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Collage of Management

Master of Project Management



The impact of training in project management on the quality of performance in food industries in Yanbu industrial city

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أثر التدريب في ادارة المشاريع على جودة الاداء في شركات الصناعات الغذائية في مدينة ينبع الصناعية

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Abstract

Project management training provides businesses with an effective way to remain competitive and enhance customer satisfaction. A focus on quality, as explored in project management, ensures that the organization meets customer needs and expectations. The aim of this research, thus, is to examine the impact of training in project management on the quality of performance in organizations in the food industry, taking Yanbu Industrial City as a case study. The research adopted quantitative methods where 13 questionnaires were employed to gain data from employees in various organizations in Yanbu Industrial City. The findings reveal that project management training significantly affects the performance of companies in the food industry. It follows that project management training can be utilized to enhance quality monitoring and control in the food industry. This meets customer expectations and needs, leading to their satisfaction. Besides, the findings show that project management training positively affects collaboration in the organization, thus, resulting in an overall improvement in organizational performance.

الملخص

إدارة المشاريع يمكن أن توفر وسيلة فعالة لتعزيز رضا العملاء والبقاء تنافسية في سوق الأعمال. ويهدف هذا البحث إلى تقديم إجابات على بعض الأسئلة المهمة حول أهمية تدريب إدارة المشاريع وتأثيره على الأداء العام للمؤسسات في صناعة الأغذية.

تم اعتماد الطريقة الكمية في هذه الدراسة، حيث تم استخدام 13 استبانة لجمع البيانات من مختلف المؤسسات في مدينة ينبع الصناعية. كما تم استخدام المنهج الوصفي لتحليل البيانات والوصول إلى النتائج.

أظهرت النتائج أن تدريب إدارة المشاريع يؤثر بشكل كبير على أداء الشركات في صناعة الأغذية، حيث يساعد في تحسين جودة الأداء والتعاون في المنظمة. وبالتالي، يمكن استخدام تدريب إدارة المشاريع لتعزيز رصد ومراقبة الجودة في صناعة الأغذية، مما يلبي توقعات واحتياجات العملاء ويؤدي إلى رضاهم.

بشكل عام، يمكن استنتاج أن هذه الدراسة تشير إلى أهمية تدريب إدارة المشاريع في صناعة الأغذية وتأثيره الإيجابي على الأداء العام للمنظمة. ويمكن استخدام هذه النتائج لتطوير التصور المهني المقترح وتوجيه المنظمات العاملة في هذه الصناعة لتبني تدريب إدارة المشاريع كأداة فعالة لتحسين الأداء ورضا العملاء.

Acknowledgement

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Chapter 1: Problem of the study and its importance

1. Background

A big percentage of tasks conducted in organizations, including in the food industry, are project related. Therefore, project management skills are important aspects that engineer organizational growth. According to Mahalingham & Nagarajan (2018), project management training provides many advantages, and well-structured businesses are taking advantage of it. A study by John (2010) on the significance of project training on businesses' success established that training aligned to a firm's goal contributes to the business by offering enhanced levels of project risks and controlling resources. This means that project training skills can be significant for controlling resources and reducing risks in the food industry. Several sources reveal that the Kingdom of Saudi Arabia may be among the world's top countries with the highest rates of wasted food (Baig, Gorski & Neff, 2019). Annual capita waste of food is estimated at 165-511kg (Baig, Gorski & Neff, 2019). Provided the fact that the country is limited in terms of agricultural production, applying project management skills could be appropriate for cutting losses and improving the performance of organizations in the food industry. According to John (2010), project management training can help businesses get back on the right track.

Yet, fewer studies focused on how project training skills could impact organizational performance success in Saudi Arabia's food industry. According to Ramazani & Jergeas (2015), for several years, project management has been linked to fields like construction, engineering, and, lately, information and communication, as well as health. The common feature of these fields is that they possess urbane mechanisms that have been tailored together in a well-structured

way to create fully-functioning products (Porananond & Thawesaengskulthai, 2014).

However, irrespective of the industry, project managers always have a challenging estimation of similar responsibilities like defining the goals as well as objectives of the project, as well as defining the aspects of the project to be executed, and the personnel to carry out the execution (Ramazani & Jergeas, 2015). Besides, the project managers also have an obligation to design quality control checks that ensure that the project deliverables meet the necessary standards. Project management is mostly associated with the construction or IT industry, but it is equally important for the beverage and food industries. This is because project management skills can still be applied in managing and monitoring organization goals in the beverage and food industry. This study, therefore, focuses on examining the impact of training in project management on the quality performance of companies in the beverage and food industry in Yanbu industrial city.

1,2 Study objectives

The main aim of this study is to analyze the impact of providing management training on the performance of companies in the food industry in Yanbu industrial city. The precise objectives of the study include the following:

1. To determine how the quality of products in the food processing industry can be improved through project management training.
2. To determine how customer satisfaction in the food industry can be enhanced through exploring project management training.

3. To determine how collaboration and teamwork amongst employees in the food industry can be improved by adopting project management training.
4. To determine how the organization's performance can be improved by adopting project management training in the food industry.

1.3 Significance of the Study

The theoretical significance of this study is that it will fill the gap in the literature on the topic of project training in the food industry. Most of the past studies in project management have focused largely on the construction industry and IT fields. Therefore less literature on the importance of project management training in the food industry. Therefore, this study aims to fill that gap and provide a platform for future studies on how project management training can be utilized to promote better performance in the food industry. Besides, most of the studies in project management has based in the context of developed countries, yet there are more project activities in emerging economies like the Kingdom of Saudi Arabia. As a result, this study still aims to fill that gap in the literature. Basically, the findings of this study may be important for future researchers in carrying out success studies as they compare the findings of this study with their own observations.

