, management and leadership roles in many sectors of society

William, (2008) study entitled: “Leadership Competencies and Their Development for Community College Administrators”.

The study aimed to investigate what leadership competencies are needed for community college administrators, and to identify ways most appropriate to develop such leadership competencies. Questionnaires were sent to 201 community college administrators in the state of Arizona. The 201 community college administrators (chancellors, vice chancellors, presidents, vice presidents, associate vice presidents, assistant to president, deans, associate deans, senior associate deans, assistant deans, division deans, and in some cases executive directors) represent colleges located throughout the state of Arizona

The study used multidimensional scaling, and asked current community college administrators to identify the competencies that will be needed for future community college administrators. The study results found that all 25 competencies were significant, with the interpersonal skills of leadership, communication, strategic planning, conflict resolution, budget management, and personnel being the most important to possess; and the best way to learn all of the leadership competencies is (1) seminar; (2) mentor; (3) hands-on-experience; (4) community college leadership program; (5) classroom; and (6) and other. The study recommended to conduct research for administrators in other regions to see if the results correlate, as well as have the administrators do rank order on the competence belief scale to see if a more significant result exists.

The study recommended Future research should investigate the viability of Negotiation as a new HR competency domain. Research can be focused on identifying and describing additional skill factors needed for performance and relevant HR specialties where these skills can be applied. Future research could investigate

whether significant differences can be found among HRM professionals in the other HRM competency domains using gender and level of education variables or other demographic variable(s).

Hernandez, (2001) study titled: “Organizational climate and its relationship with aviation maintenance safety”.

Naval Aviation is continually looking for ways to reduce its mishap rate. Recognizing a growing concern for issues related to aging aircraft, focus has expanded to include maintenance operations. It is accepted that human error is a causal factor in at least eighty percent of all mishaps, with maintainer, line, or facility-related factors accounting for one out of five major mishaps. One of several actions taken to reduce the mishap rate is the Maintenance Climate Assessment Survey (MCAS). Created to give Naval Aviation unit commanding officers a sense of the maintenance climate of their unit. This thesis analyzes the results of the first 2,180 responses recorded via the Internet version of MCAS. Findings include: a) administration of the Internet-based MCAS yields results similar to the paper-and-pencil version; b) differences were detected among the participating units and the Model of Organization Safety Effectiveness components; c) the relationship between MCAS score and Incident Rate, although slightly negative, is indistinguishable from random variation; and d) there was no evidence that demographics bias the results. These findings could be accounted for by the fact that a unit's safety climate typically improves after a mishap. Requiring all units to complete the survey annually would allow tracking over time to uncover trends. One area for further research is investigating the feasibility of adapting the MCAS to afloat and ashore units.

Chapter Three

Study Methodology (Methods and Procedure)

3.1 Study Design:

In this research, Books, periodicals, journals, references and the internet, as a secondary source, were used for collecting required data. the survey, as a primary source, strategy was used to collect the relevant data that handled impact of Human Competencies on Aviation Maintenance employees' Performance. The researcher used quantitative strategy which enabled him to have insight on how sample's subjects perceived impact of Human Competencies on Aviation Maintenance employees' Performance.

“Research strategy deals with the process of research data collection that would help in achieving the research objectives” Saunders, et al. (2003).

3.2 Study Population, Sample and Unit of Analysis:

3.2.1 Population and Samples:

The targeted population for this study was employees of the company who were working at the company. The researcher identified the target population of this study by contacting ten companies management. A simple random sampling was used to select the sample. The sample size was 144 employees.

3.2.2 Unit of Analysis:

The study unit of analysis consisted of department managers, section heads, and maintenance and administration employees.

3.3 Data Collection Method:

3.3.1 Tool of Collecting Data:

In this research, survey strategy was used to collect the relevant data that handled impact of human competencies on aviation maintenance employees' performance. The researcher used quantitative strategy which enabled him to have insight on how sample's subjects perceived human competencies and its impact on aviation maintenance employees' Performance.

3.3.2 Questionnaire Variables:

According to Zikmund, (2003), "using questionnaire is a flexible, inexpensive, efficient and accurate instrument for evaluating the required information. It has many several advantages such as low cost, quick tool for collecting data from a large sample",

The questionnaire in this research was developed and consists of three parts, the first part includes the covering letter in which research goals are explained. Covering letter includes research subject's assurance whose responses will be treated confidentially. The second part includes questions related to demographic data. While the third part includes all statements that measure research independent and dependent variables. Likert scale of five scores is applied as follows strongly agree= 5 scores, agree = 4 scores, neutral = 3 scores, disagree = 2 scores and strongly disagree = 1 score.

"Likert-type or frequency scales use fixed choice response formats and are designed to measure attitudes or opinions, these ordinal scales measure levels of agreement/disagreement". (Bowling, 1997).

Two versions of the questionnaire were made and handed to research subjects: (Arabic and English), the Arabic version is given to those who don't master English language. The questionnaire was distributed by the researcher in person.

3.3.3 Panel of Judges (Referees):

Panel of referees consisted of Universities professors and some professionalism the study topics in order to examine the study questionnaire (see annex)

3.4 Statistical Methods and Procedures:

The data analysis consisted of many steps. The collected data from participants were coded and further subjected to an Excel database all data were analyzed by using a SPSS software program. In order to analyze the information on the questionnaire, the researcher transferred the raw data into codes so that the statistical software could handle it. The data analyses were divided into three parts. a: data analyses for demographic information, and b: data analyses for each research question, and c: regression to test the study hypothesis.

Means and standard deviations of samples' responses were used to find sample's attitudes towards questionnaires statements that measure the impact of Human Competencies on Aviation Maintenance employees' Performance. The following scores were used for evaluating sample's responses. The sample's responses are divided to three levels of agreement: high, medium or low as follows:

5 scores as the highest, 1 as the lowest. $(5-1) = 4$

$4 \div 3 = 1.33$ as interval

$1 + 1.33 = 2.33$ so $1 - 2.33 =$ Low degree

$2.34 + 1.33 = 3.67 =$ Medium degree. $(2.34 - 3.67)$

3.68 And more = High degree. $(3.68 - 5)$

3.5 Statistical Methods and Procedures:

Two types of research approaches are available, namely: qualitative, and quantitative. Qualitative approach is concerned with collecting, and analyzing non numeric data. It includes the use of field observations, focus groups and in-depth interviews. Qualitative approach allows the researcher to interact with the research respondents. But in this approach, the researcher may face some difficulties represented by obtaining accurate results. (Kent, 2007). The study used mixed approach.

3.5.1 Validity Test:

To attest to validity, the survey instrument was distributed to a sample of universities professors and professionals to determine whether the survey was clear, understandable, and measured appropriate content. Feedback provided by them groups indicated that changes were necessary in the wording and format of the survey All notes were taken in consideration for forming the final copy of the questionnaire.

3.5.2 Reliability Test (Cronbach's Alpha):

Reliability refers to the degree that the dimension is free of accidental errors and offer constant data and is expressed as a coefficient. The coefficient ranges from (0, 00–1.00), so if the coefficient is high this means the reliability is high and vice versa. There are several methods to measure the research reliability such as test, re-test and multiple forms. Cronbach Alpha was used in this research to calculate questionnaire's reliability.

