

Evaluating the Impact of Training on Team Performance: A Study on
Product Specialists in Medical Device Industry in Saudi Arabia

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Acknowledgement and Dedication

I am grateful to Dr.Mona to give us the guides and supports throughout this endeavor to make this dream see the light.

In the spirit of advancing healthcare in Saudi Arabia, this research is dedicated to all product specialists in the medical device industry.

Abstract

The Kingdom of Saudi Arabia is prioritizing healthcare reform to reach to Saudi vision 2030, with a focus on improving healthcare professional performance by established health care transforming program. This study investigates the impact of training programs on team performance within the medical device industry, specifically focusing on product specialists. The research explores the Saudi Arabian context, aiming to contribute to the development of effective training strategies for this growing field. One of biggest changes in this program for health care transformation, the Saudi program for health care allied. Product specialists will have big changes in this program because they will be responsible for training and transforming the new technologies from biggest medical manufacturer to staff in Saudi Arabia especially the Saudi staff.

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1.Chapter 1: Introduction

Evaluating the Impact of Training on Team Performance: A Study of Product Specialists in Medical Device Industry in Saudi Arabia

Introduction

Training and development are major requirements for employee success in the medical device industry. This is because big medical device companies aim to market, sell and maintain contracts with medical institutions such as hospitals, polyclinics and governmental contracts. With so much at stake, companies like Smith + Nephew, Stryker and Zimmer BioMed allocate vast budgets for training their sales staff and technical-support specialists. Large medical corporations always aim to improve their work; and they can only do that by having a well-trained and capable staff.

Mahadevan and Yap (2019) highlight that the employees in these corporations “need to put in a lot of effort. Firstly, they will need to understand the product feature and then, to master the selling approach and technique. All of these would be quite impossible without proper training and guideline from their company especially in today’s business environment” (p. 7).

Recent research indicates that sales representatives who have undergone extensive training by their corporations are more capable and knowledgeable than employees without similar training (Mahadevan & Yap, 2019). Such staff members would perform tasks required of them in a more proficient way (Zahiruddin, 2012).

They would have the confidence and motivation to achieve their tasks in a timely

manner. They would also be committed to the company's message and strive to perform these tasks with quality and dedication (Mohan & Gomathi, 2015).

In addition, training location is an important factor to be considered when it comes to training and development. Medical device companies need to think whether to offer their training in-house (i.e. on the job training) or in a separate location (i.e. off-the job training). On-the job training is offered within the company walls, and employees would learn how to handle technical machinery from their supervisors/colleagues. On the other hand, off-the-job training requires the company to arrange for external training and development opportunities, usually with specialized consultants and institutes (Mahadevan & Yap, 2019).

There are advantages and disadvantages to both types of training. First, on-the-job training is beneficial for fast knowledge transfer as the staff member would learn and practice as they do the job (Baum & Devine, 2007). Such training is important with task-oriented activities that require handling surgical devices and equipment; as they require certain steps to be followed in a sequence (Blanchard & Thacker, 1998). This type of training is quite beneficial as it saves time and money, but it is not without its disadvantages, as employee's lack of experience may lead to several errors increasing the possibility of accidents (Reddy, 2016). On the other hand, with off-the job training, staff members can focus on learning the required skills with minimal distraction as such training is held in training facilities which would be fully equipped with any required tools and surgical devices (Shafini et al, 2016). In addition, the training program is more structured, as it is delivered by expert trainers and has a clear

agenda. This would lead to greater benefit on part of the trainees (Ramya, 2016). Role play and simulations give the training extra significance. However, as employees require time off work to conduct the training, workload will accumulate and build up. They would have to rush through it decreasing the quality of performance for the sake of finishing what needs to be done (Riley, 2018).

1.1. Research problem:

This study aims to investigate the role of training and development on team performance. It also looks at whether employees prefer their training to be in-house or at specialized training facilities. It looks at how product specialists in the medical device industry in Saudi Arabia view and appreciate the training and development provided for them by the Human Resource Management Department in their corporations and the effect this training has on team performance, and motivation, and dedication.

1.2. Research Significance:

This study will help medical device industry professionals identify the importance of team training and the results this training will have on motivation, performance, and dedication. Also, it will help researchers shed light on the effects of training location on team performance, as it identifies the effect of location on team performance whether it is on-the-job or off-the-job training.

1.3. Research Questions:

This study seeks to answer the following questions:

1.4. Main Research Question 1: How does training and development affect team performance in the medical device industry in Saudi Arabia?