On a practical stance, the findings of this study will be important for organizations in the beverage and food industry in understanding how they can utilize project management training to enhance their performance. More so, the study's findings will offer knowledge to project management managers in the food industry on how they can utilize project management skills to enhance the quality of food products, customer satisfaction and teamwork to improve organization

performance. For other stakeholders like the government, the findings may offer new insights into how food safety and quality measures can be enhanced through new policies.

Chapter 2: First Variable of Study

This chapter reviews past literature related to project management and its effects on product quality, customer satisfaction, team collaboration, and organization performance. To exhaustively realize the object, the study begins with reviewing the literature to understand the project management concept. The chapter also presents literature on the theory underpinning the study and how project management affects the highlighted aspects. The section ends with a summary of the reviewed literature.

2.1 Concept of project management

Most studies take project management as a discipline of planning and scheduling project activities. However, Anantatmula (2020) view project management as the practice of identifying needs, defining clear and attainable objectives, balancing competing demands of quality, scope, cost, and time, and adapting plans, specifications as well as strategy to meet the expectations of stakeholders. It means that exploring project management training will help the organization in the food industry to meet the quality, cost and time aspects as expected by consumers and other relevant stakeholders in the food industry. Though, Anantatmula (2020) argues that sustainable success in project management necessitates proven as well as recognized project management practices. This makes project management training important in providing the

necessary skills to sustain the project's success. Therefore, project management can be viewed as an approach to achieving project goals within firm structure and constraints. Radujkovic & Sjekavica (2017) also observe project management to comprise planning, organization, monitoring as well as control of all elements of the project will aim to realize the project objectives in a safe manner, that is, within the agreed schedule, budget as well as quality standards, It is clear from the definition that project management focuses on project success in relation to short-term aspects of project success, including adherence to budget, time as well as quality (Radujkovic & Sjekavica, 2017). This means that project management training may help businesses in the food industry achieve their objectives in terms of quality products, timely delivery, and reduced costs.

2.2. Importance of project management

A study by Larson, Ericsson & Pesamaa (2018) on the importance of hard project management and team motivation for construction project performance reveals a significant influence on the performance and success of the project. Hard project management in the study referred to the management of construction projects. Though, the findings also revealed that the enhanced performance of the project was mediated by team motivation. This means that the motivation of the team is equally important in the project management process. Meirelles, Tereso & Santos (2019) add that project management competencies can enhance the quality and effectiveness of projects. Meirelles, Tereso & Santos (2019) argue that effective management of projects benefits firms in the manner it improves the probability of the organization achieving its objectives. This is because project management skills allow control of many aspects, including costs, schedule, as

well as risks that may favour decision-making in terms of actions to take the project back on the right track. Project management is now gaining great importance in organizations because it can directly contribute to the business gaining competitive advantage. On the other hand, Pinna et al. (2018) observe that though there are other ways of improving the quality of products, customer satisfaction, teamwork as well as the performance of firms in the food industry, project management training is equally viewed to contribute to improving on those aspects. It is clear, therefore, from the literature that project management training can contribute to the organization's competitive advantage in the food industry by enhancing organizational performance.

2.3 Theory Underpinning the Study

Kanban theoretical framework

The Kanban framework is a unique project management model that focuses on Kanban methodology for the approach to managing projects. The framework is appropriate in explaining how to break down the project's activities, monitor their progress and gain the status report on the project in real-time (Miltenburg, 1993). The Kanban principle focuses on a simple, efficient, and flexible approach to managing workflow in organizations (Hofmann et al., 2018). It allows users to manage the processes as well as visualize all steps in the business workflow on a Kanban board (Alaidaros et al., 2019). This is based on two principles of change management as well as service delivery (Alaidaros et al., 2019). Therefore, this study utilizes Kanban principles since the perspective can be employed in the food

industry to help visualize workflow, manage the flow of work, and improve collaboration among the organization team.

2.4 How project management training impacts the quality of products, customer satisfaction, teamwork and collaboration, and performance in the food industry

2.4.1 How the quality of products can be improved through project management training

Various studies have revealed that applying project management practices like quality control, inspections, and process control is fundamental in improving the quality of products in the food industry. Okpala & Korzeniowka (2021) study established that project management training makes the staff understand the role of quality management in the food industry. Okpala & Korzeniowka (2021) argue that project management practices, like emphasizing continuous improvement and implementing risk analysis, remain significant in maintaining food hygiene quality in the food industry. This has been greatly enabled by focusing on quality management practices like quality assurance, control, improvement, and planning. Therefore, the study's findings revealed that having project management knowledge like quality management can be significant in understanding hygiene quality standards and related processes. As a result, such knowledge can help employees greatly contribute to promoting product quality standards in the food industry. McClintock (2016) agrees with Okpala & Korzeniowka (2021) and observes that modern quality management and project management compliments

each other. This is because they both put emphasis on customer satisfaction (McClintock, 2016). The key objective in quality management is to ensure that the project meets the needs of the stakeholders by offering quality products. The findings in McClintock (2016), therefore, reveal that project management training helps employees understand tools and techniques that are vital in quality planning, assurance, and control. This leads to improvement in the quality of products in the food industry. It leads to the first hypothesis of the study:

H1: Project management training positively improves the quality of products in the food industry

