Improving the usage of data provided by the Statistics and Measurement Unit (SAMU) in public administrations in the Sultanate of Oman

Thesis submitted in accordance with the requirements of the University of Liverpool for the degree of Doctor of Business Administration

by Aqeela Hassan Al Lawati

May, 2023

Declaration

No portion of this work has been submitted in support of an application for a degree or qualification of this or any other University or institution of learning.

Signature: Aqeela Hassan Al-Lawati

Acknowledgements

Indeed, I am so grateful to the University of Liverpool for providing me with a chance to be a member of the Doctor of Business Administration (DBA) program. I would like to thank Dr Clare Rigg for her support, motivation, encouragement, and requirements clarification feedback on not only each chapter but also each section of the thesis. Furthermore, I would like to thank Dr Paul Ellwood for being my first supervisor and providing his valuable feedback to improve my thesis. Dr Ellwood provided valuable support in expanding my thesis, helping me to think in different directions. In addition, my second supervisor, Professor Sally Sambrook, all the appreciation and thanks for helping me to reach this stage.

This thesis is dedicated to my family. My husband, *Dr Adil*, supported me emotionally and understood the load and effort required from day one. Furthermore, my beloved daughter, *Zainab*, and my adorable son, *Hussain*, were good support and understood the stress and ups and downs which I was going through during my thesis journey. Furthermore, I would like to thank my father for his constant care and continuous follow-up during the stages of the research. Besides, my adorable mother for her praise, my sisters, and brother for their support to complete the DBA journey. I also thank my late mother-in-law, as I wished to have her by my side on the day I received the certificate. This great woman had a big role in getting me to this stage. In addition, I would like to thank my friends especially "Al Sahwa Group", "Shilat Mattrah", and "Sadiqat Al Hanna". Thank you my lovely family and friends for the support and encouragement to reach the end of the path.

Abstract

The Human resource data (HRDt) is considered a valuable asset for an organization; however, its effect is more significant when utilized in a proper way. This research study is conducted in Statistics and Measurement Unit (SAMU) at X Public Administration, Sultanate of Oman, Muscat. The primary aim of the study is to identify the internal issues and challenges related to the usage of HRDt at the SAMU in the Sultanate of Oman. In addition, a further aim is to increase the effectiveness of the SAMU by improving the usage of HRDt and utilizing it in the human resource (HR) decision-making process (DMP). Furthermore, the study aims include the identification of the reasons behind the lack of data usage at the SAMU, the evaluation of the culture role in the usage of the data, the identification of any force from managers to ignore the data, and an evaluation of whether the usage of data in the DMP improves or has any effect on staff satisfaction.

The study followed a pragmatist research philosophy, an inductive research approach, and an AR strategy. The data was collected using a multiple-method qualitative strategy research choice by observing the participants and conducting semi-structured interviews. Thematic analysis techniques were used to analyze the collected qualitative data. The findings of the research study were above the expectations and actionable, which provided reasons for ignoring the usage of HRDt in the HR decision-making process. Furthermore, the creation of the network between the organizational units showed the effectiveness of various processes. Moreover, the study encourages not only the AR Team, but also the new senior managers to adopt the AR methodology as a tool for solving organizational problems for which the organization created a new unit specialist to gather AR proposals, provide approvals, and discuss the results and the solutions.

Ethical approvals and consideration were obtained from the ethics review board of the University of Liverpool and the X Public Administration before conducting the research study. The limitations of the study include the fact that the implementation of the study's outcome was applied to a single unit within the organization due to the COVID-19 pandemic restrictions; however, the limitation was overcome by involving other units' managers in the study as AR Team so they can transfer, report the knowledge and the idea to their units. Furthermore, the number of the AR Team was limited to 10 due to the fact that in general X

Public Administration is known for the lowest number of staff compared to other governmental organizations in the country; nevertheless, despite this limitation, the study was conducted successfully.

Abstract Word Count: 431 words.

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Chapter One

1 Purpose and Rationale of the Study

1.1.   Introduction

The main aims of this thesis project are to identify the challenges behind the use of human resource data (HRDt) in the decision-making process (DMP) and to find ways of improving the use of data to increase the effectiveness by utilizing all the available resources within the Statistics and Measurement Unit (SAMU), a department of X Public Administration, Muscat, Sultanate of Oman. This project contributes not only to organizational knowledge but also to practice by working to make changes in the use of HRDt in the HR decision-making process. This chapter begins with the significance of the study, followed by the reasons why ignorance of HRDt is worth studying. Furthermore, an overview and rationale of the study are provided, followed by the research context, research questions and objectives. The chapter continues to discuss the study's conceptual framework, the reasons why the AR is worth conducting, followed by the structure of the thesis and lastly, a summary of the chapter.

The research combines the academic knowledge gained from the DBA modules with the practical knowledge gained from experience and expanded during the research phases in the advancement of usage of HRDt in the HR decision-making process and enhancement of SAMU efficiency. HRDt is all the personal data of the staff who work for X Public Administration, such as age, gender, social status, educational background, work experience, personal interests, and any other information relates directly to the worker. The SAMU refers to the unit that was added in all public administrations in the Sultanate of Oman in 2014 (Omaniya, 2020). The unit's responsibilities include collecting, gathering, and grouping of all types of HRDt, as well as data analysis and interpretation. Moreover, the staff of the SAMU have to provide reports based on the output of the analysis and be involved in various tasks, processes or procedures that require data. 'Decision-maker' are referred to as the people with senior positions within an organization who make decisions or are members of the decision-making team. Usually, a decision-maker may hold various degrees of power depending on different

grounds such as social status or cooperation and cordiality with higher authorities and the legislative committee. The higher the power, the smoother the flow of the DMP, for implementing decisions without facing any countering or opposition. In most of the public administrations in the country the majority of the workers are male, while female staff entered the work environment, other than being teachers, only in late 90s. Therefore, today's work environment is mostly comprised of mostly male employees (Omaniya, 2020). Figure (1.1) illustrates workers' ration in the Sultanate of Oman according to gender. Although, some of the females hold higher positions such as ministers, ambassadors and members of the Council of State and Shura, in general the public organization in Oman is a dominant male-centric organizational culture. In addition, the culture of Arabic writing is dominated by the use of masculine discourse formulae, used for both sexes often in a nonspecific manner. In other words, according to my use of the masculine formula, it does not mean that all those who participated were males.
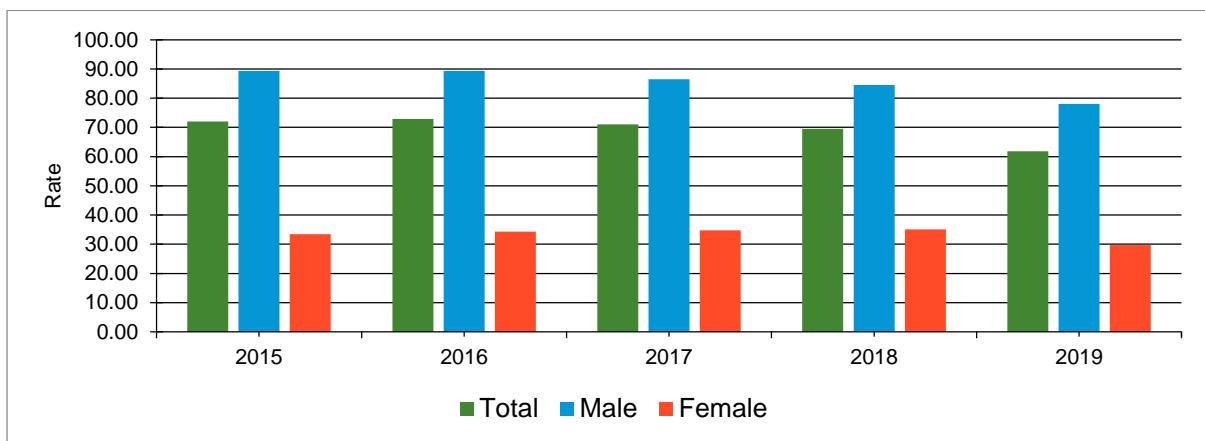
Figure (1. 1):Employment Rate and Gender

(National Centre for Statistics and Information, 2020)

The research developed a framework that helped to examine the reasons behind the ignorance of usage of HRDt, hence the research findings are expected to help in understanding the reasons and formulating action to solve and overcome the challenge of ignorance of such an important asset.

The thesis project adopted an action research (AR) methodology where those who are affected by the subject are participants in the AR Team. This research, conducted as an AR project, was the first research taking such feature in X Public Administration and it was

supported by the new senior management team. Thus, the participants showed willingness and expressed a strong desire to participate in the study.

1.2. Why is the ignorance of human resources data worth studying?

Human resources (HR) are considered an asset for any organization (Aghaz, Sheikh and Amirkhani, 2017). Thus, directing the asset in the right direction reflects positively not only on the organization but also on the staff themselves. Currently, the decisions are made without referring to the HRDt, relying on personal and individual interests (Carman and Fredericks, 2008; Ali, 1990). This is why anger prevails in the working environment, as the busy employee feels treated unfairly if he spends his day completing the parameters, but he is not in the satisfactory category of officials, so his name does not join the list of those who receive privileges, such as promotion, posting aboard, higher position within the organization, or official mission. On the other hand, there are employees close to the officials who receive privileges without reference to their personal data, performance, and experience. This creates sensitivities among employees and affects the productivity and quality of the work. In addition, in the long run, the organization discovers that the selected staff lack numerous skills such as management skills, leadership, given the absence of either scientific or practical experience. However, this also has a significant effect on the region, because the decision made does not serve the public interest and its implications affects the regional and national interests. Consequently, HRDt is considered as a piece of important information that needs to be utilized and used sufficiently. The use of HRDt in the HR decision-making process helps to yield better decisions based on real data rather than decisions based on personal thoughts, experiences, and social status (Rubenfeld, 2018). Thus, finding the reasons behind the ignorance of HRDt usage in HR decision-making at X Public Administration is worth studying.

1.3. Overview and rationale of the study/introduction to the problem

The study took place at X Public Administration, which was established in 1985 in the Sultanate of Oman (Omaniya, 2020). The Ministry has the main building in Muscat, the capital of the Sultanate of Oman, with several other offices internally within the country; in addition, external offices abroad represent the organization in other countries. I joined the institute on the 1st of May 2006 as a staff member in the Finance Unit where I was in charge of all the

revenues of the organization. In 2009, I became the manager of the Revenues Office where I gained experience in management and leadership; besides, it was a chance to enter the management environment in the organization, learning to understand managerial thoughts, exchanging ideas, and building good relationships at this stage. Later, I used these skills to collaborate on the outcome of this study in order to cover the various units of the organization.

In 2014, a new unit was added to the structure of the X Public Administration called the SAMU. The organization follows a rotation system where the staff are rotated internally or externally. The internal rotation was between different units within the organization. On the other hand, the external rotation was positioning offices either within the boundaries of the country or abroad. In 2016, I was rotated internally, from Finance Unit to SAMU, due to my background in statistics, holding a Bachelor of Science in Business Statistics. Moreover, my experience also includes teaching statistics courses and modules to university students at Sultan Qaboos University, Muscat, Sultanate of Oman, as a part-time visitor consultant for about three years. When I joined the SAMU, I noticed that the team was making up a HR database accidentally without giving weight to the benefit of the work and effort they provide to the organization. From their point of view, they were responding to requests coming from the Ministry of Manpower (previously), Ministry of Labour (currently), by filling forms with staff personal information such as gender, educational background, social status, number of working years, and the performance assessments for the previous years working for the organization. Although they gathered data and created a database, the data was not utilized completely. The only task of the unit was to generate tables containing HRDt to send to the Ministry of Labour in the given format provided by the Ministry. Moreover, I noticed that most of the HR decisions lacked the usage of HRDt. For instance, posting a member of staff to a country where their official language is English, but the staff does not speak English. If the decision-maker looked to the HRDt, he could easily find this particular information regarding linguistic abilities and could be posted to a country he masters the official language of, while another person with English language skills could be sent to the English-speaking country. Besides, the decisions were coming as announcements without sense-making or sense-giving and staff were not happy with the decisions. For instance, an employee who is qualified and works in his field is surprised by the decision of being transferred to a department that does not extend

his specialty. Besides, he was not aware of the decision until it was announced, and he does not have the power not to comply with the resolutions which everyone has to follow without discussion. My background in statistics, my experience and general knowledge was my guide to utilize the data in one way or another in order to improve the quality of the decisions. This was the catalyst and encouragement for the start of the search process.

To overcome the challenges above, as an insider researcher, I tried to utilize the data, for the HR database contained a significant source of data. However, I noticed that SAMU faced various types of challenges, which included, for instance, external challenges such as ignorance of top managers on how to use data or depend on it in the DMP, and the cultural challenges where staff obeyed a decision without asking for reasons behind it. Moreover, internal challenges were caused by the staff of SAMU which represented a gap between the units' capabilities, staff responsibilities, and the managerial style within the boundary of the unit. For instance, although the SAMU has HRDt, the data are not fully used because the staff lack the skills of data use, findings' analysis and interpretation. Moreover, the managerial style guides the decision without looking at the data but depending on the personal needs and requirements; then, the SAMU staff get the decision ready as an announcement. In this context, I tried to create a team to address this issue, to understand the reasons behind it, and to try to find a suitable solution. According to my background knowledge and prior understanding of the organization, the decision-makers consider decision-making a routine practice where the staff follow the decision even though they do not understand the reason behind it or on the basis it stands on. Thus, neither party understand the importance of the usage of HRDt in the DMP.

Consequently, the issue under study can be seen as a wicked problem (Churchman, 1967; Rittel and Webber, 1973), for the HR decisions are different depending on the requirements and needs; in other words, they are not the same everywhere. Moreover, as the environment keeps changing, the variables change; consequently, there is no final point to reach where it can be agreed that this is the solution. In addition, HR decisions cannot be categorized as true or false, nevertheless they can be identified as good or bad. Besides, various people are involved in the DMP where the HR decision affects most of the organization's staff. Therefore, it is not easy to measure the success; however, the focus is on improving the HR decision-

making process. Furthermore, there is no standard solution for the problem, as each situation is unique; in other words, what works for X decision might not work for Y decision.

In addition, the problem is considered to be a wicked problem because the staff are not satisfied with the output of the DMP. The involvement of various parties may lead to negative outcomes, meaning that solving a problem might create other problems within the organization. However, the participation of all the parties in the study helped in converting the wicked problem into a normal problem by implementing AR cycles.

1.4.   Context

1.4.1. National context

This study took place in one of the government institutes of the Sultanate of Oman, which is one of the countries in the Middle East and one of the six countries of the Gulf Corporation Council (GCC) (Omaniya, 2020). The Sultanate of Oman has a very unique and strategic geographical location (Figure 1.1) as it occupies the south-eastern corner of the Arabian Peninsula, sharing borders with the Kingdom of Saudi Arabia, the United Arab Emirates, and the Republic of Yemen. Furthermore, the Sultanate of Oman is responsible for the Strait of Hormuz, considered the most important Gulf gateway to Iran. The official language of the country is Arabic, and Islam is their religion. Despite being generally considered a hot country, its geographical diversity is reflected in refreshing weather on the coasts and cold weather most days of the year in the Jabal Al Akdhar and Jabal Al Shams mountains. This climate diversity attracts numerous tourists to visit the country and enjoy different views in varying natural environments, atmospheres and temperatures.

Figure (1. 2):Sultanate of Oman's geographical location (Omaniya, 2020)

As for the nature of lifestyle, the Sultanate of Oman used to be characterised by a basic lifestyle until His Majesty Sultan Qaboos bin Said (May God have mercy on him) became a ruler in 1970. During the fifty years of his reign, Qaboos transformed Oman from a medieval country to a modern state. During the early 1970s, there were not enough schools in Oman, therefore, there were not many Omani experts to depend on. Consequently, the government had to acquire support from foreigners to develop the infrastructure for the country. Most of the foreigners were from Arab countries, such as the Arab Republic of Egypt, Hashemite Kingdom of Jordan, Republic of Iraq and other GCC countries, because they share Arabic as a common language. The foreign experts held various positions although not senior positions. Furthermore, seniors and decision-makers were mostly from the United Kingdom (UK), as the diplomatic relationships between the Sultanate of Oman and the UK had started during Sultan Qaboos' father's reign (Sultan Said bin Taymor), who ruled the country from 10th February 1932 to 23rd July 1970 (Omaniya, 2020).

Moreover, Oman is one of the GCC countries that depend on oil. However, the 1998 sharp decline of the oil price guided the country towards reducing its over-dependency on oil and looking for other resources. Furthermore, the Omani government started to eliminate its

reliance on foreigners and to depend on Omanis. Thus, the government's focus was to develop HR by providing scholarships for university and post-graduate degrees including masters, doctorate, and fellowship programs. Over time, Oman's government members have been able to replace foreign seniors with Omani citizens in most of the public administrations. However, those skilled foreigners who were working for the government have occupied posts within private organizations in the Sultanate of Oman, which reflected on the culture of the governmental organizations to have common values, beliefs, attitudes, and interpretation of the consequence of the events based on the shared experience of Omani society. On the other hand, the organisational culture of the private sector is different than that of the public administrations where staff are from various countries and multiculturalism plays a significant role in the workplace environment.

Simultaneously, the Sultanate of Oman society affects the national culture which influences the organizational culture. Society is affected by tribal, religious and patriarchal values; for instance, despite the fact that respecting the elderly is considered a positive attitude in society, applying it in the workplace does not necessarily yield a good result. This is because not all elderly can make the right decisions using their experience. Many scholars have studied the effect of culture on the workplace environment (Ryan, 2006), the findings showing the significant effect of cultural elements including religion on Arab values and behaviours (Al-Kandair and Gaither, 2001; Rees and Althakhri, 2008) and these elements are distributed into the workplace.

1.4.2. Sultanate of Oman's provincial distribution

The Sultanate of Oman is divided into eight main provinces, each concerned with its internal affairs, and including a number of states. Figure (1.2) illustrates the eight main provinces of the country. For instance, the capital of the country, Muscat, is a major city, with numerous modern buildings, schools, hospitals, and the headquarters of all the government organizations, including Ministries' cabinets.
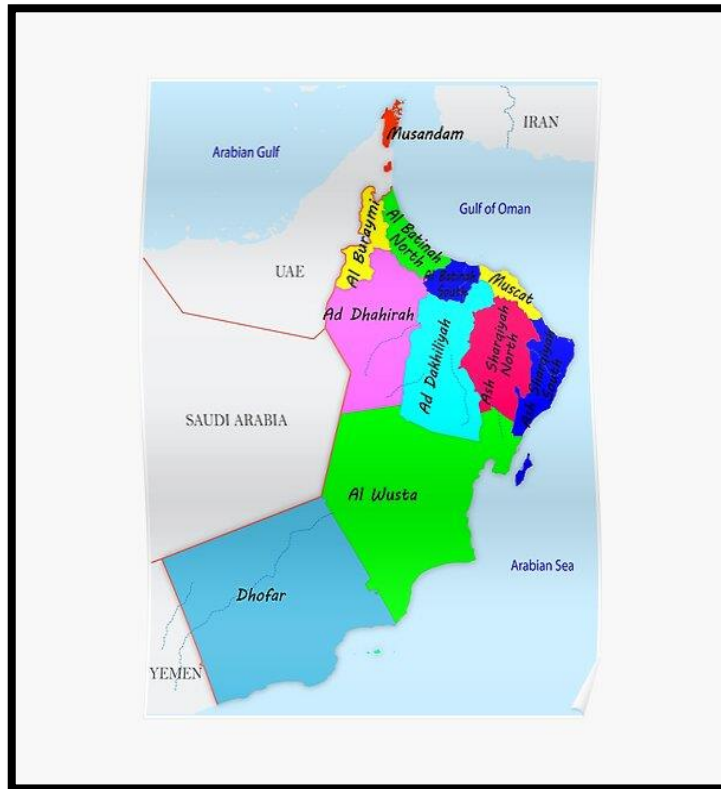
Figure (1. 3):Sultanate of Oman regions (Omaniya, 2020)

Although all the regions share a common language and religion, they are different from each other. Omanis can easily understand the region where a person comes from by their clothing style, accent, and behaviour.

As the study is conducted in one of the organizations in Muscat, I will provide some brief details about the governance of Muscat. Muscat is the capital, political and economic centre of the country. Muscat region is home to various government institutions, such as major state bodies, civil service ministerial entities, reference hospitals, international schools, private and public universities and colleges and other public authorities and organizations. Each body has mini-bodies representing the main institutes of other regions of the country and some of the major bodies have representatives abroad. For example, the headquarters of the Ministry of Health is located in the capital Muscat and its directorates are branching out in different provinces; in addition, the ministry's representatives (health attachés) represent the ministry in different countries. This applies to several government agencies in Oman, including the Ministry of Higher Education Public Research and Innovation, the Ministry of Foreign Affairs, the Ministry of Defence, and others.

1.4.3. Organizational context

The X Public Administration is considered one of the oldest ministries in Shatti Al Qurm, Muscat, Sultanate of Oman. It started in the early 1970s as an office in Ruwi, Muscat, the capital of Oman. At that time, most of the ministries were represented in a single office sharing a building with other ministries. In 1985, X Public Administration office was moved to a separate building and a new structure was created. The institute had several units within the building, several offices across the country and several branches worldwide. At the start of this study began, most of the senior employees were those who joined the ministry in the early 1970s, when there was neither a clear plan nor path for completing a task. The seniors were guiding the flow of the units using an "Authoritative Management Style", using a one-way communication path from up to down, control everything, and hold the power (Fulop and Mark, 2013, Mohamed and Elamir, 2021). Furthermore, there were no written job descriptions for any position, meaning that the procedures changed with the change of the seniors, which affected the decision-making process as it was based on seniors' requirements and skills.

On January 11th, 2020, after the announcement of the death of His Majesty Sultan Qaboos bin Said (may God have mercy on him) and as he did not have children, His Majesty Sultan Haitham bin Tarik (May God save him and take care of him) took over the rule of the country, as cousin of Sultan Qaboos. A few months later, His Majesty Sultan Haitham bin Tarik announced a new governmental structure, whereby several ministries were merged, while others were newly established. In addition, within each public administration, there was a major change in managerial positions. Thus, there was a noticeable innovation in the organizational culture and the administrative structure, mainly due to the fact that the organizational culture was affected by social and national culture, especially X Public Administration which has a very high percentage of Omani employees reaching 99% (Omaniya, 2020). Consequently, Arabic, Islamic, and national culture have a significant effect on the organizational culture, in one way or another. For instance, excessive respect for the elderly in the ministry, originating in the Arab-Islamic culture, results in the literal application of the requirements of officials, especially the elderly, without inquiring or explaining the reason for the requirement. Although respect is required, asking politely about the reason behind the decision creates a strong bond between the decision-maker and the staff. In

addition, the culture of the work environment that reflects on the application of directives as instructions that should not be discussed leads to decision-making without the use of data or information on the employee.

1.5.   Research purpose and objectives

Based on the above, the purpose of this study is to solve the organizational problem and develop actionable knowledge on the HR decision-making process by implementing AR within one of the government administrations in the Sultanate of Oman. Furthermore, the study's aims are to investigate the reasons behind the ignorance of using HRDt in the HR decision-making process and to improve the efficiency of the SAMU which is considered the organization's hub of HRDt. More specifically, this study seeks to address the following research questions, which were formulated following a literature review. In addition, supporting research questions, and research objectives which were discussed and formulated in collaboration with the AR Team and the senior managers within the organization:

- **Research Question**

    1. What are the internal issues and challenges related to the usage of data at the Statistics and Measurement Unit (SAMU) in the Sultanate of Oman?

    2. How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?

- **Supporting Research Questions:**

    1.   What are the reasons behind the lack of data usage at the Statistics and Measurement Unit (SAMU)?

    2.   To what extent does culture play a role in the usage of the data?

    3.   Is there any force from managers to ignore the data?

    4.   To what extent will the usage of data in the decision-making process improve staff satisfaction?

In order to achieve the study's objective, I conducted AR where all the participants were involved in the study. As I was working closely with the participants, we were able to talk using formal and informal channels, which impacted positively on the study. In addition, the support of the new senior management team and my position as a bridge between higher and lower-level staff were advantages to conduct the study, transfer ideas, knowledge and thoughts through various functional levels. The AR Team participated in all the AR cycles which not only helped them to have a clear image of the research issue, but also generated knowledge that helped in solving both the issue under study and also other routine challenges they face on a daily basis. Details will be discussed in the following five chapters of this thesis.

1.6. Conceptual framework

The study used both academic knowledge which I gained from reviewing relevant research literature, and practical knowledge, developed through previous and current work experience, allowing me to contextualise the research literature and develop a conceptual framework to guide this study. According to Miles and Huberman (1994), the conceptual framework is defined as "including the main things to be studied […] and the presumed relationships among them" (p.18). The conceptual framework for this study will be presented in three elements as recommended by Ravitch and Riggan (2017), more specifically theoretical framework, topical research, and personal interest, which will be discussed below.

1.6.1. Theoretical framework

According to Ravitch and Riggan (2017), "theoretical frameworks may either be borrowed from other research […] or fashioned by the researcher for the purposes of the study at hand" (p.12). For this research study, I borrowed Hofstede's cultural dimensions' theory, which has elements such as power distance, individualism versus collectivism, uncertainty avoidance, masculinity versus femininity, long-term orientation versus short-term orientation, and indulgence versus restraint (Hofstede, 2011). This theory was applied to Arab organizations by Obeidat et al. (2012). Details are provided in section (2.4.2).

1.6.2. Topical Research

According to Ravitch and Riggan (2017), topical research is a broad literature review on the research topic to identify and have a wide appreciation of previous studies on similar topics. For this study, I searched for the HR decision-making process in various countries, then I narrowed my search to an Arab country, then to GCC states, and then to Sultanate of Oman. Details of the literature review are provided in Chapter Two.

1.6.3. Personal Interest

Ravitch and Riggan (2017) pinpoint the elements included in the personal interest, such as, "curiosities, biases and ideological commitments" (p. 10). I was motivated to undertake this study for self-development by engaging in a real problem, applying theories that I have learned during DBA modules (Salipante and Aram, 2003), and using my personal understanding and knowledge about the organization to develop a rich picture about the issue (Pedler, 2008). My curiosity was to investigate and explore the reasons behind the ignorance of using HRDt. Due to my background in statistics, I could see the database was on hand, but for one reason or another, it was not utilized completely. Furthermore, I observed that people were not satisfied with the decisions made. Besides, the restructuring of the organization the retirement of the seniors with thirty or more years of service as per His Majesty Sultan Haitham bin Tarik (Omaniya, 2020) were reasons to work towards the solution, especially the new management team, and the working environment started to replace the previous one. Consequently, these reasons encouraged me to discover current practices of collaboration and teamwork via the AR Team. In addition, being a member of the SAMU team helped me to be close to the issue and have direct access to the required information for the sake of the study.

1.7. Structure of the thesis

The outline of this thesis consists of six chapters following this introductory chapter (Chapter One). Chapter Two is entitled "Literature Review" and it reviews the previous studies about the topic of usage of HRDt in the DMP in the public administration for the issues related to the staff of the organisation. Then, Chapter Three includes the "Methodology and method of inquiry", which provides the study's approach that is based on the research 'onion' adopted

from Saunders, Lewis, and Thornhill (2012, p. 128). Next, Chapter Four, entitled "Story of action research cycle" and providing the AR story, is divided into sections based on Coghlan and Brannick's (2010) AR cycle design which consists of constructing phase, planning phase, acting phase, and evaluating phases. Each phase is described in detail in the chapter along with reflections. Then Chapter Five - "The study's findings and the implication of findings under theory and practice" - presents the study results around the research questions and objectives, as well as covering the major outcomes of the interference in the study using AR methodology. Learning in action, changing in tasks, and innovating took two different views, namely implication under theory and implication under practice are discussed in detail. Then the last chapter, Chapter Six "Reflection and learning as an action researcher" contains my reflection on the AR cycle phases, namely construction phase, planning for action phase, taking action phase, and evaluation of the action phase (Coghlan and Brannick, 2010), as well as a reflection on the research method and practice, learning as an action researcher, learning in action with an AR Team, and managing the challenges. Last but not least, the thesis ends with the reference list and appendices.

1.8. Summary

In summary, this chapter has highlighted the nature of the organizational problem that the research addresses, the history of the context and my relation with the organization problem. Moreover, the above discussion has addressed the significance of the study, overview, and rationale of the research, as well as research context, including national and organizational context, major research questions, research aims, and research objectives. This research is broken down into six chapters; the next chapter, Chapter Two, includes a literature review related to the study area of this study.

Chapter Two

2 Literature Review

2.1. Introduction

This chapter includes a literature review of past research on the topic of human resource data (HRDt) usage in the decision-making process, in order to find out similar issues other organizations in the region have faced. The context of the study focused on the Gulf Corporation Council countries (GCC) in general and specifically on Oman. With the increase in the level of uncertainty, the organisational environment requires fast change and adjusts to the needs as per the available resources (Chahar and Hatwal, 2018). Therefore, the use of HR raw information, meaning employees' personal data, might help with overcoming such a challenge.

The literature chapter is divided into five main sections. The first section is about research strategy where the second section defines HRDt. The third section is about decision-making, and it has several parts, namely human resource and performance, decision-making in private corporations and decision-making in public administrations. The fourth section is about data, and contains three subsections which are data and decision-making, the quality of data, and challenges of the ignorance of HRDt usage in the decision-making process. The fifth section is about HR management and HR decision-making and it covers the following topics: examples of various human resource management practices, human resource decision-making in the Gulf countries, Hofstede's cultural dimensions' theory, human resource and shared service and human resource decision-making in Oman. A summary of the chapter follows this.

The literature review helped me have a broad picture of the practices of HR decision-making in other organisations, including public administrations and private corporations in several countries. Moreover, it assisted me in understanding decision-making, management, and practices in HR. Further, the literature presented various techniques and methods used to manage HRDt, the usage of HRDt, and the challenges behind the ignorance of the HRDt during the decision-making process. Additionally, the literature review assisted me with framing my thoughts regarding the research issue and finding the theory which will be the most

appropriate base for the investigation of the research. Consequently, the research is important to me personally, for it will broaden my knowledge, increase my understanding, help with reaching people and ideas, and solving problems. Furthermore, professionally, it will support my thoughts and ideas toward the importance of HRDt which helps with enhancing my confidence and building credibility. Moreover, most of the organizational culture in public administrations are similar in Oman at a national level, thus, based on this study, the information generated from the study and the attitude of the participants, and the staff can be protected from other public administrations in Oman.

2.2.   Search Strategy

I used an online search strategy which included the use of the University of Liverpool library service. I have done research on literature that dates back from 2000 to the present. My focus research was on several specific topics, including the decision-making process in different countries, decision-making related to HR in general, HR decision-making in Arab countries generally and in the GCC states, in particular. Moreover, I narrowed down my research by looking at the decision-making process related to HR management in the Sultanate of Oman, the challenges faced, and the barriers to implementing the HR information system. I found many papers linking decision-making with performance; however, I focused on the process of decision-making and the evidence base to inform the decisions. The keywords used were 'human resource decisions', 'decision-making', 'decision-making in the Arab world', 'decision-making in Gulf Corporation Council countries', and 'decision-making in Oman'. Additionally, additional keywords included 'decision-making at public administrations', 'usage of human resource data', 'human resource information system', 'human resource data and decisions', and 'data quality and the decision-making process'. The entire research was conducted in the English language for easy search and access to sources related to the subject matter, while sources in Arabic would have required translation and ensuring the meaning of the original and that of the translation matched before starting to rely on them. Furthermore, I reviewed both academic and practitioner literature; more specifically, the academic literature showed independent objective and knowledge, while the practitioner-oriented research showed that knowledge is created by social constructions which reflected my workplace. In addition, the research database tools I used were Science Direct and Database CINAHL Plus, and Ovid. However, the process of

obtaining literature applied in Oman was not easy, so I expanded in the research area to include the Gulf countries, for the neighbouring countries share similar customs, traditions, and values.

2.3   Human Recourse Data (HRDt)

HRDt can be defined as information regarding the personal characteristics of the HR. It is data about the employees of the organisation who are not owned by the organization (Ashdown, 2018) but considered an asset to the organisation (Goldsmith and Carter, 2010; Algassim, Barry, and McPhail, 2012; Schroeder, 2012). It is argued that, in order to sustain, compete, and gain competitive advantages, the organisation has to invest in human capital as they invest in other equities (Schwarz and Murphy, 2007; Schroeder, 2012, Buller and McEvoy, 2012). The HRDt is a pool of information, for instance demographic variables of the recruited person, such as gender, age, marital status, nationality, education, and experience (Parry, 2011; Katou et al., 2010). Besides, the HRDt contains organisational characteristics such as industry, type of work, and position in work (Al-Hamadi, Budhwar, and Shipton, 2007; Aycan et al., 2007; Syed, 2007). Moreover, HRDt holds information about the hired person, such as the candidate's experience, performance, salary, information about training, capability, and employee's attitude (Parry, 2011; Johngseok and John, 2000; Teclemichael Tessema and Soeters, 2006).

One of the employees' rights is that the organisation treats them with justice and fairness (Mueller and Wynn, 2000; Al-Khatib, Rawwas, and Vitell, 2004) by making fair decisions based on real data. Accordingly, most organisations take the initiative to consider HR and related issues. However, some of them face challenges in managing people critically (Chahar and Hatwal, 2018; Al-Hamadi, Budhwar, and Shipton, 2007; Alaimo, 2008) and maintaining an effective and efficient organisation, mainly because the administrations failed to serve the needs of the organisation and focus on their individual, social, and personal needs (Carman and Fredericks, 2008; Ali, 1990), besides the country's federal requirements in the form of a centralised system (Al-Yahya, 2008; Belwal, Belwal, and Al-Hashemi, 2019).