Table 3.1
Reliability of the Scale's Variables

Independent Variables	Number of Items	Cronbach alpha
Total Instrument	50	0.937
Behavioral competencies.	10	0.807
Functional competencies	10	0.763
Managerial competencies	10	0.955
Performance Level	20	0.785

Chapter Four

Analysis and Results

4.1 Introduction:

This chapter presents the findings for each question in the questionnaire. Interpretation of the results was discussed in accordance to the data analysis techniques discussed in chapter three.

4.2 Respondents' Demographic Description:

The analysis of the gathered data through the self administrated questionnaire of the responding sample revealed the following results in terms of sample, gender, age, educational level, Job, work experience, experience in the company:

Table 4.1
Sampling Distribution by Demographic Information

Variable	Options	Frequency	Percent
Gender	Male	141	97.9
	Female	3	2.1
Age	Less than 25 years	8	5.6
	25 to less than 35 years	61	42.4
	35 to less than 45 years	36	25.0
	45+	39	27.1
Education	High School or less	8	5.6
	Diploma	105	72.9
	BSC	28	19.4
	High studies	3	2.1
Job	Department Manger	5	3.5

	Section Head	22	15.3
	Maintenance employee	103	71.5
	Administration employee	14	9.7
Work Experience	Less than 5 years	43	29.9
	5- to less than 10 years	39	27.1
	10 to less than 15 years	19	13.2
	15+	43	29.9
Experience in the Company	Less than 5 years	70	48.6
	5 to less than 10 years	52	36.1
	10 to less than 15 years	15	10.4
	10+	7	4.9

Table (4.1) indicates that 97.9 % percent of the sample was males and 2.1 % percent were females. The results indicate that maintenance business. Use mainly men since the nature of maintenance jobs require men.

As for the sample subjects' age ranged from less than 25 years to 45+ years, the majority (42.4 %) of the sample their ages ranged from 25 to less than 35 years. 5.6% were less than 25 years. 25 % were between 35 to less than 45 years and finally 27.1% were 45+ years .The results indicate that most of samples' subjects are in the middle age.

With respect to the educational level, the majority of the respondents (72.9 %) have diploma. This reflects the technical nature of the job. 5.6 % of the sample's subjects have high school or less and 19.4 % were university graduates. And finally 2.1% have high studies. The results indicate that the majority of sample's subjects have diploma which in its turn reflects that maintenance needs middle men.

As for Job, the majority of the sample (71.5 %) is maintenance employees', the rest of the sample are managerial employees'. The results indicated that more employees' are concentrated in maintenance position since it is the main business of the company.

With respect to work experiences variable, the research sample was divided into four categories, since 29.9 % have an experience less than five years, and 27.1 % have an experience ranged between 5 to less than 10 years and 13.2 % have an experience ranged between 10 to less than 15 years and 29.9 % have an experience 15 +.

Regarding the samples' subjects experience in the company 48.6 % have an experience less than five years, and 36.1 % have an experience ranged between 5 to less than 10 years and 10.4 % have an experience ranged between 10 to less than 15 years and 4.9 % have an experience 15 +.

4.3 Study Variable Analysis:

A- Independent Variables Analysis:

Table 4.2

**Means and Standard Deviations of Sample Responses
Regarding Behavioral competencies**

No	Statements	Mean	S. D.	Rank	Degree
1	Employees' pay full attention to work details to ensure high level of safety.	4.59	0.560	1	High
10	Employees' strive to reach required standards.	4.27	0.661	2	High
7	Employees' maintain professionalism through difficult situations.	4.08	0.720	3	High
9	Employees avoid unnecessary risk when taking a job related decisions.	4.06	0.717	4	High
2	Employees' possess good ability to communicate with others.	4.01	0.555	5	High
8	Employees' always follow best productivity methods.	3.96	0.747	6	High
5	Employees' are able to prioritize tasks appropriately to achieve pre-specified goals.	3.91	0.719	7	High
6	Employee's Personal integrity is in line with corporate values.	3.88	0.953	8	High
4	Employees' are able to adapt to sudden arising problems.	3.72	0.816	9	High
3	Each employee has the ability to lead a team.	3.04	1.134	10	Medium

General Mean	3.95	0.469		High
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Table (4.2) indicates that the study sample attitudes regarding impact of human behavioral competencies ranged between (3.04 - 4.59) with a standard deviations (1.134 - 0.560) respectively. The results indicate different degrees of sample's agreement from medium to high level. The results also show that statement no.(1) "Employees' pay full attention to work details to ensure high level of safety" ranked the first, while statement no.(3) "Each employee has the ability to lead a team" ranked the last .The general mean (3.95) confirms impact of behavioral competences on the employees' performance from the sample's subject's point of view.

Table 4.3

**Means and Standard Deviations for Sample Responses
Regarding Functional competencies**

No	Statements	Mean	S. D.	Rank	Degree
13	Having a final product that conforms according to standards is the highest priority.	4.25	0.695	1	High
17	Active listening is an effective mean to improve technical skills.	4.22	0.749	2	High
16	Written notes are very important to communicate technical orders to others.	4.11	0.758	3	High
18	Feedback after trying new maintenance processes is advisable.	4.10	0.666	4	High
11	Employees' use technical manuals always for help.	4.01	0.793	5	High
20	Employees' learn other skills like organizing, along with technical skills.	3.89	0.794	6	High
19	Trainers take into consideration different learning abilities of individuals.	3.88	0.865	7	High
14	Qualified employees' can use their knowledge to make shortcuts in maintenance processes.	3.78	1.106	8	High
15	Knowledge is shared among employees'.	3.78	0.889	9	High
12	Experienced Employees' views are taken into consideration when buying machines.	3.51	1.077	10	Medium
General Mean		3.95	0.481		High

Table (4.3) indicates that study sample attitudes regarding impact of functional competencies means ranged between (3.51-4.25) and standard deviations (1.077-0.679) respectively. The results indicate different degrees of sample's agreement from medium to high level. Statement no. (13) "Having a final product that conforms according to standards is the highest priority" ranked the first, while statement no. (12) "Experienced employees' views are taken into consideration when buying machines" ranked the last.

The general mean (3.95) confirms impact of behavioral competences on the employees' performance from the sample's subject's point of view.

Table (4.4)

**Means and Standard Deviations of Sample Responses
Regarding the Managerial Competencies**

No	Statements	Mean	S. D	Rank	Degree
22	Experienced employees' views are taken into consideration when buying machines.	3.45	1.016	1	Medium
25	Knowledge is shared among employees'.	3.42	1.021	2	Medium
26	Written notes are very important to communicate technical orders to others.	3.39	1.032	3	Medium
24	Qualified employees' can use their knowledge to make shortcuts in maintenance processes.	3.38	1.044	4	Medium
27	Active listening is an effective mean to improve technical skills.	3.38	1.044	5	Medium
28	Feedback after trying new maintenance processes is advisable.	3.33	1.058	6	Medium
29	Trainers take into consideration different learning abilities of individuals.	3.26	1.127	7	Medium
23	Having a final product that conforms according to standards is the highest priority.	3.17	1.177	8	Medium
21	Employees' use technical manuals always for help.	3.08	1.131	9	Medium
30	Employees' learn other skills like organizing, along with technical skills.	3.03	1.240	10	Medium

General Mean	3.29	0.920		Medium
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Table (4.4) indicates that the study sample attitudes regarding impact of managerial competencies on company performance means ranged between (3.03-3.45) with standard deviation (1.240-016). The results indicated that the sample's agreement ranged between low and medium. Statement no. (22) "Experienced employees' views are taken into consideration when buying machines" ranked the first with a mean (3.45), while statement no. (30) "Employees' learn other skills like organizing along with technical skills" ranked the last. With a mean (3.03). The general mean (3.29) confirms impact of managerial competencies on the employees' performance from the sample's subject's point of view.