2.4.2 How customer satisfaction can be improved through project management training

Shah et al. (2020) observe that customers get satisfied when their needs are met. One of the expectations of the customers in the food industry is that the food is of high quality and safe. Rowh (2001) argue that reconciling needs and wants can be challenging since consumer expectation always exceeds the realities of time and costs. However, the project manager must rearrange resources to meet customer needs. Therefore, having project management skills is significant for managers to devise strategies and mechanisms to avoid wasting time. The best approach for project managers to meet customer needs is to come up with a project management plan that highlights consumer expectations. Such a mechanism can also be important in the food industry for management to understand the customers' expectations and how to fulfil them. Williams et al. (2015) argue that successful projects are pegged on their ability to satisfy the client's requirements. Williams et al. (2015) observe that the drivers for customer satisfaction in project

management, similar to all industries, is whether they are delivered on time and right cost. Triyeh (2018) adds that the idea of putting the customer at the centre of the project can be applied in the food industry to enhance customer satisfaction. Triyeh (2018) argue that normally, businesses consider customers as a whole and not as individual. This may make the business fail to meet the customer's individual expectations.

However, using the project management triangle, the business can have a customer focus by concentrating on satisfying the consumer in three aspects of quality, timely delivery and costs (Triyeh, 2018). It follows, therefore, that project management training can impact customer satisfaction in the food industry by providing skills that enable businesses to meet customer expectations. This is in regard to mechanisms to provide quality products on time and at the expected price. Shah et al. (2020) argue that the capital of an organization can be enhanced through the training of the employees. Thus, employees trained in project management may possess the skills to focus on improving service quality and reducing delivery time, which enhances customer satisfaction. It is clear, therefore, that with project management training, it becomes easy to meet customer expectations, thus, improving their satisfaction. Williams et al. (2015) observe that project management training helps employees to understand customers' expectations and communicate them clearly. Williams et al. (2015) add that once you understand customers' expectations, it becomes easy to structure clear deliverables based on their approvals. This is because customer satisfaction is part of quality management in projects. This leads to the second hypothesis of the study:

H2: Project management training positively influences customer satisfaction in the food industry.

3. Second Variable and Correlation between Variables

3.1 How project management training enhances collaboration among employees is enhanced through project management training

A study by Chuanmin et al. (2021) established that project training enhances working in groups as well as teams. Chuanmin et al. (2021) argue that an effective project leadership style is significant for the success of a business. This implies that project training can impart a leadership style that can be effective for the success of firms in the food industry. Chuanmin et al. (2021) observe that team building is viewed as a key part of human resources management in project-based organizations. This means that project management training becomes necessary when a project-based undertaking like product development is initiated. Bond-Bernard, Fletcher & Steyn (2018) observe that management in any organization can utilize project management training to define their own as well as everyone's roles clearly to promote collaboration. Keegan, Ringhofer & Hoemann (2018) agree and observe that organizations can utilize HRM practices applied in project contexts in non-project contexts. This means that practices like team structuring or building, applied in project management, can still be employed in non-project contexts to improve collaboration among the organization's team. It follows that management of organizations in the food industry can utilize project management training to organize and define clear goals for employees to enhance service delivery. This leads to the third hypothesis of the study:

H3: Project management training positively influences employee collaboration in the food industry.

3.2 How project management training enhance organization Performance

Hagen, Johnson & Young (2012) observe that training is one of the ways in which we can improve business processes. This is because businesses today function in the context of increased competition as a result of globalization. Therefore, project management training is often utilized to help the organization address such issues successfully. Training in project management, therefore, is essential for the implementation of project management systems. Hyvari (2006) opines that project management skills are significant for the successful completion of organizational projects. Therefore, these skills are important for the quality of the organization's products and services and in fulfilling customer requirements. On the other hand, Dasi, Pedersen & Alves (2021) argue that project management training enables employees to have an organized way of tracking their performance and that of the organization. This means that once the organization understands the problem areas, it becomes easy for them to develop an improvement plan. It means, therefore, that project management training skills are important for organizations to gain a competitive advantage in the industry. Dasi, Pedersen & Alves (2021) argue that organizations utilize team-based projects to manage activities and resources in an integrated manner and share knowledge on best practices internally.

It follows, therefore, that utilizing project management training can be significant for organizations in the food industry to effectively manage resources and promote good practices. Floricel, Michela & Piperca (2016) agree and observe that understanding factors contributing to project success can be important for employees to enhance their organizational performance; on the other hand, they

view training as a powerful source of growth for the workforce. According to Keegan, Ringhofer & Hoemann (2018), HRM practices in a project context can be reflected in a non-project context to improve employee performance. This means that project management training can serve as an important source of growth in terms of knowledge for workers in the food industry. This leads to the final hypothesis of the study:

H4: Project management training positively influences the performance of organizations in the food industry.

3.3 Summary of the literature review

The literature review reveals that project management training may significantly improve the quality of products in an organization. This is because quality management practices and techniques employed in project management can still be employed to monitor and control quality in the production process in the food industry. In addition, applying project management skills can help identify and fulfil customer expectations, thus, leading to their satisfaction. More so, the literature review also reveals that project management training can be applied to enhance team collaboration and organizational performance. This is because HRM practices in a project context can still be employed in a non-project context (Keegan, Ringhofer & Hoemann, 2018). The literature shows that project management training will improve the quality of products, customer satisfaction, collaboration and performance in the organization.