2.4 Decision-making

Managers or decision-makers make decisions not only for daily activities but also for strategic and political issues (Nutt, 2000; Kovner and Rundall, 2006; Nutt, 2005). Decision-making confers a responsibility on the decision-maker with respect to the organisation, stockholders, and employees (Negulescu and Doval, 2014; Francioni Musso, and Cioppi, 2015; Weinreich and Groher, 2016). Thus, the decision has to be directed towards organisational effectiveness and employees' satisfaction no matter whether the context of the institution is private or public (Patra and Rebellow, 2017). However, the type of the organisation, either private or public, guides the flow of the DMP, the techniques used, and the individual style of the decision-makers (Nutt, 2005; Behn, 2003; Patra and Rebellow, 2017), which are linked to each other via their leadership style (Fulop and Mark, 2013).

According to Andersen (2010), there are three explanations for the difference in the leadership style between public administrations and private corporations. The first explanation is the organisational difference. For instance, the private corporation is looking for profit and sustainability in the market; however, the public administration is a not-for-profit organisation, thus, their missions and visions vary depending on the tasks and responsibilities the organisation provides (Nutt, 2000; Behn, 2003). The second reason relates to the choice of profession (Andersen, 2010). More specifically, private corporations hire people with qualifications and experience related to the position (Kroll, 2015; Abdel-Maksoud et al., 2015). However, the public administrations in Arab countries do not give the qualifications nor the experience weight when employing; rather, connections and relationships are considered requirements for getting the post (Aghaz, Sheikh, and Amirkhani, 2017). This bond of relationship and connection is called locally "wasta", which plays significant role in the process of the employment (Alghanim, 2014; Barnett, et.al, 2013; Harbi, et.al, 2016). The third explanation is the promotion to a leadership position (Andersen, 2010). For example, in a private corporation, performance appraisal is considered to be one of the bases for development (Kroll, 2015; Ciobanu and Androniceanu, 2018). However, in the public administrations in Arab countries, financial promotion is for all the staff no matter what their performance. Position or post is given based on social status and relationships (Aghaz, Sheikh, and Amirkhani, 2017), which used to be the system in Oman until the end of 2020; however, in 2021 the new strategy was applied, meaning that promotion will be based on the input the

employee adds to the organization (Murphy, 2019). A new system of performance evaluation is taking place in public administrations in Oman has not been tested yet called "Ejada" (Omania, 2023), which means it is under study at the same time as this thesis project.

Uçaktürk and Villard (2013) argued that it is essential for the decision-maker to have enough correct information about the issue before making any decision. Furthermore, using the related data could improve the services and provide sense to the decision (Maxwell, Rotzand, and Garcia, 2016). Globally, most organisations in the developed countries connect information and communication technology (Edelhauser, 2012) and use management information systems (MIS) as a base for the DMP (Uçaktürk and Villard, 2013; Levy, Powell, and Yetton, 2001; Ankrah and Sokro, 2012; Bal, Bozkurt, and Ertemsir, 2012). The MIS creates a shared network, where HR services are delivered (Meijerink et al., 2013), management of routine tasks are controlled, and information can be transferred (Holley, 2009). This shared network not only helps achieving job stability (Howcroft and Richardson, 2012) which reflects on employee productivity (Marshall and De la Harpe, 2009), but also helps in delivering professional services as all the experts are using the same network and available on the same platform (Ulrich and Grochowski ,2012) by exchanging experience of qualified candidate within the organization. On the other hand, in developing countries such as the GCC, the MIS has recently been introduced in the organisations; however, using this system requires knowledge (Garcia-Perez, 2018) and managers or decision-makers find it challenging to train, learn, or develop a new understanding according to the implementation of the modern system (Glennon, Hodgkinson, and Knowles, 2018; BinTaher, Krotov, and Silva, 2015). Consequently, developing countries face challenges in making a proper decision via the usage of technology.

2.4.1. Human resource and performance

Performance management is considered an important aspect of HR management; one necessary for achieving organizational goals and improving employee effectiveness. This is especially the case when employees are involved in setting the goals. According to Holly (2010), HR models can provide valuable practices in designing and implementing effective performance management systems. For instance, the Guest model (Holly, 2010) highlights the significance of HR management on the employees' performance and productivity plus the

importance of flexibility in HR management to implement change according to the organizational needs. Armstrong (2017) also highlighted the significance of evidence-based approaches to performance management by highlighting the need for clear performance expectations, regular feedback and training, and employee involvement in goal setting. Furthermore, Ashdown (2018) and ACAS (2018) provide a practical introduction to performance management, emphasizing the importance of aligning performance management with the organization's strategic goals and values. However, Cappelli and Tavis (2016) argue that an adjustment in performance management is needed to address the weaknesses of traditional performance management systems such as; low employee engagement, decreased productivity, and high employee turnover. Such results were caused because of some common mistakes made by managers in performance management. To illustrate, some of the most common mistakes in traditional performance management are focusing on the negatives (Cappelli and Tavis, 2016), ambiguity (Faragher, 2018), different performance standards (Armstrong, 2017), failure to follow up on performance management procedures (Ashdown, 2018), heavy focus performance rating (Murphy, 2019), failure to document performance progress requirements from training sessions and follow their results (Armstrong, 2017). On the other hand, Murphy (2019) challenges the traditional performance appraisal style and discusses alternative approaches. The new system is expected to consider achievement of the goal and strategy of the organization, efficiency, effectiveness, and fairness (Ashdown, 2018). Furthermore, it focuses on employee development and growth (Murphy, 2019).

Overall, effective performance management requires HR managers who provide clear expectations, recognize and acknowledge positive contributions, provide regular feedback and coaching, and follow through on performance management actions (ACAS, 2018).

2.4.2. Decision-making in the private corporation

The decision-making process in a private corporation is different from that of the public administration due to several factors (Patra and Rebellow, 2017). Private corporations have competitors with which they have to compete in the market to sustain their position by making suitable decisions, at the right time, and faster than their competitors (Grubic-Nesic et al., 2016, Richter and Brühl, 2017). Furthermore, the private corporations have to consider

the decision-making structure (Patra and Rebellow, 2017; Nutt, 2005), the role and the goal of the organisation (Nutt, 2005), the flexibility of the institution, as well as its responsibilities. A private corporation's decision-making processes in third world countries focus not only on the goal of the organisation, but also on planning actions and distributing duties and roles to achieve the organisational goal (Patra and Rebellow, 2017). However, in the Sultanate of Oman, these processes do not apply to the public administrations.

Moreover, because of the precise target and purpose in private corporations, the decision-making process is smooth, clear, organised, and structured (Nutt, 2005). In addition, private corporations in the GCC countries support analysis-based decisions (Nutt, 2005); as a consequence, they involve the employees in the decision-making process to provide data and data analysis (Al Hijji, Alharrasi, and Al-isaee, 2018). Therefore, not only is the decision-making process structured based on teamwork, but also the involvement of the employees and collaboration are considered a vital part of the decision-making process (Grubic-Nesic et al., 2016). The partnership reflects positively on the staff; for instance, the participants, each with assigned responsibilities, get motivated to work hard toward the goal which helps to create a stable work environment (Grubic-Nesic et al., 2016). Also, collaboration helps to exchange ideas, which reflects on the flexibility of an organisation to implement change in the process of decision-making and on implementation of the decision. Although not always the collaboration takes same direction, it creates opportunity to think and create change or new system to solve problems (Holley, 2009) and the probability of resistance to the change reduces (Richter and Brühl, 2017).

2.4.3 Decision-making in public administration

Public sector decision-making processes are much more complicated than that of the private corporation, for several reasons. According to Bozeman and Pandey (2004), there is a negative correlation between the goal and the cost, public administrations. In other words, the public institutions have a more hidden goal with the focus on spending reduction. In the context of Arab countries, decision-makers are promoted to such positions because of their social status and relationships (Al-Hamadi, Budhwar, and Shipton, 2007), and not for their experience or qualifications. As a result, the managers or the decision-makers are limited in budget, resources, knowledge, and expertise (Nutt, 2005).

The final decision in the public administrations in Arab countries has to come from higher authorities; accordingly, the decision-maker has to report politely, without highlighting the adverse effects or damages of the issue (Rass, 2011) so as to get an easy approval from the higher authority on the proposed decision. Furthermore, political pressure influences the decision (Iles, Almhedie, and Baruch, 2012; Francioni, Musso, and Cioppi, 2015) due to the absence of competitors and the economic market (Andersen, 2010). Therefore, the decision comes out from higher authorities in the form of an order.

In addition, the risk of the decision is not considered unless the decision is not successful (Nutt, 2005) or has touched some political agenda (Francioni, Musso, and Cioppi, 2015). In other words, the threat of the decision is not measured unless both the decision fails to solve the problem and also the decision's outcome affects political issues. For example, based on my personal experience, when the public administration introduced an electronic payment system instead of cash exchange for the services provided by the government, there were not any planned solutions in place for expected scenarios such as typing mistakes, such as collecting 500 instead of 50 Omani Rials. Additionally, the electronic payment might face technical problems such as system or network failure. Although the probability of the scenarios was high, the situations had not been discussed prior to the implementation of the system. However, when the system was activated, the scenarios took place in reality, thus the institution had to make fast decisions to solve the issues not only for the sake of resolving the issue but also for political presentation.

On the other hand, if all the scenarios had been discussed and action plans and solutions had been ready before the implementation of the electronic payment system, the situation would have been different as there would be a clear path for every scenario. This reflects the culture of the Arab world, where there is no clear plan unless the crisis is at hand (Weir and Hutchings, 2005; Al-Hamadi, Budhwar, and Shipton, 2007). In addition, the quality of the data used is essential for the decision-making process in the public sector (Price and Shanks, 2011). For instance, the good quality of the data helps the organisation to allocate the resources, enhance the organisational productivity, and plan effectively for the future (Marshall and De la Harpe, 2009; Singh and Singh, 2010; Price and Shanks, 2011).

To conclude, the working environment around the decision and decision-making process in Public Administrations vary from that of private corporation. Literature encouraged me to

look for reasons why SAMU environment is different in the decision-making process, and it helped me formulate the supporting research question:

- What are the reasons behind the lack of data usage at the Statistics and Measurement Unit (SAMU)?

In addition to opening horizons to look for the way decision-making is made in different quarters, and this is what the next section deals with.

2.5 Data

2.5.1 Data and decision-making

Data is considered an asset for the decision-maker, a valuable resource that has to be direct and carefully used in the decision-making process (Clarke, 2019; Marshall and De la Harpe, 2009). Data provides the decision-maker and the decision-making process with different features (Delone and Mclean, 2003), such as the improvement of the efficiency of the decision maker, and the enhancement of the communication network. Accordingly, the process generates new information, produces an original path of thinking, and solves the issues in an organised way. On the other hand, it improves the decision-making process, enhances the learning and training, and align with organizational strategy (Buller and McEvoy, 2012); thus, the organisation gains competitive advantages and innovates ideas to improve the performance (Delone and Mclean, 2003).

Different scholars have given usage of data as a base of the decision-making process various names, depending on the field of study and the scenario on hand. For instance, "evidence-informed decision making" (Kovner and Rundall, 2006; Sackett et al., 1996, Eddy, 2005; AHRQ, 201; Waters et al., 2011; Liang and Howard, 2011; Liang, Howard, and Rasa, 2011), "data-driven decision making" (Maxwell, Rotz, and Garcia, 2016; Iyengar et al., 2015; Datnow and Park, 2015; Park and Datnow, 2017; Provost and Fawcett, 2013; West, 2019; Levin and Datnow, 2012), "evidence-based management" (Kels and Vormbusc, 2020; Kovner and Rundall, 2006; Guo et al., 2017; Bilalee et al., 2019; Janati et al., 2018; Wright et al., 2018; Briner, Denyer, and Rousseau, 2009), and "algorithm-based analysis" (Kels and Vormbusch, 2020; Diabat and Deskoores, 2016; Leicht-Deobald et al., 2019; Son, 2015; Martin, 2016; Fenech, Baguant, and Ivanov, 2019). These will now each be explained further.

Evidence-informed decision making

Evidence-informed decision-making is widely used in the decision-making process in the health sector (Kovner and Rundall, 2006; Sackett et al., 1996; Eddy, 2005; AHRQ, 2019; Waters et al., 2011). According to Kovner and Rundall (2006), evidence-informed decision-making is a procedure of collecting, evaluating and consuming evidence to direct the decision-making processes. In other words, the decision-makers have to work as a team to reach a suitable decision (Waters et al., 2011). Moreover, the evidence or the data has to be up to date to yield a correct and reliable decision (Liang and Howard, 2011).

Data-driven decision making

Data-driven decision-making is mostly used in the decision-making process in the educational sector (Iyengar et al., 2015; Datnow and Park, 2015; Park and Datnow, 2017). Data-driven decision-making is defined as a technique for evaluating several types of data to develop and advance issues, organisations, and policies from micro to macro levels (Datnow and Park, 2015). Moreover, Provost and Fawcett (2013) defined data-driven decision-making as "the practice of basing decisions on the analysis of data rather than purely on intuition" (p. BD53). However, data-driven decision-making techniques do not provide a complete solution for an issue unless it is combined with other procedures (Wohlstetter, Datnow, and Park, 2008; Ma et al., 2020). For instance, the gathering of correct data, transforming the data into proper indicators and using the information system to support the process such as a data management system (Iyengar et al., 2015; Hussain, Wallace, and Cornelius, 2007). Thus, the organisation has to invest in infrastructure (West, 2019; Delone and Mclean, 2003; Hussain, Wallace, and Cornelius, 2007; Ankrah and Sokro, 2012). However, such infrastructure is not widespread in not-for-profit organisations like public administrations in the GCC countries, as there are not enough funds to invest (West, 2019). Also, there is a lack of knowledge of the necessity of using the technology of the information system (Kevin et al., 2019). Accordingly, the data management system is a plan of action (West, 2019), where a combination of the usage of hardware, software, and people is required (Levin and Datnow, 2012; Datnow and Park, 2015) to create reliable information system infrastructure in public administrations.

Evidence-based management

Evidence-based management is used in the decision-making process in the health sector of some countries (Guo et al., 2017; Bilalee et al., 2019; Janati et al., 2018), as it is the organised application of the best existing evidence to the assessment of decision-making approaches for improving the performance of the organisations (Kovner and Rundall, 2006). Briner, Denyer, and Rousseau (2009) defined evidence-based management as "making decisions through the conscientious, explicit, and judicious use of four sources of information: practitioner expertise and judgment, evidence from the local context, a critical evaluation of the best available research evidence, and the perspectives of those people who might be affected by the decision" (p. 19). However, it is different from other decision-making processes, as it requires the collaboration of various information sources, individual experience, skills of others in similar situations, and expert views (Wright et al., 2018). It is because of the decision's high risk in patients' lives as it is mainly used in the health sector.

Algorithm-based analysis

Algorithm-based analysis or algorithm-based decisions are based on using an algorithm or formula to make a decision. The technique is generally used in the decision-making process in the engineering field (Diabat and Deskoores, 2016). However, today the algorithm is linked with the technology, and numerous information systems are created to support different areas. For instance, an algorithm-based decision can be used for HR decision-making (Leicht-Deobald et al., 2019), or in the banking industries (Son, 2015), and privacy and control issues (Martin, 2016). The algorithm is defined as a set of steps designed to process data (Fenech, Baguant, and Ivanov, 2019). Thus, algorithm-based analysis is the usage of the planned steps as a decision-making process to process data to produce the best output, which considers the decision for the given scenario. However, it lacks human sense-making, where the decision-makers trust the system blindly (Leicht-Deobald et al., 2019). In other words, the decision depends on the output, for there is no place for moral imagination in the decision-making process.

To conclude, each decision-making technique is unique in its feature and used for a specific purpose. Thus, the decision maker has to gather enough information, such as purpose,

objectives, and environment before conducting any decision-making process. This helped me shape the second supporting question:

- To what extent does culture play a role in the usage of data?

I also expanded my search for the quality of the data and its effects, and this will be explained in the next section.

2.5.2 Quality of data

The type of data used for the decision-making process depends on the field and the issue, however, the data has to be fit to be implemented and used (Clarke, 2019). In other words, the quality of the data is considered a significant factor in any decision (Price and Shanks, 2011; Negulescu and Doval, 2014; Clarke, 2019), playing a vital role when it is used in the decision-making process within the public administration to enhance the productivity of the organisation by providing a better service to the public (Marshall and De la Harpe, 2009, Singh and Singh, 2010). Furthermore, the quality of the data helps to forecast future events by developing future prediction plans (Lackes, Siepermann, and Vetter, 2020). On the other hand, poor quality of data might lead to problems for the long term (Marshall and De la Harpe, 2009; Kozak et al., 2015). For instance, poor quality data yields un-transparent decisions, which creates conflict and lack of trust (Hazen et al., 2014), thus leading to an unhealthy working place.

The staff, stakeholders, or consumer of the service provided by the organisation generates data in the institutions (Angrave et al., 2016). A team works on analysing the data to prepare it for entering the decision-making process. Thus, it helps to enhance staff performance as they consider themselves as a part of the decision-making process (Krishnan and Geeta, 2019). At the same boat, the HR decision consider a performance which measure the value of the decision (Meijerink, et.al,2011). Besides, it develops loyalty (Aghaz, Sheikh, and Amirkhani, 2017) to the organisation where they are considered responsible for the decision's outcomes and effects, as well as building a trusting relationship (Barnett, Yandle, and Naufal, 2013) via not only the decision-makers, but also higher authorities.

Literature measured the quality of data with several variables (Singh and Singh, 2010; Clarke, 2019; Marshall and De la Harpe, 2009; Clausen, 2015). The first measure of quality is the

relevancy of the data (Singh and Singh, 2010), which must be relevant and fit the context; for instance, the educational sector requires information different from that of the health sector. Similarly, public administration requires data different from that of a private corporation. Furthermore, the quality of the data and the decisions are positively correlated (Huber et al., 2017). In other words, quality data produces better decisions, thus, the relevance of data to the situation is considered as a basis for the decision-making process. Furthermore, the data has to be accurate (Clarke, 2019; Haug, Zachariassen, and Van Liempd, 2011; Marshall and De la Harpe, 2009; Hery and Yafi, 2017; Asghari, Sierra-Sosa, and Elmaghraby, 2018; Woolley et al., 2020) by presenting the actual value and reality (Clarke, 2019). Haug, Zachariassen, and Van Liempd (2011) defined accurate data as error-free, precise, exact and valid. There is, however, a chance for errors, meaning any mistake in entering the data (Haegemans, Snoeck, and Lemahieu, 2019), and outliers, meaning data in the data set situated away from other values within the data set (Kozak et al., 2015). The effect of the errors and outliers play a significant role in directing the decision in a different direction (Kozak et al., 2015). It is because data error correlates negatively with the outcome of the decision-making process (Woolley et al., 2020; Haegemans, Snoeck, and Lemahieu, 2019). For instance, in HR having invalid data may lead to a wrong decision, such as entry of the date of birth. If the data is not entered correctly, the candidate might be deprived of training and promotion, as well as further risking retiring at an earlier age. Such a small mistake reflects significantly on important decisions. Although errors, or poor data, might occur, (Marshall and De la Harpe, 2009), there should be some techniques to eliminate them, such as using data management processes (Hery and Yafi, 2017) and data cleansing processes (Asghari, Sierra-Sosa, and Elmaghraby, 2018; Woolley et al., 2020). The data management process is an administrative process that includes collecting, storing, and processing the correct and related data (Rubenfeld, 2018). In addition, the data cleansing process, according to Boselli et al. (2014), is a data cleaning process that takes the data through several phases to assure the acceptability of the overall decision-making process.

In addition, the data has to present reality (Clarke, 2019; Marshall and De la Harpe, 2009; Schwarz and Murphy, 2007) by being up to date, fresh and present the real environment (Clarke, 2019; Marshall and De la Harpe, 2009). In other words, utilizing of such data in the decision-making process helps in highlighting the needs and the requirements, structuring the

plan and implementing the required change (Schwarz and Murphy, 2007). However, there is a chance for the decision-makers to use outdated data which might lead to a significant negative influence on the decision (Webb, 2018). Moreover, the data has to be complete (Clarke, 2019; Marshall and De la Harpe, 2009; Clausen, 2015) by having all the needed variables for the decision-making process (Clausen, 2015; Clarke, 2019). The quantity of the data does not influence the decision; nevertheless, the quality of data, which is reflected by having complete variables, affects the outcome of the decision-making process (Marshall and De la Harpe, 2009).

Moreover, the data has to be valid (Singh and Singh, 2010; Marshall and De la Harpe, 2009) from the point of view of the aspect of data collection methods, data processing, and the storage of the data (Singh and Singh, 2010; Marshall and De la Harpe, 2009). Data validity supports data analysis which results in making a better-quality decision. On the other hand, poor data is worse than no data at all, as it might lead decision-makers to thinking in a different direction than that of reality (Hussain, Wallace, and Cornelius, 2007). Such problems occur in the public administrations of Arab countries because of the lack of skills (Armstrong, 2017) for collecting and analysing the data, lack of knowledge of quality data, and a lack of training (Hazen et al., 2014; Mamabolo and Pillay, 2021). The decision-makers have to look for quality data to overcome the challenges of poor data by enhancing the knowledge about the importance of data, data analysis, and the effects of the quality data on the decision (Clarke, 2019). This involves making double-checks on allocating data errors and outliers at the first stage before using the data and starting the data analysis process. However, availability of the poor-quality data (Marshall and De la Harpe, 2009; Price and Shanks, 2011) might be one of the reasons which force the decision-maker to ignore the usage of the data in the decision-making process.

2.5.3 Challenges of the ignorance of human resource data usage in the decision-making process

The ignorance of using the data takes place within the scope of the organisation, where the decision-maker uses their available power (Al-Yahya, 2008; Ragins and Winkel, 2011) to influence the decision, especially in the public administrations in the Gulf Corporation Council (GCC) countries. For instance, the use of the family name or personal relations for career advancement (Alghanim, 2014; Harbi, Thursfield, and Bright, 2016). The power force reflects

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the commitments to friends, family, and relatives, but not organisational goals, targets, and performance (Barnett, Yandle, and Naufal, 2013). Furthermore, the Arabic report writing style has a significant effect on the ignorance of the actual data. As per the culture of the Arab world and Arabic writing style, from early school years, students are taught to write using positive terms, no matter how harmful the scenario is (Antioco and Coussement, 2018). Thus, the same positive writing style is used in their adult professional life.

Furthermore, the Arabic writing style is characterised by writing lengthy and indirect sentences (Al-Khatib, 2001; Almehmadi, 2012; Rass, 2011) by repeating and augmenting through presentation and explanation to reveal the appositive picture of the scenario to the reader (Almehmadi, 2012). For instance, when writing a report for a higher authority, the Arabic writer does not use a direct statement such as 'there is a problem'; instead, Arabic writers would write a long sentence thanking the higher authorities for the support they provided and how that helped them to improve. The acknowledgements would cover one or two paragraphs, followed by a sentence at the end saying there is a challenge. In some cases, even the word 'challenge' is not used, nor are explanations of the word challenge provided, because Arab writers generally avoid conveying their messages clearly, assuming that readers are responsible for understanding the conveyed message (Rass, 2015).

Consequently, the report which reaches the top managers (decision-makers) does not reflect the reality or have enough details of the issue. Accordingly, the decision-maker makes a biased decision based on their understanding of the report (Antioco and Coussement, 2018), which is misleading because the reader keeps guessing while reading (Alkubaidi, 2019). The reason behind this is that the Arabic writer does not think about the readers, whereas the decision-making process required quality, clear, and direct data to make a proper decision.

Furthermore, modern organisations invariably use technology and information systems to support management processes (Levy, Powell, and Yetton, 2001; Ankrah and Sokro, 2012). Although the infrastructure of information systems exists, there are several challenges that are considered as concerns for the usage of the data in the public sector in the GCC countries generally, and in Oman specifically. For instance, the management does not support the idea of using an information system (BinTaher, Krotov, and Silva, 2015), due to the fact that current decision-makers face challenges that could be considered barriers to using HRDt as a basis for the decision-making process. For instance, the availability and quality of the needed data

(AlHijji, Alharrasi, and Alissaee, 2018), skills and knowledge of using the data (Dorsey, 2002; Mamabolo and Pillay, 2021, Armstrong, 2017), national culture (Katou, 2010), organisation culture (Carrilio, Packard, and Clapp, 2004), decision-makers' characteristics (Dorsey, 2002), gender (Robertson, Al-Khatib, and Al-Habib, 2002), power (King, 2016), and technology and network (Oaks, 2016) are all considered challenges for the negligence of the usage of the HRDt. These barriers will now be explained further.

Availability and the quality of the needed data

Today, in the GCC countries, there are organisations that store their HRDt either as a hard copy (paper-based) or a soft copy (electronic documents) in their database (Al-Awadi and Saidani, 2010). Those with hard physical copies, such as most of the public administrations in the Sultanate of Oman, face challenges in storing, updating, and retrieving the information (Budhwar, Al–Yahmadi, and Debrah, 2002). As a consequence, data are often ignored during the decision-making process, especially when the data are outdated, for it is physically not easy to update hard copies of the HR information sheets. To illustrate from my experience, when a person is hired, he/she provides all the information asked by the organization, and further saved in an employee file with all the details in the HR Unit's store. When the organization would like to train that employee and because of the traditional way of storing the files, and recording the information manually, it is not easy to retrieve the required information at the needed time and the data will surely not be up to date, as the file contains data stored on day one of employment. Therefore, the quality of the information available is not suitable for use in the decision-making process, resulting in negligence in the use of information and the use of expertise in the most difficult times and interest in decision-making.

On the other hand, organisations with electronic information systems and management information systems (Uçaktürk and Villard, 2013) store their personnel information as a softcopy in their database, where they can easily update, retrieve and analyse it. However, in the GCC countries, data collectors face challenges of updating the data and connecting the needed information via the requirements of various units in the organization for decision-making purposes. For instance, when the Training and Development Unit requests data about the staff to plan a training program, despite its availability, the data is not only outdated because of lack of knowledge of the importance of data (Dorsey, 2002) and data analysis, but

also the lack of connection between the unit which requires data (Training and Development Unit) and the unit which holds the data (SAMU). The absence of networks creates a gap between the data keeper and the decision-maker. That is why most decision-makers in public administrations in Oman prefer not to use the data and depend on personal experiences to make decisions.

Skills and knowledge of using the data

Most of the decision-makers in the GCC countries lack skills and knowledge of using the data and its importance as a basis for the decision-making process (Dorsey, 2002; Morar, and Kilani, 2019). Furthermore, they are not aware about the effect of HR decision on the staff performance (Guest, 2011). Thus, the decision-makers do not satisfy the needs of HR management by providing the proper decision based on relevant data (King, 2016). For instance, HRDt include information for making better HR decisions such as, recruiting, and staffing employees, employee benefits, employee compensation, employee and labour relations, and employee training and development. Furthermore, it helps in improving leadership decision-making in issues related to personnel (Chahar and Hatwal, 2018), whereas HR management is a set of managers who have to plan, control, and organise staff-related topics such as requiting, training and development (Iles, Almhedie, and Baruc, 2012). Therefore, a combination of HRDt and HR management leads to an effective and efficient organisation. However, based on Morar and Kilani (2019), the GCC countries' future plan is enhancing the skills and knowledge of using technology and data in daily work activities which reflects an idea adopted from the private sector where it has a significant impact on reducing disputes between employees and reducing the resources used in the DMP (Paagman et.al, 2014).

National culture

While culture is defined as shared beliefs and values between a group of people in a society (Kels and Vormbusch, 2020), society or community reflects a place where people share experience, thoughts, and ideas (House, Javidan, and Dorfman, 2001; Van Oudenhoven, 2001). Based on this definition, the GCC, which are represented by the Kingdom of Bahrain, the State of Kuwait, the Sultanate of Oman, the State of Qatar, the Kingdom of Saudi Arabia (KSA), and the United Arab Emirates (UAE) have a common culture, sharing various features and historical ties across their geographical region (AlSulaiti, 2013). For instance, the

countries share a historical nature because of their connection with people and nations outside the area. Besides, they have common inherited culture, for their knowledge, history, and the traditional arts are from the same source (AlSulaiti, 2013; Robertson et al., 2001).

The pressure of social values or culture (Van Oudenhoven, 2001) affects HR decision-making (Obeidat et al., 2016; Matsumoto and Yoo, 2006; Klein, 2004). As such, the HR decision-making in the GCC follows different strategies than that of the developed countries, with a different culture of managing the organisation's needs in issues related to the staff. For example, some decision-makers use experience and emotions (Bachkirov, 2015; Andrade and Ariely, 2009; Deybbi Cuéllar, Mª Cruz, and Antonia, 2019), which is very common in the Gulf region organisations. Others use real data as a base for the decision, which is very fair for the staff but rarely used in the gulf organisations (Wohlstetter, Datnow, and Park, 2008; Al-Awadi and Saidani, 2010).

National culture plays a role in the ignorance of using HRDt. For instance, the national culture of Omanis' behaviour is obeying seniors based on their age, not based on experience nor knowledge as they follow Islamic religious instructions (Bachkirov, and Shamsudin, 2017; Bachkirov and Alabri, 2016). However, this might lead to the disruption of the labour system in terms of decision-making, respect for the seniors, who are from the old generation, which does not mean listening and denying making the implementation of everything that is proposed by them without discussion and analysis.

Contemporary Information management systems may present problems for older managers who lack skills required to use such technology. The challenges come when the manager, who is from the old generation, lacks technological skills and tries to follow up on the process. Due to the national culture of attitudes, the staff do not argue much and just follow the manager's instructions. However, there is a lack of related information on the topic, and the decision made does not fit the given scenario.

Organisation culture

Organisational culture also affects the usage of HRDt. Al-Yahya (2008) defined organisational culture as "what is typical of the organisation, the habits, the prevailing attitudes, and the patterns of accepted and expected behaviour" (p. 391). Furthermore, organisational culture is a collective value, beliefs, and principles of the organisation's members (Krishnan and

Geeta, 2019). More specifically, in the public administrations of Oman, it reflects the value and beliefs of the members who apply the Islamic concepts and principles of following and obeying seniors, especially those from the old generation. Culture is reflected in the organisation by following the decisions without asking for clarification or sense-making. Such organisational culture is found in most of the civic organisations in Arab countries (Weir and Hutchings, 2005; Al-Yahya, 2008).

Furthermore, the old generation does not usually trust the new members of staff, therefore often not giving junior employees from the new generation the chance to innovate, develop, or even think loudly (Cuéllar Molina, Déniz-Déniz, and García-Cabrera, 2019). As a consequence, the cultural features might lead to conflict, which leads to other complications and complex issues in the organisation (Fischer, 2008). Therefore, organisational culture yields followers, not leaders (Kerry, 2003). Consequently, the decision-maker depends on organisational culture and does not use data as a base for the decision-making process.

Decision-makers' characteristics

Literature shows that a decision maker's characteristics have a significant effect on the decision (Francioni, Musso, and Cioppi, 2015; Lewin, and Stephens, 1994; Di Zhang and Bruning, 2011). In other words, the choices vary from one decision-maker to another, depending on the personality and emotions (Nutt, 2000; Paul, 2006). For instance, the power of the decision-maker (Park and Datnow, 2017; Bendell, Sullivan, and Hanek, 2020), the style of thinking and handling issues (Ilie and Cardoza, 2018; Tett and Burnett, 2003), gender (Sheehan, 2006; Ely and Padavic, 2007; Ryan and Haslam, 2007), and educational level (Ilie and Cardoza, 2018) have a significant impact on the decision. Moreover, the collaboration and the communication techniques (Datnow and Park, 2015; Low, Chen, and Wu, 2011), the emotions and feelings (Kossek et al., 1994; Bakker et al., 2009; Skinner, 2004), lack of the knowledge (Garcia-Perez, 2018; Glennon, Hodgkinson, and Knowles, 2018), and lack of technological skills (Al-Awadi and Saidani, 2010; Anitha and Aruna, 2013; Mamabolo and Pillay, 2021) affects the decision in a way or another. These factors will each be explained independently.

Decision-makers' power has a significant weight in the organisation (Park and Datnow, 2017; Al-Yahya, 2008). As power is gained from the social identity of the higher authority (decision-

maker) (Bendell, Sullivan, and Hanek, 2020; Al-Yahya, 2008; Ragins and Winkel, 2011), it puts pressure on the staff to follow the decision. Moreover, power is gained from relationships and networks, enabling a decision-maker to get support and approval quickly (Alghanim, 2014). Furthermore, in the GCC countries, the higher authority does not share or transfer the power to the staff, for the power is linked via person, not the position (Al-Hamadi, Budhwar, and Shipton, 2007). For instance, X holds the position of head of the training unit, and he has power because of his social status and relationships. When X is moved to another unit, for instance, the finance unit, his voice stays active not only in his current unit but everywhere, including the previous unit no matter of his current position. Consequently, most of the decisions are centralised, controlled, and supported by higher authorities (Anitha and Aruna, 2013; Ragins and Winkel, 2011; Mohamed and Elamir, 2021).

Literature has argued that people vary in using reflective thinking throughout not only time but also context (Betsch and Kunz, 2008; Marks et al., 2008). The current decision-makers in public administrations in Oman have been working for the organisation since it was developed in the late 1970s (Omaniya, 2020). Thus, contemporary decision-makers' cognitive style or thinking style is different than that of the new generation. Cognitive style is defined as activities of thinking, knowing, and processing information to find a suitable solution (Armstrong, Cools, and Sadler-Smith, 2011; Ilie and Cardoza, 2018), whereas thinking style is defined as a way of thinking to process information to solve a problem (Zhang, 2006; Zhang and Higgins, 2008; Ilie and Cardoza, 2018). Information could be data about an issue that is used to support the process of solving the problem by using experience gained throughout working years, feelings, and emotions. Savvas, El-Kot, and Sadler-Smith (2001) argued that cognitive style takes two different extreme techniques to organise and process information, one depending on hard data by planning every step, the latter on feelings to solve the problem.