B- Dependent Variables Analysis:**Table 4.5****Means and Standard Deviations of Sample Responses regarding the employees' performance**

No.	Statements	Mean	S. D	Rank	Degree
32	Organization successes depend on all employees'' performing excellent job at their perspective positions.	4.55	0.613	1	High
31	Customer satisfaction is the result of all organization's employees'' collective effort.	4.42	0.643	2	High
44	Below expectations performance can be traced to having employees'' with low competencies.	4.40	0.628	3	High
37	Employees' deliver high quality products to guarantee customer satisfaction.	4.23	0.588	4	High
33	Achieving expected goals takes highest priority.	4.22	0.752	5	High
38	Employees' perform effective processes to contribute in achieving performance expectation.	4.22	0.620	6	High
46	Every employee is a member of the team and his effort, no matter how small, contribute in achieving expectations.	4.22	0.724	7	High
39	Employees' work intelligently to improve productivity Level.	4.14	0.665	8	High
40	Quality assurance inspections are always made without maintenance, processes delay.	4.13	0.868	9	High

41	A very good performance is when the organization achieves expected outcomes that can be linked to all departments.	4.08	0.597	10	High
50	Consequences of having a substandard product, is a motive for employees'' to work according to standards.	4.07	0.676	11	High
49	Goals are measurable, so the organization could improve it in the future.	4.05	0.651	12	High
42	Management and staff mutually discuss final results and how to improve upon expected goals are achieved.	4.04	0.818	13	High
36	Employees' seek to reduce number of defective products.	4.02	0.734	14	High
48	Employees' are keen to reduce communication gaps for improvement performance level.	3.67	0.868	15	Medium
45	Issues that could lower performance expectations are addressed immediately.	3.55	1.037	16	Medium
43	Below expectations performance can be traced to having employees' with low competencies.	3.53	1.024	17	Medium
47	Employees' know nonfinancial achievement.	3.47	1.051	18	Medium
34	Employees' making shortcuts in maintenance processes to deliver the product at deadlines.	2.92	1.207	19	Medium
35	Employees' violate regulations for achieving expected results.	2.57	1.181	20	Medium
General mean		3.925	0.364		High

Table (4.5) indicates that study sample attitudes regarding organizational performance means ranged between (2.57-4.55) and standard deviations (1.180-0.613) respectively. The results indicate different degrees of sample's agreement from low to high level. Statement no. (32) "Organization successes depend on all Employees' performing excellent job at their perspective positions" ranked the first, with a mean (4.55). And Statement no. (35) "Employees' violate regulations for achieving expected results" ranked the last with a mean amounting (2.57). The general mean confirms the obtained results.

4.4 Testing Study Hypothesis:

To test the research hypothesis multiple regression was used. Before conducting the test, multicollinarty must be checked as indicated in the following table:

Table (4.6)
Multicollinarty table

COMPETENCIES	TOLERANCE	VIF TEST RESULTS (VIF)
Behavior	.551	1.814
Functional	.531	1.884
Managerial	.636	1.571

Results indicated that there is no Multicollinearity between the independent variables. This was confirmed by VIF test since all values are less than the critical values 50, so it is possible to measure the impact of human competencies on organization performance.

4.4.1 The Main Hypothesis:

There is no statistically significant impact of human competencies (behavioral, functional, and managerial) on aviation maintenance employees' performance in JALCo, at $\alpha \leq 0.05$.

Table (4.6)

Regression model summary for the main hypothesis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
1	0.727	0.528	0.518	0.25251	52.268	0.000

Model validity was tested through multiple regressions. Table (4.6) shows the obtained results of the first independent variable that were used in the model F (52.268) at significant (0.000) level. The correlation coefficient was R(0.727) which indicate a strong and positive relation between independent variable and dependent variable, in addition R^2 (0.528) which indicates that 52.8 % of variance in performance may be interpreted through the variance in human competencies. This means that the model is valid for interpreting the variance in the dependent variable is high, so there is a possibility to carry out the multiple regression.

Table (4.7)**Multiple regression coefficients of the main hypothesis**

Variance	Un standardized Coefficients		Sad Coeff.	T	Sig.
	B	Std. Error	Beta		
Constant	1.910	0.202		9.443	0.000
Behave	0.114	0.061	0.147	1.883	0.062
Function	0.291	0.060	0.385	4.830	0.000
Manage	0.126	0.029	0.318	4.365	0.000

Table (4.7) showed that the regression coefficients β (0.147, 0.385, and 0.317) which indicates the impact of the two competencies (functional and managerial) are significant therefore there is an impact for the two mentioned competence on performance. This was confirmed by t value (4.830, 4.365) at level (0.000). Therefore the null hypothesis is rejected and the alternative one is accepted. This means that there is a statistically significant impact at $\alpha \leq 0.05$ level of human competencies on employees' performance in JALCo.

4.4.2 The Sub-hypothesis:

4.4.2.1 First Sub-hypothesis

H₁: There is no statistically significant impact of behavioral competencies on aviation maintenance employees' performance in JALCo, at $\alpha \leq 0.05$ level.

Table (4.8)

First sub Hypothesis

Variables	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
Behavioral	0.560 ^a	0.314	0.309	0.30238	64.983	0.000

Model validity was tested through multiple regressions. Table (4.8) shows the obtained results of the first independent variable that were used in the model F (64.983) at (0.000) level. The correlation coefficient was R (0.560) which indicate a positive relation between independent variable and dependent variable, in addition R² (0.314) which indicates that 31.4 % of variance in performance may be interpreted through the variance in behavioral competencies This means that the model is valid for interpreting the variance in the dependent variable, so there is a possibility to carry out the multiple regression.

Table (4.9)**Regression coefficient for first sub- hypothesis**

Variance	Un standardized Coefficients		S.d Coeff.	T	Sig.
	B	Std. Error	Beta		
Constant	2.210	0.214		10.315	0.000
Behavioral competencies	0.434	0.054	0.560	8.061	0.000

Table (4.9) showed that the regression coefficient β (0.560) which indicates that the total impact of behavioral competencies performance is significant since t value is (8.061) at level Sig (0.000). Therefore the null hypothesis is rejected and the alternative one is accepted. This means that, there is a statistically significant impact of behavioral competencies on aviation maintenance employees' performance in JALCo, at $\alpha \leq 0.05$.

4.4.2.2 The Second Sub-hypothesis:

H₂: There is no statistically significant impact of functional competencies on aviation maintenance Employees' performance in JALCo, at $\alpha \leq 0.05$.