Chapter 4: Methodological Procedures

This study employed quantitative methodology to explore the influence of project management training on product quality, customer satisfaction, employee collaboration and performance in the food industry. Quantitative research methods often seek to collect subjective data that can be expressed in statistical form. Different from qualitative research, quantitative research seeks to establish a causal relationship between variables by testing hypotheses. In this study, therefore, quantitative approaches are explored to establish a causal relationship between project management training and four aspects of customer satisfaction, product quality, collaboration, and performance. Quantitative methodology is significant in that it enables the collection of objective data that can be comprehensively communicated through statistics (Borgstede & Scholz, 2021).

Research Philosophy

This study adopted a positivist philosophy. Positivism largely focuses on objectivity and does not support individual interpretations (Saunders et al., 2019). Instead, it supports the scientific procedure of findings out facts about a given research event. This is different from the interpretivism philosophy that advocates for individual interpretations and experiences, thus, believing that reality is subjective (Saunders et al., 2019). Therefore, the positivism philosophy enabled the study to explore scientific processes to get objective data on how project management training impact on product quality, customer satisfaction, employee collaboration and organizational performance in the food industry. The focus of the research was to get factual information from those with project management training in the food industry on how project management training impact on

product quality, customer satisfaction, employee collaboration and organization performance and then generalize it to the whole population. Therefore, positivist thinking allowed the generalization of the result to the whole food industry in the Kingdom of Saudi Arabia.

Research approach

The study adopted a deductive approach since it better aligns with the positivism philosophy. The deductive approach allowed the study to test prevailing theories on project management training and develop a hypothesis to come out of the theories (Woiceshyn & Daellenbach, 2018). The deductive approach enabled the research to test the prevailing customer satisfaction, quality management and collaboration theories and relate to how project management training impacts them in the food industry. Woiceshyn & Daellenbach (2018) observe that the main advantage of using the deductive approach is the possibility of explaining the causal relationship between concepts. Thus, the use of the deductive approach enabled the research to clearly explain the causal relationship between project management training and product quality, customer satisfaction, employee collaboration, and organizational performance in the food industry.

Research strategy and method

The study adopted a survey strategy to ensure that the collected data was valid and reliable. The advantage of using survey research is that it enables the collection of data from a large sample size (Ponto, 2015). The strategy was important as it enabled the study to reach more respondents than when another method, like a case study, would have been used. More so, the study employed a

questionnaire tool for the data collection process. The questionnaire tool, unlike to interview method, is cost-effective and facilitates the collection of data from a large number of respondents. Since this study is academic research with no budget, a questionnaire tool was appropriate. Creswell (2013) observes that the questionnaire method is flexible compared to the interview method. This is because the questionnaires can be filled in at any time and at any place. This made it appropriate for the study to gain reliable responses from different workers in the food industry.

Sampling method

The study sample for this research was selected through purposive sampling. Purposive sampling is a non-probability sampling technique where the study sample is chosen based on the knowledge and understanding of the study topic (Rai & Thapa, 2015). Though purposive sampling as a non-probability sampling technique may result in an unrepresentative sample, it is easy to gain a range of outcomes from the responses (Rai & Thapa, 2015). Therefore, the inclusion of the respondents into the study sample was based on their knowledge of project management training in the food industry.

Data collection process

The respondents in this study were employees in the food industry in Yanbu industrial city who have gained project management training. Therefore, before actual data collection began, the researcher sought permission from various employees in the food industry in Yanbu industrial city with knowledge of project management training. The uncle of the researcher works with one of the food

companies in Yanbu industrial city; therefore, he served as a link to his colleagues. Thus, they introduced the aim and objectives of the study to the respondents and asked them to participate in the research. The respondents were contacted through emails as well as online meetings. The researcher distributed 18 questionnaires to the respondents but managed to collect only 13 completely filled questionnaires. The informed consent was attached to the questionnaire to ensure that no individual was coerced to participate in the study. The collected data was then stored in a personal computer with the researcher, the only person with a password. More so, once the data had been analyzed and presented, a copy was sent to participants to ensure they benefitted from the findings by ensuring they understood the influence of project management training in the food industry. Significantly, various ethical considerations were observed throughout the research process. These included informed consent, the anonymity principle, as well as the confidentiality of the collected data.

Data analysis

The collected data was analyzed statistically through the use of SPSS. The advantage of using SPSS is that it makes quantitative data analysis easy. This is because it provides dependable as well as fast answers. Rahman & Muktadir (2021) argue that the use of SPSS has an advantage in that; it is devised in a way that enables it to handle a large set of data with numerous variables. Using the SPSS tool helped that study reveal inferences and descriptive statistics showing how various aspects of product quality, customer satisfaction, employee Collaboration and performance are impacted by project management training in the

food industry. Correlation analysis could also reveal how each aspect relates to project management training.

Summary of research methodologies

This study adopted a quantitative methodology. Therefore, the positivism philosophy was explored to ensure the collection of objective data on how project management training impacts the food industry in Yanbu industrial city. A deductive approach was also utilized to enable the generalization of the findings. More so, the study adopted a survey research strategy and questionnaire tool to facilitate the collection of data from a larger sample. The study population was selected through purposive sampling since it enabled easy access to more reliable data from knowledgeable respondents. The collected data were analyzed through the use of the SPSS tool, and ethical considerations were observed throughout the research process.

Chapter 5: Field Results

This section aims to provide findings and analysis of the study to determine how project management training impacts quality, customer satisfaction, employee collaboration and organization performance in the food industry in Yanbu industrial city. The study employed a questionnaire method; thus, this section analyses the questionnaire results to determine the influence of project management training in the food industry.