- Sub-Question 1: What type of training is offered to employees in the medical device industry?
- Sub-Question 2: How does training and development influence team performance?
- Sub-Question 3: How does training and development affect each employee's motivation for success?
- Sub-Question 4: How does training and development affect staff dedication to the company?

1.5. Main Research Question 2: How does training location affect training success in the medical device industry in Saudi Arabia?

- Sub-Question 1: Where do the medical device companies offer their training?
- Sub-Question 2: What are the benefits and shortcomings of on-the-job-training?

- Sub-Question 3: What are the benefits and shortcomings of off-the-job-training?

1.6. Research Objectives:

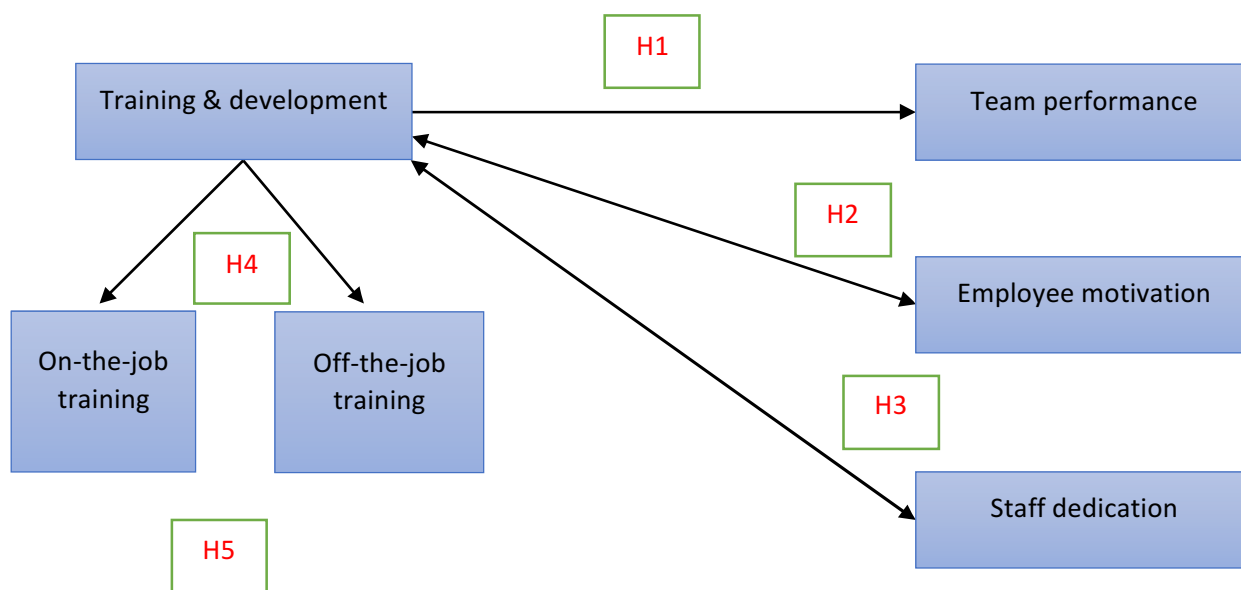
- To examine the effect of training and development on team performance in the medical device industry in Saudi Arabia.
- To explore the type of training offered to employees in the medical device industry.
- To evaluate the effect of training and development on team performance.
- To examine the impact of training and development on employee's motivation for success and dedication to the company.
- To investigate the role of location (on-the-job-training or off-the-job-training) on training success.

1.7. Research Hypotheses:

- H1: There is a statistically significant relationship between training and team performance.
- H2: There is a statistically significant relationship between training and employee's motivation for success.
- H3: There is a statistically significant relationship between training and the staff's dedication for the company.
- H4: There is a statistically significant positive relationship between training location and training success.
- H5: Off-the-job training is more statistically significant than on-the-job training.