Moreover, the religion in the Sultanate of Oman is Islam (Bachkirov and Shamsudin, 2017), which asks for justice between males and females (Syed, 2007; Metcalfe, 2007). Justice is an important variable (Mueller and Wynn, 2000), and is highly consequential for work-related attitudes and behaviours (Colquitt et al., 2001). Therefore, the wages, responsibilities, tasks, and opportunities in Oman are equal for both genders (Omaniya, 2020; Sheehan, 2006; Yusuf Issan, 2010). However, Arab culture gives extra power to males, as the approach to gender

gap has not changed throughout the years (Ely and Padavic, 2007; Ryan and Haslam, 2007). On the other hand, although women are educated and show leadership and management capability (Yusuf Issan, 2010), there are people today who believe that women are not capable of being a leader or manager (Choge, 2015; Powell and Butterfield, 2013; Mohan, 2014). However, females in Oman entered the work environment in the late 1990s (Omaniya, 2020), and today there are several females in Oman holding senior positions, for example, within Minister of Higher Education, Minister of Education, Minister of Art, Ambassador of Oman in Washington, and Ambassador of Oman in Span (Omaniya, 2020; Yusuf Issan, 2010). However, it is still challenging for a female to lead and manage as the old generation do not regard women as an agent of change (Yusuf Issan, 2010).

Furthermore, current decision-makers in Oman do not carry any educational certificates, having been hired at the time the country wanted to hire everyone no matter their qualifications. Although the education system was established in the late 1970s, and many Omanis have attended school, the educational system could not develop to serve today's technological, professional, and managerial skills which are required to serve in the modern economy (Harry, 2007, Armstrong, 2017). However, contemporary decision-makers have reached their position because of the number of the years they have been serving the organisation (Omaniya, 2020; Ali, 1990; Budhwar, Al–Yahmadi, and Debrah, 2002). Thus, they use their experience, knowledge gained, connections and network, and some types of reports which come from line managers providing details of the issue, to make decisions. On the other hand, there are few of the decision-makers (seniors) who have developed and trained themselves (Ilie and Cardoza, 2018); however, they cannot implement the theories they learned in reality, for the boundaries around them which control and limit their actions and movements.

In addition, public administrations struggle with poor communication infrastructure in the GCC countries (Low, Chen, and Wu, 2011). For instance, decision-makers do neither communicate nor exchange ideas or thoughts. In other words, there is no knowledge sharing. Kumar and Che Rose (2012) defined knowledge sharing as "a human behaviour which apprehends activities such as exchanging explicit and/or implicit experiences, embedding ideas and skills that facilitate knowledge for innovation at the workplace" (p. 144). Because of the lack of communication networks, which lead to a lack of knowledge sharing, decision-

makers depending on their power, experience, and personal preferences to make decisions (Alonso Mendo and Fitzgerald, 2005; Harbi, Thursfield and Bright, 2016). Furthermore, "Without collaboration and collegiality, data use is impossible" (Datnow and Park, 2015, p.11), lack of collaboration reduces the amount of information exchange and reliable data for making a proper decision. Therefore, the decision creates conflict (Kotlyar and Karakowsky, 2006), an unhealthy working environment (Krishnan and Geeta, 2019), and behavioural issues (Dragota, 2016) which influence the organisation and requires solutions for the long term.

Furthermore, emotions, feeling, perception and inner satisfaction (Kossek et al., 1994; Bakker et al., 2009; Weinberger, 2009) have a direct effect on the behaviours, beliefs, and attitudes, which reflect on the choice and the judgment of the decision-maker (Andrade and Ariely, 2009). Studies have shown that anger (Gibson and Callister, 2009), fear (Skinner, 2004) and happiness (Fisher, 2010) usually present in the organisational culture (Lench, Flores, and Bench, 2011; Tsai and Young, 2010) are factors leading to biased decisions (Andrade and Ariely, 2009). Furthermore, the lack of or ignorance of the information influences the decision-maker to use their personal experience, which is shielded by emotions in the decision-making process. Accordingly, in most cases, the outcome is a biased decision (Ankrah and Sokro, 2012) which may create a new problem within the organisation (AlHijji, Alharrasi, and Alissaee, 2018).

Additionally, implementing data in the decision-making process requires knowledge and understanding from the decision-maker. Rowley (2007) defined knowledge as a mixture of opinion, information, capability, experience, skills, and values. In other words, the decision-maker must know about understanding the data value by utilising the information, using abilities, and expertise to make a proper decision. However, decision-makers in the Arab countries lack such skills (Harris, Craig, and Light, 2011; Al-Rasheed, 2001). Furthermore, they find it challenging to change their style and obtain new knowledge.

Furthermore, technology is a significant challenge for the decision-maker in the Sultanate of Oman. Since the late 1990s, computers have entered the workplaces in the Gulf countries (Al-Awadi and Saidani, 2010). However, most of the seniors do not know how to use the devices, nor are they willing to learn due to the so-called 'generational technical shock' (BinTaher, Krotov, and Silva, 2015). In other words, they might face difficulty in using technology (Anitha and Aruna, 2013; Dorsey, 2002). Most government services in Oman went online by creating

e-government sites, shared portal, in order to provide various service at same place with reduction of cost and limited source of HR (Paagman et.al, 2015). For example, the Oman Royal Police, the Muscat Municipality, and so many other organisations which provide online services, including public and private organisations (Omaniya, 2020). However, because of the unwillingness of learning and the shortage of information technology skills (Dorsey, 2002), most of the work continues to be based on paperwork internally within the public administrations in Oman. Consequently, tracking information from hard copies is a challenging task.

In addition, the interconnection of the information system between various units is another challenge. For example, the HR information system is saved in one unit, which the staff of other units cannot access, even though they may require some data. Thus, to minimise time and effort, they make decisions using their thoughts, experience, and knowledge without going back to the actual data (Al-Awadi and Saidani, 2010). Furthermore, the usage of a computer device is not in the current decision-makers' lifestyle. Thus, instead of asking for related information, they prefer using their experience in making a decision.

To conclude, the quality of data is important especially when the decision-maker depends on the data used. However, there are several reasons which shape data quality. Furthermore, there are various reasons why data use is hampered, and this prompts the supporting research question "Is there any force from managers to ignore the data? together with the extent to which the employee might affect the decision that directly concerns him, which will be addressed in the next section.

2.6 Human resource and human resource decision-making

HR encompass all the members of staff of an organisation; due to their importance and the significant effect they might have on an organisation, such a team is often created to manage HR issues (Waters et al., 2011), human resource management (HRM) (Schuler and Jackson, 1987; Al-Hamadi, Budhwar, and Shipton, 2007; Anitha and Aruna, 2013; Goldsmith and Carter, 2010; Budhwar and Mellahi, 2007; Teclemichael Tessema and Soeters, 2006; Macey and Schneider, 2008).

Literature has provided various definitions for HRM. For instance, Schuler and Jackson (1987; P210) defined HRM as "a system that attracts, develops, motivates, and retains employees to ensure the effective implementation and the survival of the organisation and its members". Al-Hamadi, Budhwar, and Shipton (2007; p. 111) defined HRM as "management of all employment relationships and development in the firm, incorporating the management of managers as well as non-management labour". Thus, HRM is the process of managing people to accomplish organisational goals. The practices and responsibilities of HRM are internal consultant, change agent, service provider, cost manager, business partner, and facilitator (Anitha and Aruna, 2013).

Furthermore, HRM looks after activities such as recruiting, workforce planning, on boarding, performance management, critical skills gap analysis, career development, and training and development (Goldsmith and Carter, 2010; Budhwar and Mellahi, 2007; Teclemichael Tessema and Soeters, 2006; Macey and Schneider, 2008; Chahar and Hatwal, 2018). Such practices require decision which is an act of deciding and making the best choice of alternative options to give judgment for an issue (Ikram and Ahmed, 2020; Al-Yahya, 2008; Andrade and Ariely, 2009). The decision-making process is a procedure containing several stages that lead to the selection of the best alternative (Maxwell, Rotz, and Garcia, 2016). Consequently, the HRM is considered a link between HR issues and the decision-making process.

2.6.1 Examples of various human resource management practices

Human capital is the focus of HRM (Khilji and Wang, 2006; Hailey, Farndale, and Truss, 2005). HRM supports organisational outcomes, which helps in shaping the behaviours of the staff (Parry, 2011; Alhyphen and Mohammed, 2010). For instance, if the findings support the organisation, the employees' needs and their requirements, it will have a significant impact not only on the organisation, but also on the staff (Nyambegera, Sparrow, and Daniels, 2000; Budhwar and Mellahi, 2007). Thus, HRM has several practices, whereas HRDt is the basis for such activities. For example, information is used for planning (Anyim, Ekwoaba, and Anthony, 2012; Iyengar et al., 2015; Elbanna and Elsharnouby, 2018; Siikaniemi, 2012), recruiting (Porter, 2008; Al Marhoobi and Atan, 2018; BÂRa et al., 2015), and training and development (Jacobs and Washington, 2003; Ali, 1990; Jasim, 2020; Behn, 2003; Hogan and Holland, 2003). These will now each be elaborated on.

Planning

Planning is an organisation technique employed by an organisation to plan their needs to align with organisational goals, visions, and missions (Anyim, Ekwoaba, and Anthony, 2012; Iyengar et al., 2015; Elbanna and Elsharnouby, 2018), as well as planning for future needs from equipment, finance, and human capital. Thus, the HRM department plans the action using the forecasting tool, as well as the training and development strategy to support their current and future plans (Siikaniemi, 2012). However, to make an effective plan, the organisation must ensure the right assets, which include data, personnel, knowledge, and experience, become available at the right time (Anyim, Ekwoaba, and Anthony, 2012; Ni, 2022). Besides, employees must be involved in the planning process by exchanging information, ideas, thoughts, and knowledge.

Recruiting

Recruiting and hiring are HRM responsibilities which involve attracting, resourcing, and staffing suitable human capital to the organisation (Porter, 2008; Al Marhoobi and Atan, 2018). Thus, a database is available to the qualified personnel to upload their CVs and the organisation to download the necessary documents for selecting a suitable and qualified candidate (Bâra et al., 2015), which was the traditional way of recruiting HR. However, contemporary HR information systems have invaded the managerial field (Nasar et al., 2020). In addition, HRDt analytics is used as an evidence-based approach for HR recruiting decision-making (King, 2016). Data analytics is a process of converting raw data into information (Ghosh and Sengupta, 2016), whereas HRDt analytics is employed to convert HR raw data into useful information, with a special concern for HRDt privacy and career equality (Nasar et al., 2020). HRDt privacy is controlled via international and national privacy laws (Harris, 2015), whereas the career equality in Oman is regulated via Islamic laws (Mellahi and Budhwar, 2010) and federal regulations (Al-Hamadi, Budhwar, and Shipton, 2007).

Institutions look for competent employees (Heidary et al., 2017), thus, they value their staff and treat them as a strategic asset of the organisation, which has a significant effect on the organisational outcome. Therefore, organisations look at the employee as a human talent; that is how a parallel concept to HRM entered the management world, namely 'talent management' (Goldsmith and Carter, 2010; Waheed, Zaim, and Zaim, 2012), which handles

the collection of activities such as employee management, learning management, performance management, and motivation management (Waheed, Zaim, and Zaim, 2012), besides, collecting data from various sources around these activities (Al Ariss, Casciob, and Paauwec, 2014). According to Waheed, Zaim, and Zaim (2012), talent management goes through four stages, combining recruiting and training management. The first stage is hiring a candidate from the pool of people who applied for the vacancy position by matching the qualifications via the job descriptions. The new employee goes directly under training and orientation for the position, organisation, and employer to be prepared for job responsibilities. The second stage is training the candidate for further career growth within the organisation. However, not all employees succeed, those who pass training go under talent test and from there to a talent pool.

On the other hand, those who struggle in the training stage consider regular staff. The third stage has human talent with excellent skills in a pool, where the organisation uses new talents in different directions to grow the organisation. The fourth stage is giving a second chance for those who failed to enter the talent pool but keeping in mind that not all the regular employees may pass the talent test in the second time. Those who struggle for the second time lose the chance of entering the talent pool forever.

Training and development

Training and development are considered a practice from the HRM practices. It should include all the employees of the organisation, no matter what the position they hold (Jacobs and Washington, 2003; Ali, 1990), such as, seniors, middle managers, and juniors, to provide career equality. Furthermore, the training and development could take place within or after working hours, within the context or outside the workplace, through self-developing, team workshops, seminars, or through educational organisations (Jasim, 2020) or even online (Ismail and Muafi, 2019). However, for the best outcome, the trainer must understand the need for the training (Behn, 2003; Hogan and Holland, 2003; Jacobs and Washington, 2003) through collaboration and obtaining facts. Thus, training must be based on actual data, which may be retrieved from the up-to-date performance appraisal of the staff, who must be aware of the needed training program and the effect of it on developing, improving, and enhancing performance (Abdel-Maksoud et al., 2015). To get the maximum from the training, the programs must not only align the organizational objectives with employees' performance but

also be attractive and motivate the employee to be part of it (ACAS., 2018). Cappelli and Tavis (2016) highlighted an excited point regarding the motivation, where they argued that providing staff with instant feedback, link it to individuals' own goals, and distributing small weekly bonuses to employees who doing good things helps in achieving organizational goal faster. Besides, performance might take various views. According to Armstrong (2017), performance reflects not only outputs as it could mean behaviour or it could be combination of both results and behaviour. Accordingly, the traditional system of evaluating the employee on a monthly or quarterly basis might be abandoned and a new way of evaluation could be used with concentration on various performance views.

Furthermore, training eliminates the gap between HR skills and organisational needs (Ismail and Muafi, 2019) by broadening the knowledge of the culture and competitors, enhancing technological capabilities, and understanding teamwork. Talent management is used not only for training (Waheed, Zaim, and Zaim, 2012), but also as a building block for structuring the employees' talent through a training program (Goldsmith and Carter, 2010; Oaks, 2016). The outcome reflects not only on the employee's performance, but also on organisational accomplishment (ACAS, 2018). However, the talent management training program has to develop independently for each employee to yield the expected outcomes.

HR decision-making and management in the Arab world gets little attention from the works of literature. Although decision-makers in the GCC region prefer the equity principle of reward allocation (Bachkirov and Shamsudin, 2017) based on Islamic principles (Syed, 2007; Mellahi and Budhwar, 2010; Bachkirov and Alabri, 2016), the real practice in some of these countries takes a different direction. The HR practices are influenced basically by the culture (Aycan et al., 2000; Iles, Almhedie, and Baruch, 2012; Obeidat et al., 2016), as the culture changes the behaviour (Iles, Almhedie, and Baruch, 2012) and the behaviour influences managerial action (Angonga and Florah, 2019). Furthermore, HR practice is influenced by relationships based on the social status of the manager (Harbi, Thursfield, and Bright, 2016), thus all relatives create a network by holding positions either in a single organisation or in different public administrations, therefore leading to smooth approvals of the decisions either within the organisation or from different organisations. In other words, the choice is made based on a

centralised system by higher authorities (Al-Yahya, 2008; Carman and Fredericks, 2008) where the outcome is fulfilling personal needs before organisational requirements and needs.

Research literature suggests there are different types of influence on the decision maker, such as, culture (Aycan et al., 2000; Weir and Hutchings, 2005; Aycan et al., 2007; Hofstede, Hofstede, and Minkov, 2010), religion (Iles, Almhedie, and Baruch, 2012; Bachkirov and Alabri, 2016; Al-Hamadi, Budhwar, and Shipton, 2007; Bachkirov and Shamsudin, 2017), gender (Metcalfe, 2007; Ragins and Winkel, 2011; Choge, 2015; Bendell, Sullivan, and Hanek, 2020), and social relationships (Iles, Almhedie, and Baruch 2012; Alghanim, 2014; Harbi, Thursfield, and Bright, 2016). Culture influences the decision-making process in Oman as it does in other regions (Hofstede, 2001; Weir and Hutchings, 2005). For instance, Omanis are used to a lifestyle of communities, families, and networks (Iles, Almhedie, and Baruch, 2012; Aycan et al., 2007), thus reflecting the style within the workplace, regardless the type of organisation, whether public administration or private corporation. The seniors gather all their relatives, friends, and those who have a network. Therefore, not only the decision-making process gets affected, becomes centralised and influenced by power (Al-Yahya, 2008; Dragota, 2016), but also most of the staff become good followers rather than being good leaders (Kerry, 2003; Budhwar, Al–Yahmadi, and Debrah, 2002).

Islam is the predominant religion in Oman and the Gulf Corporation Council (GCC) countries, therefore, Islamic values, Islamic work ethics and Islamic principles have a significant impact on HR decision-making (Iles, Almhedie, and Baruch, 2012). For instance, in Oman, these principles shape gender and social resource management policies, which ask for equality between genders in wages, responsibilities, training and development, education, and opportunities (Al-Hamadi, Budhwar, and Shipton, 2007). However, not all the Gulf Corporation Council (GCC) countries have an equal gender formula in their human decision-making management; for instance, in Saudi Arabia and Bahrain, women face career and development challenges (Budhwar and Mellahi, 2007).

Social relationships also influence HR decision-making in Arab countries (Hunter et al., 2020), for example families and tribal structures providing decision-makers with the power which guides decisions. Therefore, knowing the power source and its networks help to facilitate procedures in Arab countries.

2.6.2 Hofstede's cultural dimensions' theory

Hofstede's theory initially included four dimensions which became the basis of his characterisation of culture (Moonen, 2017; Siddique, 2017; Hofstede et al., 1990). The aspects were power distance, individualism/collectivism, uncertainty avoidance, and masculinity/femininity. Additionally, there were hidden features which include: streamlining of compensation practices, budget control, guiding of entrepreneurial behaviour, conflict resolution, workgroup dynamics and performance, innovation, leadership, and participative management in the context of resolving cross-cultural issues (Hofstede et al., 1990). Furthermore, in 1993, Hofstede presented the fifth dimension to explain the cross-cultural difference: long-term versus short-term orientation (Hofstede, 2001; Hofstede, Hofstede, and Minkov, 2010). Later, the sixth dimension was added, which led the Hofstede theory to become an international cultural model (Hofstede, Hofstede, and Minkov, 2010; Moonen, 2017).

Obeidat et al. (2012) applied Hofstede's cultural dimensions' theory to Arab organisations, and the authors found that religious and heritage aspects have a significant effect on the organisational environment. Furthermore, the authors pinpoint the considerable power distance, a feature of the Arab organisation, which leads to another issue, namely the personality of the managers (Tett and Burnett, 2003), where the staff is loyal to the person, not the organisation (Al-Rasheed, 2001). Moreover, Obeidat et al. (2012) discussed the unbalanced working environment between the responsibilities and the authorities; for example, although the higher authorities are not responsible for accomplishing routine tasks, they are involved in every single step because of the power they hold. Besides, the lack of HRM planning, performance appraisal, and career path might lead to an additional challenge, namely a centralised management system (Attiyah, 1993). As a result, the culture forces the manager to rely on experience rather than data in making decisions, policies, and laws.

The same developments discussed above are taking place at SAMU, with a direct or indirect impact on the culture, whether religious or heritage, as well as the power enjoyed by managers, especially decision makers, and this is reflected in the formation of a central administration to which the employee returns at every step he takes, both practically and personally, within the work place. In the next section, details on the HR decision-making in Oman are explained.

2.6.3 Human resource and shared service

According to Meijerink, Bondarouk, and Looise (2013), HR shared services include the delivery of HR services through a centralized unit that serves multiple units within an organization. Where shared service was defined by Reilly and William (2017) as delivering best value from HR to the customer. Thus, the two concepts are related where both aim to improve the efficiency and effectiveness of HR processes.

These days most of the organizations adopted HR service center to enhance the quality and efficiency of HR process. For example, Income Data Services (2009) makes proposals on the design and implementation of HR service centers, with an interest in effective communication, training, development, change and continuous improvement. Riley and William (2017) suggest that shared services can provide the best value from HR, considering the need for a strategic approach, a focus on customer satisfaction, and continuous evaluation and improvement. However, there are some challenges facing the shared services, the tension between standardization and personalization, and the challenge of integrating diverse organizational cultures. Meijerink, Bondarouk, and Looise (2013) propose a conceptual framework for creating value through HR shared services, emphasizing the importance of strategic alignment, operational excellence, and customer intimacy. Furthermore, Parekh and Breen (2018) discuss HR challenges for shared service centres, highlighting the need for effective change management, and employees' engagement and communication where Ulrich and Grochowski (2012) suggest that shared services can evolve into professional services, emphasizing the importance of value creation, innovation and continuous improvement

Overall, the literature suggests that although the HR service centres and shared services have several challenges that need to be addressed, it provide significant benefits for organizations.

2.6.4 Human resource decision-making in Oman

In the late 1970s, Oman lacked national expertise, thus, foreign expatriates from Arab countries such as Egypt, Jordan, Syria, and Iraq established the Omani civil service law (Ali, 1990; Budhwar, Al–Yahmadi, and Debrah, 2002; Khan, 2011). The statutes were made in a way to suit the residents, who came from different countries to work in Oman, more than the Omani citizens. Consequently, the Omanis have been paying the taxes of such laws until

present time. Furthermore, between 1970 and 1979, Omanis from the social elite studied either in Western countries such as the United Kingdom and the United States of America, or in Arab countries such as Egypt, Jordon, Syria, Kuwait, and Iraq came back to Oman to fill positions within governmental organisations and public administrations (Al-Hamadi, Budhwar, and Shipton, 2007; Ali, 1995). They were the first people holding such positions in the country, and today, after around fifty years, they are ministers and policymakers. As a decision-maker generally holds the work position for a long time, it gives him confidence. Thus, whatever decision is made is right from the point of view of the decision-maker, regardless the sequence on the organisation, its stakeholders, or the staff (Dragota, 2016). The decision-maker is convinced that his decision is the best option until experiencing the effect of the decision (Hirshleifer, 2001; Dragota, 2016). However, the culture does not give space for the decision-maker to think in a team, share ideas, or collaborate with other seniors. Exchanging ideas, thoughts, and knowledge, especially with higher authorities, is considered crossing boundaries, which is not accepted (Glennon, Hodgkinson, and Knowles, 2018). As a result, it is challenging to create a shared network in the context on the Public Administration. Although the shared network might help in cost reduction, quality improvement (Paagman et.al, 2015, Reilly and William, 2017), and easy access for specialists and experienced people (Parekh and Breen, 2018), but the nature of officials and the environment will stand in the way of this change for the reasons mentioned earlier.

Errors are accepted, but poor decisions are not welcomed, especially when the decision-maker makes wrong decisions regularly (Dragota, 2016), which appear when the decision-maker has excessive self-confidence, self-esteem, and over trust their personal experience (Dragota, 2016). Furthermore, neither the decision-maker nor the public organisation take the adverse decision as a serious matter, for the organisation is not for profit and the financial profit margin is not the target of choice (Bozeman and Pandey, 2004; Andersen, 2010). This is another challenge facing the shared network as the decision makers do not think about cost (Paagman et.al, 2015, Reilly and William, 2017). However, the fulfilment of the personnel, relatives, and friends' needs and requirements is the goal of the decision-maker. In other words, corruption plays a significant role in the public administration, especially with the decisions those which are linked via HR (Hunter et al., 2020; Obeidat et al., 2012). To overcome considerations, conflicts, and apply justice among the staff, the decision-making

process has to be based on facts, real data, and information (Nutt, 2000; Provost and Fawcett, 2013).

Furthermore, collaboration and teamwork will help in reaching the best decision for all the parties (Mahmoud, 2014; Bal, Bozkurt, and Ertemsir, 2012; Glennon, Hodgkinson, and Knowles, 2018), as partnership helps in reducing conflicts by sharing ideas and thoughts; moreover, it guides the decision-making process to achieve shared decisions based on the shared goals of the stakeholders involved in the decision-making process (Treiger, 2020). Moreover, collaborative decision-making processes enhance the clarity of the decision, provides effective outcomes, and offers solutions that satisfy all the participants of the shared decision-making process (Intindola, Weisinger, and Gomez, 2016). For instance, the High Commission for the Response to COVID-19 is a good example of shared decision-making (the formation of this commission was a decision of the higher authorities, and accordingly work was carried out according to the instructions). It involves participants from various authorities in Oman (MOH, 2020), for the situation is critical and requires multiple institutions to collaborate, discuss, evaluate, and make the best decision from the data provided from various sources, exchanging ideas, and thought from all the members.

On the other hand, in some cases, collaboration might harm the decision-making process when the issue relates directly to one of the participants of the shared decision-making process (Hoffmann, Jansen, and Glasziou, 2018). For instance, in the medical field, when the patient is part of the treatment decision-making process, not only might it reflect negatively on the patient by knowing all the details of the medical procedures, but also in some cases, the patient rejects the decision. Therefore, there should be a balancing equation when and who to involve in the shared decision-making process. Literature showed the effectiveness of collaboration and teamwork. It helped me to get the supporting research question "How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?

2.7 Summary

In summary, HR management has primary responsibility toward the personnel of the organisation in the decisions related to the staff, but also toward the organization as a strategic partner. Furthermore, HR decision-making has to be based on hard facts (Schwarz and Murphy, 2007), logic, and requirements of the scenario. As data is a critical driver for decisions, the quality of information is essential (AlHijji, Alharrasi, and Alissaee, 2018). A good decision-maker obtains accurate data and transfers it to knowledge (Uçaktürk and Villard, 2013). Literature from Oman and the GCC countries share the same concern of the social effect on the decision and the decision-maker. The culture influences the decision-making process to ignore the data in the decision-making process. However, I believe there is room for change by implementing quality data in HR decision-making and choosing a suitable model that fits the context (Holly, 2010). Besides, the implementation of shared service or HR service centre (Meijerink, Bondarouk, and Looise (2013).

The literature encouraged me to select the topic of ignorance in the use of the HRDt, which is stored at SAMU in public administration, in the DMP to study in-depth in my organisation. Furthermore, it provided me with the opportunity to improve practice by encouraging the use of quality data, collaboration, teamwork, and shared decision-making to initiate HR decision to suit and satisfies personnel. Besides, this review of the literature helped me to think and plan a suitable AR process, which will be discussed in detail in the coming chapters, to resolve the areas of weakness in the HR decision-making process by replacing unfair HR decisions via fair, justice, and based on real facts.

In addition, the review of the literature has provided me with a clear and focused path towards structuring my primary research and supporting questions.

Primary Research Questions:

1. What are the internal issues and challenges related to the usage of data at the Statistics and Measurement Unit (SAMU) in Oman?

2. How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?

Supporting Research Questions:

1.   What are the reasons behind the lack of data usage at the Statistics and Measurement Unit (SAMU)?

2.   To what extent does culture play a role in the usage of the data?

3.   Is there any challenges from managers to ignore the data?

4.   Will the usage of data in the decision-making process improves staff satisfaction?

The next chapter, Chapter Three, discusses the research methodology. I will describe the approach used to conduct the study to find out answers to these questions, as well as provide reasons and explanations for the methodology, paradigm, and design that I selected for the study.

Chapter Three

3 Research Methodology

3.1 Introduction

In previous chapters, I have described the study's scope, specified research questions, and provided information on the topic and associated subjects from literature. This study's primary aim is to highlight the challenges behind human resource data (HRDt) usage in the decision-making process (DMP) and find ways of improving the use of the data to increase the effectiveness of the Statistics and Measurement Unit (SAMU). A research methodology is a framework for the research method, "the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of the methods to the desired outcomes" (Crotty, 1998, p. 3). The research methodology and methods help answer empirical research questions (Dickinson, Marsden, and Read, 2007).

For this study, the empirical questions are:

1. What are the internal issues and challenges related to the usage of data at the Statistics and Measurement Unit (SAMU) in Oman?
2. How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?

Supporting Research Questions:

1. What are the reasons behind the lack of data usage at the Statistics and Measurement Unit (SAMU)?

2. To what extent does culture play a role in the usage of the data?

3. Is there any challenges from managers to ignore the data?

4. Will the usage of data in the decision-making process improves staff satisfaction?

This study approach is based on the research 'onion' (Saunders, Lewis, and Thornhill, 2012, p. 128), which has several layers: research philosophies, research approaches, research

strategies, research choices, research time horizons, and research techniques and procedures (Figure 3.1).
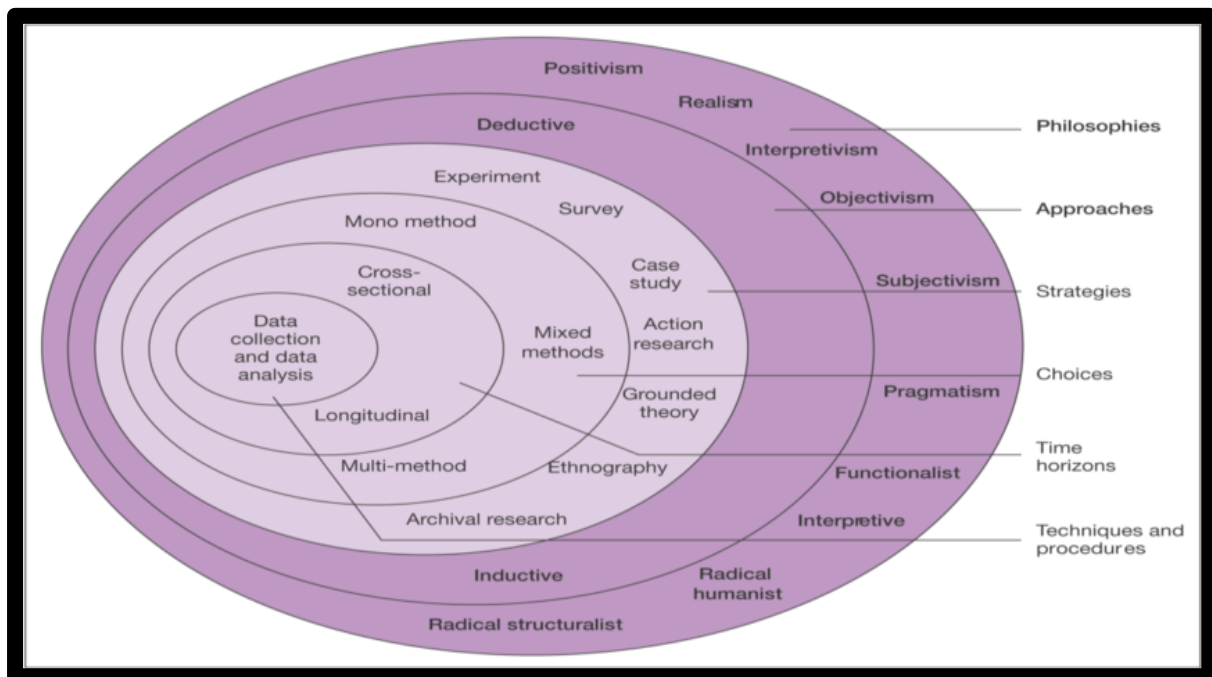
Figure (3. 1):The research 'onion' (Source: Saunders et al., 2007)

In this chapter, the research layers of this study will be discussed. The chapter is divided into sections. The first section contains description of the research philosophy, which "relates to knowledge development and nature of that knowledge" (Saunders, 2007, p.107). The second section will describe the research approach defined by Cresswell (2007) as tactics and research processes that span the phases from general assumptions to accurate data collection strategies, analysis, and interpretation. The third section will focus on research strategies, while the fourth section on research choices, where the researcher chooses the data collection technique. In the fifth section, the techniques and procedures of data collection and analysis will be discussed, followed by the ethical concerns, and lastly, a summary of the chapter.

3.2 Research philosophy

The researcher uses one of the study philosophies to guide the development of the knowledge generated from data collection and analysis (Saunders, Lewis and Thornhill, 2012). The selection of the research philosophy paradigm depends on selecting an appropriate ontology (nature of reality) and epistemology (way to test the research's reality (Crotty, 1998). In other words, based on Ozanne and Saatcioglu (2008), an ontology is the action researcher's assessment of the reality nature of the subject of the study. For instance, the world we live is context-bound, co-created, the present's social reality and practices are driven by historical events and interests. Furthermore, an ontology has four different positions (Easterby-Smith, Thorpe and Jackson, 2012). The first position is realism and consists of one single truth and facts that exist and can be revealed. The second position is internal realism where the truth exists but is vague. The third position is relativism where there are many truths, however, the facts depend on the perspectives of the observer. The fourth position of the ontology is nominalism where not only the truth does not consist, but also the facts are the design by human beings (Easterby-Smith, Thorpe and Jackson, 2012). On the other hand, epistemology addresses the question, "What is the relationship between the inquirer [knower] and the known?" (Denzin and Lincoln, 1994:99).

There are various broad research paradigms that combine ontology positions with epistemology, which are positivism, interpretivism and pragmatism. For instance, a positivist research philosophy is when the ontology is a singular reality and epistemology depends on credible data or facts. However, when the ontology is multiple realities, and the epistemology depends on experience, the research philosophy is interpretivism. Besides, when the ontology is both singular and multiple realities, and the epistemology is concerned with the practical application's value, the research philosophy is pragmatism. In other words, research paradigms provide theoretical thinking, a technique of thought and reasoning, and views and self-awareness.

For this research study, the AR Team view the nature of reality based on their historical events and nature, which leads to multiple realities (Ozanne and Saatcioglu, 2008). Therefore, the ontology was found on various realities that were negotiated, discussed, or interpreted by them. The epistemology was based on the knowledge built through events assigned to the AR Team, which are influenced by social and cultural context. According to Mcniff and Whitehead

(2011), AR views knowledge as contextual and uncertain. Thus, pragmatists research paradigm fits the study where the epistemology is concerned with the practical AR Team's value and provides knowledge.

Moreover, AR observes human awareness and is potentially influenced by social structure, and AR Team's views (Ozanne and Saatcioglu, 2008). Consequently, pragmatism helps eliminate the distance between the researcher and the AR Team by understanding their viewpoints (Tharenou, Donohue and Cooper, 2007). Furthermore, it focuses on the way the AR Team understand and cope with the changes to implement the usage of HRDt in the DMP. Pragmatism also helps to understand the nature of the problem and identify the factors that influence the use of HRDt (Johnson and Duberley, 2000).