5.1 Demographic information

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FEMALE	9	69.2	69.2	69.2
	MALE	4	30.8	30.8	100.0
	Total	13	100.0	100.0	

Table 5-1: Showing gender make-up of research participants

From Figure 5-1 above, most of the respondents were of the female gender. This is represented by the highest percentage of 69.2, compared to a male, who made up 30.8 percent. Perhaps, this is because the study explored purposive sampling and only those with knowledge and project management training were involved. However, it also shows that both genders participated in the study.

		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	26-35	6	46.2	46.2	46.2
	36-45	5	38.5	38.5	84.6
	18-25	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

Table 5-2: Showing age distribution of respondents.

From Figure 5-2 above, most of the respondents are aged above 25 years, with the age category 26-35 commanding the highest percentage of 46.2, then

those in the age category of 36-45 made 38.5 percent. The youth in the age category 18-25 were the least. This is because the study focused on employees in the food industry with knowledge and experience in project training skills.

		Experience			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BELOW 5 YEARS	4	30.8	30.8	30.8
	5-10 YEARS	2	15.4	15.4	46.2
	10-15 YEARS	5	38.5	38.5	84.6
	ABOVE 15 YEARS	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

Table 5-3: Showing experience of respondents working in the food industry

From Figure 4-3 above, the respondents have worked in the food industry in Yanbu industrial city for 10-15 years. This is represented by the highest percentage of 38.5 of the total respondents. The results can be attributed to the use purposive sampling method that focused on gaining facts on the impact of project management training from those with knowledge and experience in the field.

		Education			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BACHELOR'S DEGREE	7	53.8	53.8	53.8
	High school and below	2	15.4	15.4	69.2
	4.00	4	30.8	30.8	100.0
	Total	13	100.0	100.0	

Table 5-4: Showing the education level of participants

Figure 5-4 above reveals that the majority of the respondents have a bachelor's degree qualification. This is represented by the highest percentage of 53.8.

From the demographic composition, it can be deduced that the participants had the knowledge and experience in project management training to provide the study with reliable information on the impact of project management training in the food industry.

5.2 The impact of project management training in the food industry

5.2.1 Impact of project management training on Quality

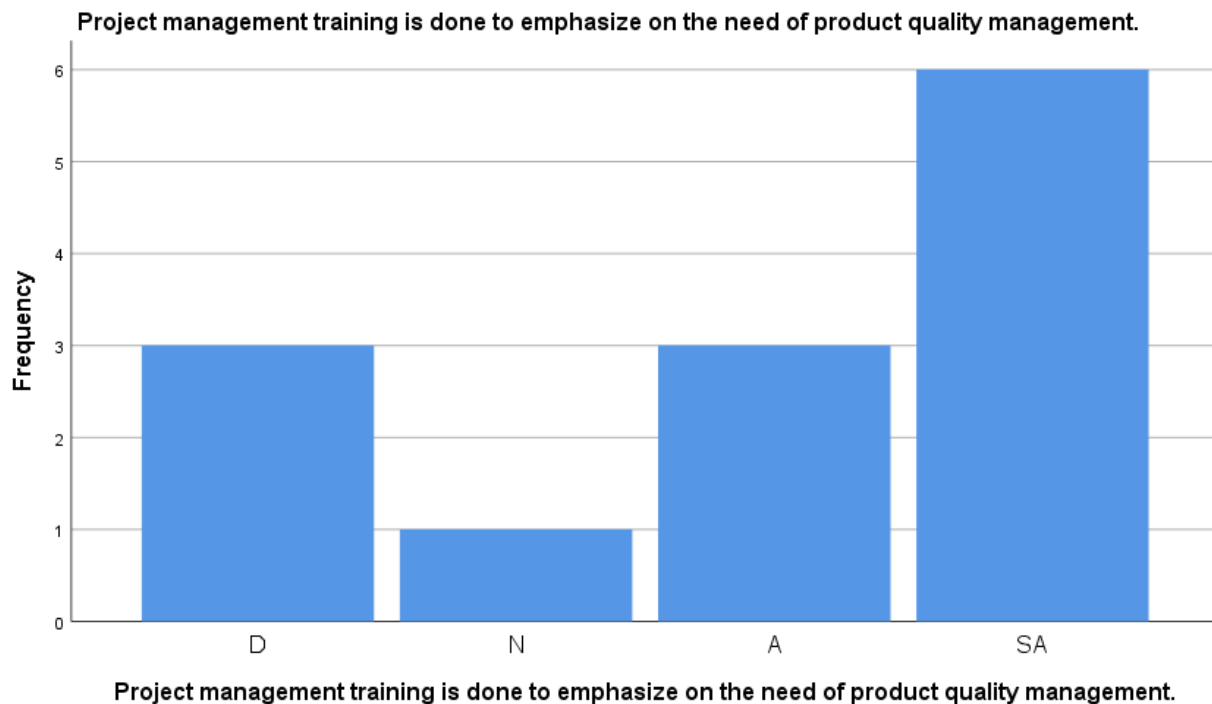


Figure 5-5: Showing the use of project management training in improving quality.

From Figure 5-5 above, most respondents felt that project management training knowledge is important in advocating for better quality products in the

food industry. This is represented by the highest percentage of 46.2. The respondents observed that project management training skills could be applied to emphasize quality management. The findings echo McClintock's (2016) argument that project management training helps employees understand tools and techniques that are vital in quality planning, assurance, and control. It means that the use of project management training skills can help organizations in the food industry considerably to improve the quality of the products. This can also be realized through continuous improvement of the products.