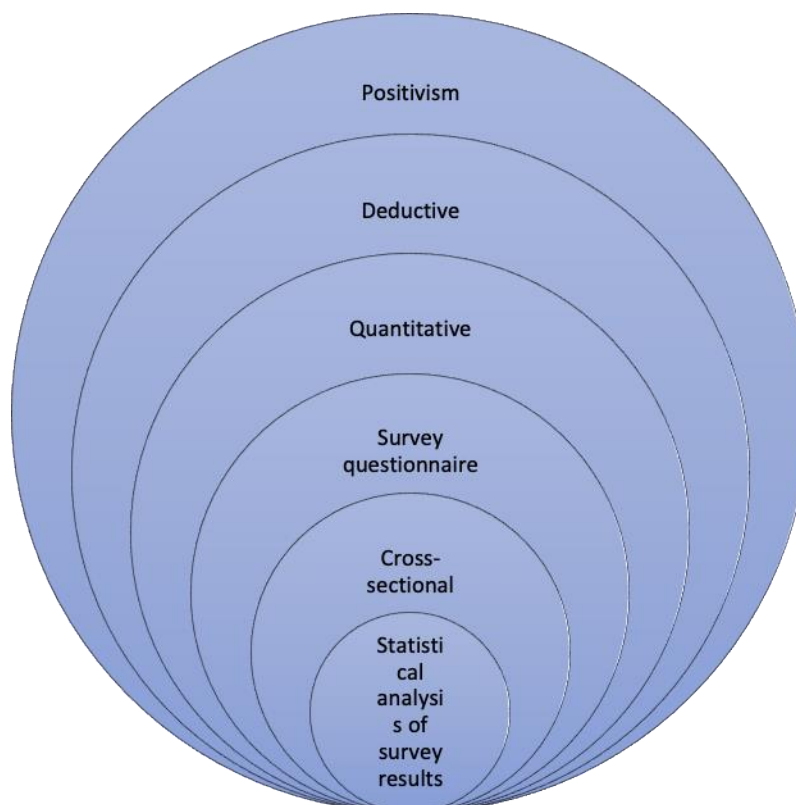
1.8. Research Model:

Figure 1: Research Model



1.9. Research Methodology:

Figure 2: Research Paradigm



Research Philosophy: Positivist

Research Approach: Deductive

Research Strategy: Quantitative

Research Choice: Survey questionnaire

Time Horizon: Cross-sectional

Data Collection and Analysis Techniques: Statistical analysis of survey results

1.10. Suggested Project Structure:

The study will comprise of the following chapters:

Chapter 1:	1.11. Introduction
Chapter 2:	1.12. Literature Review
Chapter 3:	1.13. Research Methodology
Chapter 4:	1.14. Statistical Analysis
Chapter 5:	1.15. Discussion and Conclusion

Table 1: Project Structure

1.16. Empirical Study:

This study will be conducted on 3 international medical device companies which are based in Saudi Arabia: Smith + Nephew, Boston Scientific, Medtronic, Johnson & Johnson and Striker. Over 200 staff members of these companies are expected to participate in the study. An online survey questionnaire will be distributed to them via WhatsApp. The questionnaire is based on the work of Jaseel (2018) Umar et al., (2020), Alzayedat et al., (2017) and Mahadevan and Yap (2019).

Chapter 2: Literature Review

2.1. Introduction:

Employees are considered as the company's most important asset and, with depending on the company's treatment of its employees, it will either succeed or fail. To ensure the excellent performance of its employee, companies must dedicate budgets to specialized training and development of these employees.

This literature review is divided into three main sections: the first defines the concept of training and highlights its importance. The second section defines performance in terms individual and team performance. The third and final section highlights several research studies which investigate the relationship between the two variables in various job sectors.



Figure 3: Training stages according to Arulsamy et al., (2023)

2.2. Independent variable (Training):

In their meta-analytic look at the impact of team training on performance, Salas et al. (2008) define training as a “a systematic, planned intervention designed to facilitate the acquisition of job-related KSAs” (p. 906). KSAs are the knowledge, skills, and/or attitudinal competencies which are required for the completion of the work. Team training, on the other hand, is described as the tools, methods, [team-based] competencies and training objectives, which form a strategy of instruction (Salas & Cannon-Bowers, 1997). Team training involves “identifying the optimal combination of tools (e.g., team task analysis), delivery methods (e.g., practice based, information based, demonstration based), and content (e.g., knowledge, skills, attitudes) (Salas & Cannon-Bowers, 1997).

Training can only be effective if certain conditions are applied and they are: the trainer, the delivery methods, the location of the training and the training content and objectives (Hafeez & Akbar, 2015). First, the trainer (i.e. the person who is delivering the training) must be capable and efficient in delivering the material at hand. They must also be active communicators who aim to achieve the organizational objectives in an efficient way. Second, the training objectives are the cornerstone of the training program. Every training program must have clear achievable objectives which the trainer then brings to life with their training methods. If the training methods are not suitable for the employees or the setting, then the training will not be as effective (Hafeez & Akbar, 2015).

In their research on workforce training and development in Nigerian companies, Obisi (2011) discuss how important training programs are and state that companies must the assess the quality and results of their training programs constantly. One thing to do is to make sure that the training objectives are met and that the employees end up performing well in their current and future careers.