Table (4.10)

Second sub Hypothesis

Variables	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
Functional Competencies	0.655 ^a	0.429	0.425	0.27587	106.673	0.000

Model validity was tested through multiple regressions. Table (4.10) shows the obtained results of the first independent variable that were used in the model F (106.673) at (0.00) level. The correlation coefficient was R (0.655) which indicate a positive relation between independent variable and dependent variable, in addition R² (0.429) which indicates that 42.9 % of variance in performance may be interpreted through the variance in functional competencies This means that the model is valid for interpreting the variance in the dependent variable, so there is a possibility to carry out the multiple regression.

Table (4.11)**Regression coefficient for the main hypothesis**

Variance	Un standardized Coefficients		S.d Coeff.	T	Sig.
	B	Std. Error	Beta		
Constant	1.966	0.191		10.288	0.000
Functional competencies	0.496	0.048	0.655	10.328	0.000

Table (4.11) showed that the regression coefficient β (0.655) which indicates that the total impact of functional competencies on performance is significant since t value is (10.328) at level Sig (0.000). Therefore the null hypothesis is rejected and the alternative one is accepted. This means that. There is a statistically significant impact of functional competencies on aviation maintenance Employees' performance in JALCo, at $\alpha \leq 0.05$.

4.4.2.3 The third Sub-hypothesis:

H₃: There is no statistically significant impact of managerial competencies on aviation maintenance employees' performance in JALCo, at $\alpha \leq 0.05$.

Table (4.12)

Third sub Hypothesis

Variables	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
Managerial Competencies	0.610 ^a	0.372	0.368	0.28924	84.221	0.000

Model validity was tested through multiple regressions. Table (4.12) shows the obtained results of the first independent variable that were used in the model F (84.221) at (0.00) level. The correlation coefficient was R (0.610) which indicate a positive relation between independent variable and dependent variable, in addition R² (0.372) which indicates that 37.2 % of variance in performance may be interpreted through the variance in managerial competencies This means that the model is valid for interpreting the variance in the dependent variable, so there is a possibility to carry out the multiple regression.

Table (4.13)**Regression coefficient of the third sub hypothesis**

Variance	Un standardized Coefficients		S.d Coeff.	T	Sig.
	B	Std. Error	Beta		
Constant	3.132	0.090		34.895	0.000
Managerial competencies	0.241	0.026	0.610	9.177	0.000

Table (4.13) showed that the regression coefficient β (0.610) which indicates that the total impact of managerial competencies on performance is significant since t value is (9.177) at level Sig (0.000). Therefore the null hypothesis is rejected and the alternative one is accepted. This means that. There is a statistically significant impact of managerial competencies on aviation maintenance employees' performance in JALCo, at $\alpha \leq 0.05$.

Chapter Five

Results Discussion, Conclusions, and Recommendations

5.1 Results Discussion:

Data analysis revealed the following results:

-Means of impact of behavioral human competencies on company (employees') performance were between (3.04-4.59). The results indicate different degrees of sample's agreement from medium to high level. Employees' "pay full attention to work details to ensure high level of safety" was the most important factor in this dimension.

-Means of impact of functional human competencies means on company (employees') performance were between (3.51-4.25). The results indicate different degrees of sample's agreement from medium to high level. "Having a final product that conforms according to standards is the highest priority". Was the most important factor in this dimension.

-Means of impact of managerial human competencies on company (employees') performance were between (3.03-3.45).The results indicated that the sample's agreement ranged between low and medium. "Experienced employees' views are taken into consideration when buying machines" was the most important factor in this dimension".

-Analysis results indicated that there is a statistically significant impact of human competencies (behavioral, functional, and managerial) on aviation maintenance employees' performance in JALCo, at $\alpha \leq 0.05$. The result agreed with Sutton and Watson (2013).

-Analysis results revealed that there is a statistically significant impact of behavioral competencies on aviation maintenance employees' performance level in JALCo, at $\alpha \leq 0.05$ level. The result agreed with Sutton and Watson (2013), Panagiotis and Christos (2013). Al-Zahrani (2012), Ion (2012), Boyatzis (2009), Boyatzis, (2008).

-Analysis results indicated that there is a statistically significant impact of functional competencies on aviation maintenance employees' performance level in JALCo, at $\alpha \leq 0.05$. The result agreed with Sutton and Watson (2013), Masoud, (2013), Ion (2012), Omran et. al. (2011), Boyatzis, (2008).

-Analysis Results indicated that there is a statistically significant impact of managerial competencies on aviation maintenance employees' performance in JALCo, at $\alpha \leq 0.05$. The result agreed with) (Saleh, et. al. 2015), Worarak and Catherine (2015) Ignacio et. al. (2014), Singh et. al. (2014), Anitha (2014), Panagiotis and Christos (2013), Eric (2013) , Anna, (2013) , Faridahwati, (2012), Raluca (2012), Ion (2012), Gladson and Augustine (2008), Boyatzis, (2008).

5.2 Conclusions:

The study aimed to investigate the impact of human competencies (behavioral, functional, and managerial). The analysis results indicated that there are positive relationships between behavioral, functional, managerial human competencies and the enhancement of employees' performance at JALCo. for further explanation behavioral competence was found the highest importance, moreover, respondents believed that there was a strong interrelated and strong connection between the three independent variables and the employees performance.

5.3 Recommendations

1. The company should adopt new ways to encourage its employees' to developing team work mentality.
2. Company should teach their employees to cope with changing work conditions and unplanned circumstances.
3. Senior employees should be included in management meeting to present the viewpoint of non-managerial employees in company's affairs.
4. Most senior employees must share their experience and knowledge with new employees through in-house seminars.
5. Top management should share the company's strategy with all employees, and their work contribution in achieving it.
6. Company should look for and adapt new training method that goes along with the developing market.
7. Management should clarify to employees the importance of their work and the consequences of any shortage in completing it, no matter how trivial is their work. On both moral and financial fronts.
8. Management should recognize the non-financial achievements.

References

1. Aaron M.zook (2006), **Military Competency-Based Human Capital Management: A Step Toward The Future**, (U.S.A: Army War College, USAWC Strategy Research Project, Report, 15 pp. 48-55.
2. Abraham, S.E., Kams, L.A., Shaw, K. and Mena, M.A. (2001), “**Managerial competencies and the managerial performance appraisal process**”, Vol. 20 No. 10, pp. 842-52.
3. Ahiauzu, A.I. (2006), “**The nature and fundamental principles of competency- based public administration**”, a workshop paper on transformational managerial leadership in competency-based public service administration for senior civil servants of Imo State, Nigeria.
4. Al- Zaharani , A(2012), Training strategy and its Impact on Saudi commercial Banks Emplpyees Behavioral competencies. **Jordan Businesses administration Journal**, Vol8, issue 4 , pp707-735.
5. Alldredge, E.M. and Nilan, K.J. (2000), “3M’s leadership competency model: an internally developed solution”, **Human Resource Management**, Vol. 39 No. 2, pp. 133-145.
6. AL-Sinawi, S. Piawa, C.Y. and Idrisa, A. (2015), Factors Influencing the employees’ Service Performance in Ministry of Education in Sultanate of Oman, **Social and Behavioral Sciences**, 197, pp23 – 30.
7. Amagoh, F. (2009), “Leadership development and leadership effectiveness”, **Management Decision**, Vol. 47 No. 6, pp. 989-999.