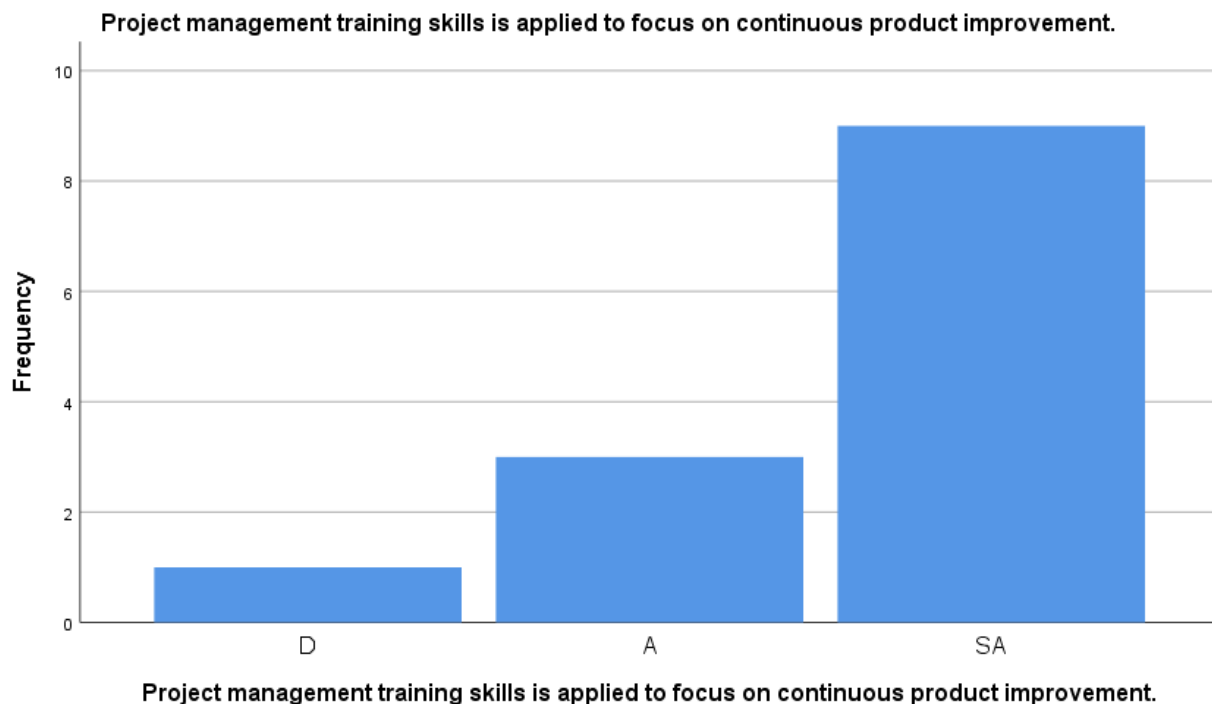


Figure 5-6: Showing project management training is applied for continuous product improvement.

From Figure 5-6 above, the majority of the respondents, 69.2 percent, acknowledge that project management training is being explored in the food industry to continuously improve food products. This supports Okpala &

Korzeniowka's (2021) argument that project management practices like emphasizing continuous improvement and implementing risk analysis remain significant in maintaining food hygiene quality in the food industry. Therefore, project management training can serve a significant role in product development in the food industry.

5.2.2 Impact of project management training on customer satisfaction



Figure 5-7: Showing the role of project management training in customer satisfaction

From Figure 5-7, the majority of the respondents, 53.8 percent, suggested that project management training skills are significant in understanding customer needs. This means that project management training is significant in the food industry in understanding customer expectations and planning to fulfil them. The findings support Triyeh (2018) postulation that the idea of putting the customer at the centre of the project can be applied in the food industry to enhance customer

satisfaction. This is because project management training skills can be explored to help in fulfilling customer expectations.

5.2.3 Impact of project management training on employee collaboration



Figure 5-8: Showing the influence of project management training on team collaboration

Figure 5-8 above shows that project management training contributes to team building in the food industry. These are the views of the highest percentage of 61.5 of the respondents. It shows that project management training plays an important role in team building for employees in the food industry. The findings are similar to Bond-Bernard, Fletcher & Steyn (2018), who observe that management in any organization can utilize project management training to define their own as well as everyone's roles clearly to promote collaboration.

5.2.4 Impact of project management training on organization performance



Figure 5-9; shows the importance of project management training on organizational performance.

Figure 5-9 above reveals that project management training can be important for successful product development in the food industry. Most of the respondents, 46.2 percent, observed that project management training skills are important in the successful implementation of product development that leads to the organization's success. The findings support Dasi, Pedersen & Alves (2021) argument that organizations utilize team-based projects to manage activities as well as resources in an integrated manner and also share knowledge on best practices internally. This means that organization activities like product development in the food industry

can successfully be implemented through the use of project management training knowledge.