3.3 Research approach

The research approach is determined by whether the researcher possesses an exact theory on which to build the study or use empirical data analysis to generate a theory (Saunders, Lewis and Thornhill, 2012). To elaborate, if the research is developed and based on clear theory from the beginning of the study, then the researcher is using a deductive research approach, which involves testing a theory which means going from theory to the data collected and checking whether the data approves the theory. On the other hand, if the researcher collects and analyses data to generate a theory, then an inductive research approach is being used.

In this thesis project, I have adopted an inductive approach because the study's context took place at X Public Administration, SAMU, and the AR Team was ten candidates from SAMU, which consider a small sample. As Saunders, Lewis and Thornhill explain (2012), "Research using an inductive approach is likely to be particularly concerned with the context in which such events were taking place. Therefore, the study of a small sample of subjects might be more appropriate than a large number as with the deductive approach" (p. 126). Furthermore, adopting inductive approach was familiar, for data collection and analysis is one of my functional tasks as a statistician.

3.4 Research strategy

The research strategy is a plan to achieve your research goal (Saunders, Lewis and Thornhill, 2012), and there are several types: experiment, survey, case study, ground theory, archive research, AR, and ethnography research strategy. From various research strategies, I have adopted AR to be my research strategy. After comparing AR with several other strategies, I found that experimental research is often limited by the set of precisely defined variables it investigates, while AR is often limited by the local importance of its results. Furthermore, AR focuses on solving immediate issues; however, case study focuses on a particular phenomenon for a longer period While AR is guided by participants of the study and proceeds through cycles of inquiry, grounded theory is realized by the researcher alone. Moreover, AR is used to achieve new activities through a new understanding of scenarios, whereas ethnography guides the search process. According to Kemmis and McTarggert (2003), AR is "a social process of collaborative learning realized by groups of people who join together in changing practices through which they interact in a shared social world in which, for better or worse, we live with the consequences of one another's actions" (p.277). In other words, an AR strategy is used to implement change. It is a strategy based on four main themes:(1) it is research "in action" rather than "about action" (Coghlan and Brannick 2019), (2) the researcher themselves is one of the participants in the study (Eden and Huxham, 1996), (3) the process of diagnosing, planning, taking action, and evaluation is iterative in nature, (4) the AR has consequences beyond the immediate investigation. In other words, the AR not only has immediate benefit but also a long term advantage where it helps in crating teamwork, collaboration, various communication channels, and exchange of knowledge and ideas. Moreover, AR dissolves the barriers between the participants and the researcher and helps the AR Team learn, which leads to an improved understanding of the workplace problems; thus, helping to support the implementation of the solution (Agyris, 1995). AR proceeds through a cycle of several phases (Figure 3.2), such as constructing, planning, taking action, and evaluating (Coghlan and Brannick, 2014).
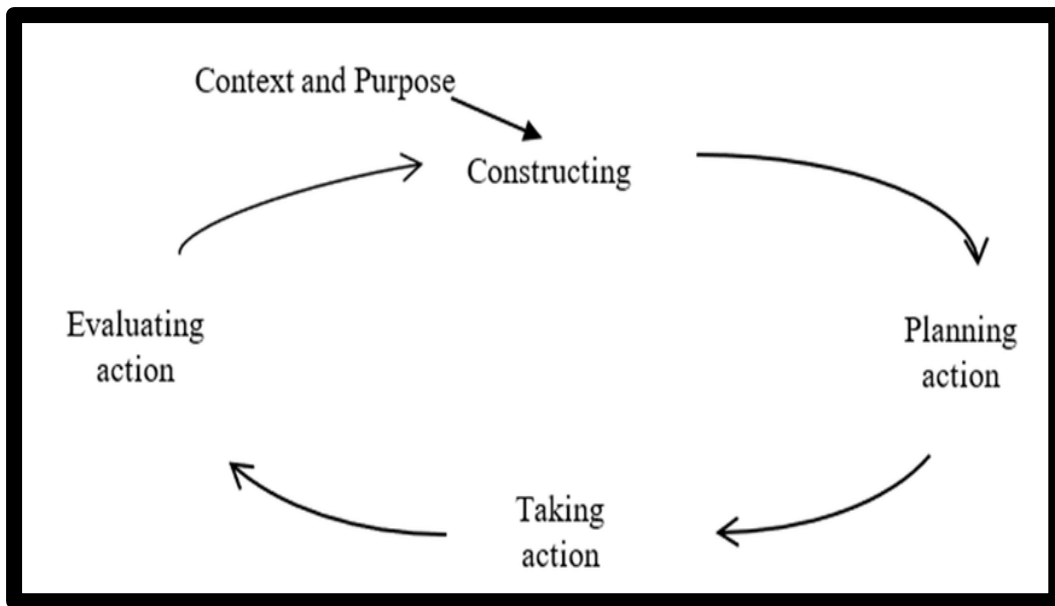
Figure (3. 2):Action research cycle

Each phase of AR generates knowledge and learning in action. Moreover, each stage has several tasks where I engaged with AR Team. These tasks included data collection and analysis. The details of these activities are explained in section (3.5).

3.5 Research method choices

According to Saunders, Lewis and Thornhill (2012), research choice could be a mono method or multiple methods. The mono method uses a single qualitative or quantitative data collection technique, whereas multiple methods employ either a multi- or mixed method. The multi-method can be achieved via two types of research, either multi-method quantitative studies where the researcher uses quantitative data collection methods, or multi-method qualitative studies whether the researcher uses qualitative data collection methods. On the other hand, the mixed-method can also be achieved using two approaches, namely the mixed-method research and the mixed-model research, where both approaches use a combination of qualitative and quantitative techniques for data collection. However, the difference between these two mixed methods is in the analysis procedure. Although both use qualitative and quantitative analysis procedures, mixed-method research combines these procedures, while the mixed-model approach uses a single analysis procedure at a time. From the various research methods choices (Saunders, Lewis and Thornhill, 2012), I have selected a combination of qualitative data collection methods including observation and interviews. I

developed a rich understanding of the problem by interacting directly with the people who deal with the subject and learning their different opinions and views. The qualitative methods helped not only me, but also the AR Team to explain their perceptions of the events (Creswell, 1994; Burns, Hopper, and Yazdifar, 2004). In this manner, the research design sought to understand the events from multiple perspectives. The data generated through observation and interviews was discussed in action learning sets to understand the study's issue. Action inquiry assumes that AR Team take an active role in the research through a continuous process of action and reflection (Coghlan and Brannick, 2014). My role in the research process was that of an insider researcher. According to Coghlan (2001), a researcher becomes an insider researcher when she comes with experience and understanding of the organisation and its context, thereby becoming a participant researcher (Saunders, Lewis, and Thornhill, 2012).

Qualitative research has several features of value to this study, such as providing a rich picture of the issue, generated as participants collaborate with each other. In my study's sample, ten participants helped to collect enough data and analyse it based on interpretations and descriptions (Ary et al., 2006). I collected data using two qualitative research methods. Firstly, I used AR Team observation to determine the meanings that they attach to their behaviours. It helped me redefine the questions I used later in the interviews and understand the study's culture and context (Brannick and Coghlan, 2007). Besides, I took notes for routine gathering, observing AR Team behaviour and knowledge. In addition, it not only helped me but also the AR Team where we felt a sense of belonging to the research community. Consequently, it created good environment for exchanging ideas, experiences, and knowledge; besides, living the actual warp by applying changes and monitoring their effects closely.

Secondly, I used a semi-structured interview as it allowed the interviewees (ten participants from SAMU and the unit directors), to talk freely, asked questions and elaborated on interesting issues (Saunders, Lewis and Thornhill, 2012). Moreover, the interview questions were open-ended questions (Feldman et al., 2018), which encouraged the interviewee to provide a broad and developmental answer (Grummitt, 1980). The interview questions and the interview details will be provided in section (3.5.3). The main questions used for individual interviewees along with other questions for clarifications and extra information are presented

below, such as "Could you please explain more?", "Could you please provide example?", "Could you please elaborate?"; moreover, all questions started with why, what, how, etc.

1. What are the internal issues and challenges related to the usage of data at the Statistics and Measurement Unit (SAMU) in Oman?

2. How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?

3. What could we do differently in the Statistics and Measurement Unit (SAMU) to improve the use of HR data for decision-making in the organisation?

I generated understanding, learning, and knowledge from the data by collaborating and reflecting with the action learning team on the challenges behind the ignorance of HRDt usage in the DMP. This provided them the opportunity to be involved in the study and impact the analysis (Evered and Louis, 1981).

3.6 Action Research Design

This section explains how the chosen data collection methods (section 4.4) were used through the different phases of the AR process (section 4.1).

However, before using any techniques for data collection, I had to select participants for the study as the study was the first AR study taking place within X Public Administration. Thus, although the participants were knowledgeable about the problem and willing to make the change to solve the issue, it was my responsibility to reassure them and create together a suitable environment to solve the problem. The qualitative AR studies participants represent the entire aggregation that fits the criteria and is available for the study (Fugard and Potts, 2015). Furthermore, the participants were selected according to the study's phenomena (Sargeant, 2012).

The phases of AR and associated stages of research activity are shown in table (3.1), each stage will be discussed in detail, following the table.

Action Research phase	Data Collection Stages	Activities	Time
Pre-phase	Meeting 1	Aim and objectives of the study	Two hours.
Constructing phase	Preparation	• Sending Participants Information Sheet with Informed consent forms. • Receiving Information Sheet and Informed consent forms. • Checking all the forms, printing, and saving. • Observing.	It took around a month to collect digital copies of all the forms. Nine to ten weeks
Planning phase	Preparation	• Observation. • Planning proper open-ended interviews questions.	Three months. Three days.
Planning phase	Pilot interview	Interviewing two of the Statistics and Measurement Unit (SAMU) staff using. • Zoom meeting. • Phone call.	Two days, where each interview was about 60 to 70 minutes.
Planning phase	Interviewing independently	One to one interview and record all the Statistics and Measurement Unit (SAMU) using WhatsApp video calls or Zoom meetings.	twenty working days.
Planning phase	Action inquiry group meeting (meeting 2)	Gathering participants, who represent the Statistics and Measurement Unit (SAMU) and directors of various units in a single zoom meeting	Two hours.
Planning phase	Directors' meeting (Meeting 3)	Gathering participants who hold the position of director or manager for the units which deals with human resource.	Three hours.
Planning phase	Information checking	Writing transcript in Arabic, translating to English, and checking.	Three days.
Action-taking phase	meeting 4	Action (improving human resource data)	Four hours

Table (3. 1):Data collection stages

3.6.1 Action Research - Pre-phase

Meeting 1

All the Statistics and Measurement Unit's staff (10 employees) and unit directors (7 people) linked to HR were contacted by text messages to make an appointment, either via a phone call or a video call. I gave them a date and time for the first meeting, my initial plan being to meet them all face-to-face. However, because of the COVID-19 pandemic, face-to-face interviews and physical action learning team meetings were not possible. Thus, WhatsApp video calls were used to replace face-to-face interviews, and Zoom meetings replaced AR Team's meetings.

Visual communications were used to build a relationship with the AR Team, provide the study's details where necessary, and answer all their doubts. For instance, I scheduled the first group meeting using a visual channel. During the meeting (meeting 1), which took around two hours, I introduced the topic in detail by providing a precise aim, objectives, and explaining the study and involvement in AR cycles to gain the action learning team's trust (Easterby-Smith, Thorpe, and Jackson, 2012). In addition, I answered all the questions and gave the attendees time to think about participating in the research. Furthermore, I asked the participants, who showed a willingness to participate, to provide suitable dates and times for a one-to-one interview, keeping in mind that each interview would take between 45 to 75 minutes. This reflected the pre-phase of AR cycle where the research issue was defined, details are provided in section (4.2).

3.6.2 Action Research - Constructing Phase

Preparation stage

The constructing phase of AR cycle in which ethical approval was obtained and participants agreed to participate. The participants' cohort included all the staff who had been working for SAMU for at least three years and showed willingness to participate voluntarily in the study, more specifically ten candidates. As I am also an employee of SAMU, it gave confidence to the participants in discussing the topic. They mostly understood the study's aim and how it was going to affect them directly or indirectly. They knew that changing or improving a managerial process of implementing HRDt in the DMP would positively impact them in one way or another. Prior to starting the research officially, I required official permission from all

the participants. Thus, I sent the participant information sheet and informed consent form as attachments via e-mails to the 10 participants who had given their permission and showed willingness to participate in the study. Most of the documents were returned via the same channel after being completed. However, a few participants sent the documents just before the scheduled interview time. The forms were checked, printed, organized in a file as hard copies, and saved in a locked, secure place where I can reach them whenever I need them. A collection of all the digital copies of the participant information sheet and informed consent form took around a month where checking, printing, and organizing took another four to five weeks.

3.6.3 Action Research - Planning phase

Preparation

After getting ethical approval from the University of Liverpool, work started on the data collection procedure. At this stage I knew my AR Team and have been working with them since 2016; thus, we have a good relationship and understanding about the tasks, duties, culture, and work environment of SAMU. Therefore, I observed them closely by noting their behaviour, feelings, thoughts, ideas, and knowledge about HRDt and its usage in the HR decision-making process. In addition, I noticed their expressions and tone, which gave me an idea about their understanding of the issue. For instance, their tone of anger about the HR decision and the feeling toward the decision-makers were a good start toward highlighting the reasons behind unsatisfied HR decisions. The gather of observational data took around nine to ten weeks.

Then I started preparing for semi-structured interviews. The pre-phase of data collection was planning for pertinent questions to ask the ten participants independently (SAMU staff) during the semi-structured interviews. The questions were prepared by linking the items via the study's objectives to focus on the issues under investigation and ensure that the questions were open-ended (Patton, 2015). Open-ended questions offer enough space for the AR Team to provide information and freely elaborate, comment, and express his ideas. In addition, the questions led them to enhance their problem understanding level (Easterby-Smith, Thorpe, and Jackson, 2012). I followed the same guidelines for all the interviewees; for instance, the same questions were used and in the same order to avoid bias in collecting the data. It was

an important responsibility to determine the reason for the issues and plan a way to solve them (Finchman and Clark, 2009). The initial semi-structure interview questions used were:

1. What are the internal issues related to the usage of data at the Statistics and Measurement Unit (SAMU) in Oman?

2. What are the internal challenges related to the usage of data at the Statistics and Measurement Unit (SAMU) in Oman?

3. How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?

4. What could we do differently in the Statistics and Measurement Unit (SAMU)?

Pilot Interview

During the pilot phase, where two of the SAMU staff were interviewed as trial interviews. I informed all the AR Team regarding the trial and asked them to nominate if they wished to go through the experiment, and I informed them that I needed two people and the first candidates to be accepted. One of the talks was through Zoom, while the second was over the phone because of internet network issues in the participant's accommodation area, as not all the regions of Oman have good network signals. The purpose of the pilot phase was to check the questions, as well as the time and the structure of the interview. I noticed that two questions provided immediate answers; therefore, I combined them. Furthermore, one of the questions required further explanation. The new questions were:

1. What are the internal issues and challenges related to the usage of data at the Statistics and Measurement Unit (SAMU) in the organisation?

2. How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?

3. What could we do differently in the Statistics and Measurement Unit to improve the use of human resources data for decision-making at the organisation?

In addition, my supervisor and Smith, Flowers, and Larkin (2009) suggested using clarification questions for interviews such as: "Please could you tell me more?", "Can you please clarify?", "Do you mean….?", or "What do you mean by …? were followed. These questions helped to get more information or more detailed answers from the participants. Later, these two participants were interviewed again to keep the interview questions' sequence the same for

all participants and eliminate any chance of bias. I noticed that their answers form the common questions were the same as the pilot interview. That ensured the stability of the answers, as well as the lack of hesitation and conflicting ideas from the associates.

<u>Interviewing Independently</u>

I interviewed those who showed a willingness to participate in the study: the ten candidates from SAMU but not the units' directors, via WhatsApp calls or the Zoom meetings depending on the familiarity of the participant usage of the application. I would provide the options of conducting the interview and the participant would select the most suitable one. The interviews took place during working hours, and in the Arabic language; as a result, I had to translate all interview questions into Arabic language. All the participants were advised that there were no right or wrong answers, and they could take their time in thinking and answering the questions. Interviewing all the participants took around twenty working days. I recorded all the interviews, wrote transcripts in the Arabic language, and translated some pieces into English with an official translator's help. In addition, I used the translated works as statements in the data analysis process. The process of translating pieces from the transcript took an average of three days for all the interviews.

<u>Action inquiry meeting (meeting 2)</u>

All the participants (10 SAMU staff and 5 directors of units) were gathered in a single Zoom meeting to be able to hear multiple voices simultaneously. The aim was to bring them all together so that participants could work as a team without fear of the officials and their reactions. The meeting aimed to clarify important points for all parties participating in different functional responsibilities. The challenge was to bring them all together in one meeting, but the distribution and clarification of tasks gave an atmosphere of homogeneity. I welcomed all the participants and thanked them for their time and involvement in the AR study. Then explained the purpose of the meeting, which was discussing the meaning of the data collected and planning for action. The meeting encouraged all the participants to ask questions, be more creative, focus on the issue under study, and enhance participants' skills and knowledge by exchanging and collaborating. Moreover, the advantages of meetings included working as a team, understanding the study's objectives, and having a broad picture of SAMU's challenges regarding the usage of HRDt in making decisions related to HR. During the meeting, I took notes while the participants were discussing the interview's questions,

asking questions, suggesting reasons behind the ignorance of HRDt in the DMP. However, there was no additional information than that which was obtained from the one-to-one interviews. Thus, I asked all the participants to think about the challenges of HRDt usage in the DMP presented in the meeting and agree on an action. After obtaining permission from the participants, the meeting was recorded; besides, each participant took notes. Furthermore, the discussions were in the Arabic language. The participants practised asking questions, listening to each other's thoughts, taking notes, exchanging ideas, and developing knowledge. In other words, it was a process of learning in action. At the end of the meeting, I asked all the participants to send their notes to my e-mail account. I wrote the meeting's transcript in Arabic language using record, my notes, participants' notes and added my observations.

Directors' meeting (meeting 3)

A second participant meeting (meeting 3) was the second phase of data collection, where I contacted the directors of the units (5 people) who used HRDt to make decisions, who were not staff of SAMU. For instance, the director of the training and development unit, the recruitment unit director, the finance unit director, the HR unit manager, and the minister's office head. During the meeting (meeting 3), I asked each participant, 'What was the current usage of HRDt at the level of their unit?' 'What are the unit tasks which require human resource data?' and 'How to involve the SAMU in the HR decision-making process?' The meeting was recorded after taking permission from all the participants. Later I wrote the meeting's transcript and added my observations and comments. For instance, I noticed how disappointed were the participants regarding the HR decision. Some of them were clearly saying that they were not happy, other I could notice from their tone.

Information checking

After taking permission from the participants, I recorded all the interviews and the action learning team meetings, using a screen recording option. The talks were either using WhatsApp video calls or Zoom Meeting. The language used was Arabic; thus, to ensure the translation, I encrypted all the names from the transcripts for participants' security as per the ethical approval. Then I asked one of the professionals in Arabic English and an English Arabic translator to check the translated scripts. Later, with help from one of the participants, we double-checked the interview translated transcripts by retranslating English to the Arabic

language orally. I double-checked with each participant interviewed independently if he/she meant what we got on the transcript piece to ensure the quality of data is not lost while translating. Each participant had about two hours to double-check, and I took notes and modified the transcript in case of any changes. Moreover, I contacted each director and double-checked with him regarding what was written in the transcript was what they meant and modified if necessary.

3.6.4 Action Research - Action Taking phase

<u>Meeting 4</u>

A third participants meeting (meeting 4) where SAMU staff (10 persons) and units' directors (5 persons) participated, with the purpose of discussing the data collected, planning and agreeing on an action. After discussing the outcome of meetings 2 and 3, the AR Team decided to improve the HRDt by updating the data, restructuring SAMU by linking via other units that require HRDt and enhancing the skills of the staff by training.

3.7 Data analysis method

I used thematic analysis to analyse the transcripts of interviews. It is used to find and analyse meaning in the dataset which has six-phase framework (Braun and Clarke, 2006); familiarising and organising the data, coding according to the pattern or themes, merging the codes into categories, merging the categories to themes, and writing up (Braun and Clark, 2012). These phases are explained in the following paragraphs.

<u>Thematic Analysis – Phase One</u>

During the first phase, familiarising and organising the data, I read all the transcripts as a whole and wrote my impression. Then I reread the transcripts line by line to find similarities, differences, patterns, and themes. Reading and rereading the transcripts helped me to be familiar with the data and its' content. However, there are several programs to analyse qualitative data such as NVivo, ATLAS. Ti, and Datagrav (Silver and Lewins, 2014), I preferred learning while conducting the study, especially since the sample size was small. Thus, I chose to analyse the data manually. Although it was challenging to learn a new technique of analysis data, I not only learned the technique but also gained knowledge and learned in action about the issue.

Thematic Analysis – Phase Two

During the second phase of thematic analyses, coding according to the pattern or themes, Miles and Humberman (1994, p. 59) stated that "codes are tags or labels of assigning unit of meaning …" Initially, I organised the data in sequence according to the interview question number in a meaningful way by coding each statement. Then SAMU staff used open coding (Appendix 1) where codes were developed and modified while the process of coding was on going. Codes were generated by brainstorming while reading the transcripts. Any word was coming into the mind explaining the scenario, was written down. Although some codes were already highlighted from step one, we as action inquiry group, started to code the transcripts independently, then discussed the generated codes of each participant, generate new codes, and modified some codes. All the work was done manually using papers and highlighters.

Thematic Analysis – Phase Three

During the third phase of thematic analysis, AR Team worked as one group merging the codes into categories and merging the categories into themes. We tried to label the organised data and link or find connections to figure out a pattern between the participants' different information pieces (Braun and Clark, 2012). As an insider researcher, I was able to ensure knowledge about the organisation, which is considered an advantage over being an outsider researcher (Roth, Shani, and Leary, 2007). Moreover, it helped to understand the data pattern and observe participants by understanding the context to plan the actions with participants. We grouped the codes into six categories: internal challenges, unit restructure, staff development, training, culture, and power. Later, we tried grouping, linking, and finding the relationship between categories which helped in developing themes. We merged the category staff development, and training in one theme called its staff development and training; besides, we combined culture and power in one theme called its culture. Table (3.2) shows the themes and related codes.

Themes	Codes
Internal challenges	• Problems with seniors. • Unwillingness to accept change. • Regulatory changes. • Technology
Unit restructure	• Structure • Unit design • Unit system • Unit arrangements • Unit structure • Restructure
Staff development and training	• Training and development programs. • Qualified. • Training of personnel. • Professional development • Coaching
Culture	• Lack of integrity. • Traditions • Organisational culture • Work environment • Values • Beliefs • Managers' habits • Leadership style • Power • Authority • Stereotype

Table (3. 2): *shows the topics and related codes.*

Thematic Analysis – Phase Four

During the fourth phase of thematic analysis, we reviewed the themes, defined, modified, and developed the initial themes which was generated in phase three of the thematic analysis. For illustration, we re-read the statements which aligned with the themes and check whether it supports the theme or not. The next step was checking if the themes work in the context of the overall data collected, such as whether the themes make sense and support

the data, if there are any overlapped themes. Thus, we combined themes and developed table (3.3) which considers our framework for coding the data.

Themes	Codes
Understanding the meaning of human resource data and its importance.	• Human resource definition. • Updating the data. • HR data is not important • Sense-making
The nature of the use of human resource data	• Single usage • Selection of the wrong person.
Challenges face human resource data usage	• Problems with seniors. • Unwillingness to accept change. • Regulatory changes. • Technology • lack of understanding • Culture norms • Power
Skills and capabilities	• Skills and capabilities
Suggestions for improvement	• Training. • HR shared database. • Application process.

Table (3. 3):illustrates the themes and codes related to each theme

After the creation of the themes, the AR Team was still in the mood of thinking and observing the data. They had asked for a meeting to re-discuss the themes. Thus, we had conducted a meeting (meeting 4) to listen to the ideas and collaborate to finalize the themes for the study. Moreover, I used combination experience that I gained from scholar and being an insider researcher; besides, my supervisor's discussion helped me to formulate new themes which were:

o Theme (1): Understanding the meaning of human resource data and its importance.

o Theme (2): Current usage of human resource data.

o Theme (3): Challenges face human resource data usage.

o Theme (4): Professional development.

o Theme (5): Suggestions for improvement.

I considered table (3.2) my initial codes; however, I used table (3.3) as a framework for coding the data. Then I started as a researcher to add my touches by analysing the data in detail. For instance, adding the notes and commands I got from corporative inquiry meeting (meeting2). We all as an AR Team were so confident and proud of the work at this stage. Each participant had his touch in creating the codes and themes. Thus, loyalty to the study enhanced; furthermore, we all were looking forward for the next phase of the study.

Thematic Analysis – Phase Five

During the fifth phase of thematic analysis, we defined, and the codes were grouped under each theme. Furthermore, each theme was linked via the research question under the study, details are provided in section (4.4.2) and (4.4.3).

Thematic Analysis – Phase Six

The sixth and last phase of thematic analysis was writing up where I wrote all the steps in details about the data, data collection, data analysis, and the outcome. The analysis helped me to understand the challenges and how HRDt is used within the organisation. Although I could see themes and patterns of the data, I have to discuss it via the AR Team, for we are conducting AR where we all work as a team.

3.8 Research ethics obligations

The study was checked whether it followed guidelines of managing ethical risks as per the ethical research approval from the University of Liverpool. Moreover, all potential social relations on legal, economic, physical, and other risks are fully considered. Due to the nature of this research, all of these risks are minimal or not existing. Besides, it was ensured that participants had voluntarily taken part in the study with no pressure from any side, including me as a researcher. Furthermore, the consent form and participant's information sheet (IPS) were sent via e-mail to all the participants for at least a minimum of a week before the scheduled interview date. Thus, the participants had a week or around ten days to think before participating in the study.

I checked all the forms were completed, filled in, and returned before conducting any interview. However, I found that one of the SAMU staff was unwilling to participate as he was not sure how the data he provided would be used. Thus, I contacted him via Zoom meeting

and explained that no names would be used in the study especially since the data collection and management process was under my direct supervision, I was replacing names with symbols. Also, I clarified there would be no harm at either personal or work level, he was convinced, and decided to participate. This study was adopted by X Public Administration and supervised by the Ministry of Higher Education, Scientific Research, and Innovation, so both sides guaranteed the rights of the participants and provided them with protection. Although I would have lost a participant, I respect his initial decision to show me the participants' level of awareness about the study and its outcome. Therefore, I conducted a Zoom meeting with all the staff, explained the study's purpose, provided all the needed information, and made sure that participation was voluntary and there was no pressure or harm for not being a participant. Besides, I informed them that they had the right to withdraw at any given time without reason.

Furthermore, I assigned each participant a number instead of using their names, which helped me to gain the participants' trust. Likewise, using AR helped the participants gain confidence and trust in their decision to implement and generate the knowledge required to push the project's flow and enforce positive action.

I conducted the study under the guidelines as per section CI and EI of the application for approval of research ethics of the University of Liverpool. I contacted Mr Said at X Public Administration, who showed an interest in the study and provided me with a supporting letter which I submitted via the ethical approval requirement documents. When I obtained ethical approval, the interesting journey of the study started. Although there were people who were against the study, I asked them to give me the opportunity and space to apply the study and wait for its results. If the study fails, the previous system will be implemented. However, the results of the study impressed everyone to the point where they adopted the AR to solve the challenges they face in different areas.

3.9 Summary

In summary, the chapter applied Saunders et al.'s (2007) research onion to the study, with the following layers: a pragmatist research philosophy, inductive research approach, and an AR strategy. The data was collected using a multiple-method qualitative strategy research by interviewing the AR Team and asking questions in line with the research questions. This process by itself generated actionable knowledge. For example, the AR Team answered questions while thinking aloud how to go beyond what they were actually being asked. This in itself was self-learning. In addition, the use of thematic analysis techniques to analyse the collected data was also a gain to enhance knowledge, as analysis and discussion of codes opened up different dimensions of the subject, resulting in a broad horizon of learning, thinking and gaining new knowledge which directly affecting the actionable knowledge. In the next chapter, Chapter Four, I will present the story of the AR cycle in detail.

Chapter Four

4. Story of the action research cycle

4.1 Introduction

In the previous chapter, I described the methodology of the study adopting Saunders et al.'s (2007) research onion, and using AR within my organization, where the participants were the AR Team. We worked together from investigating the issue to implementing the change and evaluating the implementation. I followed the AR cycle design which has four different phases such as constructing phase, planning phase, acting phase, and evaluation phase (Coghlan and Brannick, 2010). In this chapter, I will provide the story of AR presenting the empirical details of each phase and supporting with the statements stated by AR Team using fictitious names to preserve the privacy of participants, and ending each phase with a personal reflection. This chapter is structured based on the discussion of the AR in Chapter Three (section 3.3), it produces knowledge at different phases of the AR cycle, and further planning where the new AR cycle begins. Table (4.1) illustrates the AR cycle's phases and the activities of each phase.

Action research phase	Activity/Intervention	Time	**Section**
Pre-phase	Defining research issue, defining research context, reviewing literature; formulating research question; selecting data collection method.	six months	4.2
Constructing Phase	Drafting interview questions; obtaining ethical approval; and selecting research participants.	Three months	4.3
Planning Phase	Exploring and collecting data; analyzing the issue; reviewing and analyzing data; sketching a big picture of the issue.	Six months	4.4
Action Phase	Implementing change took two distinct interventions; the Statistics and Measurement Unit (SAMU) and units which involve in human resource decision-making.	Six months	4.5
Evaluating Phase	Reflecting on the outcomes of the implanted actions.	Four months	4.6

Table (4. 1): Action research cycle's phase and associated activities.

In the following sections, I will provide details of each activity listed in the table above along with reflections at the end of each phase.

4.2 Action research – Pre-phase

4.2.1 Identifying and defining the research issue

As explained in Chapter One, I found that the X Public Administration has an integrated and organized database, but it does not utilize it in the DMP related to human resources (HR), and I have seen the extent of the impact of decisions on employees. In addition, I observed staff of X Public Administration were neither happy nor satisfied with the decisions related to HR, such as recruiting, posting, training, and promoting. I took notes in my own book the moment the transfer and upgrade decision were announced. I added all the observations and conclusions in the notebook, such as tone, body language, and words. These observations are part of the data generated for the thesis projects, and aided my own critical reflections during the AR process.

To define the research issue, I conducted a meeting (meeting 1) with the AR Team, comprising 10 SAMU staff and 7 directors of the units who are involved in HR decisions. I presented findings from my literature review of similar HR decision-making challenges faced by other organizations. I compared the current work environment plus the position and skills of the decision-maker with other organizations facing similar challenges (e.g. Carman and Fredericks, 2008; Ali, 1990). After reviewing what I presented, a discussion took place among the AR Team. The participants exchanged their experience; for example, Reem was surprised and said: "*I thought that the nature of the* DMP *is as we see it in our organization, and it did not occur to me that it is one of the challenges that can be addressed in one way or another*." Ali added "*Since this challenge is faced by other institutions and have been able to overcome it, we can look for its causes and work to overcome it*." Yaser replied to Ali "*All the data required to make a decision about the employee is available in an orderly manner with the SAMU*" and Jawad added, "*It is true that the data is available, but this data is not used for one reason or another*." The AR Team agreed that there was either a lack of utilizing HRDt or an ignorance of how to use such data in the decisions related to employees. The AR Team agreed to explored the reasons and possible causes of these deficiencies.

4.2.2 Defining the research context

Understanding the research context is necessary for diagnosing the issue (Dutton et al., 2002). The study took place at X Public Administration, which is located in Muscat, the capital of Sultanate of Oman. The organization has several units and departments where each has tasks and responsibilities. My focus was on the Statistical and Measurement Unit (SAMU) because the research focuses on the HRDt and SAMU is considered the gatekeeper for such data. Moreover, Coghlan and Brannick (2010, p.8) recommend several questions for the research context: (i) Why is it important to conduct this project or study? (ii) What are the economic, political, and social forces that drive the change? (iii) What are the cultural and structural forces that drive the change? Reflecting on these questions, I conducted various interviews, both formal and informal, with the AR Team to explore the importance of the topic for each member of the AR Team, as well as the impacts on X Public Administration. I also asked AR Team to record their observations and reflections on our sessions, for the benefit of the study. Various issues were discussed during the dialogues, including the new role of the senior management team, the impact of the political role on decision-makers, the impact of random decision on the employee. Each of the topics will be discussed in detail below.

The role of the new senior management team

The AR Team discussed about the role of the senior management. For instance, Hassan noted and commented, "*It was like routine procedures that take months, and today we seek speed in completing them*," Maha added, "*It is true that we got all the approvals for our study in a very short period that did not exceed two weeks, while with the previous senior management team it exceeded months*, *as it was facilitating routine procedures of approvals and permits to facilitate the course of the study.*" Salem added, "*The support of the new* senior management *encouraged us to embark on this new way of conducting AR study.*" The AR Team noticed the role of the senior management which played in promoting and supporting this study.

The forces that drive change in the study include the participants' willingness to implement the change or improvement in the HR decision-making process. This desire had different reasons, as it encouraged participants to work together after discussion regarding the

challenges faced by different organizations, whether on national base, or international (Gulf countries and Arab countries), in the field of HR decision-making process. Participants felt they were not the only ones facing such a challenge. Just as other organizations were able to take the challenge and develop a plan for the solution, there is also an opportunity for the AR Team to find out a way to solve the issue, especially with the presence of new senior management team and its demands to provide and develop known mechanisms using modern technologies, concepts and ideas.

The support of new senior management team did not stop at facilitating procedures and moral support only, but also included financial support, as the new senior management team and the directions of the new government contributed in one way or another to organize the financial budgets, especially since the study was during the Covide-19 pandemic period, which created a surplus in the training and development budget. This reflected positively on this study. The budget was already there; however, the study would direct the budget to be spent on the right staff according to the decisions made based on HRDt. For instance, instead of promoting all the batch of the recruited staff to the next financial level, the promotion will be based on the qualifications, performance, and experience (HRDt). Thus, those who deserve the promotion will get and others will be encouraged to work hard to be included in the next promotion list.