8. Anna, Sutton and Sara, Watson (2013), Can competencies at selection predict performance and development needs **Journal of Management Development** **32:9**, pp 1023-1035.
9. Armstrong, M. (2001), **Human resource management practice**, (8th ed.) London: Kogan Page Publishers.
10. Armstrong, Michael (2006), **Performance Management: Key Strategies and Practical Guidelines** 3rd Edition, , Kogan Page Limited, London.
11. Ayeni, P. Baines; T.S. Lightfoot, H. and Ball, P. (2011), State-of-the-art of Lean ‘in the aviation maintenance, repair, and overhaul industry. Proceedings of the Institution of Mechanical Engineers, Part B. **Journal of Engineering Manufacture**, 225 (11),pp 2108-2123.
12. Ilhaamie AGA (2009), Competency based recruitment and selection and service quality in Malaysian public organizations. *Journal Sarjana* .:(2)24 .pp11-28.
13. Boyatzis RE. (1982), **The competent manager: a model for effective performance**, New York: John Wiley.
14. Boyatzis Richard E., (2008), Vol. 27 Iss 1 pp. 5 – 12.
15. Boyatzis, R.E. (2009), **Competencies as a behavioral approach to emotional intelligence**, *Journal*.
16. Brans M, Hondeghem A (2005), Competency Frameworks in the Belgian Governments: Causes, Construction and Contents. **Public Administration**. Vol.83, No.4. ‘ pp. 823-837.
17. Brockbank, W., and Ulrich, D. (2003), **Competencies for the new HR**: Society for Human.

18. Bucur, I. (2012), Managerial Core Competencies as Predictors of Managerial Performance, on Different Levels of Management, **Social and Behavioral Sciences**, 7 (8),pp 365-369.
19. Cardy, R.L. (2004), **Performance management: Concepts, Skills, and Exercises**, M.E. Sharpe, Armonk, NY.
20. Cheng MI, Dainty ARJ, and Moore DR. (2005), What makes a good project manager? **Human Resource Manage**, 15(1):pp 25– 37.
21. Chong, E. (2013), Managerial competencies and career advancement: A comparative study of managers in two countries. **Journal of Business Research**, 66, pp345–353.
22. Chouhan, V.S. and Srivastava, S. (2014), Understanding Competencies and Competency Modeling — a Literature Survey. **Journal of Business and Management**, 16 (1) pp14-22.
23. Christian, M.S., Garza, A.S. and Slaughter, J.E. (2011), Work engagement: a quantitative review and test of its relations with and contextual performance, **Personnel Psychology**, Vol. 64 No. 1, pp. 89-136.
24. Davahran, D., and Yazdanifard, R. (2014), The Importance of Managing Customer Service, Safety Quality and Benchmarking of Airports and Airlines to Enhance the Performance and Customer Loyalty. **Global Journal of Management And Business Research**, 14 (4),pp 1-8.
25. David, D (2004), **Competency-Based Human Resources Management**, U.S.A: California, Davies Black Publishing.
26. De los Ríos-Carmenadoa, I. Rahoveanub, A.T. and Gallegosc, A.A. (2014), Project management competencies for regional development in

- Romania: analysis from “Working with People” model, **Procedia Economics and Finance**, 8, pp 614 – 621.
27. Dekker Sidney, S. (2003, Failure to adapt or adaptations that fail: contrasting models on procedures and safety. **Applied Ergonomics**, 34, 233–238.
28. Drury, C.G (2001), **Human Factors in Aircraft Maintenance**, state university of New York at buffalo dept of industrial engineering.
29. Drury, C.G. Ma, J and Marin, C.V. (2005), **Language Error in Aviation Maintenance**, Federal Aviation Administration William J. Hughes Technical Center.
30. Dye, C. F., and Garman, A. N. (2006), **Exceptional leadership: 16 critical competencies for healthcare executives**. Chicago: Health Administration Press.
31. Edgar, W.B. and Lockwood, C.A. (2008), **Organizational Competencies: Clarifying the Construct**, University of Arizona and Northern Arizona University.
32. Faridahwati Mohd-Shamsudin Nirachon Chuttipattana, (2012),"Determinants of managerial competencies for primary care managers in Southern Thailand", **Journal of Health Organization and Management**, Vol. 26 Iss 2 pp. 258 – 280.
33. Gladson N Nwokah, and Augustine I. Ahiauzu, (2008),"Managerial competencies and marketing effectiveness incorporate organizations in Nigeria", **Journal of Management Development**, Vol. 27 Iss 8 pp. 858 – 878.
34. Gounaris, Spiros P. (2005), Internal-market orientation and its measurement, **Journal of Business Research**, 59, Elsevier Science Inc, New York, p. 441.

35. Green, P. C. (1999), **Building Robust Competencies**, San Francisco, CA: Jossey-Bass.
36. Gruman, Jamie A, and Saks, Alan M. (2011), Performance management and employee engagement, **Human Resource Management Review**,21, pp123-136.
37. Halil Zaim, Mehmet Fatih Yasar and Ömer Faruk Ünal (2013), Analyzing The Effects of Individual Competencies on Performance: A field Study on services industries in Turkey, **Journal of Global Strategic Management**, V. 7, N. 2, pp 67-77.
38. Halim, A. and Abhyankar, S. C. (2011), Validation of Behavioral Competencies of a Performance Appraisal, **Tool Journal**, 6(2) , pp 281-290.
39. Hawi, Ruba, Alkhodary, Dina and Hashem, Tareq (2015), Managerial Competencies and Organizations Performance **International Journal of Management Sciences** Vol. 5, No. 11, pp 723-735.
40. Hernandez, A. E. (2001), **Organizational climate and its relationship with aviation maintenance safety**, (Doctoral dissertation, Monterey, California. Naval Postgraduate School.
41. Hobbs, A. Avers, B.A. and Hiles, J.H. (2011), **Fatigue Risk Management in Aviation Maintenance: Current Best Practices and Potential Future Countermeasures**, Aerospace Medical Institute's publications Web. www.faa.gov/library/reports/medical/oamtechreports.
42. Hondeghem A, and Vandermeulen, F. (2000), Competency Management in the Flemish and Dutch Civil Service. **Int. J. Public Sector Manage.** Vol. 13, No.4. pp. 342-353.