5.3. Descriptive statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Project management skills have a powerful impact on improving product quality and organizational success.	13	4.00	5.00	4.7692	.43853
The organization's success is based on the successful implementation of product development projects.	13	2.00	5.00	3.9231	1.25576
Project management training skills are applied to team building.	13	4.00	5.00	4.6154	.50637
Project management training is done to emphasize the need for product quality management.	13	2.00	5.00	3.9231	1.25576
Project management training is applied to maintain food hygiene quality.	13	3.00	5.00	4.2308	.72501
Project management training is used to understand how to fulfil customer expectations.	13	2.00	5.00	4.2308	.92681
Valid N (listwise)	13				

Table 5-10: Descriptive statistics showing aspects of project management training in the food industry

From Figure 5-10 above, the respondents view project management training to have the greatest influence on product quality in the food industry, thus leading to organizational success. This is revealed by the highest mean score of 4.7692 for the statement 'project management skills have a powerful impact on improving product quality and organization success'. More so, the descriptive statistics also reveal project management training influence greatly employee collaboration in the food industry. This is revealed by the second highest mean of 4.6154 for the statement 'project management training skills are applied for team building'. On the contrary, the statement 'The organization's success is based on successful implementation of product development project'. However, though the statement is with the least mean, it is still above the average of 3.000 means, indicating that most respondents still believe the statement is true. Though, the highest mean demonstrates project management training is perceived by the respondents to greatly contribute to product quality development and organization success in the food industry. This supports Okpala & Korzeniowka (2021) assertion that project management practices like emphasizing continuous improvement as well as the implementation of risk analysis remain significant in maintaining food hygiene quality and the success of the organization in the food industry.

5.4. Regression analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.128 ^a	.016	-.180	1.18626

a. Predictors: (Constant), Project management skills have a powerful impact to improve product quality and organization success., The organization success is based on successful implementation of product development projects.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.236	2	.118	.084	.920 ^b
	Residual	14.072	10	1.407		
	Total	14.308	12			

a. Dependent Variable: Project managements training skills are used to better understand customer needs.

b. Predictors: (Constant), Project management skills have a powerful impact to improve product quality and organization success., The organization success is based on successful implementation of product development projects.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.789	3.740		.746	.473
	The organization success is based on successful implementation of product development projects.	.040	.283	.046	.141	.891
	Project management skills have a powerful impact to improve product quality and organization success.	.269	.810	.108	.332	.746

Table 5-11 shows the relationship between project training and product quality as well as the organization's success.

The statistics in Figure 5-11 above demonstrate that $F = 0.084$ and $R \text{ square} = 0.16$. The value of $R \text{ square}$ reveals that a change in project management training will lead to product quality and success of the organization change by 16%. B (constant) is 2.789, while organization success is 0.040 and product quality is 0.269. Therefore, the equation of the relationship between organizational success and project management training, and then product quality and project

management training, can be expressed as $\text{Organization success} = 0.040 \text{ project training} + 2.789$, and $\text{Product quality} = 0.269 \text{ project management training} + 2.789$, respectively. It shows that project management training significantly influences product quality in the food industry.

5.5 Discussion

The findings above reveal that project management training significantly influences product quality, customer satisfaction, employee collaboration, and organizational performance in the food industry. From the findings, project management training specifically influences product development as the skills are employed to design continuous improvements on the products. As evidenced in the results, an organization can employ project management training skills to monitor the quality monitoring processes to ensure improvement in product quality. This supports McClintock (2016) assertion that project management training helps employees understand tools and techniques that are vital in quality planning, assurance, and control. In descriptive results and regression analysis, it is evidenced that project management training has the greatest effect on the quality of products in the food industry compared to other aspects.

On the other hand, it is also clear that improving the quality of products enhances customer satisfaction in the food industry. This means that the quality of products has a mediating role in the influence of project management training on customer satisfaction. Because when the organization offers quality products to the clients, it meets their needs and expectations. Williams et al. (2015) posit that once you understand customers' expectations, it becomes easy to structure clear deliverables

based on their approvals. This may greatly help organizations in the food industry to satisfy customer needs.

Besides, the results also reveal that project management training helps organizations in the food industry to enhance team collaboration. This is because team-building skills from project management training can be applied in the food industry. Though, as evidenced, the effect of project management training on team collaboration in the food industry is not significant as the case of quality products and organization performance. However, Bond-Bernard, Fletcher & Steyn (2018) observe that management in any organization can utilize project management training to define team roles and enhance collaboration. Therefore, though viewed as least influenced by project management training, most respondents still view employee collaboration as an aspect influenced by project management training.

More so, apart from improving product quality, project management training, as evidenced in the study, also significantly influences the organization's performance and success in the food industry. This is because project management training skills can be employed in product development and even in HRM management. Basically, the influence of project management training on other aspects, including food quality, customer satisfaction, and employee collaboration, all lead to a positive impact on organizational performance. Therefore, it can be observed that project management training may positively influence organizational performance in the food industry. The findings thus support Dasi, Pedersen & Alves (2021) observation that organizations can utilize team-based projects to manage activities as well as resources in an integrated manner and also share knowledge on best practices internally. It shows that project management training can significantly impact organizational performance and success in the food industry in Yanbu industrial city. As evidenced in the study, therefore, it is clear that project management training has a positive influence on the four dimensions

of product quality, customer satisfaction, employee collaboration, and organization performance. But the impact on two constructs of product quality and organizational performance is significant when compared to other constructs.

Chapter 6: Results and Proposal analysis

This section presents major conclusions on the findings in the previous chapter on the impact of project management training on product quality, customer satisfaction, team collaboration, and organizational performance in the food industry. This is founded on the four objectives of the study. Besides the section also provides recommendations and suggestions for future similar studies.

6.1 Conclusions

6.1.1 Impact of project management training on product quality in the food industry

Based on the findings, it can be concluded that employees having project management training skills can significantly contribute to enhanced product quality in the food industry. It follows that employees with project management training skills can utilize them to monitor and control product quality during the production process. This impact is even great when project management training knowledge is applied in continuous product development. These findings are similar to Okpala & Korzeniowka (2021), who argue that project management practices, like emphasizing continuous improvement as well as the implementation of risk

analysis, remain significant in maintaining food hygiene quality in the food industry. As a result, it enables the organization to focus on quality management in food production. Thus, project management training has a significant impact on the quality of products in the food industry.