The impact of the political role on decision-makers

Dialogues between AR Team members also led to the impact of the political role on decision-makers. For instance, Ahmed stated "*The head of the HR Development Unit was appointed from outside the institution (transferring services from another government institution), while he lacks experience and qualifications in the field of HR development. However, he was transferred and assigned tasks because of personal relationships without referring to the person's competence, abilities and capabilities.*" Such a scenario is common in Arab countries. The Arab work environment has the term "wasta" (Alghanim, 2014; Barnett, et.al, 2013; Harbi, et.al, 2016). Wasta is the term used for utilizing the power gained either from the position, social status, or relationship in order to bypass the rules and regulations. The higher authorities use their power to post, fill any vacancies, promote, and train without going back to the HRDt.

The impact of random decision on the employee

Maha said, "*I speak five different languages, including French, but I was surprised by the decision of moving a colleague who did not speak French nor English to an office in Paris. This decision not only upset me, but also annoyed the posted colleague and placed him under pressure that could have been avoided only by referring to HRDt and relying on it in the* DMP *to yield fair and justice decision.*" Maha's situation, moved rest of the team where one after another start recounting a situation they had experienced. Among the situations that I mentioned, Ali said, "*A decision was made to transfer me to the Finance Unit, while my specialization is in the field of information technology, the decision was not in my interest, as I cannot provide and work in the financial field and I lack experience and specialization certificates. However, if my personal data was referred to in making the transfer decision, the benefit would have prevailed at the personal and institutional level.*" Salem also added, "*The employee's comfort and the right workplace reflect positively on the productivity.*" Based on the conversations between team members, it was found that the study was considered important because using HRDt in DMP would result in better, balanced, and clear decision. Justice and fair decisions might help in developing a positive work environment, which not only reflects on the staff but also on the organization.

The outcome of the discussions during the pre-phase was that the team was motivated and encouraged to go through the study to explore the problem and options for improvement. In preparation for the next AR, we formulate interview questions as detailed in the explanation of data collection methods (Section 3.4).

4.2.3 Reflections on the "Pre-phase" of the Action Research Process

When I initiated this thesis research in my organisation, I did not expect a positive response from the participants, such as their willingness to work on the issue and to implement changes. The organizational culture does not allow space for change, nor do the staff routinely accept change (Light, 2011). However, the new senior management team and the new regulations appeared to have had a positive effect not only on the participant's response but also on the various process within the organization. The positive response provided me with the strength to work on the project and I felt encouraged to complete my thesis in this

motivated environment. Not only has it helped in completing the project tasks in a smooth way, but also built great social relationships (Hunter et al., 2020) among the participants. This was evident in this pre-thesis stage as they exchanged views and thoughts, asked for each other's opinion on the challenge they are facing either at work base or socially. Furthermore, it changed the thought of accepting change and helped in accomplishing the paper work and getting approvals in a smooth and a fast way.

Although exceptional decisions which are influenced by power (wasta), as the example provided by Ahmed, will remain a challenge (Alghanim, 2014), there will be a transparent path for promotion. I will not be able to control the higher authority's exceptional decisions; however, such decisions will have very minor probability especially the change is supported by the new senior management team. The pre-phase stage coincided with the COVID-19 pandemic and the University Research Ethics Committee insisted face-to-face interviews be replaced with online Zoom meetings. This led to another challenge, namely the weak internet connection and restriction on using video or audio calls in the country. However, the telecommunication companies in the region allowed usage of such applications to facilitate during the pandemic. At first, the situation was worrying, and I was not sure that participants would be able to join on time with a network with enough power to support the social networking program. It was everyone's first experience of the period using social media. Despite the challenges we faced, the situation was under control and the interviews were successful.

4.3 Action research – constructing phase

During the constructing phase, the ethical approvals were obtained from UoL and X Public Administrator. The AR Team were now 10 participants from SAMU and 5 unit directors, as two of the unit directors who were involved in the AR pre-phase showed unwillingness to participate in the study.

4.3.1 Drafting interview questions

The AR Team began to match the current SAMU's work environment with what was stated in the literature. Mohammed said, "*We must look at the challenges faced SAMU to utilize the HRDt*" where Nihal said, "*I think there are internal causes as well as external reasons for not using data in* DMP." However, Reem added, "*external forces cannot be controlled, I believe focusing on internal causes at time being will be a good start.*" The discussion was divided on whether to use one question on the internal challenges facing the SAMU or two separate questions, as the words issues and challenges have different meanings in Arabic. Thus, the debate within the AR Team was whether to have one question on the internal issues facing SAMU such as, organizational structure, work flow, and process of completing tasks or to have two questions. Where the second question was on internal "challenges" which reflect human factors such as technological skills and physical location. Each member expressed his opinion and agreed to vote. The result was 70% agreed to have two separate questions, while 30% thought that it should be only one question with complementary questions such as why? How? what? Because the vote on the status of two questions was the highest, the AR Team agreed and came up with the first and second overarching research questions which were "What are the internal issues related to the usage of data at the SAMU in Oman?" and "What are the internal challenges related to the usage of data at SAMU in Oman?"

Ali said, "*We need to think about ways to improve SAMU*", and Yasir added, "*we have data on hand, but how can we use this data?*" Then Maha replied, "*Let's think about a way to utilize these data to reflect positively on SAMU.*" The AR Team came up with the third interview question which was "How could the use of data be improved to increase the effectiveness of the SAMU?"

Hassan said, "*We need to think out of the box, we need to create something new!*" AR Team agreed to know what the interviewees think or have in mind to improve SAMU and from there interview question four was written as follow "What could we do differently in the SAMU?"

4.3.2 Conducting the interviews

I conducted 15 interviews individually with each member of the AR team at a time that coincided with the COVID-19 pandemic. The pandemic affected interviewees' daily schedules, but I was able to organize my program so that I could conduct interviews at times that suits interviewee during the official working hours.

Despite the practical challenges (details given in section 3.6.3), interviewing was a new and unique experience. This is the first study in the organisation that involved AR study and online interviews. Most of the interviewee was prepared to answer the questions because they were generated by collaboration via team. However, in two instances the conduct of the interviews was different. One was with Ahmed as he was so excited that he wrote all the answers and started reading from his notes, but I asked him to take it as conversation and answering question by question and providing supporting examples. The interview took longer with Ahmed as he had made extensive preparations. On the other hand, Ali had weak internet connection in his area; therefore, it was not easy to collect information. It took long time to understand what Ali was saying. Then we agreed to reschedule the interview where he could manage a better internet connection.

Informal interviews took place as well during the period of the study as whole, where I would take the opportunity when meeting a member of AR Team to engage them in dialogue related to the study. During such conversations I would take notes. This way made me gather lots of data, and understand AR Team's thoughts regarding the study.

4.3.3 Reflections on the construction phases of the action research process

This was the first experience of the AR Team in this type of research, and they were enthusiastic about researching, deducing, and knowing the main causes of the problem. I noticed the interviewees' desire to share all the information and experience directly or indirectly related to the topic of the research. Furthermore, they were looking forward for the process of data collection and showed curiosity about understanding the way of analyzing

the data. In this manner they made it clear that they wanted to apply the change to solve the problem. The interaction was positive, and the team spirit of work was mostly for the participants.

Initially SAMU staff were motivated to participate more than the directors of the units which involve in HR decisions, especially when two unit directors showed unwillingness to join the AR Team. I felt that their decision would affect the commitment of the rest of the team, and expected withdrawals from the study. Therefore, I developed alternative plans, prepared myself to face the withdrawals, and trained myself in the sentences and terms that I would use. However, those who withdrew did not affect the rest, on the contrary, they were watching the study and waiting for the results. Although some of the unit directors were worried about joining for one reason or another, when we reached the data collection phase, all the participants showed interest and encouraged us to complete the study till the end. I think this was because support of the new senior management team which reflected as a strong and pressing desire of SAMU staff to include change, while directors still wanted to use the power, they had to make decisions based on their self-interests, personal goals, and social commitments. The project was fun, where everyone was involved, and their voice was valued. They were comfortably discussing and making proposals. This showed a clear and transparent appeal to everyone, which made them complete the path in the glimmer of hope that is evident before their eyes.

4.4 Action research - planning phase

4.4.1. Generating the data

I held informal one-to-one conversations with AR Team members throughout study. One of the sayings that caught my attention, for the major effect which it caused on the budget, was Yasir's statement "*The recent decision of posting was random and without any study, as a colleague was posted to China. China is one of the expensive countries and this colleague has seven children, while it was possible to give him an opportunity to a less expensive country and post a colleague who is single or having a small family to China. These financial resources should have been better directed*." Furthermore, Mohammed pointed out that he completed 17 years in the same unit and did not have the opportunity to be posted, while there are those who were transferred, and their working experience did not exceed two years! In addition,

Mohammed pointed to the lack of clarity and transparency in decisions and the decision-making procedures. For elaboration, decision had been made to post Ahmed to London for three years. Ahmed started his preparations; registered his kids in school, bought tickets, and looked for an apartment. However, two weeks before Ahmed's scheduled date of travel, a decision was made to send him to India, and Salim was sent to London. This decision was not transparent as there was no reason provided nor were the candidates prepared for such a change. Such lack of transparency is known to create upset and frustration, resulting in an uncomfortable work environment and indifference to productivity (Hazen et al., 2014). However, this thesis study generated an outlet for participants to think in a structured way about how to improve DMP effecting employees.

I noticed that a number of participants agreed in their answers in general terms. The consensus that I reached through individual dialogues is that there is some defect in the DMP that affects in some manner the organization and the work environment. One possible reason that may affect the ignorance of HRDt usage in DMP is the lack of knowledge of the importance of using data with certain features (updated, relevant, accurate). Therefore, researching the reasons behind ignorance of the use of HRDt and the way to improve the effectiveness of the SAMU was welcomed.

4.4.2 Collecting, reviewing, and analysing data

Interview data were collected both in scheduled meetings guided interviews questions, and informal interviews in the form of unplanned conversations on the subject of the research study during the working day. I also recorded my observations during interviews of the participant's reaction and feelings regarding HR decisions. For example, I wrote down the reactions of employees and how they reacted to the decision when it was issued. As well as expressions that reflected the feelings of dissatisfaction and anger, some were reticent to use any words, but their reaction was reflected in body language. I also asked AR Team to note down all the observations they either had in mind or learned from each other during the discussions regarding HRDt usage in the HR decision-making process and during the meetings of the AR Team.

Meeting 2 with the AR team

During the first hour of the meeting I shared the transcripts, the observations and notes which I and each of AR Team wrote independently. During the first ten minutes, there was silence, as everyone was busy reading the transcripts. Ali said, "*There is a lot of information in one transcript, and there is similar information between the different transcripts,*" Yasser added, "*This information is interesting, but how can we use it to solve the challenges we face?*" Reem asked "*What is the next step as we have all this data on hand?*" where Ahmed showed interest in dealing with the data and started to flip the transcripts. Their desire and passion paved the way for me to explain how to analyse data.

At the second hour of the meeting, I explained the method of data analysis, thematic analysis using Braun and Clarke's (2006) framework, by giving examples. At first the concept of coding was unclear to the AR Team, but with repetition and explanation, they were able to understand the concept. I expected that it would be possible to put codes for the statements during the meeting, but it was difficult to encode all the transcripts within an hour. Accordingly, AR Team made several proposals. Nihal suggested that we complete the coding to cover all the interview transcripts, but most of the AR Team did not agree with her. Ahmed suggested that each of the AR Team members takes a number of transcripts, code independently, and then share with the rest of the team. Following discussion, it was agreed to send the interview transcripts to all AR Team members without name, according to the ethical agreement, and each member codes the data independently. After meeting 2 informal discussions took place between the AR Team to come up with common codes and merge others. Later all the participants were called for online meeting to share their codes, combine codes, and create themes (details are provided in section 3.7). Then I linked the themes with the research questions as presented in, table (4.2) below.

Question number	Research Questions	Identified Themes
Research question 1	What are the internal issues and challenges related to the usage of data at the Statistics and Measurement Unit (SAMU) in Oman?	Theme (1): Understanding the meaning of human resource data and its importance. Theme (2): The nature of the use of human resource data. Theme (3): Challenges face human resource data usage.
Research question 2	How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?	Theme (4): Skills and capabilities. Theme (5): Suggestions for improvement.

Table (4. 2):Research questions in line with the themes

4.4.2 Themes represent research question 1 - internal issues and challenges related to the usage of data at the Statistics and Measurement Unit (SAMU)

Theme (1): Understanding the meaning of human resource data and its importance.

When I asked the AR Team, SAMU staff, about the definition of HRDt, I obtained several answers. For instance, Ahmed said, "*HRDt is information about the employee*", Reem said, "*HRDt is employee age, education, income, and qualification*", Ali said, "*HRDt is data about everything related to the worker of the organization*", Salim said, "*HRDt is past and present information about the employee*", and other definitions which hold similar meanings. Based on the findings, the participants understood the meaning of *HRDt* as per Parry (2011) and Katou et al. (2010), namely that *HRDt* is a pool of information about the employee. Furthermore, referring to my observation notes, I can say the staff who try to train and develop themselves, are valuing and understanding the importance of *HRDt* more than those who do not care about self-development. For instance, I noticed that Mohammed was enrolling in various courses, workshops and trying to be up-to-date in his field; furthermore, he was concerned about updating his curriculum vitae. Thus, he was expecting to be valued and get better opportunity than his colleagues, who did not bother to work on self-development. The participants were aware of updating the data from one time to another by providing up to date information to the SAMU. This finding supports a previous study conducted by Price and Shanks (2011) about quality data and its effect on decisions. The authors considered quality data when it is relevant, real, and valid. However, Ream pointed

to an interesting issue, "*HRDt is not updated unless there is order to do so*"; thus, data is not relevant, real, nor valid which affected the quality of the data and consequently it affected the decision made based on the data. Furthermore, I observed that data is updated on the spot only when needed especially when there is a request from higher authorities and later the updating procedure is forgotten until the next event takes place.

Although the participants understood the meaning of *HRDt* and the importance of updating the data, they brought up another interesting issue, Hassan said, "*The decision comes as an announcement, it is not based on any data*", and Mohammed said, "*Providing the SAMU with data is a waste of effort and time, as there is no use for such information within the organization*". Their comments reflected their feelings towards the importance of the data in the context of X Public Administration to keep it up to date. This reflects the study of Weir and Hutchings (2005) and Al-Yahya (2008) where their studies support that in Arab countries the decision comes as an announcement without clarification or sense-making and the staff has to follow the decision. Furthermore, Yasir added, "*We learned to obey the decision and not to ask for reasons or sense behind it*" and participant Jawad said, "*We follow all the decisions, there is no chance to discuss*". These findings show that there is no space for sense-making which supports the study of Kerry (2003) where the organization yields followers, not leaders.

Theme (2): The nature of human resource data usage.

This theme represents participants' responses regarding the nature of *HRDt* usage. As Reem said, "*We fill the forms according to the requirements with information about the staff working for X public administration per gender, age, academic background, and experience then we sent it back to the Ministry of Labour*." Salim added, "*Although we have data in front of us, we do not know in which way to use the data we stored in the system*", Ahmed said, "*I do not know how to use the electronic system, thus, I go to the staff paper file and get the information from there and fill the forms.*" The dialogue started to deepen so Hassan added "*I do not trust the system, there will be mistakes; thus, I prefer doing it manually.*" AR Team agreed that the only current usage of *HRDt* is responding to the tables that come semi-annually from the Ministry of Labour by completing and filling the requirements either electronically going back to the system and or manually going to hard copies and retrieving the data. At the end of the process the tables are filled with current HRDt. Where Reem added

an interesting point, *"The system is updated; thus, the infrastructure looks different each time I use. Consequently, I prefer doing it manually",* and Maha said, *"Updating the system is waste of time and money, we gain nothing except stress."* The interesting finding was that the system is maintenance and upgrades from one time to another generating a database, which was supported by Uçaktürk and Villard (2013), namely that good decisions must be based on an information system. Although the human resource information system (HRIS) was created accidentally within X public administration, with the staff responding to the requirement of Ministry of Labour and providing tables with up-to-date HRDt, it is not used effectively because of a lack of skills and knowledge. This supports Al-Awadi and Saidani (2010) and Anitha and Aruna (2013), who argued that most Omani staff in the public sector lack technological skills. Ali added remarkable point, *"In some cases, when the decision is not linked via accurate data, selection of the wrong person for a position is possible, which reflects the reality we face; thus, the sequences of the decision creates challenges which we could avoid by selecting right person based on usage of the up to date HRDt. Consequently, this wrong person holds a position either as a manager or a decision-maker which affects the decisions he makes in the future and the cycle of wrong decisions keep repeating."* This supports the study of Kozak et al. (2015) who discussed the effect of inaccurate data or error on the decision.

Theme (3): Challenges facing human resource data usage.

This theme represents the internal issues and challenges facing HRDt. The challenges come from various sources. For instance,

➢ Seniors
Maha said, *"Seniors consider the significant challenge for the organization, for some of them lack experience, skills, and knowledge due to the wrong decision in positing them in such a position",* Reem added, *"Some of the decision-makers lack skills because they hold such a position for their social status; thus, they over trust their abilities",* and Mohammed added, *"Seniors who hold the position because of their social status, practice the power they carry in making the decision. Consequently, the decision output is satisfying the decision-maker but not necessarily serving the organization".* The findings show that the lack of skills is due to a previous wrong decision, which supports the study of Dragota (2016) as discussed in theme (2) and due to the power of the decision-makers which

support the study of King (2016) regarding power as a challenge for the DMP. Moreover, the findings support the study of Dorsey (2002) that most Gulf Corporation Council (GCC) decision-makers lack the skills and knowledge of the importance of data in the DMP.

➢ Staff

Nihal said, *"Staff refuse using techniques and procedure to make the decision, they prefer doing it using their way; thus, they make the decision using the easiest way which is based on their thoughts"*. Furthermore, Salim added, *"Although rotation considers one of the X Public Administration's features, staff are not willing to learn or exchange thoughts. They do not show interest in developing change"*. The findings support the study of Harris, Craig, and Light (2011) and Al-Rasheed (2001) which discuss the Arab's unwillingness to obtain change. In addition, I observed the different levels of willingness to learn among various age groups; more specifically, those aged 40 and above do not show willingness to learn and that is due to any announcement for training and development coming from the HR department has several conditions. Therefore, one of the conditions for applying to participate in the training program is that the employee should not exceed forty years of age (Omaniya, 2020). This is a valid reason for staff not to be motivated for training and self-development. On the other hand, there are employees who work on self-development without looking for any rewards from the workplace.

➢ Technical issues

Some participants blame the technical system, for example, Nihal said, *"There is no network between SAMU, a gatekeeper of HRDt, and the units which require HRDt in making decisions relates to HR"*, Ali added, *"I do not know how to use technology and I am not in the age to learn new things. I prefer completing my tasks in my way"*. This represents another example of unwillingness to change, supporting the studies of Harris, Craig, and Light (2011) and Al-Rasheed (2001).

➢ Culture norms

Mohammed thought that *"Organizational culture, power, and social status have a significant effect on the process of decision-making. Thus, there is no space for the usage of the data"*. This supports Andrade and Ariely's (2009) view that organizational culture leads to biased decisions, whereas Yasir said, *"Organizational culture controls the HR DMP and does not give space for HRDt to guide the follow of the decision"*. This was supported by the study of Krishnan and Geeta (2019) who highlighted the effect of collective values,

beliefs, and attitudes of the organizational members on the organization. For instance, the cultural norms have a significant effect as people used to obey older regardless the decision. Furthermore, Hassan added, *"The decision-maker's personality, power, leadership style, ego, and relationship guide the direction of the DMP and have a great influence on the final decision".* This supports the study of Al-Rasheed (2001) according to which the staff is loyal to the personality of the decision-maker. In addition, it supports the study of Al-Yahya (2008) which highlighted the effect of power, especially the one gained from social status in Arab countries, and guided the leadership style. Furthermore, Salim said, *''the announcement of posting, comes out a week before the travelling date. This shows how things are unplanned and sudden!''.* This statement supports Attiyah (1993) who argued that there is no clear plan for human resource decisions which consider one of the challenges faced by human resource management.

The findings of themes 1, 2 and 3 expanded my understanding for the first research question, "What are the internal issues and challenges related to the usage of data at the Statistics and Measurement Unit (SAMU) in Oman?". The internal issues and challenges as per findings are:

1. Data are not updated. For instance, X public administration staff do not provide either their latest academic certificate or certificates of the courses and workshop attended.

2. Staff feel HRDt are not important. Consequently, they do not add their new family members into their C.V.

3. No space for sense-making. A sudden promotion is awarded to x employee, although others might be more qualified for the position.

4. Single use of data. As it is only used to fill the requirements of Ministry of Labour.

5. HRIS was created accidentally. That is because the SAMU was working on the mid-year requirements of the Ministry of Labour, which included tables on various employee information, and had to arrange that information before it was established, resulting in a database of employees that had been created by accident without the intention of establishing it.

6. No effective use of HRIS. Although the data was created semi-annually, it was recreated whenever a request comes from Ministry of labour. This leads to point number 7.

7. Staff lack skills. For instance, they were not able to modify the information on hand, retrieve, or even allocate, which was consuming time and effort.

8. Power plays a significant role. To illustrate, most of the seniors find it easy to use power instead of data to make the decision. Thus, instead of asking for information and facing the difficulty to reach to the right information at the proper time, they use their power and relationship to structure the decision.

9. Staff unwillingness to obtain change. For example, most of the employees belong to the old generation, who used to do the work in a traditional way, without interfering via technology. Thus, it is very difficult for them not only to change their way of completing the task but also learning the use of technology.

10. No clear plan for decision-making. The decision comes out as an announcement where it has to be followed. There is no room for discussion. The decision has been issued and it is the time to apply, not to discuss.

4.4.3 Themes representing research question 2 - How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?

Theme (4): Skills and capabilities.

Ali said, *"I do not know how to use technology"* and Maha said, *"Retrieving information from the system is complicated."* The dialogs represent the gap between data and data usage in the DMP. Some participants highlighted the lack of skills of the staff in using the data. These findings support the study of Dorsey (2002) regarding the shortage of information technology skills. On the other hand, Mohammed said, *"I know how to retrieve the data, but I have no idea about playing with the data."* Mohammed clarified what he meant by playing with data he said, *"What I meant by playing with data is using the data and making the decision."* The finding shows that the participant lacks data analysis skills, which supports the study of Hazen

et al. (2014) who conclude that poor quality data occur in Arab countries because of a lack of data collecting and analysis skills.

Salim made an interesting point *"There are no communication loops between staff and heads of the units"* and Nihal added, *"The organization lacks collaboration between different levels or even among the same level."* The findings support the studies of Mahmoud (2014), Bal, Bozkurt, and Ertemsir (2012), and Glennon, Hodgkinson, and Knowles (2018) that collaboration and teamwork help to reach the best decision for all the parties. In addition, participant Jawad said, *"Overconfident decision-makers are one of the reasons behind ignorance of HRDt. What I mean is that the decision-maker makes his decision based on his optimistic feelings."* The finding supports the study of Savvas, El-Kot, and Sadler-Smith (2001) who argued the style which focuses on feelings to solve a problem.

Theme (5): Suggestions for improvement.

This theme represents the suggestions for improving the usage of HRDt which is stored at SAMU by SAMU staff and the unit directors. The SAMU suggestion represented by Yasir, *"I would* recommend *training in using and analyzing the data"*, whereas Ali said*, "It will be great if we get some workshops about data, data collection, and data analysis."* The participants suggested various options; for instance, providing training and workshops. The findings support the study of Delone and Mclean (2003) who conclude that training could improve performance. Where Hassan suggested, *"I would suggest linking the database of SAMU via other units requiring human resource data such as training and development unit, requirement unit and human resource unit"*. Furthermore, Yasir suggested, *"Creation of network involves all the units"* and Nihal added, *"Forming a double loop between SAMU and units requires human resource data for completing their tasks"*. The findings support the studies of Levy, Powell, and Yetton, (2001), and Ankrah and Sokro (2012) about the usage of networks and technology helps in accomplishing tasks and activities.

There was also a dialogue between the heads of units that use HR data in one way or another to carry out the tasks entrusted to them. The Head of the Requirement Unit indicated the development application forms and said, "*I suggest that there be two forms, the first from the SAMU addressed to employees that includes a request to fill in with personal data, and the second from the employee requesting training or qualification in all its forms*." The discussion

let to think about the way to implement the form. Head of Finance suggested hard copy form, where Head of HR Unit suggested electronic integration between units.

The findings of the (themes 3 and 4) expanded my understanding of the second research question "How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?" The findings pinpoint several suggestions, such as providing training programs in the field of HRDt analysis, technological skills, and professional management and leadership skills.

4.4.4 Creation of an application process.

These suggestions would help the organization to overcome the internal challenges listed above in the section (Theme (3): Challenges facing human resource data usage). For instance, providing training programs in the field of HRDt analysis will help the employees to understand the importance of keeping the data up to date, understanding the importance of HRDt, analysing data, and based on the analysis, making a decision. Thus, there will not be any space for guessing or sense making as everything is based on solid data and the decision is made transparently. Furthermore, the creation of the application process will help to generate a structured path for the DMP, by requesting the proper data from the right place and analysing it before coming up with the announced decision. This will indirectly not only encourage staff to accept change but also to be drawn into and operate the new organization because of its clarity and transparency.

4.4.5 Sketching big picture of the issue

During meeting 3, directors of the unit that use HRDt directly or indirectly in carrying out the tasks entrusted to them were interviewed (5 directors). Among the discussions, a question was raised about HR decision-making process for each unit. Directors began to plan the course of the decision, each according to his unit. I asked each of them for an illustration showing the path of the DMP at their unit to be sent to my email. I collected these diagrams and created a single illustration covering all the units involved in the study (Figure 4.1).
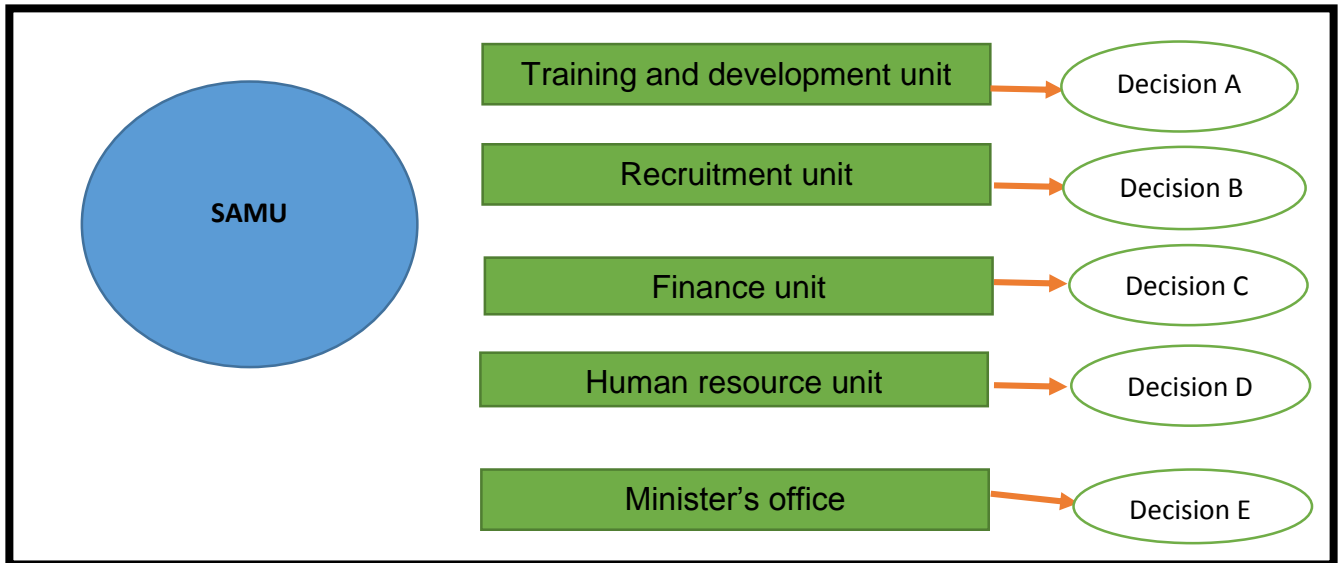
Figure (4. 1): Illustrates current human resource decision-making

Figure (4.1) shows some of the units representing X Public Administration as rectangles, with the circular shape represents SAMU. The illustration shows visually that the database created by SAMU was not used routinely within any unit. Ovals symbolize decisions made by units, while arrows show the course of the decision, and the absence of any cross-department communication. For example, Training and Development Unit sends X person to training program in the field of finance (decision A). At the same time Human Resource Unit decided to move same X person to an office outside the Sultanate (decision B) to a position that is not related to finance or accounting. The two decisions (A and B) were in the same period, and the result was a conflict in the decision, as X person could not occupy two different places at the same time! Also, training is not related to the field of X person's work.

Later the illustration (figure 4.1) was shared with the AR Team, where it prompted discussions on improving the HR decision making process (figure 4.2, details are provided in section 4.5).

4.4.6 Reflections on the planning phases of the action research process

It was challenging for AR Team to agree not only on the codes but also on combining the codes into themes. Initially, I did not have a clear picture of whether we would be able to create the codes required by everyone's agreement or face challenges. Thus, I asked each participant to create codes on his own. This virtual team operation was not an easy task, I had to support each team member, and provide coding examples. After several trials they were able to make a long list of codes. Then we sat all together, each one of us presented their own

codes before discussing them and reaching consensus. After agreeing on several codes, we started combining the codes and creating themes. As a result, collaboration and discussions helped in identifying, finding, combining, and agreeing on the themes presented in table (4.2).

The key finding that emerged through these collaborative discussions was that the current HR DMP is dependent on experience, personal preference, and other social issues to make a decision. In cases where decision (A) conflicts with decision (B), the consensus the discussion of theme 3 was that the decision implemented depends on the decision maker's power, relationships, and position.

4.5 Action research – acting phase

The acting phase took several steps:

Step (1): Sharing the Findings

I conducted a virtual meeting (meeting 4) with AR Team. I presented the project and focused on several points; first of all, that the study is owned by the AR Team, and it was designed by the input provided by them. Furthermore, they are the ones who are going to implement the study under the supervision of the administration. Secondly, I showed the participants the importance of implementing the change as the current DMP yielded ineffective decisions which affected not only the working environment but also the staff. Thirdly, after the presentation, the AR Team discussed the findings with a view to generating suitable actions to improve the DMP. The meeting took around four hours, where the issues identified earlier in the AR pre-phase and constructing phase, were discussed from different angles and it was noted that there was a gap in some staff skills that could be refined and overcome. The AR Team discussed the availability of a system that was almost complete with staff information but outside the scope of decision-making. At the end of the meeting, the AR Team agreed on several actions: (1) enhancing the skills of the staff by training which will help the organization to overcome the issue (2) restructuring the SAMU by linking via other units that require HRDt (3) improving HRDt by updating the data. Each of these is discussed further below.

Step (2): starting the training programs

We started with the action of enhancing the skills of the SAMU staff by providing the required training in the field of HRDt usage in public administration. In addition, we kept in mind that the team might require basic technical skills workshops. All the training programs and workshops were organized and sponsored by X Public Administration.

We contacted several public administrations to find out the way they dealt with HRDt at their organizations. Some showed interest to share their experience, some did not respond, and some had the same issue as X public administration. Because of the COVID-19 pandemic, we could not visit those who showed interest in sharing their experience, therefore webinars and online workshops were suggested. The webinar was organized to cover the importance of HR, application of HRDt, HR decision-making process, supporting examples from the organization, experience, and challenges of the organization and finally discussions and questions. It was scheduled to be for three days. On day one, the presenter, a HR manager in one of the public administrations who was willing to share their experience, welcomed the audience and presented the outline of the webinar. Furthermore, he discussed the importance of HR, the application of HRDt, and the HR decision-making process. On day two, the webinar covered various real-life examples, experiences, and challenges from the organization about the usage of HRDt in the HR decision-making process. Day three was a collaboration and discussion day, where the participants asked questions and asked for elaboration. The webinars were a great start for SAMU employees to become familiar with the exact requirements of the type of data; besides, collaboration with the head of the units, who are involved in HR decision-making, provided a wider image of the data type. Participation of the head of the units added great value to the training because they helped in transferring the ideas and knowledge gained from the program to their staff.

The online courses sponsored by X Public Administration were made available to the AR Team. Based on the financial organization of government agencies, each entity has an annual budget for training and rehabilitation (Omaniya, 2020). Fortunately, the research was conducted during COVID-19 pandemic, therefore there was a budget surplus, and the fact that the study came at a time of change in government were good reasons for my workplace to adopt the study in all its material details and facilitated the challenges.

There were two different types of courses, the first type was related to HR which included, HR management and the application of HR. This type, of course, was provided by HR managers who had experience in the field of management working for public administrations. The second type, of course, was related to information technology, with one of the courses including International Computing Driving Licence (ICDL) which covered Microsoft Office. Furthermore, the Information Technology Unit at X Public administration provided some basic courses which taught the participants how to communicate with the infrastructure of the HR system by teaching and familiarizing the participants to enter and retrieve the required data. Moreover, the unit provided a course about e-mail service, sending and receiving e-mails, uploading, and downloading documents, and scanning documents. The course helped the team to enhance their knowledge and understanding of not only HRDt usage, but also use of technology and basic use of e-mail and attachments. They were practising by sending e-mails and attachments to each other. Later, the staff who entered the training program created a form for all the organization's staff where they have to fill and update their personal information. This practice showed how the training program was effective as the concepts and the techniques were implemented, practised, and used in completing daily routine tasks.