43. Ignacio de los Ríos-Carmenadoa; Adrian Turek Rahoveanu; and Ana Afonso Gallegosc (2014), Project management competencies for regional development in Romania: Analysis from “**Working with People**” **Procedia Economics and Finance**, Vol. 8, pp 614-621.
44. Imtiaz, Ahmed, Ineen, Sultana, Sanjoy, Kumar, Paul, and Abdullahil, Azeem, (2013), "Employee performance evaluation: a fuzzy approach", **International Journal of Productivity and Performance Management**, Vol. 62 Iss 7 pp. 718 – 734.
45. Ind, Nicholas , (2007), **Living the brand, Kogan Page Limited**, 3rd Edition, London.
46. Ismail Rahmah, and Zainal Abidin Syahida (2010), **Impact of workers’ competence on their performance in the Malaysian private service sector Business and Economic Horizons**, Volume 2 , Issue 2 ,pp 25-35.
47. James H. Carpenter(2012), **Understanding How Guman Resource Mangers Rank Their Competencies and the Contributes they make to strategic Problem solving**. PhD.
48. Kaslow, N.J. Dunn, S.E. and Smith, C.O. (2008), Competencies for Psychologists in Academic Health Centers, **J Clin Psychol Med Settings**, 15, pp18–27.
49. Kieran O’Hagan(2007), **Competence in Social Work Practice**, A Practical Guide for Students and Professionals, U.K: London, Jessica Kingsley Publishers.

50. Koenigsfeld, J.P. Youn, H. Perdue, J. and Woods, R.H. (2012), Revised competencies for private club managers, **International Journal of Contemporary Hospitality Management**, 24 (7), pp1066 – 1087.
51. Leiter, M.P. and Bakker, A.B. (2010), “**Work engagement: introduction**”, in Bakker, A.B. and Leiter, M.P. (Eds), *Work engagement: A Handbook of Essential Theory and Research*, Psychology Press, Hove, pp 1-9.
52. Li, J.Q. and Huang, T.K. (2007), A Study of Corporate Culture Based Strategies for Improving Core Competitiveness of China’s Pharmaceutical Enterprises. **Asian Journal of Social Pharmacy**, 2 (1), pp1-4.
53. Madlin , B, and Kenneth W. Green Jr, (2009), "Enhancing performance through goal setting, engagement, and optimism", **Industrial Management & Data Systems**, Vol. 109 Iss: 7, pp.943 – 956.
54. Maher , A (2010), **Organizational Behaviour: Bulding Skills Approach**, University House , Alexandria.
55. Masoud Emad. (2013), The Impact of Functional Competencies on Firm Performance of Pharmaceutical Industry in Jordan , **International Journal of Marketing Studies**; Vol. 5, No. 3, pp56-76.
56. Medlin, B. and Green, K.W. Jr (2009), “Enhancing performance through goal setting, engagement, and optimism”, **Industrial Management & Data Systems**, Vol. 109 No. 7, pp. 943-956.
57. Mone, E.M. and London, M. (2010), **Employee Engagement Through Effective Performance Management: A Practical Guide for Managers**, Routledge, New York, NY.

58. Moqvist, L. (2002), **The Competency dimension of leadership: a study of top managers in Swedish public administration. Competency Management in the Public Sector**, 19, pp91-104.
59. Myszewski, J.M. (2012), Management responsibility for human errors. **The TQM Journal**, 24 (4), 326 – 337.
60. Naude, D. (2007), **The degree of organizational performance measurement in SMEs. A focus on ICT enterprises**, Unpublished PhD Thesis Dissertation. (UNISA).
61. Nirachon, C., Mohmad-Yazam, S. and Faridahwati, M.S. (2007), **Determinants of managerial competencies in the public health sector**, Proceedings of the International Conference in Penang, Malaysia.
62. Ochoti, G.N. Maronga, E. Stephen Muathe, S. Nyabwanga, R.N. and Ronoh, P.K. (2012), Factors Influencing Employee Performance Appraisal System: A Case of the Ministry of State for Provincial Administration & Internal Security, **Kenya International Journal of Business and Social Science**.
63. The Professional HR Encyclopedia, www.hr-encyclopedia.com
64. Omran, A. Alsady, S.M. and Pakir, A.K. (2011), Functional Competences' as an Effective Factor for Project Leaders in the Libyan Construction Industry, **Seria Stiinte Economice si Administrative**, 5, pp185-205.
65. Payne, M., (2005), **Modern social work theory**, USA: Lyceum Books.

66. Pickett, L. (1998), **Competencies and managerial effectiveness: Putting competencies to work. Public Personnel Management**, 27(1), pp103-115.
67. Ramble, P. and Makhalemele, N. (2015), Relationship Between Managerial Competencies Of Owners /Managers Of Emerging Technology Firms And Business Performance: A Conceptual Framework Of Internet Cafes Performance In South Africa, **International Business & Economics Research Journal**, 14 (4).
68. Ranky, P.G (2013), **Human Design and Operator Error Detection and Prevention Methods, Tools and Technologies with Practical Case Studies & Examples: an interactive NJIT ASQ Chapter workshop presentation**, (NJIT, MIE Department).
<http://www.cimwareukandusa.com/aboutpgr.htm>
69. Reason, J. (2000), **Human error: models and management. BMJ**, pp768–770.
70. Richard E. Boyatzis, (2008),"Competencies in the 21st century", **Journal of Management Development**, Vol. 27 Iss 1 pp. 5 – 12.
71. Scanlan, K. E. (2007), **University human resource management curriculum and human resource management competencies: A comparative study**. Unpublished doctoral dissertation, Capella University, Minneapolis, MN.
72. Schoonover, S. C. (2000), **Human resources competencies for the year 2000: The wake up call**. Alexandria, VA: Society for Human Resource Management.
73. Seal, S.R., Naumann, S.E., Scott, A.N. and Royce-Davis, J. (2010), Social emotional development: a new model of student learning in higher education, **Research in Higher Education Journal**, (10), pp 1-13.

74. Shahzad Fakhar, Rana Adeel Luqman and Ayesha Rashid Khan (2012), **Impact of Organizational Culture on Organizational Performance: An Overview, Interdisciplinary Business Research** , Vol3 No.9, pp 975-985.
75. Sutton, A. and Watson, S. (2013), Can competencies at selection predict performance and development needs, **The Journal of Management Development**, 32 (9), pp1023-1035.
76. Tawit Sudsakorn Fredric William Swierczek (2009),"Management competencies: a comparative study between Thailand and Hong Kong", **Journal of Management Development**, Vol. 28 Iss 7 pp. 569 – 580.
77. Tett, RP, Guterman HL, Bleier A, and Murphy PJ. (2000), Development and content validation of a hyper dimensional taxonomy of managerial competence. **Human Performance**, 13(3), 205–51.
78. Tretten, P. and Normark, C.J. (2015), **Human Factors Issues in Aircraft Maintenance Activities: A Holistic Approach**. Operation, Maintenance and Acoustics Innovation and Design, Luleå University of technology, Sweden.
79. Trivellas, P. and Drimoussis, C. (2013), Investigating Leadership Styles Behavioral and Managerial, **Social and Behavioral Sciences**, 73, pp 692 – 700.
80. Ulrich, D., Brockbank, W., Johnson, D., Sandholtz, K., and Younger, J. (2008), **HR competencies: Mastery at the intersection of people and business**. Alexandria, VA: Society for Human Resource Management.
81. Vereecken, H. (2000), “Functies en competenties complementair”, **Human Resources ,Magazine** pp. 32-3.