2.3. Dependent Variable (Performance):

In this study, performance is considered in terms of individual performance and team performance. With regards to individual performance, Afshan et al. (2012, p. 2), define employee performance as; “The achievement of specific tasks measured against predetermined or identified standards of accuracy, completeness, cost and speed. Employee performance can be manifested in improvement in production, easiness in using the new technology and highly motivated workers”. Second, team performance is identified by Salas et al. (2008, p. 906) as “an emergent phenomenon resulting from the goal-directed process whereby members draw from their individual and shared resources to display taskwork processes, teamwork processes, and integrated team-level processes to generate products and provide services”.

Several research studies have been conducted on the importance of employee performance and how it can be improved by specialized training. When the company dedicates special budgets to training, employees acquire and develop several new skills which will greatly improve their task achievement, and will result in a successful company-employee relationship (Hafeez & Akbar, 2015). In addition, the study conducted by Acton and Golden (2003) on training Irish software company workers found that, in a survey of 200 employees training correlates highly with the expectations of the workforce. If the training program is efficient, the employees would be satisfied and confident in their job skills.

2.4. The relationship between the research variables:

Several studies have investigated the relationship between employee training and team performance. For example, Hafeez and Akbar (2015) have worked on the impact of training on performance in the pharmaceutical device sector. They collected questionnaires from 356 employees from four pharmaceutical companies in Karachi and found a positive correlation between training and performance. They also found that employees who received extensive controlled training improved their teamwork, communication skills, costumer service, job satisfaction, among others. Hafeez and Akbar emphasize the importance of designing excellent training programs with clear objectives and stress the need for dedicating special budgets for training programs to improve organizational performance.

In addition, Mahadevan and Yap (2019) investigated the influence of two types of training on employee performance: on-the job training and off-the job training. As mentioned in the introduction, on-the job training occurs within company walls while off-the job training happens in a dedicated training center with the employee taking time off from work to attend the training. The authors distributed 124 questionnaires to employees of direct selling companies in Malaysia. While both types of training were found to significantly influence performance, off the job training had a slightly stronger impact than off the job training. Mahadevan and Yap recommend that companies deliver both types of training for better results.

Furthermore, Khan (2012) investigated the relationship between training and motivation on performance of 100 bank employees in Islam Abad, Pakistan.

Quantitative questionnaire results indicate three main results. First, both training and motivation correlated positively with employee performance. Second, the study also found that training can increase motivation of the employees as they feel more confident in their skills to perform the job well. Third, the study found that among other factors affecting performance (e.g. technology, management, work environment, etc.), training ranks as the first and most important factor.

Moreover, Dutt, Zaheer and Salim (2018) examined the effectiveness of sales training in the pharmaceutical sector and looked at how training design, delivery and evaluation affect the employees' job performance of sales employees in Meerut India. Analysis of 75 questionnaires found that over 60% of employees believe that training needs analysis is important before selecting the training topic. Also, majority of respondents reported that training sales programs provided them with the modern management tools to succeed in their careers.

Finally, Umar et al. (2020) explored training effectiveness on team performance by distributing Likert scale questionnaires to 202 police officers in Indonesia. They investigated how training improves soft skills like searching for information, orientation on efficiency, systemic planning, problem solving and persuasive ability which are important for successful job performance. Umar et al. found that effective training has a positive impact on soft skill competence and team performance. Soft skill competence was also found to increase employee creativity.

3. Conclusion:

In conclusion, this review of the literature looked at three main areas related to this study. First, it defined training as a planned intervention that helps employees acquire skills which help them in achieving their jobs with success and ease. Second, performance was looked at in terms of individual performance and team performance. While both types of performance are important, this study will mainly focus on team performance as the medical device industry mainly works in teams.

In addition, several research studies highlighted the positive relationship between training and team performance in several sectors including pharmaceutical, financial, governmental and information technology sectors, which adds more significance to the role of training on performance in the job. This has major implications on future research as it shows important role of training. It also provides important contributions to the job market as it pushes companies and organizations to dedicate special budgets to training and development.

Finally, and to our knowledge, no studies have been conducted on the effect of training on performance in Saudi Arabian companies especially in the medical device sector.