Step (3): Restructuring the Statistics and Measurement Unit (SAMU)

The discussion began on whether to create a data keeper or each unit collects and retains its information. Head of Training and Development Unit said, "*I prefer getting the information directly without involvement of other unit, where I do not mind if SAMU holds all the information*", where Head of HR Unit supported and agreed with Head of the Training and Development Unit. However, Head of Finance Unit intervention was different, he said, "*If there is a vacancy in China, the Recruitment Unit post it on the network, where the Human Resources Unit nominated two people (X and Y). Accordingly, the SAMU submitted the data of both persons from marital status, experience, languages, and other related information. Based on the information provided by SAMU, the Finance Unit compared the financial cost of both people, as it was found that (X) has a large family of six members but he is fluent in Chinese, while (Y) is single but does not speak Chinese. The Training and development Unit presented the cost of studying the Chinese language, so the Finance Unit compared the costs of (X) and his family with the costs of sending (Y) along with leaning Chinese language fees. It turned out that the costs related to (Y) are less than (X). Thus, (Y) was selected for the position*

in China". He added, "*involvement of various unit at the* DMP *yields better and stable decision*". With the example provided by Finance Unit, all the head of the units got a clear picture about the requirements of a common network. Thus, we agreed that restructuring SAMU was achieved by linking SAMU with other units which use HRDt. Figure (4.2) illustrate the future model for HR decision-making process.
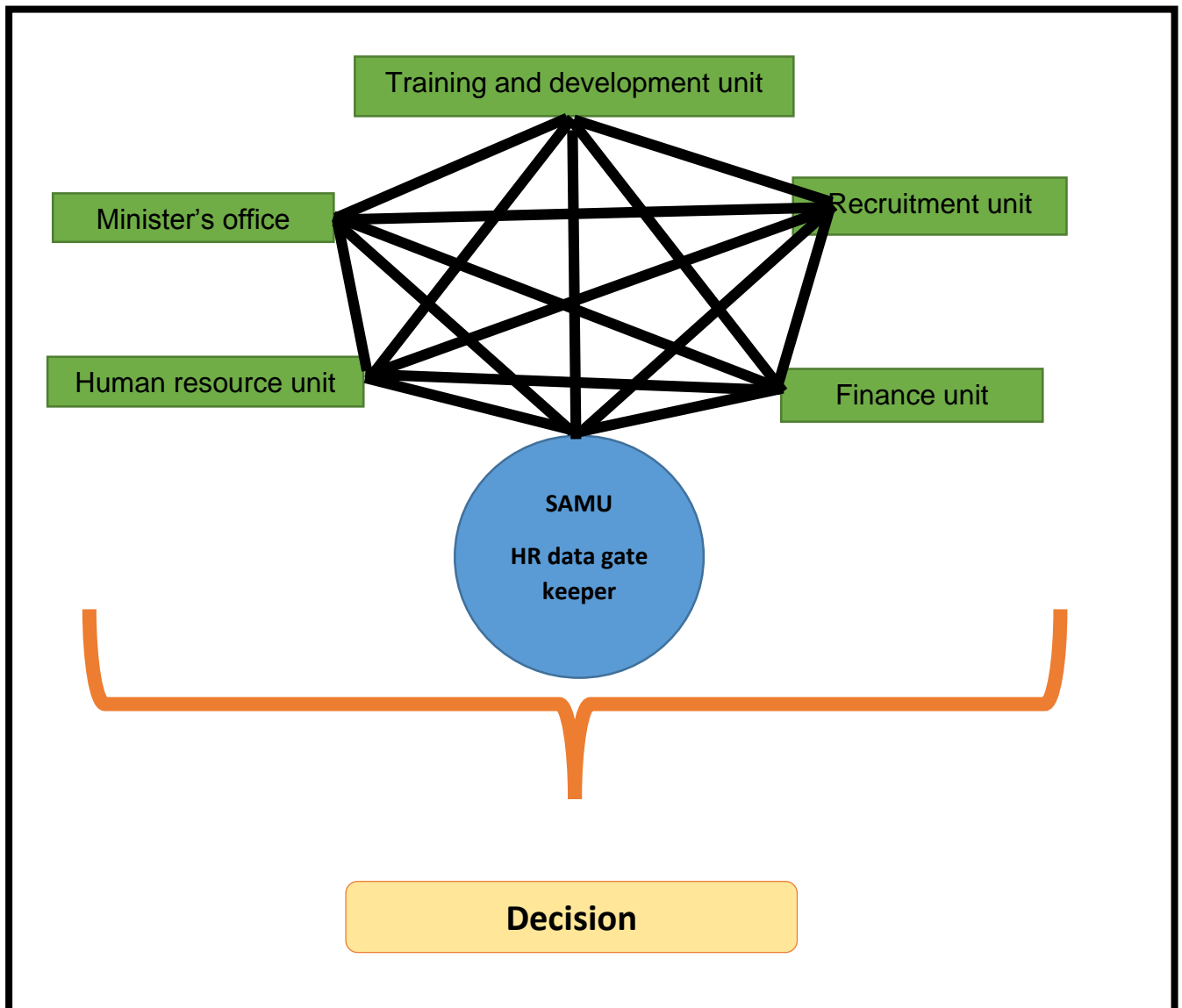
Figure (4. 2): Illustrates future human resource decision-making

Figure (4.2) was sketched during the meeting, after presentation of figure (4.1), following an exchange of ideas and thought. The discussions made it clear that the same information is needed by more than one unit, so it was agreed that SAMU (represented in blue circle) should

be considered as data keeper and SAMU is the only unit which reacts with "change", includes data change and update so that the SAMU maintains data. Furthermore, the network (signified by black bold lines) will be formed that facilitates the transmission of information between different units (represented by green rectangles). Then there was discussion on exchanging ideas and suggestions on the subject put forward by the Finance Department, for example, so the opinions were different. However, the discussion showed that more than one unit could benefit for the decision made. Therefore, everyone agreed that it should be a network that connects all sections with each other and gives data collection and management to SAMU as data keeper. The figure illustrates that all the units which require HRDt are linked via one single network. For example, when the Training and Development Unit wishes to set certain conditions for admission to the training program, it may require collecting certain data to help it set the conditions. Here, the Unit posts its request, on the shared network, to get the required information from various units linked via the same network. The units' response to the request of Training and Development Unit data. The resolution is therefore drafted (represented in peach rectangle). This process not only makes it easy to formulate a joint resolution, but also puts the units that are in breach under the authority and knowledge of the resolution since the beginning of its development, which gives an opportunity to discuss and express opinions and proposals. As a result, the decision is a mixture of ideas of all the Units that contributed to the decision-making and is based on the information and data available to take that decision and this is the decision (represented in peach rectangle).

Despite the routine challenges of getting an initiative to set up the network, the study was success because of AR process of collaboration. Furthermore, the study was supported by senior officials, who were supported by the government that created context in which the organizational change was encouraged. Thus, the research's critical reflection, participants, collaboration aligned with the context which had a significant impact on speeding up procedures and reducing implementation time. So the directive was to create a network. The creation of the network was done with the help of the Information Technology Department (ITD) who provided a network between all the units. The heads of various units who are involved in the HR decision-making process conducted a meeting with the director of ITD. The head of the Training and Development Unit presented the issue and the idea of creating a network between units. The director of the ITD met his staff and discussed the requirements.

After a week, he provided the AR Team with the layout of the network, which was discussed and modified then returned to the ITD for designing and programming. After around ten working days, the network between the units was ready and it helped in transferring data between units, requesting information, and posting requirements. However, a new challenge came in the way of the AR Team which was that the data was not up to date. Thus, SAMU contacted X Public Administration staff via e-mail and gave a due date (three weeks from the date of the e-mail) for updating their personal information by filling an attached form and sending it back to the unit. The staff were cooperative and most of them filled the form. In addition, a few of them noticed that their national identity cards had expired; thus, they went for renewal. Some noticed that their academic certificates were not certified by the Ministry of Higher Education (MOHE). Thus, SAMU took the responsibility to follow up on those certificates with the MOHE. However, a few faced difficulties in filling the forms and sending the required information. Thus, SAMU opened a channel for sending hard copies of the documents to update the data on time as per the scheduled plan.

Step (4): Establishment of using human resource data

I took the advantage of the formation of a new senior management team system, as per HM Sultan Haitham bin Tarik ''*those who has completed thirty years working in public administration are retiring by the law by 31st of December 2020*'' (Omaniya, 2020). Therefore, most of the candidates who held senior positions, who lacked the educational background and were highly influenced by culture and stereotypes, had left the organization by the 31st of December 2020. Consequently, it was much easier to convince the new administration to try using HRDt in their DMP by providing real experience from other organizations. I had a meeting with the new senior management team and presented the findings of this study. Moreover, I compared the previous and new processes of HR decision-making by presenting figure (4.1), explaining the suggested process (figure 4.2), and the benefit of relying on real data to make a decision. We agreed to consider the implementation of the study as a trial period for the organization to follow the new DMP based on HRDt. However, power and policies have their effect which considers a red line for others to cross. In other words, power and policies are linked via the person, not the position (Al-Hamadi, Budhwar, and Shipton, 2007); thus, those who hold the power will activate it when required. Consequently, power and politics will remain a challenge in Arab countries.

4.5.1 Reflections on the acting phases of the action research process

Initially, I was in doubt of the possibility of forming an electronic network. It was not an easy task to involve the ITD in creating a network between the units, because the request had to go through several procedures and protocols before getting approved. However, because of the new senior management team and awareness of those in charge and their support, the process went smoothly. Furthermore, testing the new decision-making procedures helped in making better, transparent, and clear decision comparing with the previous system.

Previously, decisions were random and not based on certain data, most of them were personal desires or interests. While the current network helped all the involved units to participating in DMP. The decision became based on collaboration, correct data, and agreed by all the involved units. This encouraged the two unit directors, who refused to join the AR Team, to join the network of the DMP. As they experienced the advantage of the collaborative decision.

4.6 Action research –evaluating action phase

Actions were divided into two: actions to improve the SAMU and actions to use HRDt by various units that required such data in the decision related to HR.

4.6.1 Evaluation of action related to the Statistics and Measurement Unit (SAMU)

The action provided SAMU staff with training programs including courses in the usage of data; besides, webinars to exchange experience with other public administration. The evaluation was one-to-one to maintain confidentiality, while I interviewed ten staff of SAMU each independently to find out the effect of the action (training). It was immediately after they had completed the workshops and the training program. I reminded the participants regarding the ethical considerations that their response would not harm them, stay confidential, anonymous when used in the thesis, and only relevant components are used and utilized for the propose of the study.

I formulated some questions that will help me deduce the benefit of the programs. The questions I asked were: (1) Could you name one gain the training added to you and the unit?

(2) Do you think the online training programs are challenging? (3) Have you got any suggestions to improve the training?

Referring to question (1), Yasir said, *"The course, on the personal level, taught me how to enter the data in the system, retrieve, analyse, and interpret the findings. On the unit level, the tasks became more organized and faster. On the organization level, the productivity has improved"*. Ali added, *"The courses and the webinar on the personal level, encouraged me to improve my data analysis skills, it was a good start to understand the basics behind data and the way to interpret it. On the unit level, I could accomplish my tasks faster and more accurately than before using the tips of the workshop."* The participants gained knowledge, skills, and learned about data, data analysis, and some of information technology's techniques which helped to enhance tasks and performance; consequently, the effect was significant on the organization overall. The findings support the study of Abdel-Maksoud et al. (2015) which argued the effect of training programs and the way it affects, develops, and enhances performance.

Mohammed added, *"The training programs opened up different horizons for us; we not only learned about data and data analysis, but also teamwork. We were divided into groups and interpreted the given data. On a personal level, I experienced team working. On the unit level, we started collaborating and working as a team, and on an organizational level, the outcome of the teamwork is team responsibility. Thus, each member of the team tries to give his best to minimize the negative effect!",* and Maha said, *"The training program encouraged us to exchange knowledge, skills, and ideas. Furthermore, almost all the staff of SAMU were participating in the training program, which helped to change the working procedure within the unit. On the personal level, we learned to collaborate, exchange thoughts, work as a team, and motivate each other which affected the unit's outcome and had a positive impact on the organization".* Participants learned to work in a team where they experienced the effect of teamwork practicality by participating in the webinar and the online course, which both provided a chance to practice teamwork.

Referring to the question (2), Reem said, *"Initially I was not comfortable attending online; however, later I learned new technical skills, and I also understood how others use data and data analysis"*, and Yasir said, *"Online training was itself a training for us regardless the training topic. We gained lots of technological skills."* Nihal added, *"The only challenge with*

the webinar was the network connection, as in some regions the internet signal was not strong enough. However, the trainer overcame the challenge by sending recorded videos after the session. This was itself a training of how to download and watch the video". The finding was surprising. I expected complaints regarding the training programs being online, for the COVID-19 pandemic instead of physical attendance. My expectations were based on my observations, which included a lack of technology skills among the staff. Despite the use of WhatsApp, the idea of visual conversations was new as they were banned by the country's telecommunications companies. However, the pandemic forced the communication company to allow citizens and residents to use visual social media programs to complete their routine work. For instance, students attended online class, employees attended visual workplace, etc. (Abouzid, et. Al, 2021). I took advantage of that, as all the work tasks had to be completed though social media application. Thus, people became familiar with using such technology within less than six months from the start of COVID- 19 pandemic. However, the participants showed the opposite responses. The participants showed interest by overcoming the challenges they faced and looking for a solution which reflects the studies of Al-Awadi and Saidani (2010), and Anitha and Aruna (2013), who argued the effect of lack of technological skills on the decision. The findings showed the advantage of being an online training program where the participant not only gained knowledge about data and data analysis, but also technological skills which could help them in accomplishing the tasks.

Responding to questions (3), Reem said, *"We lack basic information system skills, thus, a short course might help"*, and Hassan added, *"Nowadays, people use computers in their daily tasks, and most of the programs were online, we learned different technological skills. But we need to enhance the skills to use it effectively in accomplishing our work."* Most of the responses were asking for an information technology course even a basic one to get a general idea about using the technology especially e-mail service. Hence, a basic information technology course was provided by the ITD focusing on the e-mail service as the action team would use it in the collection of data from the staff and some basic procedures. The evaluation of the course was by interviewing SAMU participants who had attended the training. I asked them if the course was useful and whether they had learned new skills.

The responses were as follow; Ahmed said, *"The workshop taught us the usage of sending and receiving emails, besides attaching and downloading documents. It added a lot to our*

skills and made the path of exchanging data easy, safe, and fast", Salim said, *"Although the course presented basic techniques of the technology focusing on e-mail service, it considers a good start to build on",* Jawad added, *"The course added a lot to me, now I easily open, save, send, and receive documents. It saved time and effort. As I was doing everything manually!" The finding* showed the advantage of the course and how it helped the participant to enhance skills, learn new techniques and implement what they gained from the course in their daily tasks. The responses showed the positive effect of the short information technology course which helped to reduce technological shock, which was discussed by BinTaher, Krotov, and Silva (2015) in their study. Not only participants' responses but even the new modus operandi of participants reflect the positive results of training programs. Besides, they started to use the various methods learned from the training program. For instance, they reduce usage of hard copies and started to depend on and trust the soft copies. Moreover, they use email to exchange documents between each other's, which showed the practical application of the training program.

Regarding the process of updating the data, Reem said, *"We learned from other public organization's experience and understood the importance of the data",* participant Ahmed said*, "Other public organizations' experience helped us to restructure the tasks and duties at SAMU. Consequently, the training through our new way of completing tasks of the unit",* Salim *said, "It was a great experience to learn and apply new methods I found that the SAMU learned and got a broad idea about human resource data and its importance to the organization after collaborating via staff from other public administrations and looking to their experience."* All of the responses were positive, the participants showed how they benefited from other public administration's experiences. It encouraged and motivate them to work as a team toward the solution.

At this stage, SAMU staff were ready to restructure the unit, for the knowledge, ideas, and skills they gained from the training programs and from collaborating via other public bodies. The outcome was restructuring SAMU and creating new and modified job descriptions for the members of the unit which helped in managing HRDt more effectual. This helped the participants to think in a group and work as a team rather than making an individual decision as the organization used to.

4.6.2 Evaluation of action to utilize human resource data

The participants were from different units that are involved in HR decisions. This helped to communicate the process of the project to target people in the organization through their directors. Besides, it helped me to gather ideas and thought from related units to make a change in the management of HRDt. Furthermore, the participants took real HR problem (employee X retention) which required a decision of how to keep him motivated. The team collected related data about employee X. For instance, qualification, experience, skills, interest, and notes and feedback from his direct manager. The team interpreted the data and make the decision which was giving him extra responsibilities where he found himself recognized and implement his qualification, experience, and skills. The decision has a very positive impact on employee X as it was based on the usage of real data. The collection of data was through the usage of the shared network between various units and the SAMU. The network helps different units to participate in the DMP by providing data, knowledge, and experience. Besides, it created a social network where they could collaborate and work as a team. Thus, AR taught the decision-makers to work as a team focusing on the target, not personal goals. Furthermore, it reflected on the working environment, where the participants use collaboration, sense-making, and sharing knowledge. For instance, in case of any issue that requires a decision, the unit posts it on the shared network (directors' platform) and all the directors who relate to the topic get involved, collaborate, share knowledge, exchange data, analyse, and discuss the outcome by sense-making. They share the topic with the staff who are involved in the topic, then announce the outcome. The outcome of the units (HR decisions) satisfied the staff, as it was transparent and based on solid data. Therefore, most of the staff accepted the decisions with no complaints. Besides, it was a motivating step for most of the staff as they could predict future decisions.

In addition, it was easy for unit directors to discuss the new decisions before they were announced or implemented. The new data and developed structure have helped to clarify the course of action and take the right action at the proper time. However, the two unit directors who refused to participate in the study did not add their units to the unified network. Consequently, they had no role in decision-making, and the decisions issued by their units conflicted or contradicted the decisions issued through the network. For example, the network issued a decision to transfer a person, and at the same time one of the units (whose

head refused to participate) issued a mission decision and among the members of the participating delegation was the name of the person transferred (a decision issued by the Network). This discrepancy between the gap of non-access to the network and its consequences. At that time, everyone decided to join the unified network because everyone (the AR Team and the rest of the organization's affiliates) sensed positivity and transparency in decision-making. The two units' staff were disappointed as they were feeling that they are not part of the organization. For instance, because they were not part of the shared network, the chance of getting training or promotion was low. Furthermore, when the Training and Development unit select a staff from these two unit, other units cannot contribute in the decision as they have no information about the selected person. SMAU was the only unit which provided with personal information; however, other information such as leadership style, management techniques, and other skills which can be known via direct connection were missing. There were two main reasons which pushed these two units to join the shared network. The first reason was the positive impact of the network on decisions related to HR. Where the second response was force of the staff on their unit director to join the network so they can benefit like their colleague from the decisions made through the network.

4.7 Summary

In summary, this chapter has presented the story of the AR cycle and reflections at various phases of the project. In the next chapter, Chapter Five, I will discuss the implication of findings.

Chapter Five

5 Research findings and their implications

5.1 Introduction

The study's objectives were to identify the issues and challenges related to the usage of data at the Statistics and Measurement Unit (SAMU) at X Public Administration in Muscat the capital of the Sultanate of Oman. In addition, exploring how the use of data could be improved to ensure the effectiveness of SAMU. To meet the objectives, we have to not only accept change but also rely on the AR Team who worked and showed a willingness to resolve the problem. The previous chapter presented the findings from the AR project, that allowed us to make progress towards achieving the research objective and answer the research questions. This chapter presents the study findings organized around the research questions and objectives which were presented in section (1.5). In doing so the aim of this chapter is to explain the new way of working developed, and the ways in which local, cultural norms enabled and constrained what the AR Team could do. The first part of this chapter discusses the study findings in relation to the research questions and objectives. It is divided into two sections, the first section will be about the internal issues such as senior management behaviours, technical issues of data usage, and local culture norms. The second section will cover the challenges and effectiveness of the SAMU.

Moreover, the chapter covers the major outcomes of the intervention in the study using AR. It discusses several elements such as learning in action, which were gained in various AR cycles of this study, change in tasks, and innovation that took place at the workplace. Each of these elements took two different views, I will discuss the implications of the findings under the theory and the practice. Besides, I will discuss the limitation of the study and future research.

5.2 The study findings around the research questions and objectives

5.2.1 Internal issues and challenges

The first research question was "What are the internal issues and challenges related to the usage of data at the Statistics and Measurement Unit (SAMU) in Oman?" This section will discuss the findings related to this question firstly in terms of the meanings of data in the context of HR decision-making. Then the perspectives and behaviours of the senior management team and staff in relation to data usage will be considered. The practical technical issues of data available and usage will be discussed, and finally the ways in which local cultural norms shaped the outcomes from the project.

Meaning of human resource data (HRDt)

This section relates to understanding and the value which the staff attribute to HRDt. The analysis of the findings under the category of understanding the meaning of HRDt showed that most of the AR Team have a clear sense of HRDt and they were able to list some examples of what constitutes HRDt. For instance, age, gender, qualifications, experience, and scientific or practical background. This finding echoes with previous studies such as Parry (2011) and Katou et al. (2010) who argued that HRDt is the demographic variable of the employees which helps in increasing the value of HR function by shifting from transactional work to more planned and value-added task. However, combining the findings with my observations, the employees who work on self-development by attending workshops, seminars, training programs, or obtaining educational certificates (Jasim, 2020), value HRDt more than those who do not priorities self-development. From the research findings and the literature, I indicated that the one who works on himself (self-development) either by gaining academic certificates, attending workshops to gain wider knowledge about a specific topic, attending short courses, or attending a practical training program will expect reward according to his effort for self-development. This is because self-development helped to eliminate the distances between HR skills and organisational needs (Ismail and Muafi, 2019) by enhancing knowledge and skills. Consequently, HR decisions in areas such as, training, developing, motivating, and structuring the organization matters to self-development candidates. On the other hand, those staff who follow the wave and consider coming to work is a routine task, where they must accomplish a specific number of hours to get paid at the end of the month,

are less concerned about the decisions made. This type reflects the culture that exists in the work environment, as wave followers may be used to keeping up with their managers or seniors, and have not tried to think and make a decision, even if the decision is simple. For example, flexible working hours were announced to be active, the wave followers chose the same working hours for the line supervisor regardless of their personal circumstances. Although one of the goals of flexible working hours is for each employee to choose the appropriate time that he is present in the official working hours for seven hours continuously, but the wave follower has difficulty making a decision that suits him personally. Similarly, for decisions if a decision is in his favour, he rejoices and if the decision is not in his favor he complains or makes flimsy excuses to accept reality. Whatever the reaction of the second type of staff (wave followers), it does not affect the response of the organization because such type of staff follows the wave no matter which direction it takes, and they do not have a point to argue. A challenge emerged that was not taken into account, when referring the retirement, the wave followers became lost and did not know who to follow. Thus, the AR Team took the opportunity to talk and convince them of the objectives of the study and its consequences. However, the first type of staff (self-developed staff) play a significant role in the organization, as they transfer knowledge to other staff when the opportunity is presented; they can be considered to be good trainers by developing themselves. They discern reasons for events and what may happen in the future, and having logic to argue and negotiate. Thus, their reaction can be considered as an educator reaction; one that places a lot of meaning on the organization in general and on the usage of HRDt specifically in at SAMU.

Overall, the AR Team were aware and had a clear understanding of HRDt, but initially did not see space to link the HRDt with the DMP related to HR. That is because the DMP was centralized and controlled by senior management at the organization which mirrors the findings of Anitha and Aruna (2013) and Ragins and Winkel (2011), which argued that most of the decisions are centralised, controlled, and supported by higher authorities. However, the administrational structure has been changed and numerous opportunities are available. This can be considered one of the key internal challenges related to the usage of data at SAMU and is discussed in the next section.

The influence of Senior Managers on data and decision making

Analysis of the data by the AR Team indicated that the senior managers lack knowledge of the importance of HRDt, and the use of technology in linking the data to the decision-making process. This is a key internal challenge facing the HR decision-making process. According to the findings, most of the seniors lack the skills of using technology in their routine tasks and this has a significant effect of the decision they make. This finding is consistent with the studies of Al-Awadi and Saidani (2010) and Anitha and Aruna (2013) which concluded that the lack of technological skills affects the decisions made. Instead, the seniors use the traditional way of recording information with paper and pen. Consequently, it becomes so complicated to find out a piece of information from all the hard copies they store. Thus, the decision-maker makes the decision without going back to the records and in most cases, they just depend on their experiences. Furthermore, the AR research suggested that seniors are overconfident in their decision as they over trust their abilities; a finding supported by literature such as Dragota (2016) who argued how power, confidence, and over reliance on their abilities and experience affects significantly on the decision. In addition, findings revealed an absence of collaboration, negotiations, sense-making, or sense-giving for any decision they make. Following the discussion of figure (4.1), the consensus within the AR team was that the seniors appear to depend blindly on their personal indicators such as feelings, and personal interests which might not serve the organization. In a similar vein, Carman and Fredericks (2008) and Ali (1990) argued that personal needs might fail to serve the needs and the requirements of the organization. However, the situation has now changed. Most seniors who had such features were retired by Sultan Decree on 31st December 2020. This policy decree provided the AR Team with an opportunity to influence the new senior management team on HR decision-making.

Perspectives of Staff on data and decision making

Analysis of the data showed that some of the staff are not willing to learn new approaches to work or accept changes to the process or procedures of work. This is consistent with the previous studies conducted by Harris, Craig, and Light (2011) and Al-Rasheed (2001) that decision-makers in Arab countries find it challenging to change their routine tasks and follow a new one. The employees are accustomed to making decisions based on their own experience that the organizational culture does not support collaboration. Datnow and Park (2015) argued that without collaboration there is no space for exchanging ideas, discussion,

or even learning. However, the experience of this study's AR methodology helped AR Team to collaborate upon work challenges and develop new ways of working. Moreover, it helped them to feel that they are part of the organization's family where they are involved in the process of decision making once there is a thought about making any decision. This mirrors the studies of Hodgkinson (2000) and Knowles (2019) who discussed creating a learning organization by transforming knowledge to new behaviour. For instance, SAMU transformed the knowledge of team working to investigate the issue by collaborating with each other instead of making the decision on an individual basis. Technology helped the staff of SAMU collaborate through the network with all the parties involved in a decision. This resulted in a change their behaviour by accepting each other's thoughts and ideas, providing space for alternative options and reasons, and collaborating formally thought the network or informally using social media applications. The new behaviours resulted a decision based on exchange of opinions, consideration of observations and suggestions, and a clear mechanism on which decision-making is built; one which reflected on the members of the institution. This change affected staff in that it helped promote the practice of self-development as evident by staff taking courses, attending workshops and seeking academic certificates. Staff felt that self-development was worthwhile because they were in genuine competition with their peers for career opportunities now that decisions were being taken using HRDt.

A change in the work behaviour of AR Team was also evident as they continued to work together after the study. For instance, a challenge arose during periods when the senior management were travelling with work. In their absence some decisions took place which might have been different if they had been involved. However, because they were out of the country they were not able to access the network. However, the issue went under study and an action research team was created to find out suitable solution. The IT team suggested an application to be download on a senior manager's mobile device where he can access the network and participate in any DMP taking place at the network. Therefore, collaboration and team work became a new style adopted by X Public Administration's staff.

Technical issues related to data availability & usage

The research showed that there were two different challenges caused by technical issues. The first challenge was that there was no formal electronic network linking the units which required HRDt with SAMU. This is consistent the study of Oaks (2016), which argued that the current decision-makers lack knowledge of using technology and working through

organizational networks. Furthermore, Glennon, Hodgkinson, and Knowles (2018) argued the lack of a technology-based "network" system is a challenge that affects the decision in one way or another. The authors noted that decision-makers who did not like to share information would claim HR information was confidential when it was not, solely to justify their position as sole decision-maker.   In giving all relevant departments access to non-confidential information this study's actions removes that possibility of senior managers arbitariliy keeping some information to themselves, and thereby supports transparency in decision-making. However, with the implementation of this study's actions, the challenge was overcome by creating a general network (figure 4.2) that linked different departments virtually. Today, it has become a daily organizational practice to enter the shared network and verify the new content of a request or follow up on a previous request by reading the proposals, notes, comments. Furthermore, it is possible to look at the data supporting the request by the different units and add to it according to the field of specialization or expertise. Since the nature of the organization's work depends on the travel of many employees, employees have been provided with an application in their phones to follow the network and participate in decision-making. The network made decisions more transparent, as they became made on clear bases and criteria. Everyone could know the results of discussions and understand them according to the data, which helped a large number of employees interact in the new system. The network not only helped the staff to collaborate, request, and gets the needed information, but also gain experience by watching other units make decisions and collaborate. For example, when a senior member shares his experience and discusses it with the rest of the members at the same level, juniors gain extensive experience through which they learn the experiences of seniors and the way to present ideas and opinions. Learning also includes presentation of the ideas and thought, and respect the views of others. This is a new addition to the work environment, as in the previous system, there was no space for juniors to know what is going on between senior officials in terms of discussions and dialogues. The juniors were clashing with the benefactors because they did not know the mechanism of work. The network considers practical learning, experience sharing, knowledge transferring place between various level of the employees where everyone can benefit from it.

Another challenge was a lack of technical skills in using the technology, which was described by BinTaher, Krotov, and Silva (2015) as "technical shock". For instance, some of the staff

were not aware of how to enter or retrieve data from the system, how to collaborate with each other through the system, or how to do any technical transactions. This was resolved by providing the staff with workshops and training them helped in creating some knowledge about the ways of using the system, skills of retrieving and posting the needed information, and ideas concerning the usage of the technology. In addition, the senior management team gave great attention to activating this project because of its impact on the institution and accordingly the project was supported by forming a technical support team that helps the AR Team, whether by providing them with additional courses, interactive workshops or individual dialogues to solve the individual technical problem faced by each member of the team personally. Consequently, the challenges were overcome, and the staff are familiar nowadays with the system and usage of technology in accomplishing their daily tasks. The only challenge was those who were seniors and from old generations, who were not educated nor could read or write. However, by Sultan Decree, they retired and left the organization.

Culture norms in shaping data usage during decision-making

The findings showed that cultural norms such as the effect of power, social status, relationships, leadership style, and ego present constraints on the ways data may be used. For instance, the power of the decision-maker played a significant role in the decision. From my close observations, I noticed that power is linked to the person, not the position as described by Al-Hamadi, Budhwar, and Shipton (2007) who argued that power moves with the person no matter which position he holds. For clarification, through my practical experience and during this study period, I was able to see how power moves with a person wherever he goes. The job title does not directly affect the decision in the presence of power; however, it adds privileges. For example, if X person is head of the recruitment unit, because of his power he is able to hire whoever he wants. Tomorrow the same person is moved to another unit, he will shift his team with him creating a lobby group by making decisions based on their interests, needs, and requirements. Because of the social status, the decision-maker gained the power which guides the acceptance of the decision. Furthermore, because of the decision-maker's social status, the staff do not ask for any clarification even if they were not happy with the decision. This is because the force of the power especially the one which is gained by social status has a strong impact on accepting the decision. By the time, the lobby group that influence the decision (lobby) was enhanced, and the decision took a centralized feature where everything is announced from one place no matter if it relates to the speciality

of the lobby or not. Thus, the centralized system based on power and social status is a challenge in cases where people use their power and by pass the SAMU and the shared network in making the decision. Therefore, the data remains without real use which could be used and get benefits by utilizing it in the DMP through the usage of the shared network. This is consistent with the studies of Anitha and Aruna, (2013) and Ragins and Winkel (2011) who studied centralized, controlled, and supported decisions by high authorities and how such decision-maker does not share his/her power.

Relationships were another challenge faced by SAMU where the decisions were influenced by connections. For example, when the organization needs an engineer for a specific project, tenders are offered according to the established system, but the tender applies to those who have relations with the decision-maker within X Public Administration. When the project starts, the engineer - who was tendered - is very confident in himself, not because of his experience and skills, but because he feels safe as he has relationships within the decision-makers that protect him and cover up his mistakes. This supports Hunter et al.'s (2020) study which was conducted on Arab countries saying that social relationships direct the HR decisions in the public administrations. From my own observations, I noticed that those who hold the positions which they gained because of their connections and relationship not based on their qualifications and experience, are controlling the direction of decisions in a way that serves their personal interests. This observation agrees with the research of Aghaz, Sheikh, and Amirkhani (2017) and Al-Hamadi, Budhwar, and Shipton (2007) who noted the importance of connections and relationships in Arab countries to get a position and make decisions based on their interests.

The findings of the study suggested that the decision-makers' leadership style is shaped by the working environment. In keeping in mind their own interests and needs, they are following a practice observable in the behaviour of other decision-makers in the organization. Also, having attained the position because of their social status, relationships, or connections, they use power to create more followers than leaders. Consequently, the staff, regardless of the career level, follow the wave of the decision of the leader who appointed them. These features are discussed by several authors, such as Kerry (2003) who argued the leadership style in Arab countries generates followers but not leaders and Budhwar, Al–Yahmadi, and Debrah (2002) who discussed the leadership style in Oman and how it influences the response of the followers. However, in SAMU, most staff who valued power and social status in

relationships, and who brought their ego into their leadership style, had left the organization by the end of 2020. Others who still hold positions either cannot continue to practice the previous cultural norms because they lost the relationship network within the organization by the retirement of their colleagues, or they are not directly involved in the HR decision-making process. Furthermore, most of the managers of the units which require HRDt were a member of the AR Team. They experienced the use of data in decision-making and saw positive results from practical data usage. Furthermore, being from different units, helped spread a culture of data reliance in decision-making within the units. Each AR Team member acted as a change agent and trained employees under them. If a change in cultural norms is to occur, I believe it has started with the implementation of this study's action plans on the organization. By these practical means, the X Public Administration staff now have a clearer image of the effectiveness of using the data in making the decision.

5.2.2 Increasing the effectiveness of the Statistics and Measurement Unit (SAMU)

The second research question was "How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?" This section will discuss the findings related to this question in the following subsections.