82. Voslobana, R.I. (2012), The Influence of the Employee's Performance on the company's growth - a managerial perspective, **Procedia Economics and Finance** 3, pp660 – 665.
83. William Eric Mapp (2008), **Leadership Competencies and Their Development for Community College Administrators**, PhD thesis, Walden University.
84. Xu, C. (2014), Study on Evaluation of Coaches Training Efficiency Based on Competency Model and Super Efficiency DEA. **International Journal of u- and e- Service**, Science and Technology, 7 (6). Jiangsu University.
85. Zheleznaia, E. (2014), Air Transport Effectiveness, **Aviation technologies**, 2 (1),pp 59-61.

APPENDIX 1: the questionnaire and head letter

الرساله المرفقة بإستبانة التوزيع مع الاستبانة:

السلام عليكم ورحمة الله وبركاته:

ينوي الباحث القيام بإجراء دراسة بعنوان "اثر الجداريات في تطوير اداء موظفي صيانة الطائرات: دراسة حالة في شركة جالكو". وأن الهدف من هذه الاستبانة هو جمع البيانات اللازمة عن الممارسات القائمة على الجداريات السلوكية، الجداريات الوظيفية، الجداريات الادارية، و مستوى الاداء. لهذا تم تطوير هذه الاستبانة للقياس.

أرجو التكرم بإبداء رأيكم السديد للمساهمة في تحقيق هدف الدراسة الحالية.

مع خالص شكري وتقديري

الجزء الأول: معلومات أساسية:

يرجى وضع إشارة (v) في الخانة المناسبة:

1. العمر: اقل من 25 25 الى اقل من 35 35 الى اقل من 45 45 فما أكثر.

2. المستوى العلمي: ثانوية عامة فما دون دبلوم بكالوريوس دراسات عليا.

3. المركز الوظيفي: مدير دائرة رئيس قسم موظف صيانة موظف اداري.

4. الخبرة في مجال الصيانة: أقل من 5 سنوات 5 الى اقل من 10 سنوات 10 الى اقل من 15 سنة 15 سنة فاكثر.

5. مدة العمل في الشركة: أقل من 5 سنوات 5 الى اقل من 10 سنوات 10 الى اقل من 15 سنة 15 سنة فاكثر.

6. الجنس: ذكر انثى.

الجزء الثاني:

يتعلق هذا الجزء بقياس اثر الجدارت الانسانية في تطوير اداء الموظفين

لا أتفق بشدة strongly disagree	لا أتفق disagree	محايد neutral	أتفق agree	أتفق بشدة strongly agree	العبارة	الرقم
BEHAVIORAL COMPETENCIES الجدارت السلوكية						
					Employees pay full attention to work details to ensure high level of safety. انتباه الموظفين لتفاصيل العمل يضمن الحصول على اعلى درجة من الأمان.	1
					Employees possess good ability to communicate with others. لدى الموظفين مقدرة جيدة على التواصل مع الآخرين.	2
					Each employee has the ability to lead a team. يمتلك كل موظف القدرة على قيادة فريق.	3
					Employees are able to adapt to sudden arising problems. يمتلك الموظفون قدرة على التعامل مع المشاكل التي تظهر بشكل مفاجئ.	4
					Employees are able to prioritize tasks appropriately to achieve pre-specified goals. الموظفون قادرون على ترتيب المهام حسب الاولوية بشكل مناسب لانجاز الاهداف المحددة مسبقا.	5

					Employee's Personal integrity is in line with corporate values. النزاهة الشخصية للموظف تتماشى مع قيم الشركة.	6
					Employees maintain professionalism through difficult situations. يحافظ الموظفون على الاحترافية خلال المواقف الصعبة.	7
					Employees always follow best productivity methods. يتبع الموظفون افضل اساليب الانتاجية بشكل دائم.	8
					Employees avoid unnecessary risk when taking a job related decisions. يتجنب الموظفون المخاطرة غير الضرورية عند اتخاذ قرارات تتعلق بالعمل.	9
					Employee strives to reach required standards. يسعى الموظفون للوصول الى المعايير المطلوبة.	10
FUNCTIONAL COMPETENCIES الجدارات الوظيفية						
					Employees use technical manuals always for help. يستخدم الموظفون بشكل دائم الكتيبات التقنية للحصول على المساعدة.	11
					Experienced employees views are taken into consideration when buying machines. يؤخذ برأي الموظفين ذوي الخبرة عند شراء الاجهزة.	12
					Having a final product that conforms according to standards is the highest priority. الاولوية القصوى هي الحصول على منتج نهائي	13

					يعمل بشكل مطابق للمعايير.	
					Qualified employees can use their knowledge to make shortcuts in maintenance processes. يمكن للموظفين المؤهلين ان يعتمدوا على خبرتهم للإختصار في سير عمليات الصيانة.	14
					Knowledge is shared among employees. يتم تشارك المعرفة بين الموظفين.	15
					Written notes are very important to communicate technical orders to others. الملاحظات المكتوبة مهمة جدا لإيصال الاوامر التقنية للآخرين.	16
					Active listening is an effective mean to improve technical skills. الانصات الجيد وسيلة فعالة لتطوير المهارات التقنية.	17
					Feedback after trying new maintenance processes is advisable. ينصح عمل التغذية الراجعة بعد تجربة نظام جديد لتسيير عملية الصيانة.	18
					Trainers take into consideration different learning abilities of individuals. ياخذ المدربون بعين الاعتبار اختلاف قدرات التعلم لدى الموظفين.	19
					Employees learn other skills like organizing along with technical skills. يتعلم الموظفون مهارات اخرى، مثل مهارة التنظيم، بجانب المهارات التقنية.	20

MANAGERIAL COMPETENCIES

الجدارات الادارية

					Corporate Strategic related issues are clear to all employees. القضايا المتصلة بإستراتيجية عمل الشركة واضحة لكل الموظفين.	21
					Management understands the possibility of applying recent technologies on the work of the organization. تتفهم الادارة امكانيات تطبيق التقنيات الحديثة على العمل في الشركة.	22
					The importance of any task, no matter how small, is appreciated by higher management. يتم تقدير اهمية اي عمل مهما كان صغيرا من قبل الادارة العليا.	23
					Management. Encourages positive attitudes always. تشجع الادارة الاتجاهات الايجابية بشكل دائم.	24
					Management empowers its employees to get better results. تمكن الادارة موظفيها للحصول على نتائج افضل.	25
					Managers seek solutions that satisfy conflict parties. يبحث المديرين عن حلول ترضي اطراف النزاع.	26
					Management makes sure that responsibilities are clear to all employees. تتأكد الادارة من وضوح المسؤوليات المناطه بالموظفين.	27
					Management regularly discusses performance to provide either positive or negative feedback. تناقش الادارة الاداء بشكل دائم لإعطاء تغذية	28

					راجعة سواء كانت ايجابية او سلبية.	
					Management actively support employees development تدعم الادارة بفاعلية تطوير الموظفين.	29
					Management works towards providing environments where employees can talk and act without fear. تعمل الادارة في اتجاه توفير بيئة عمل تسمح للموظفين بالعمل والتعبير عن رأيهم بدون خوف.	30
EMPLOYEES PERFORMANCE اداء الموظفين						
					Customer satisfaction is the result of all organization's employees collective effort. رضا العميل هو نتيجة الجهود الجماعي لموظفي الشركة.	31
					Organization successes depend on all employees performing excellent job at their perspective positions. نجاح الشركة يعتمد على اداء جميع الموظفين عملهم بشكل متكامل كل في موقعه.	32
					Achieving expected goals takes highest priority. الوصول الى الاهداف المتوقعة يحتل الاولوية الاولى.	33
					Employees making shortcuts in maintenance processes to deliver the product at deadlines. يختصر الموظفون عمليات الصيانة لتسليم المنتج في الموعد المحدد.	34
					Employees violate regulations for achieving expected results. يخالف الموظفون اللوائح في سبيل انجاز النتائج	35