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Appendix

Variables of the Study and Questionnaire Items

Variable 1: Effect of training on performance	Variable dimensions	Number of statements	Source
	Training effectiveness	4	Umar, et al. (2020)
	Team performance	5	

List of questions related to variable 1:

Training Effectiveness:

- I have additional knowledge after attending the training programs
- I have more work skills after the training programs
- I can apply the results of training in my work
- I can put the effects of the training programs into work

Team Performance:

- I always try to contribute to teamwork
- I always try to interact with my teammates
- I always try to keep the team on track
- I always work with a team and expect quality work
- I try to acquire new knowledge and skills that are relevant to teamwork from the training programs

Variable 2: Effect of training on employee's motivation for success	Variable dimensions	Number of statements	Source
	Productivity	3	Jaseel (2018)
	Job satisfaction	3	Karim, Choudhury & Bin Latif (2019)
	Future career growth	2	

List of questions related to variable 2:

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Productivity:

- The training programs I received increases the quality of my productivity
- The training I receive directly improves the results of my current work assignments
- Receiving frequent training programs motivates me to improve my skills

Job Satisfaction:

- My career growth is based on various training programs that I have attended
- Attending several training programs make me feel satisfied with the quality of my work
- The training and development I receive leads me to be satisfied with my job

Future Career Growth:

- Attending training courses helps with my chances for salary increase
- My training and development goals are designed to prepare me for future positions

Variable 3: Effect of training location on training success	Variable dimensions	Number of statements	Source
	Off-the-job training	4	Akther, Tariq & Islam (2019)
	On-the-job training	4	
	Location preference	4	Tukunimulongo (2016)

List of questions related to variable 2:

Off-the-Job Training:

- Off-the-job training helped me acquire better knowledge of my field of work
- My organization gives adequate importance to off-the-job training
- Off-the-job training improves my performance at work
- Off-the-job training strongly develops my skills and competence

On-the-Job Training:

- On-the-job training provides important job skills
- On-the-job training allows me to enjoy my work
- On-the-job training raises my team spirit
- On-the-job training helps with procedural and technical aspects of my work

Location Preference:

- I prefer on-the-job training over off-the-job training
- I like my training to be conducted in a separate facility than the office
- I worry about missing so much work when I take my training in another facility
- I can't focus on the training when it's held at my workplace because of my work duties

Table of Research instruments

Introduction:

Dear Respondent,

This letter is an introduction to the main reason as to why your participation in this questionnaire is required

This study is a research study on the thesis title Evaluating the Impact of Training on Team Performance: A Study on Product Specialists in Medical Device Industry in Saudi Arabia. It is in partial fulfillment of one of the requirements for the attainment of the award of the bachelor's degree in Project Management from the Midocean University from where I am currently taking on my studies.

My research project endeavors to generate knowledge to be utilized in understanding training and development of employees. The study specifically focuses on determine how training and development affect employees performance. As a representative of your company, your views are of importance in my study and I would appreciate you responding to this questionnaire. This is purely for academic purpose and your response will be kept confidential and anonymous.

Thank you for your time, co-operation and contribution to my study. I shall be pleased to send you a copy of the findings of the study if you desire so.

Yours faithfully,

Hussam Sabur

- What is your gender?
 Male () Female ()
- How old are you?
 Below 25 () 25-35 () 36-45 () 46 or more ()
- what is your higher level of educational achievement?
 Diploma () Bachelor degree () Master's degree () PhD ()
- What management position are you in?
 Top level management () Mid level management () Team member ()
- How often do you attend staff training funded by your employer?
 Never () rarely () Often () always ()
- How many staff training courses did you take in the last 12 months?
 None () 1-5 () 6-8 () 9-12 () more than 12 ()

	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	I always try to contribute to teamwork					
2.	I like my training to be conducted in a separate facility than the office					
3.	My training and development goals are designed to prepare me for future positions					
4.	I always work with a team and expect quality work					
5.	I always try to interact with my teammates					
6.	My career growth is based on various training programs that I have attended					
7.	I can't focus on the training when it's held at my workplace because of my work duties					
8.	My organization gives adequate importance to					

	off-the-job training					
9.	The training and development I receive leads me to be satisfied with my job					
10.	I always try to keep the team on track					
11.	On-the-job training raises my team spirit					
12.	I worry about missing so much work when I take my training in another facility					
13.	I prefer on-the-job training over off-the-job training					
14.	Off-the-job training helped me acquire better knowledge of my field of work					
15.	I have additional knowledge after attending the training programs					
16.	Attending training courses helps with my chances for salary increase					
17.	On-the-job training allows me to enjoy my work					
18.	I can put the effects of the training programs into work					
19.	On-the-job training helps with procedural and technical aspects of my work					
20.	I can apply the results of training in my work					
21.	The training I receive directly improves the results of my current work assignments					

22.	The training programs I received increases the quality of my productivity					
23.	On-the-job training provides important job skills					
24.	I have more work skills after receiving training programs					
25.	I try to acquire new knowledge and skills that are relevant to teamwork from the training programs					
26.	Receiving frequent training programs motivates me to improve my skills					
27.	Off-the-job training improves my performance at work					
28.	Attending several training programs make me feel satisfied with the quality of my work					
29.	Off-the-job training strongly develops my skills and competence					