Lack of skills of the staff

The study's findings showed that SAMU staff lack data collection and data analysis skills. In other words, the SAMU staff were not aware of the concept and the meaning of data collection. They observed only that the data were collected through questionnaires distributed to employees and then the answers were uploaded into an electronic program. However, combining the findings with my observations, I noticed that HRDt was collected and gathered accidentally on either the SAMU system or as physical files containing hard copies by filling the requirements forms and tables for the Ministry of Labour on a semi-annual basis. Although the SAMU staff were not aware of the process of data collection, they were not only gathering all the HRDt but also updating it on a semi-annual basis. In addition, the staff gathered the data in an organized way presented in tables accidentally based on the requirements of the Ministry of Labour. These tables took a structured format according to the demographic variables such as: age, gender, educational background, social status, and experience. The only challenge was that some of the tables were hard copies that required

data entry in the system. However, the challenge was overcome easily as all the tables were in a similar format; thus, entering data did not take much time, but approximately one full working day. The advantage was that the staff learned how to enter the data into the system. Thus, it was indirect training for those who lack such skills. When I presented the database which they generated over years, it was surprising news for SAMU staff as all these data are on hand but not recognized. Besides, they got an idea that data could be gathered using various methods other than questionnaire as it was gathered for this study using interviews, observations, and notes. Thus, the first issue was solved, which was data collection.

For the second issue, lack of data analysis skills, X Public Administration went through major changes in its senior management team structure because of the change in the government organizations all over the country based on Sultan Decree 113/2020 (Qanoon, 2020). In parallel with these changes, the AR project for this study was about to begin and the environment was appropriate at that time. The employees were receptive to any change in their situation because of the new senior management team's encourage and continuous support, especially because the authority that imposed its opinion left the institution by a Sultan's decree. The SAMU staff wanted to draw the attention of the new senior management team and found it an opportunity to learn about data analysis. Furthermore, they showed their willingness to participate in the training programs; thus, they went through some training and workshops. However, because of the COVID-19 pandemic, the programs were online. These programs were organized by various public administrations which helped the AR Team to understand how to use the data to make up decisions based on the real information about the employees. These training programs were part of the action phase of the AR cycle of this study along with other online programs including information technology training programs. The implementation of the programs went smoothly with the motivation and willingness of the staff. However, it was not easy for AR Team to participate online for several reasons. For instance, some of them lack technological skills; thus, they were given training in information technology before attending online training. All the required skills and techniques were explained by staff from the Information Technology Unit to the AR Team before attending the actual training program and the technical supporting team was available whenever the AR Team requires any support. Furthermore, some of AR Team members lived in areas where there was not good coverage of the internet. This category was challenging;

however, the trainer overcame the challenge of poor connection by sending recorded sessions. Consequently, most of the challenges faced by the AR Team were overcome. In short, the challenges of lack of skills in data collection and data analysis for SAMU staff were solved. However, the AR cycles will continue on other units led by the AR Team members to distribute the skill and the concept of using related data in the DMP by implementing the study's action on the unit and evaluating the outcome.

Shortage of professional skills

Data analysis showed the shortage of professional skills where there were no communication loops between the middle managers and the staff or between the staff and the head of the unit or any communication channel in all the directions. As a result, there was no exchange or sharing of ideas, knowledge, and experience. The lack of communication has led to a defect in the decision-making system. Junior employees have become critical to dialogue and decision-making skills. This led the decision-maker to find out the easiest way to make the decision by depending on the experience. However, the decision based on experience in most cases creates conflict because it is based on individual expectations. Such findings mirror several studies such as Alonso Mendo and Fitzgerald (2005) and Harbi, Thursfield, and Bright (2016) who argued that the absence of communication networks leads to a lack of knowledge sharing between involved parties; besides, decision-makers depend on their power, experience, and personal preferences to make decisions. However, the issue in SAMU was solved by implementing the application process, which was discussed in detail in section (4.4.4).

To conclude, the findings provided answers for the second research question "How could the use of data be improved to increase the effectiveness of the Statistics and Measurement Unit (SAMU)?" The use of HRDt has been improved by improving the skills of SAMU staff in data collection, data analysis, and technical professional skills. By enhancing such skills, SAMU staff are now qualified to provide needed data at the required time to make the right decision at the right time based on actual HRDt (Ni, 2022). In other words, the new system (network) helped to create an innovative work system that was reflected in the improved effectiveness and productivity of SAMU. The training programs helped to develop competencies, which all have a major role in activating SAMU as required in the new work system. For example, when a unit submits a request on the network, SAMU provides the network with the required up-

to-date data on time. Then other units have the right to collaborate or comment on given information, which facilitates the DMP for the requesting party.

5.3 Contribution to Actionable Knowledge

As explained in previous sections actionable knowledge generated by this study resulted in changes in the organisation of DMP. In the following paragraphs, I will explain what I learnt in practice and the skills acquired. In addition, I will discuss the ways in which the creativity using data in decision-making through the shared network represent an organizational transformation. The network created through the research has made possible shared HR service (as described in section 2.6.3) in the public administration in Oman and that the expectation is that it will enable better employee performance (as described in section 2.4.1).

5.3.1 Learning in action

As practitioner-researcher, and as a leader, I learnt in my dealings with, the AR Team an organized way of planning the tasks and dividing the responsibilities among the members a way of generating actionable knowledge. In addition, collaborating and communicating with various people from different backgrounds and educational levels, and taking things easily and smoothly without panicking before taking any action. I learned to calm down, listen closely and carefully, gather all required and detailed information, then plan the action. My calm moves taught the team to think carefully before presenting any issue. I observed them asking, gathering and collaborating with each other without anarchy before presenting the issue to the seniors. This actionable knowledge of mastering the issue before taking it to a higher level, created confidence in the staff and it is reflected in the way they present the issue. By comparison, prior to this study, the AR Team, when faced with a challenge, reacted to the situation with frustration and anger. Any proposed solutions were born of the moment without sufficient information gathered. In their learning from participation in an action research project, the challenge has now become a puzzle that they happily want to decipher. Their response involves collecting sufficient information, then discussing and working as a team to express the challenge in a useful framework with different options for the solution before presenting it confidently to a senior manager. Furthermore, with the presentation of the issue or the problem, they not only provide options for the possible actions to solve the issue but also for each option they pinpoint the advantages and the disadvantages. I observed

a huge change in staff thoughts and working behaviours comparing with that before conducting the AR. The spirit of working as a team has become a priority and the selection of the right team members is also taken into consideration. For example, to solve a technological problem, a specialized team is organized in information technology and cybersecurity. While to solve the problem of buildings and the various service provided, a team of specialized engineers is formed. In addition, nowadays, because of the new senior management team structure, new people are in posts. These people readily adopted the idea of listening plus applied the rule of accepting change and opening the door for dialogue, discussion and exchange of opinions and ideas. This change is reflected in the work environment and productivity, so employees work as one productive team and a manufacturer of decisions.

In addition, I learned the positive effect of connecting HRDt with the HR decision which helped in producing a balanced decision. Such a decision represents organizational justice not only to the staff who feels the fairness and sure that the decision is not subjective to decision-makers interest, but also to the organization where the decision deals fairly with the employees and creates a transparent working environment which mirrors the study of Hazen et al. (2014). The author argued that poor quality data yields un-transparent decisions, which creates conflict and lack of trust. For example, when a decision is made, the reaction of employees takes a natural turn due to their direct or indirect participation in the decision. The transparency of the decision enhances confidence, showing them a picture of future decisions based on a clear approach.

Furthermore, the study shows the enhancement in teamwork at SAMU specifically and at X Public Administration in general; for instance, the work is completed as a team not individual, and the decision is made by collaboration and involvement of all the parties. Additionally, the enrichment of communication and collaboration by using the official internal network which was created to link all the units with each other. For example, today it is not possible to obtain financial or specialized approvals for work topics if they are not through the shared network. The new management required all employees to interact via the platform so that sufficient information could be gathered and a clear joint decision was made in the best interest of the organization. Having observed the positive results of this interaction, many were encouraged to learn the system and inquire about the challenges they face while using the network. The technical support team also played a major role in communicating and simplifying ways to

interact over the network. Thus, there is no excuse for any staff for not participating in the network. Therefore, no employee can say that the decision was sudden or unexpected, unless he did not make an effort or did not have a desire to learn the system. Besides, Covid-19 pandemic encouraged people to use the external network (internet) and social media in order to find out information or ask for suggestion or an opinion, were advantages for the staff to learn new techniques for collaboration and negotiation (Yu et al., 2022). For instance, teams started to create groups using social media and the work network applications to be close to the AR Team. Where they work on and collaborate at any time and get support from the technical team when needed. This helped the staff to have a friendly working environment and enhanced the social relationships between each other. Moreover, using social media reflects on the actionable knowledge gained by the participants in using technology either for the purpose of work or on a personal level. Furthermore, each unit started to focus on its responsibilities and tasks not entering or making decisions instead of other units. However, the various units have the space to provide information, idea, knowledge, suggestion or share the experience if needed. In other words, an innovative change took place in the work environment in which a traditional environment based upon personal power was replaced with one facilitated by networking technology.

5.3.2 Changes in tasks

The changes initiated through the AR study was a trial within a single organizational unit. The aim of this experimental movement was to see the results on a small scale. If a change is required, the results can easily be controlled. When the positive results appeared, the unit directors sought to implement the new system in their units and everyone began to make an effort to participate in the network. In my opinion, the biggest incentive was to enter the list of achievements announced by the head of the unit, which is arranged to be honored in a ceremony in the presence of senior officials. Regardless of the triggers that helped expand the circle of users of the network, all the factors were motivating which helped to positively support joining the network. Furthermore, the AR Team learned not only to accomplish their tasks but also to react to the scenarios differently. For instance, instead of waiting for an order to come from the head of the unit or manager of the team, once the SAMU find an issue, they create a team and start to work, discuss, get a rich picture, look for theories and previous studies to get idea from other organizations, and analysing the issue accordingly. Therefore,

when orders come from senior officials, AR Team is fully prepared for discussion based on the information they have investigated during the research as a team. Furthermore, sense giving by providing reasons for the issue happened and elaborating. Consequently, the AR Team distributed the concept in their unit and practices it via other employees. Thus, overall the working culture has taken a new shape in accomplishing tasks and activities with support of new senior management team and thus studies techniques and methodologies.

Besides, the organizational transformation helped the units' staff to be close to each other, know the need and requirements of each other, and exchange ideas, thoughts, and knowledge. Thus, instead of working individually, the organization as a whole works as one body (Jiang, DeHart, and Borry, 2022). This helped to create the relationship in all directions within the organization, collaborate easily, and find issues and solutions in a minimum time.

5.3.3 Innovation

The significant innovation the systematic use of HRDt in the HR decision making processes and change implementation of the network model for collaboration with other units to make a shared decision. Where the AR Team understood the importance of data and its direct impact on decisions. Furthermore, the extent to which these decisions affect the behaviours of individuals and the emission of positive energy in the work environment, which played a major role in increasing productivity and spread the idea of change in all the units of the organization. For instance, when the picture of the decisions resulting from the new shared network became clear and the decisions began to be implemented, the units that were not part of the network began to inquire about the radical change in decisions and the positive consequences resulting from them. Thus, the other units asked to join the network and adopt the same DMP. Due to the high demand for joining the network, the Information Technology Unit has formed a specialized team for the network, and a technical support team that provides the network participants with courses and workshops on how to use the network and interact with it. Although I was initially unsure if I would be able to implement the change (shared network); however, AR Team showed their willingness and the change in the senior management structure and their support was in favour of this study. For instance, they encouraged the staff to innovate and implement change to benefit from all the sources available. Today most of the tasks are done digitally which reflected several things in the organization. For example, storage space of the physical paper files was eliminated, and the rooms were converted to offices, data and information

are easily retrieve, update, and stored on the system, and collaboration and discussions between various parties are easily done. I would recommend in similar contexts to implement change even if they face rejection at the beginning. Change is innovation and it helps to accomplish tasks in better way. However, people need to get enough information and not to be marginalized. Furthermore, their questions and doubts have to be answered in a respectful way using easy language.

5.4 Implication for practice

This section is divided into two subsections. Practical learning for other public administrations in Oman and practical learning for AR Team.

5.4.1 Practical Learning for public administration in Oman

At the outset, I would like to highlight that any change needs to clarify the reasons for the change in order for society to accept and be convinced of the change, as the use of coercion will not lead to the desired result. The participation of everyone who has a direct or indirect role in making change is a catalyst in the wheel of change. The adoption of a participative approach to learning resulted in the acceptance of the project's findings. That is because the decisions are based on real and clear information. The decision is created by linking and creating a relationship between the usage of HRDt and decisions related to HR at X Public Administration. Furthermore, engagement of all the parties who are involved in the decision by participating according to their specialities and the nature of the work in the DMP as was discussed in detail in section (4.2.6).

Moreover, the study implemented theory to find out the reasons behind ignorance of using HRDt in the DMP for the decisions related to HR. Besides, lack of network between units, limited data exchange, culture, and managerial styles, which consider similar factors in most of public administration in Oman, were reasons for ineffective usage of HRDt in the HR decision-making process. All the above elements were discussed in detail in section (4.4.2).

The format of analysing organizational culture and the reasons behind the ignorance of using HRDt in the HR decision-making process was adopted from Moonen (2017) and Siddique (2017); moreover, the theory of Hofstede's cultural dimensions was applied (Hofstede et al.,1990) details are provided in section (1.6.1). To get maximum benefit of the theory, I

shared the theory with AR Team and it helped to change the direction of their thinking. For instance, they had a fear of accepting the change; however, the theory clarified that the cultural environment they live in is mostly similar in other organizations in the region. Thus, they gained the confidence to participate in the study to implement change or restructure the DMP as the current process was not meeting their expectations. Thus, similar technique might be adopted in other public administration where the chance of getting successful outcome is high.

Furthermore, the AR not only helped the AR Team to learn techniques for identifying workplace problems by contributing and working as a team to resolve the issue but also helped me as a practitioner to develop my leadership skills by leading and organizing the AR Team. Furthermore, I can sense-give and sense –make about the issue as the study enhanced the awareness about the issue and provided me with the knowledge that helped to structure a big picture of the issue. Huemer (2012) explains that *sense-making* is "the process by which people give meaning to experience (Weick, 1995 as cited in Huemer, 2012:241) while sense-giving "consists of attempts to alter and influence the way others think and act" (Huemer, 2012:241). For instance, as HR decisions nowadays are based on real HRDt, I can provide reasons behind the decision and clarify the effect of the decision which helps in changing people's thoughts and reactions. It not only helped to create a friendly working environment, where the staff easily ask and collaborate with others at the same or different career level but also enhanced the performance as they feel justices which reflect positively on their mood and work. Such findings conflict with several studies such as Weir and Hutchings (2005) and Al-Yahya (2008) who argued that in Arab countries' organizations, decisions are followed without providing reasons or sense-making. This study was the first AR study to have taken place at X Public Administration to solve an organizational issue. It helped the participants to have sense-making about the issue and how could they generate actionable knowledge to solve it. Besides, the participant involvement in the AR helped them to reorganize their routine tasks by collaborating and generating new knowledge. Furthermore, it was a great encouragement for the team to think about research and encouraged them to obtain higher educational certificates especially by implementing AR.

Moreover, the study added knowledge to the organization's knowledge by not only using HRDt but also focusing on the administrative DMP especially for the decisions related to HR.

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Besides, it helped SAMU to restructure the unit and distribution the responsibilities and tasks among the staff. Consequently, the study had an impact on activating SAMU by enhancing the use of HRDt and clarifying the importance of involving such data in the DMP.

Furthermore, the usage of information technology helped in connecting various units which led the units to work as a team by requesting information from a unit, involving the various head of units, processing it in another unit, and implementing it in a different unit. For instance, the training and development unit required information for SAMU, processing the data was in the training and development unit, and the implantation was in various units where the staff required a specific type of training.

Additionally, the AR Team produced knowledge which they may use the same method of the study to solve other organizational problems. This helped them to gain confidence in solving organizational issues using AR. I encourage everyone to use AR method to solve the challenges at the work level, with the participation of everyone, satisfactory results can be reached, and other challenges can be faced with cooperation, discussion and teamwork.

5.4.2 Impact for AR Team members

This study helped to enhance the confidence of the AR Team, which influenced their working style, thinking, and behaviour or reaction toward tasks and activities. For instance, they learned to create a team before looking to solve an issue themselves. Then having a broad picture, collecting data, analysing, and reflecting at each stage before reaching the findings or solution. In other words, the AR Team learned how to implement an AR cycle on the workplace issue by participation of all the parties who are involved in the issue and drawing a big picture that shows all the detail tasks of the activity. Furthermore, each member of the AR Team became a leader in his department and a point of reference in case of any clarification or advice needed from other teams.

Participation in this study reflected positively on the AR Team, where they got recognized by new senior management team especially after the emergence of satisfactory results of this study. Thus, they were assigned to lead new projects using AR methodology and creating teams for each project. Now days, several AR studies are taking place within the organization under approval of new senior management and supervision of AR Team members.

5.5 Limitation of the study

The study was AR using a qualitative research methodology. According to Easterby-Smith, Thorpe, and Jackson (2012), findings from such a study cannot be generalized from the context because the data is collected and analysed for understanding the issue under study within a specific situation. However, a similar approach can be used to solve organizational issues. The limitations of the study are: first, implementation of the study's outcome had to be applied on all the units and get evaluated; however, it was applied to the training and development unit only, for several reasons. For instance, the COVID-19 pandemic restricted our movement within the organization; thus, it was not easy to find out staff in various units at the time my shift was. That is because, since March 2020, the actual attendance rate to work institutions has not exceeded 50% and in some periods it decreases to 30% depending on the state's epidemic situation. Moreover, it required a long time to implement action in the various units. However, to overcome this, heads of the different units were participating in the study; thus, they showed a willingness to implement the usage of HRDt at their units in the process of the HR decision-making especially when they taste the outcomes of training and development unit. Another limitation was the number of participants. Although X Public Administration is considered one of the significant institutes, it has the lowest number of staff compared with other public administrations in Oman.

In addition, I faced the challenge of unwillingness to implement action from the head of two units. I tried to encourage them, but they were not willing to change the path of accomplishing their tasks, they decided to wait for the outcome and then accordingly makeup their mind. However, implementing action at the training and development unit and analysing the results and the outcomes were great motivation for other units to give a try and implement the same method. Furthermore, encouragement of the new senior management team to implement the action in other units is considered a push for all the units to apply the action. This included the two directors, who had refused to join the AR Team, and remained outside the cycle of the project. The adoption in other departments of the networked model of data usage in HR decision-making motivated them to be part of the network.

The senior management team has begun to honour employees who apply the process and present their results to the rest of the employees so that everyone is encouraged to take a

different course of action and change in the organization in general. I was honoured in a grand ceremony held to acknowledge the owners of achievements and new ideas that serve the interest of work directly and effectively. I was honoured for the application of this study and creation of a new work environment.

5.6 Future research

The study focused on the usage of HRDt in the HR decision-making process. I believe the study could be conducted by different participants in various units. For instance, involving related data in the process of decision-making in order to achieve various objectives, such as cost cutting. For illustration, distributing rooms as offices to the units, data about the rooms such as location, area and occupancy. Furthermore, data about the staff of that unit such as the number of staff, position of each staff, and type of tasks the staff performance. Another example, posting staff to various branches of the organizations, data about the location and requirements has to be used, and so on. Furthermore, the data for this study was collected using social applications because of covid-19 pandemic. This limitation can be addressed in future by collecting the data in physical meeting where body language and other signs can be notified and considered. Moreover, reflection and feedback are very significant at each point of the study; thus, considering reflection data and knowledge produced will help in reaching the expected target. In addition, using AR method added excitement, whether practical, scientific, experience or even social life. I learned how to lead the team and face it. As I learned from the actual application of the study, the discussion, and heard from all participants, it was a good addition at all levels; thus, I am looking forward to using AR in not only future research but also in solving daily work issues.

5.7 Summary

In summary, the chapter discussed the study's findings around the research questions and objectives, the Implication of findings under theory and practice, limitations of the study, and future research. Implementation of the AR helped in overcoming the internal challenges where the effectiveness of SAMU has increased by being the main source or a gatekeeper for HRDt. In the next chapter, Chapter Six, I will talk about my reflection on the study overall and learning as an action researcher.
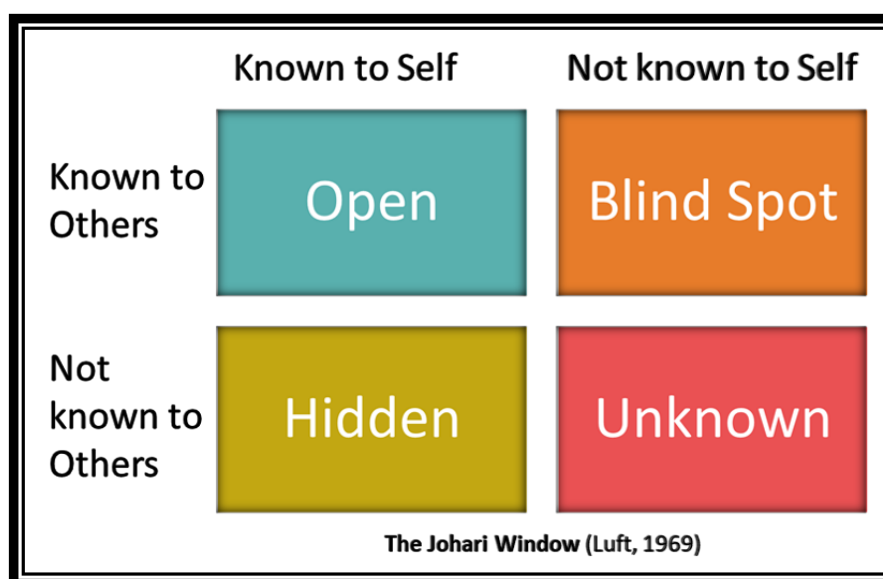
Chapter Six

6 Reflection and Learning as an Action Researcher

6.1 Introduction

The research project was a conclusion to the DBA learning journey at the University of Liverpool. It helped me to define a workplace issue and use AR methodology by participating members of the organization to solve the issue. In this chapter I will provide my reflection on the AR cycle phases; construction phase, planning for action phase, taking action phase, and evaluation of the action phase (Coghlan and Brannick, 2010) using the Johari window (Coghlan and Brannick, 2010) as my reflection tool.

The Johari window consists of four different segments or pans: open, hidden, unknown, and blind pan (figure 6.1). I use it as my reflection tool on my learning. The open pane represents what I knew before conducting the research. The hidden pane represents what I thought I knew and requires discovery to know it. The unknown pane represents what I knew that I do not know and required discovery to know. The blind spot pane represents what I did not know and expect to be not covered by the project.

Figure (6. 1):Johari Window.

Furthermore, the chapter will cover my reflection on research method and practice, learning as an action researcher, learning in action with an AR Team, and managing the challenges. This is followed by a chapter summary.

6.2 My reflection on the action research cycle

6.2.1 Action research phase: Constructing phase

During the construction phase, I was able to allocate a workplace issue, especially I was moved to the SAMU, based on my background in statistics, to enhance the effectiveness of the Unit. In other words, utilizing all the resources available within SAMU in order to improve the quality of the data used in DMP, using appropriate methods of analysis, communicating the findings effectively, and updating the data (open pan). It was challenging to present a proposal based on the guidelines of the University of Liverpool. I studied "Research Method for Business Students" (Saunders, Lewis, and Thornhill, 2009) in order to understand research terminologies and concepts. It was very challenging at the beginning as everything was new (hidden pane), for instance, terminologies, concepts, and theories. Furthermore, my mission was not only to understand research terminologies and concepts but also to convey them to my work convincingly so that it would bring them a clear idea and rich knowledge. I used the textbooks such as Saunders et al. textbook. I found it so helpful as it provides in detail what is expected from the researcher along with various steps and procedures. It considers being a good guide for the researchers, who explained in detail all the expected steps required from the researcher. The authors also explained the different ways and methods of the research. The book is divided into chapters and each chapter explains a single research step in detail. This helps the researcher sequence the research systematically. I can say that this research journey was a scientific journey at all levels. To elaborate, I learned a lot as the administrators and associates learned.

Furthermore, I watched YouTube videos and some online presentations along with collaboration with the students who had already passed this stage in their DBA journey to have an idea about the research concepts. The process took me around thirteen months to understand what is required and in which format I have to present my proposal. Furthermore, understanding the research onion (Saunders et al., 2007) helped to formulate the research study methodology and paradigms. After that, everything went smoothly and became clear.

Although there were challenges from one time to another, for example, I had to overcome the bumps by going deeper into learning scientific terms and theories and everything related to this research. Moreover, qualifying the environment to prepare not only the AR Team but also those in charge of the work in the fields by explaining the objectives of the study and providing clear path and the way the study is actually applied to accept the idea and allow or give space to work on its application. However, the desire to challenge these limitations was the strongest and gave motivation and curiosity to research and gain knowledge.

In addition, reviewing relevant literature helped in preparing research objectives as actionable research questions (Levy and J. Ellis, 2006). Accordingly, I prepared questions for interviews to gather data that would help in answering the research questions and meet the research objectives. Not only the professional development which I gained from the DBA program but also the new administration structure at the organization were reasons to accept my proposal for the research project. This is because the organization understood that the current administration's processes require change, and this project would be a good start for testing the implementation of change under the supervision of an academic institute by conducting an AR study and involving participants from the workplace in the study (open pane). Furthermore, the participants showed a willingness to be part of the study and investigate the issue closely. It helped to create a teamwork environment which reflects later on implementation of the study where the decision was made by a group, not an individual. Doing this research was a case of good luck, as I embarked on a journey of research at a time when the radical changes that took place in my work in particular and the changes of government in general, coincided with the new government led by His Highness Sultan Haitham bin Tariq (May God save and take care of him). I can consider this research as a start point to change in my work environment.

6.2.2 Action research phase: Planning for action phase

Initially, the interviews were challenging as I had to test the interview questions, collect the needed information (Qualitative data), and provide space for the AR Team to talk. Collecting qualitative data by itself was a challenge, because of my statistics background, I am used to quantitative data. Besides, the AR Team also used the quantitative method of data collection such as questionnaires and surveys. However, using AR and involvement of the AR Team

throughout the study encouraged me to use qualitative method by collaborating with them. Furthermore, listening, learning, and gaining knowledge from observations, interviews, and discussions helped for formulate the qualitative data. Besides, data quality, data collection process, and data analysis helped in understanding the nature of the qualitative methodologies. Thus, we conducted pilot interviews, I was able to ask questions which helped in reaching the needed information. Furthermore, in the cases where the participant was not providing enough information, I was asking him questions that were helping him to think, answer, and provide the required data for the study (hidden pane). All the interviews were in Arabic language, and they were recorded after taking permission from the interviewers. The recording helped to get valid data, where there was no chance of missing information (Easterby-Smith, Thorpe, and Jackson, 2012). In addition, I learned and gained knowledge of transferring the electronically recorded interviews to transcripts (hidden pane). It was not an easy task, but it helped me to learn to be patient and calm (hidden pane). After listening to the records several times, I was able to write the first transcript, then I re-listened to the record to be sure that I did not miss any information (Hammond et al., 1998). Later things went smoothly with other transcripts. I learned from this process that repeating the task helped me to master a particular skill where I became faster in writing the transcripts after several trials (hidden pane).

Moreover, it helped me to find the participants who showed or expressed their interest to be part of the study and how they were concerned about the importance of the study. Furthermore, the enthusiasm they were carrying, and the urgency of the application not only motivated me but encouraged a good number of employees and the enthusiasm to bite the actual application while there was a group eagerly awaiting the search results.

Furthermore, analysing the data was another huge challenge! This was my first applied experience in dealing with qualitative data as I used to deal with quantitative methods. Because of my statistics background, I am familiar with research involving questionnaires, surveys, and numeric data. However, qualitative methodologies were new, and I had to master them to complete the study. Furthermore, looking at all the transcripts on hand, where each interview's transcript was converted to around twelve to fifteen pages, considered to be a big amount of qualitative data, and a new thing not only to learn but also to practice and used correctly. I was so confused, and several questions were in my mind; for

instance, where to start? What method to use? How to begin? However, I started asking friends and searching using the internet about how to select a systematic analysis technique for the qualitative data which provides some valid findings (hidden pane). I got several analyses methods; for instance, qualitative content analysis, narrative analysis, discourse analysis, thematic analysis, grounded theory (GT), and interpretive phenomenological analysis (IPA). However, I selected thematic analysis as I found it interesting, where we as AR Team had to organize the data, code, merge the codes, and create themes. Although coding was an interesting phase, it required lots of work, time, and effort to find out codes and match them with proper data from various transcripts. However, my supervisor provided me with great help and support, where she explained what is required and how the technique is applied and from myside, I transferred that knowledge to the AR Team. Furthermore, I supported my understanding with YouTube videos related to thematic analysis which provided detailed steps of coding, merging codes, and creating themes. There were two options for coding, using a program or doing it manually. I preferred doing it manually especially since there were ten transcripts (participants from SAMU) and my target was working with AR Team. The option of doing it using program might cause new challenges via the AR Team where I had to explain and train them using the coding program. Thus the option of coding manually was better. Initially, I struggled, but later on, I became familiar with coding, and I was enjoying doing it (hidden pane). I thought the AR Team how to code. Initially, each one of us did the coding independently where we used colour pens, cut the transcripts into pieces, organized each piece under a specific code, and repeated the same work till we covered all the pieces for all the transcripts. Later, we combined our work to get final list of codes. The procedure helped us to gather lots of other information than what we were looking for in the study (unknown pane). I used the related data for the study and the other data is considered a valuable source for my career where I may use it in the future, or it might help in sense-making for various responses in the organization. In addition, the new senior management team appreciated and recognized the effort I provided from the study which reflected positively on the organization (hidden pane); consequently, they asked for a presentation to other units to establish a created Innovation Initiative Team, while the team was in charge of gathering various AR proposals and providing approval for the projects which benefit the organization. People from various units showed interest as the proposal, procedure, and outcome of the project were linked with the employee's evaluation. It was

great motivation for all the staff to be part of at least one of the AR projects in the organization (unknown pane). I am particularly proud that my AR study opened and provided opportunities for my colleagues to think and present their ideas as AR proposals to the Innovation Initiative Team.

6.2.3 Action research phase: Taking action phase

The findings of the study were generated with the help of the AR Team as they were involved in each and every step of the study. In addition, the findings of the study were presented to the head of the units which are involved in HR decisions. Thus, the AR Team were able to draw a big picture of the issue (details are provided in section 4.5.5) which led to exploring the findings together (open pane). Furthermore, I could notice the respect, teamwork, actionable knowledge, and interest in the topic among the AR Team which helped build a good bond between all the involved parties and enhanced my relationship with all of them (unknown pane). Although I noticed delays from some of the participants toward the progress of the study, I gave them excuses as it might be because of their busy work schedules or social commitments. However, I was able to collaborate to find out the reasons and motivate the AR Team to encourage them to increase the speed of completing the task (hidden pane). Moreover, I was able to implement my learning which I gained from the DBA module in general and specifically from the change and crisis management module, where to start my action (Weick and Quinn, 1999) and how to implement the AR cycle on my AR problem (Brannick and Coghlan, 2014) (open pane). Such knowledge helped me to deal with various work issues. With all the learning, knowledge, and information I gained from the study, I am able to understand the current scenarios, manage, deal with, and organize the work process in a new structure. This is not only because of my knowledge but also the staff of X Public Administration who trusted me and experienced the change and its effect on the HR decisions.

6.2.4 Action research phase: Evaluation of the action phase

The evaluation process of the action took two different directions. The first one was actions to improve SAMU (open pane). After completing the actions which included sharing the findings, providing training, and restructuring SAMU. I found that actionable knowledge was implemented within the SAMU where there was a clear job description, new tasks and

responsibilities, a chain of ideas, a network for collaboration, and teamwork which reflected in deciding on a team, not as an individual (hidden pane).

In addition, the second evaluation direction was on the actions to utilize HRDt by various units that required such data in the decision related to HR (blind spot pane). However, implementing the action, which was the usage of HRDt in the HR decision-making process, in various units of X Public Administration was challenging at that time because of the COVID-19 pandemic. Since March 2020, staff are working in shifts and implementing a change, which requires staff to be at their office to test and evaluate the new process. Therefore, I have selected one of the units which was the Training and Development Unit (reasons were provided in section 5.4). However, initially, I faced some resistance from other heads of the units to implement the change. From my point of view, resistance is healthy for the organization as it encourages to create a plan for change, helps in depth in the issue and understand it from various angles to convenes others and open communication channel to understand each other's thoughts and concerns (Naveed, et. Al, 2022). However, managers have some level of worry, where they are scared to replace the traditional process with a new one and he cannot expect the outcome. However, after implementing the process at Training and Development Unit, not only the head of the units but also most of the staff were happy with the outcome. I sensed the staff and the satisfaction they were experiencing after the change was implemented, and they were fully satisfied with the outcome (the decision) issued without any complaint or objection. This encouraged other units to try and implement the study's outcome; furthermore, refer to the Training and Development Unit in order to fill the missing gaps for implementing the change.

6.3 My reflection on research methods and practice

Initially, the research onion (Saunders et al, 2007) was a mysterious mystery. I had to understand and study each layer of the research onion in-depth in order to select the proper option of the various research onion layers that suit my study. This learning process helped me to gain lots of knowledge regarding research and its components. Furthermore, the selection of the ontology and epistemology positions was not an easy task, for I had to understand the meaning behind each position, fit it into my workplace, and select the suitable

one. However, after getting the intention of conducting the study, I was able to find the proper position for ontology and epistemology, details are provided in section (3.1).

After constructing all of the requirements of the study, I was not sure how the participants were going to respond when asked to be part of the study and conduct all the AR phases. However, I was sure if I presented the proposal and was honest with them, I would not only gain their trust but also motivate them to be part of the study as they can taste and live the experience step by step. Moreover, conducting interviews using the Zoom application was not an easy task for me or the AR Team. We both had to learn the application, practice using it, and then focus on the purpose of the interview which was gathering information in order to answer the research questions. Moreover, in my organization, people are used to using quantitative methods for data collection, whereas I used a qualitative approach which was new and required some explanation before conducting the interviews. The process of explaining and conducting the interviews was peer learning for me and the AR Team through exchanging thoughts and generating knowledge while collaborating.