6.1.2 Impact of project management training on customer satisfaction

From the findings, it can be concluded that project management training impact customer satisfaction by mediating the role of quality products. It follows that customers are satisfied when their expectations are met. One of the expectations of customers is to get quality products; this can be enabled through project management training of staff. Project management training, therefore, positively influences customer satisfaction in the food industry. The findings are similar to Shah et al. (2020), who observes that customers get satisfied when their needs are met. Therefore, when food products of high quality are offered timely by the organization, the customers get satisfied. Project management training, therefore, enables the organization to focus on the timely delivery of quality food products.

6.1.3 Impact of project management training on employee collaboration in the food industry

Furthermore, from the findings, it can be concluded that project management training skills help improve collaboration in organizations in the food industry.

This is because team-building practices in project management can effectively enhance employee collaboration in the food industry. Though it does not significantly influence employee collaboration, as is the case with product quality and organization performance, project management training still positively affects team collaboration. This is similar to Bond-Bernard, Fletcher & Steyn (2018) postulation that management in any organization can utilize project management training to define their own as well as everyone's roles clearly to promote collaboration.

6.1.4 Impact of project management training on organization performance in the food industry

Based on the findings, it can also be concluded that project management training significantly impacts organizational performance in the food industry. The results reveal that project management training help in improving organizational activities and processes like product development that result in organizational success. Hagen, Johnson & Young (2012) have similar views and observed that training is one of the ways the organization can improve business processes. Thus, it could be important for improving project-like business processes like product development. From the discussion, it is clear that organization performance is one area where project management training significantly affects the food industry. This means that focusing on project management training will greatly improve the performance of several organizations in Yanbu industrial city.

6.2. Recommendations

The study finds that project management training is important for organizations in the food industry. This is because it can help improve quality management, employee collaboration, and overall organizational performance. However, many employees in the food industry may not have the necessary project management training skills or project managers to help organizations improve their performance. This study, therefore, recommends that at least every organization in the food industry employ a project manager. This may greatly help organizations fill the knowledge gap in project management. Alternatively, organizations can organize employee training workshops to help them gain project management skills. This could help organizations improve employee collaboration, organizational performance, and customer satisfaction. As evidenced in the discussion, training helps employees to gain skills that can help the organization improve its processes.

5.3 Limitations and Suggestions for future research

Though this study, to a large extent, attained its objective of evaluating the impact of project training on product quality, customer satisfaction, team collaboration, and organization performance, there were some limitations. The key limitation of the study is that it only employed a questionnaire tool for data collection. More so, only 13 questionnaires were employed in that collection. This denied the study from gaining detailed information on the impact of project management training in the food industry. Besides, the research employed purposive sampling, a non-probability sampling technique that would have collected subjective data.

Future similar studies, therefore, should focus on using both questionnaires and interview methods in data collection. This will ensure that the study gains in-depth information on the impact of project management training in the food industry. Besides, future studies need to use questionnaires; more than 100 questionnaires would be appropriate. In addition, future studies need to focus on using a random sampling technique to ensure every potential respondent has an equal chance of participating in the data. This will ensure the collection of more objective data that is more representative of the impact of project management training on product quality, customer satisfaction, team collaboration, and organization performance in the food industry.

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Appendixes

Questionnaire

Part 1: How training in project management impact performance of companies in food industry.

Please, select true answer based on the extent you agree or disagree with the statement. Every statement is graded on a scale of 1 to 5, with 1 representing strongly disagree and 5 strongly agree.

A. Improving quality of products through project management training	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
My firm is using project management training to emphasize on the need of product quality management.	1	2	3	4	5
My firm utilize project management training skills to focus on continuous product improvement.	1	2	3	4	5
I apply project management training to maintain food hygiene quality.	1	2	3	4	5
I apply project management skills to understand food hygiene quality standards.	1	2	3	4	5
My firm is using project management training to encourage new product ideas.	1	2	3	4	5

<i>B: Project management training and customer satisfaction</i>					
I use project management training skills to better understand customer needs.	1	2	3	4	5
I use project management training to understand how to fulfill customer expectations.	1	2	3	4	5
We utilize project management skills to deliver food on time and at right price.	1	2	3	4	5
I use project management training to focus on quality service,	1	2	3	4	5
Due to project management training, all employees recognize the value of customer satisfaction.	1	2	3	4	5
<i>C: Project management training and collaboration among employees</i>					
My firm is applying project management training to focus on enhancing group work.	1	2	3	4	5
I use project management training knowledge to organize others.	1	2	3	4	5
My firm is utilizing project management training skills for teambuilding.	1	2	3	4	5
<i>D: Project management training and organization performance</i>					
The organization success is based on utilizing project management skills to improve product quality.	1	2	3	4	5
Organization success is based on successful implementation of product development projects.	1	2	3	4	5

PART 2:

Instruction: *select (Tick or circle) only one item.*

Respondent profile

1. Gender

A. Female B. Male

2. Age

A. 18-25 B. 26-35 C. 36-45 D. 46-55 E. Over 55

3. Your level of experience working in food industry

A. 5 years and below B. 5-10 years C. 10- 15 years D. Above
15 years

4. Highest education level

A. High school and below
B. Junior college
C. Bachelor
D. Master
E. Doctorate