					المطلوبة.	
					Employees seek to reduce number of defective products. يسعى الموظفون لتقليل عدد المنتجات المعيبة.	36
					Employees deliver high quality products to guarantee customer satisfaction. يقدم الموظفون منتجات عالية الجودة لضمان رضا العميل.	37
					Employees perform effective processes to contribute in achieving performance expectation. يؤدي الموظفون العمليات بشكل فعال للإسهام في انجاز الاداء المطلوب.	38
					Employees work intelligently to improve productivity level. يعمل الموظفون بذكاء لتحسين مستوى الانتاجية.	39
					Quality assurance inspections are always made without delaying maintenance processes. تتم تفتيشات ضمان الجودة بشكل مستمر دون احدث اي تأخير في عمليات الصيانة.	40
					A very good performance is when the organization achieves expected outcomes that can be linked to all departments. يكون الاداء جيد جدا عندما تحقق الشركة المخرجات المطلوبة والتي يمكن ربطها مع جميع الادارات.	41
					Management and staff mutually discuss final results and how to improve upon expected goals are achieved. عند انجاز الاهداف المتوقعة، على الادارة و الموظفين مناقشة النتائج النهائية وكيفية تحسينها.	42
					Below expectations performance can be traced to having employees with	43

				low competencies. الاداء الاقل من المستوى المطلوب يمكن ارجاعه الى وجود موظفين ذوي جدارات منخفضة.	
				Continuous learning is the best way to continuously improve the level of performance. التعلم المتواصل هو الطريق الافضل لتحسين مستوى الاداء بشكل مستمر.	44
				Issues that could lower performance expectations are addressed immediately. القضايا التي يمكن ان تخفض من مستوى الاداء المتوقع تتم معالجتها بشكل فوري.	45
				Every employee is a member of the team and his effort, no matter how small, contribute in achieving expectations. كل موظف هو جزء من الفريق وجهده المبذول مهما كان صغيرا فإنه يساهم في انجاز التوقعات.	46
				Recognition of nonfinancial achievement. الانجازات غير المالية يجرى تقديرها ايضا.	47
				Employees are keen to reduce communication gaps to improving performance level. يحرص الموظفون على تقليل فجوات الاتصال بهدف تحسين مستوى الاداء.	48
				Measureable Goals enable the organization to improve it in the future. الاهداف القابلة للقياس تمكن الشركة من التطور في المستقبل.	49
				Consequences of having a substandard product, is a motive for employees to work according to standards. العواقب الممكن حدوثها عند الحصول على منتج دون المستوى هو دافع للموظفين على العمل	50

APPENDIX 2: letter addressed to arbitrary an evaluation panel

الرسالة الموجهة الى السادة المحكمين مع الاستبانة لتقييمها:

بسم الله الرحمن الرحيم

جامعة الشرق الاوسط

كلية الاعمال

حضرة الفاضل

السلام عليكم ورحمة الله وبركاته:

ينوي الباحث القيام بإجراء دراسة بعنوان " اثر الجداريات في تطوير اداء موظفي صيانة الطائرات: دراسة تطبيقية في شركة جالكو". وأن الهدف من هذه الاستبانة هو جمع البيانات اللازمة عن الممارسات القائمة على الجداريات السلوكية، الجداريات الوظيفية، الجداريات الادارية، و الاداء المنظمي. لذا قام الباحث بتطوير استبانة للقياس علمًا بأن بدائل الإجابة على فقرات الاسئلة:

(1) أتفق بشدة (2) أتفق (3) محايد (4) لا أتفق (5) لا أتفق بشدة.

لذا أرجو التكرم بإبداء رأيكم السديد ومقترحاتكم بشأن فقرات الاستبانة فيما إذا كان صالحًا أو غير صالح، ومدى انتماء كل فقرة للمجال المحدد لها، وبنائها اللغوي، وأية اقتراحات أو تعديلات ترونها مناسبة لتحقيق هدف الدراسة الحالية.

مع خالص شكري وتقديري

الباحث

ياسر الفاتح ابراهيم

401310022

APPENDIX 2: Questionnaire evaluation and judgment panel.

السادة الافاضل الدكاترة محكمين الاستبيان:

جامعة الشرق الاوسط

كلية الاعمال

1. أ.د. كامل المغربي

2. أ.د. ليث الربيعي

3. أ.د. محمد النعيمي

4. د.أحمد علي صالح

5. د. نضال الصالحي

6. د. سعود المحاميد

7. د.عبدالعزيز الشراياتي

8. د. سمير الجبالي

المحكم الخارجي:

9. د. عبدالحميد الخرابشه (جامعة العلوم التطبيقية/ كلية الاقتصاد

والاعمال)

المحكم من شركة جالكو:

10. المهندس/ مازن الخرابشه (مدير ضمانة الجودة بشركة جالكو)

APPENDIX 4: JALCo profile.

Jordan Airmotive Profile

Jordan Airmotive Company (sometimes referred to as JALCo) the legal successor of Royal Jordanian (RJ) Airlines (the official carrier of Jordan) is an engine overhaul facility, which was established back in 1985. The aim and purpose behind its creation back then was to support the Royal Jordanian airline fleet in terms of maintenance and overhaul requirements for the JT8D series, JT3D & RB211-524 series engines. The engine overhaul facility was established by Rolls-Royce (RR) as part of their support and aid for the L1011 Tri-Star aircraft operated by Royal Jordanian. The methodologies of work, policies, procedures and quality assurance system were the main drivers set forth by RR to govern and operate the engine shop.

In the year 2000 and as part of the many privatization plans adopted by the Jordanian government RJ's engine overhaul shop became a private company owned by the government, known as Jordan Airmotive Limited Company (JALCo).

In the year 2006 Jordan Airmotive became a totally private company owned by Adam Investment Group (A Jordanian holding company), and the 27,000 sqm facility emerged to take its place on the MRO world map, with a revived capability and ratings to include GE CF6-80C2 series (Fitted on A300, A310, B747, B767), CFMI CFM56-3 series (fitted on B737 Classic) in addition to its RB211-524 (fitted on B747 and Tri-Stars) and JT8D Series (fitted on B727, B737-100/200).

The future plans of JA are targeting the CFM56-5B (fitted on A320 family) and last but not least the CFM56-7 (fitted on the B737NG).

The company renders its services of engine overhaul, repair and maintenance to many regional and international customers by virtue of its numerous and diverse approvals from prestigious competent authorities such as the Federal Aviation Administration (FAA), European Aviation Safety Agency (EASA), United Arab Emirates General Civil Aviation Authority (GCAA) and last but not least the Jordanian Civil Aviation Regulatory Commission (CARC).