In addition, I learned not only new words but also lots of various ideas by translating statements from the transcripts from Arabic to the English language. One of the challenges was that Arabic has many vocabularies in the same sense, but the power of the individual word in the context generally gives a different meaning to the meaning of the singular word itself. This was a challenge to understand the meaning and translate it in the desired sense. As a result, I went back to each member of the AR Team and made sure the actual mean of the words. It was very huge work that required lots of time and effort, however, it was very interesting and motivated to go over all the transcripts. Another challenge I faced was lots of codes, which were directly from interview transcripts, where I had to collaborate with the AR Team to merge them and find a proper theme to cover most of the themes. However, repeating the same process several times, helped us to gain confidence. I was sharing the codes with my supervisor and with the feedback and guidelines, we were able to finalize the codes and themes. Then another challenge came up, which was finding quotes that support the themes. I tried to find answers for the research questions and the supporting questions. I wrote down all the sentence and used the quotations to support my findings. I struggled a lot to understand the proper way of doing such a task, but with help from the supervisor, I was able to understand the requirements and do the work after writing six modified drafts. Each

draft added new knowledge and helped me to understand the transcripts and analysis deeper. For instance, I learned how to quote, combine quotations, and link ideas. I learned from this journey that repeating the task generates self-confidence which motivates and encourages me to go to the next stage of the study. Furthermore, thinking about what has been done is the key to success in continuing the journey. This is because I learned from my work, my supervisor's feedback, and my mistakes to end up with a good piece of work.

6.4 Learning as an action researcher

The DBA thesis journey, which started a few years back, taught me how to link HRDt with the HR decision-making process through AR. Furthermore, as an insider action researcher, before the study I was familiar with the organizational culture and working environment which helped understand the causes of the problem and reach the appropriate ways to solve the workplace issue. I thought HRDt is the responsibility of the SAMU; however, the study showed that it is the responsibility of all the staff and the departments in the organization. Thus, forming the AR Team was a great advantage for the organization; in addition, the creation of the network which links all the units on a single network helped to enhance the collaboration not only between staff from the same unit but also with the staff from various units where they can share, collaborate, and exchange idea, thoughts, and knowledge.

6.5 Personal development

The study helped create a unique work environment. It reflected the level of productivity in general in the unit. The AR Team was working and trying to finish the tasks assigned so that they could devote themselves to studying and discussing their dimensions with other colleagues. The study contributed to the spread and acceleration of work. The staff were also trying to prepare the agenda for discussion with me. But the challenge I was facing was that some employees were unable to separate their work from their studies, which confused the working environment. For example, they spent a long time discussing and analyzing the data for the study while at the same time, there were working tasks to be accomplished. Overseeing the unit was my role to guide them and urge them to separate the important. I didn't want to use the power of the head of the unit, but the style of dialogue played a vital

role in gaining employees' confidence, whether practical or for the research, which helped me acquire the skills of the leader.

The DBA journey has refined me in many areas including academic, scientific, and practical areas. From the experience I gained either from the DBA modules or from conducting the AR study, I gained the confidence and the ability to work on new projects. Implementation of the action of this study enhanced my ability to go through such experiences again and again with stronger background and a well-organized plan. That is because especially now, after conducting the AR, I am not only familiar with a wider range of managers and leaders of the organization but also I understand the organization from all directions (Baltimore, 2012). In addition, as I mentioned earlier, repeating the task helps in gaining confidence which reflects in gaining AR Team's trust.

On a personal development level, I learned new techniques such as being a good listener, collaborating with staff from various levels and backgrounds, and solving the issue in a calm environment without being panic. These helped in creating good relations with the staff, which motivated them to work and participate in the study. Furthermore, being calm reflect on the response of the team's members. For instance, a significant difference was observed in the performance of the employees, so their focus became on the subject and not on the terms and words that the direct official gave them. In addition, I learned the importance of teamwork and group thinking (Janis, 1973) where I was able to learn from others' thoughts, make a change or manipulate my thoughts, and understood the importance of a single member of the team to implement change in the organization. Furthermore, the outcome of the study had a positive impact not only internally on the organization level but also externally on the governmental institute level. For instance, within X Public Administration, the administration adopted the concept of AR and created an Innovation Initiative team. However, the new senior management team noticed the importance of the team, which was gathering AR proposals, studying, and giving approvals for implementing the study. Because the number of the proposal and the interest of the staff was significant, the new senior management team thought to convert the Innovation Initiative team to a new unit called the Initiative and Innovation Unit (IIU). I was asked to join the unit to share my experience with other members. Thus, I became a member of this unit and one of the responsibilities of the unit was to receive AR proposals from the staff of various units of the organization, evaluate

the proposal, and check the possibility of conducting an AR study, and then provide approval for the staff to conduct the study within given time and framework. The outcome of the study is evaluated and those who make a significant change or improvement present their experience to the staff in the presence of the undersecretary or a manager acting on his behalf. In addition, the participant receives a certificate of thanks that goes into their CV, and it adds to the balance of their experiences. I am so proud and happy that my AR study opened the path for my colleagues to conduct AR studies and experienced it in various units of the organization. Participating in a study and evaluating the outcome help the AR Team to engage fully in the project and create confidence in arguing the outcome. In addition, it reflects on the performance and loyalty level which at the end of the day affects the organization positively. Furthermore, externally I was selected to hold the position of Director General of HR at a prestigious government body. I went for an interview, and they were happy with my work, especially the AR project. To be selected for such a position is not common in the country, but I can say the DBA journey added weight to my curriculum vitae, especially the AR study which opened a new way to solve the problem with help from people who are involved and face the issue as their daily routine task.

6.6 Learning in action

Learning in action started from the day I started to pinpoint the issue within the organization and present it in a proposal format. In the beginning, writing the proposal was very ambiguous and challenging to meet the requirements of the University of Liverpool. However, with the guidance of the supervisor, things get clear, and the writing process went smoothly after modifying the objectives and the research questions (Argyris and Schon, 1974). Furthermore, when I started the AR cycle, I learned from each phase in one way or another. For instance, I learned reflective techniques where I have to reflect based on my observations, knowledge, thoughts, and literature review. This helped me to understand the issue in-depth and have a rich picture of the problem.

6.6.1 Learning in action with the action research team

The AR project aimed to identify the issues and challenges related to the usage of data at the SAMU. In addition, exploring how the use of data could be improved to ensure the effectiveness of SAMU. Thus, I focused on the staff of SAMU to be my participants because

they are considered to be significant members of the issue and with their involvement in the study, they would not only be able to discover the points that need to be changed or modified but also be familiar with all the points that affect the subject in one way or another. In addition, the involvement of the head of the units, who are involved in the HR decision, was my target to transfer the knowledge gained to different units within the organization and implement the outcome of the study on different tasks at various units of the organization. This can be accomplished when the directors of the various units experience the effect of the outcome by reflecting on the SAMU experience. In addition to the system of the organization, which is the rotation of employees internally or externally contributes significantly to transferring of thought and knowledge by the movement of the staff between different units.

The learning in action which the AR Team gained was working as a team by exchanging views, thoughts and ideas which helped them to plan for solving the issue they face. Moreover, the AR Team learn to think without panicking as they feel secure working in teams where they can easily exchange ideas, collaborate, test the outcome, and evaluate their work before any official announcement. In addition, employees of different functional levels belong to the group, and this gives enough space to know the point of view of officials on a subject, which reduces the usual waiting time to look at the subject and express opinions. Furthermore, staff are promoted in batches; thus, today those who are in lower level are going to be in a higher position tomorrow. Consequently, training and enhancing knowledge from the base of the functional pyramid to above, it positively affects the building of solid foundations for the institution. This reflects positively on the speed with which the study is achieved and thus emphasizes the application of the speed with which the results of the study are applied. Furthermore, the AR Team learned to use technology in their daily work, which was not one of the main objectives of the project. However, to meet the objectives of the study, especially with the challenge of the COVID-19 pandemic, we had to think about providing training in using the technology in order to participate in the meetings and interviews which were conducted to gather data for the study.

6.7 Managing the challenges

Conducting AR was itself a challenge as the organization was not familiar with such a technique. Moreover, the managers and the leaders were not showing any willingness to accept the change. In addition, not only being a female manager conducting the study but also from the new generation consider a challenge as well. For illustration, the previous administration did not give an opportunity for conducting any change. Moreover, they do not listen to any proposals especially when it proposed by a female. That was because they used to work with males only where woman's entry into the field of work began in the late 1990s. However, the radical change in the administration system of the X Public Administration, which was the retirement of those who completed 25 years or more working for the organization by December 2020, helped and opened the way for applying new techniques that were not previously known. Consequently, I took the opportunity to obtain approval for the application of the project which I received. In addition to the way I wore Islamic dress (hijab), it gave the impression of not knowing the latest developments. As the stereotype in Arab countries is the clothing can influence person perception (Sheen, Yekani, and Jordan, 2022). However, it is not true! the hijab is a religious garment of immense cultural importance to those who believe and practice the Islam as it is (Koornneef et al., 2017). On the other hand, these days' lots of Muslims just copy-past everything from other cultures, and that is because they feel copying western people means evolution and urbanization. This reflects on their thoughts and ideas when they meet someone wearing proper Islamic dress. On first impressions, the surveyors believed that this committed character did not have suitable knowledge, intellectual development and understanding of the uses of technology. However, the research application and the outcomes proved to be contrary to expectations. The fact of the research added a lot to me from the knowledge side and the practical side where it earned me the trust of the officials. Today, my voice has weight and place among the officials. Furthermore, I represented senior figures in my institution and was sent to a country to represent my organization. This was a business mission as I represented my organization and made presentations on the theme of the conference. This has been positively reflected not on my institution but my country. Even though it was my first experience, anxiety and fear took me for granted, but I overcame it with the confidence that gave me my job. After the trip, the host country sent feedback where they have been impressed by what I have provided

at the scientific, cultural and social levels and the method of presentation and discussion. This has strengthened my confidence and encouraged me to experience new experiences. I thank the University of Liverpool for this program, which has refined my abilities and talents and reflected the mission of my work. In addition, I opened the door for my colleague where the delegation consists of 25 people, of which 12 were girls. Moreover, I am assigned to a lot of sensitive tasks that need quick and correct decisions at the same time.

Furthermore, collecting qualitative data was not welcomed because the stereotype is answering questions and collecting quantitative data as methods for the purpose of doing any study to obtain an academic certificate. Interviews and qualitative data were uncommon; however, the AR Team's willingness and interest helped in completing the process smoothly. In addition, face to face meetings and interviews were not allowed because of the COVID-19 pandemic; thus, we had to think about a way to handle all the conversations. Using internet applications was something new as, before the COVID-19 pandemic, all the oral communication applications that require internet connections were restricted to use by the telecommunication companies in the Sultanate of Oman. However, with the COVID-19 pandemic, the restriction on such applications was released as schools, companies, and government organizations asked the telecommunication companies to allow them to use applications such as Zoom Meetings and Microsoft Team as a channel to their clients. Consequently, communication applications were allowed. In early 2020, people were not familiar with using the applications; however, because most of the work tasks and social collaboration took place using Zoom Meetings and WhatsApp calls, people became familiar which was reflected in their acceptance of using social media platforms for the purpose of the project.

6.8 Summary

This AR thesis reflects my hard work to find out the reasons behind the ignoring of HRDt in the HR decision-making process at X Public Administration. In addition, to find ways to enhance the effectiveness of the SAMU. The journey in the AR cycle has added a lot not only to me but also to the organization. I learned and gained knowledge from each phase of the AR cycle and provided my reflections. Moreover, as a scholar-practitioner, I was able to link theory to generate practice to solve a workplace problem (Kieser and Liner, 2009). For

instance, the study created the basic base and the unified network between units, which has contributed to the convergence of distances and increased dialogues. This, in turn, reflected my professional role, becoming a reference for officials to consult and take an opinion. Not only in practice, but the relationship has taken on a social course as well. The study played a major role in identifying those at the top of the pyramid, and they played a role in facilitating and reducing procedures to speed up the actual application of the study. However, the challenges faced were, restructuring the unit, dividing tasks in a way that suits the new structure, strengthening and encouraging staff. However, the challenges have been overcome due to the participation of all in the study, as not only the picture of the new structure but also the tasks and duties were clear. Furthermore, I learned much while dealing with various functional levels as well as developing good relationships that were built on credibility and transparency and which will serve me in the future. As for the X Public Administration, the study provided lots of benefits. For example, the organization has gained a new HR decision-making process technique based on the employees' actual personal data. Furthermore, the establishment of a collaborative network between all the units within the organization is helping in exchanging ideas, thoughts, knowledge, and information. In addition, the creation of a teamwork working environment can be considered a significant change in the organizational culture. Besides, it accepted a female manager to lead a team and make a change within the organization. I encourage every woman to trust her abilities, set her goals in mind, and struggle to reach her goal.

In the end, I recommend that the SAMU continue to train and develop the network, both technically and from HR. Furthermore, I recommend that it update HRDt on a continuous and regular basis because it has a direct impact on the decisions of the different units, which significantly affects the reputation of X Public Administration.

7 Reference List

Abdel-Maksoud, A., Elbanna, S., Mahama, H. and Pollanen, R. (2015). The use of performance information in strategic decision making in public organizations. *International Journal of Public Sector Management*, 28(7), pp.528–549.

Abouzid, M, El-Sherif, DM, Eltewacy, NK, Dahman, NBH, Okasha, SA, Ghozy, S, Islam, SMS, Elburki, ARF, Ali, AAM, Hasan, MA, ALI, EAA, Mohamed, MNG, Ahmed, MH, Taher, AK, Abdalbaqi, LS, Jasim, NH, Aziz, IA, Dafaallah, AB, Dalla, SB, Mastouri, O, Zarrad, C, Abdelslam, AE, Sayed, ATA, Wassim, K, Shaban, M, Fayez, TM, Nasser, M, Radhi, Z, Alkuwaiti, Z, Alsaffar, A, Elaidy, AM, Hammoud, M, Hammoud, SM, Alturki, AS, Jarkhi, T, Hamza, R, Issa, NM, Kaakeh, RA, Aljondi, OA, Ahmed, AA, Ibrahim, MH, Samy, I, Abdulrahman, F, Fouad, WS, Shahin, N, Salman, S, Ghunaim, S, Elayyan, S, Alkhaled, FA, Elsori, D, Altayeb, SN, Lahham, EE, Jobran, AWM, Salman, AN, Abdelhaq, AI, Akkawi, OH, Al-Hadi, AHS, Gozelan, SNR, Qasim, HSA, Areqi, AA, Thabet, AAA, Drid, B, Menzer, S, Hamdani, M, Alya, Z, Adadi, N, Hamri, ZE & Mouhi, HE 2021, 'Influence of COVID-19 on lifestyle behaviors in the Middle East and North Africa Region: a survey of 5896 individuals', *Journal of Translational Medicine*, vol. 19, no. 1, viewed 9 July 2022

ACAS. (2018) 'Improvement required'? A mixed-methods study of employers' use of performance management systems. London: Acas. Retrieved from https://onlinelibrary.wiley.com/doi/full/10.1111/j.1748-8583.2010.00164.x

Aghaz, A., Sheikh, A. and Amirkhani, T. (2017). 'Human Resource Management in the Public Sector: An Investigation into the Iranian Ministries'. *Iranian Journal of Management Studies*, 10(3), pp.667–695.

AHRQ (2019). *Guidelines and Measures | Agency for Healthcare Research & Quality*. [online] Ahrq.gov. Available at: https://www.ahrq.gov/gam/index.html [Accessed 20 Jun. 2020].

Al Ariss, A., Cascio, W.F. and Paauwe, J. (2014). 'Talent management: Current theories and future research directions'. *Journal of World Business*, 49(2), pp.173–179.

Al Marhoobi, S. and Atan, T. (2018). 'The Impact of Human Resource Management on the

Performance of Government Institutions in the Sultanate of Oman'. *Revista de Cercetare si Interventie Sociala,* 61(1), pp.104–121.

Al-Hamadi, A.B., Budhwar, P.S. and Shipton, H. (2007). 'Management of human resources in Oman'. *The International Journal of Human Resource Management*, 18(1), pp.100–113.

Al-Kandari, A. and Gaither, T.K. (2011). 'Arabs, the west and public relations: A critical/cultural study of Arab cultural values'. *Public Relations Review*, 37(3), pp.266–273.

Al-Khatib, J., Rawwas, M. and Vitell, S. (2004). 'Organisational ethics in developing countries: A comparative analysis'. *Journal of Business Ethics*, 55(1), pp.307–320.

Al-Khatib, M.A. (2001). 'The pragmatics of letter-writin'g. *World Englishes*, 20(2), pp.179–200.

Al-Rasheed, A.M. (2001). 'Features of Traditional Arab Management and Organization in the Jordan Business Environment'. *Journal of Transnational Management Development*, 6(1-2), pp.27–53.

Al-Yahya, K.O. (2008). 'Power-Influence in Decision Making, Competence Utilization, and Organizational Culture in Public Organizations: The Arab World in Comparative Perspective'. *Journal of Public Administration Research and Theory*, 19(2), pp.385–407.

Al-Awadi, K. and Saidani, M. (2010).' Justifying the need for a data security management plan for the UAE'. *Information Management & Computer Security*, 18(3), pp.173–184.

Alaimo, S.P., Barry, S. and McPhail, R. (2008). 'Nonprofits and evaluation: Managing expectations from the leader's perspective'. *New Directions for Evaluation*, 2008(119), pp.73–92.

Algassim, A., Barry, S. and McPhail, R. (2012). 'Exploring Management and Employees Perspective of HRM Practices in Saudi Arabia MNC Hotel's. *Journal of Law and Social Sciences*, 2(1), pp.147–154.

Alghanim, O. (2014). 'The culture of "wasta" has outlived its use'. *Gulf News*, [online] 23 Nov., p.4. Available at: https://gulfnews.com/business/analysis/the-culture-of-wasta-

has-outlived-its-use-1.1414068 [Accessed 25 May 2019].

AlHijji, K.Z., AlHarrasi, N.H. and Alissaee, H.S. (2018). 'The Role of Information in Strategic Planning and Decision Making: Overview on Economic Organizations in Oman'. *Journal of Economics, Business & Accountancy Ventura*, 21(1).

Alhyphen, W. and Mohammed, F. (2010). 'Stereotyping of citizens in an expatriate and hyphen; dominated labour market: Implications for workforce localisation policy'. *Employee Relations*, 32(4), pp.364–381.

Ali, A. (1990). *Manpower Planning and Development in Oman*.

Ali, A.J. (1995). 'Cultural Discontinuity and Arab Management Thought'. *International Studies of Management & Organization*, 25(3), pp.7–30.

Alkubaidi, M. (2019). 'An Action Research on EFL Writing Dilemmas: A Case of Saudi Students and Instructors'. *SSRN Electronic Journal*, 10(1).

Almehmadi, M. (2012). 'A contrastive rhetorical analysis of factual texts in English and Arabic'. *Frontiers of Language and Teaching*, 3(1), pp.68–76.

Alonso Mendo, F. and Fitzgerald, G. (2005). 'A multidimensional framework for SME e-business progression'. *Journal of Enterprise Information Management*, 18(6), pp.678–696.

AlSulaiti, F. (2013). 'The National Commitment Towards Conserving the Heritage (Documentation of Historical and Cultural Sites in GCC Countries)'. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XL-5/W2(5), pp.25–30. Andersen, J.A. (2010). 'Public versus Private Managers: How Public and Private Managers Differ in Leadership Behavior'. *Public Administration Review*, 70(1), pp.131–141.

Andrade, E.B. and Ariely, D. (2009). 'The enduring impact of transient emotions on decision making'. *Organizational Behavior and Human Decision Processes*, 109(1), pp.1–8.

Angonga, M. and Florah, O. (2019). 'A theoretical Account of Human Resource Management Practices, Ethical Work Climate and Employee Ethical Behavior: A Critical Literature Review'. *Business Management Dynamics*, 9(4), pp.1–8.

Angrave, D., Charlwood, A., Kirkpatrick, I., Lawrence, M. and Stuart, M. (2016). 'HR and analytics: why HR is set to fail the big data challenge'. *Human Resource Management Journal*, [online] 26(1), pp.1–11. Available at: http://wrap.warwick.ac.uk/85780/ [Accessed 22 Jul. 2019].

Anitha, J. and Aruna, M. (2013). 'Adoption of Human Resource Information System in Organisations'. *SDMIMD Journal of Management*, 4(2), pp.5–15.

Ankrah, E. and Sokro, E. (2012). 'Human Resource Information System as a Strategic Tool in Human Resource Management'. *Problems of Management in the 21st Century*, 5(1), pp.6–15.

Antioco, M. and Coussement, K. (2018). 'Misreading of consumer dissatisfaction in online product reviews: Writing style as a cause for bias'. *International Journal of Information Management*, 38(1), pp.301–310.

Anyim, F., Ekwoaba, J. and Anthony, I. (2012). 'The Role of Human Resource Planning in Recruitment and Selection Process'. *British Journal of Humanities and Social Sciences*, 6(2), pp.68–79.

Argyris, C. (1995). *Good Communication That Blocks Learning Harvard Business Review*. [online] Available at: http://6-30partners.com/wp-content/uploads/2015/12/Chris-Argyris-Good-Communication-that-Blocks-Learning.pdf.

Argyris, S. and Schon, D. (1974). *Theories in Practice*. San Franscisco: Jossey Bass.

Armstrong, M. (2017) Armstrong's handbook of performance management: an evidence-based guide to delivering high performance. 6th ed. London: Kogan Page.

Armstrong, M. (2017).' How can we fix performance management? People Management'.(online). 17 November.

Armstrong, S.J., Cools, E. and Sadler-Smith, E. (2011). 'Role of Cognitive Styles in Business and Management: Reviewing 40 Years of Research'. *International Journal of Management Reviews*, 14(3), pp.238–262.

Asghari, M., Sierra-Sosa, D. and Elmaghraby, A. (2018). 'A Semi-Automatic System for Data Management and Cleaning'. *International Symposium on Signal Processing and Information Technology*, pp.393–397.

Ashdown, L. (2018). 'Performance management: a practical introduction'. 2nd ed. *HR Fundamentals.* London: CIPD and Kogan Page.

Attiyah, H. (1993). 'Roots of organization and management problems in Arab countries: Cultural or otherwise?' In: *In Proceedings of the First Arab Management Conference*. UK: Bradford University, pp.223–246.

Aycan, Z., Al-Hamadi, A.B., Davis, A. and Budhwar, P. (2007). 'Cultural orientations and preferences for HRM policies and practices: the case of Oman'. *The International Journal of Human Resource Management*, 18(1), pp.11–32.

Aycan, Z., Kanungo, R., Mendonca, M., Yu, K., Deller, J., Stahl, G. and Kurshid, A. (2000). 'Impact of Culture on Human Resource Management Practices: A 10-Country Comparison'. *Applied Psychology*, [online] 49(1), pp.192–221. Available at: https://pdfs.semanticscholar.org/bae8/9bebe8348c15358b9abbd1c7e4b9fd9d4a94.pdf [Accessed 9 Mar. 2019].

Azwir, H.H. and Maulidin, M.Y. (2017). Implementing an Automated System to Simplify the Data Management Process at Parts Storage Area of PT. Z. *J@ti Undip: Jurnal Teknik Industri*, 12(2), p.85.

Bachkirov, A.A. (2015). 'Managerial decision making under specific emotions'. *Journal of Managerial Psychology*, 30(7), pp.861–874.

Bachkirov, A.A. and AlAbri, S. (2016). I'slamic values and negotiator behavior'. *International Journal of Islamic and Middle Eastern Finance and Management*, 9(3), pp.333–345.

Bachkirov, A.A. and Shamsudin, Mohd, F. (2017). R'eward allocation decision making in Arab-Islamic business organizations'. *International Journal of Islamic and Middle Eastern Finance and Management*, 10(4), pp.536–553.

Bae, J. and Lawler, J.J. (2000). 'Organizational and HRM Strategies in Korea: Impact on Firm Performance in an Emerging Economy'. *Academy of Management Journal*, 43(3), pp.502–517.

Bakker, A., Westman, M., Hetty van Emmerik, I., Härtel Charmine, E. and Page K. M. (2009). 'Discrete emotional crossover in the workplace; the role of affect intensity'. *Journal of Managerial Psychology*, 24(3), pp.237–253.

Bal, Y., Bozkurt, S. and Ertemsir, E. (2012). 'The importance of using human resources information systems (HRIS) and research on determining the success of HRIS'. *Management Knowledge and Learning International Conference.* [online] pp.53–62. Available at: http://issbs.si/press/ISBN/978-961-6813-10-5/papers/ML12_029.pdf [Accessed 20 Sep. 2020].

Baltimore, M. (2012). *Organisations and complex adaptive systems*. Animation: Laureate Education, Inc. https://doi.org/10.21954/ou.ro.0000e235.

Bâra, A., Șimonca (Botha), I., Belciu, A. and Nedelcu, B. (2015). 'Exploring Data in Human Resources Big Data'. *Database Systems Journal*, 6(3), pp.3–10. [Online] Available at: https://ideas.repec.org/a/aes/dbjour/v6y2016i3p3-10.html. [Accessed 19 July. 2020].

Barnett, A., Yandle, B. and Naufal, G. (2013). 'Regulation, trust, and cronyism in Middle Eastern societies: The simple economics of "Wasta"'. *Journal of Behavioral and Experimental Economics (formerly The Journal of Socio-Economics)*, 2013, vol. 44, issue C, 41-46. DOI: 10.1016/j.socec.2013.02.004.

Behn, R.D. (2003). 'Why Measure Performance? Different Purposes Require Different Measures'. *Public Administration Review*, 63(5), pp.586–606**.** DOI: 10.12691/jfa-2-3-1

Belwal, S., Belwal, R. and Al-Hashemi, S.E. (2019). 'Family friendly policies and the Omani Labour Law'. *Employee Relations: The International Journal*, 42(2), pp.315–348. DOI:10.1108/ER-09-2018-0245.

Bendell, B.L., Sullivan, D.M. and Hanek, K.J. (2020). 'Gender, technology, and decision-making: insights from an experimental conjoint analysis'. *International Journal of Entrepreneurial Behavior & Research*, 26(4), pp.647–670. DOI:10.1108/ijebr-04-2019-0232.

Betsch, C. and Kunz, J.J. (2008). 'Individual strategy preferences and decisional fit'. *Journal of Behavioral Decision Making*. 21(5), pp.532–555. https://doi.org/10.1002/bdm.600.

Bilalee, S., Maneewat, K., Sae-Sia, W. and Nimmaanrat, S. (2019). 'The Effectiveness of an Evidence-Based Pain Management Program on Pain Intensity and Chest Rehabilitation Improvement Among Chest Trauma Patients in a Thai Hospital'. *Pain Management Nursing*, 20(6). https://doi.org/10.1016/j.pmn.2019.06.002.

Bin Taher, N.A., Krotov, V. and Silva, L. (2015). 'A framework for leading change in the UAE public sector'. *International Journal of Organizational Analysis*, 23(3), pp.348–363. DOI:10.1108/IJOA-10-2014-0809.

Boselli, R., Cesarini, M., Mercorio, F. and Mezzanzanica, M. (2014). 'Towards data cleansing via planning'. *Intelligenza Artificiale*, 8(1), pp.57–69. DOI:10.1108/IJOA-10-2014-0809.

Bozeman, B., and Pandey, S.K. (2004). 'Public Management Decision Making: Effects of Decision Content'. *Public Administration Review*, 64(5), pp.553–565. https://doi.org/10.1111/j.1540-6210.2004.00403.x

Brannick, T. and Coghlan, D. (2007). 'In Defense of Being "Native": The Case for Insider Academic Research'. *Organizational Research Methods*, 10(1), pp.59–74. https://doi.org/10.1177/1094428106289253.

Braun, V. and Clarke, V. (2006). 'Using Thematic Analysis in Psychology'. *Qualitative Research in Psychology*. 3(2), pp.77–101. Available at: DOI:10.1191/1478088706QP063OA.

Braun, V. and Clarke, V. (2012). 'Thematic analysis'. *APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological.*, [online] 2(1), pp.57–71. Available at: https://psycnet.apa.org/record/2011-23864-004.

Briner, R.B., Denyer, D. and Rousseau, D.M. (2009). 'Evidence-Based Management: Concept Cleanup Time?' *Academy of Management Perspectives*. 23(4), pp.19–32. https://doi.org/10.5465/amp.23.4.19.

Budhwar, P. and Mellahi, K. (2007). 'Introduction: human resource management in the Middle East'. *The International Journal of Human Resource Management*, 18(1), pp.2–10. https://doi.org/10.1080/09585190601068227.

Budhwar, P.S., Al-Yahmadi, S. and Debrah, Y. (2002). 'Human resource development in the Sultanate of Oman'. *International Journal of Training and Development*, 6(3), pp.198–215. https://doi.org/10.1111/1468-2419.00159.

Burns, J., Hopper, T. and Yazdifar, H. (2004). 'Management accounting education and training: putting management in and taking accounting out'. *Qualitative Research in Accounting & Management*, 1(1), pp.1–29. https://doi.org/10.1108/11766090410816271.

Buller, P. and McEvoy, G. (2012). 'Strategy, human resource management and performance: Sharpening line of sight'. *Human Resource Management Review*,22(1), pp.43-56. https://doi.org/10.1016/j.hrmr.2011.11.002.

Cappelli, P. and Tavis, A. (2016). 'The performance management revolution'. *Harvard Business Review*, 94(10), pp.58-67.

Carman, J.G. and Fredericks, K.A. (2008). 'Nonprofits and evaluation: Empirical evidence from the field'. *New Directions for Evaluation*, 2008(119), pp.51–71. https://doi.org/10.1002/ev.268.

Carrilio, T.E., Packard, T. and Clapp, J.D. (2004). 'Nothing In—Nothing Out'. *Administration in Social Work*, 27(4), pp.61–75. http://dx.doi.org/10.1300/J147v27n04_05.

Chahar, B. and Hatwal, V. (2018). 'Human Resource Management Practices and Its Impact on Employees Engagement and Performance'. *OPUS: HR Journal*, 9(1), pp.16–35. https://doi.org/10.1300/J147v27n04_05.

Choge, J. (2015). 'Gender Factor in Decision Making: Challenges Facing Women Leadership Development in Primary Schools'. *Management in Kenya', Journal of Education and Practice*, 6(12), pp.30–37. Semantic Scholar Corpus ID: 55138463

Churchman, C.W. (1967). 'Wicked Problems'. *Management Science*, 14(4), pp.141–143. [online] Available at : http://www.jstor.org/stable/2628678?origin=JSTOR-pdf [Accessed 25 Jan. 2020].

Ciobanu, A. and Androniceanu, A. (2018). 'Integrated human resources activities-the solution for performance improvement in Romanian public sector institutions'. *Management Research and Practice*, 10(3), pp.60–79. Semantic Scholar Corpus ID: 217048547.Clarke, N. (2019). 'How to ensure provision of accurate data to enhance decision-making'. *Journal of Securities Operations and Custody*, 11(2), pp.112–127. [online] available at: https://www.ingentaconnect.com/content/hsp/jsoc/2019/00000011/00000002/art00003#expand/collapse [Accessed 5 May. 2021].

Clausen, N.F. (2015). 'The Danish Demographic Database—Principles and Methods for Cleaning and Standardisation of Data'. *Population Reconstruction*, [online] pp.3–22. Available at: https://link.springer.com/chapter/10.1007/978-3-319-19884-2_1 [Accessed 20 Jun. 2020].

Clegg, S.R. (2002). "Lives in the Balance": A Comment on Hinings and Greenwood's "Disconnects and Consequences in Organization Theory?" *Administrative Science Quarterly*, 47(3), pp.428–441. https://doi.org/10.2307/3094844.

Coghlan, D. (2001). 'Insider Action Research Projects'. *Management Learning*, 32(1), pp.49–60. https://doi.org/10.1177/1350507601321004.

Coghlan, D. (2019). *Doing action research in your own organization*. Los Angeles, Calif. Sage.

Coghlan, D. and Brannick, T. (2006). *Doing action research in your own organization*. 2nd ed. Los Angeles [U.A.] Sage.

Coghlan, D. and Brannick, T. (2010). *Doing Action Research in your own Organization*. 3rd ed. London: Sage.

Coghlan, D. and Brannick, T. (2014). *Doing Action Research in Your Own Organisation*. 4th ed. London: SAGA Publications Ltd.

Colquitt, J.A., Conlon, D.E., Wesson, M.J., Porter, C.O.L.H. and Ng, K.Y. (2001). 'Justice at the millennium: A meta-analytic review of 25 years of organizational justice research'. *Journal of Applied Psychology*, 86(3), pp.425–445. https://doi.org/10.1037/0021-9010.86.3.425.

Creswell, J. (1994). *RESEARCH DESIGN Qualitative, Quantitative, and mixed methods approaches SECOND EDITION*. [online] Available at: http://colinmayfield.com/public/WaterHealthSept2015/course2/content/Resources/RESEARCH%20DESIGN%20QUA%20QUAN%20(1).pdf [Accessed 15 Sep. 2021].

Creswell, J.W. (2002). *Educational research: Planning, conducting, and evaluating quantitative*. NJ: Prentice Hall: Upper Saddle River, p.676.

Creswell, J.W. (2007). *Qualitative inquiry and research design: choosing among five traditions*. 2nd ed. Thousand Oaks: Sage.

Crotty, M. (1998). *The foundations of social research: meaning and perspective in the research process*. London: Sage.

Cuéllar Molina, D., Déniz-Déniz, M.C. and García-Cabrera, A.M. (2019). 'The HR decision-maker's emotional intelligence and SME performance'. *Management Research Review*, 43(1), pp.56–81. http://dx.doi.org/10.1108/MRR-10-2018-0373.

Datnow, A. and Park, V. (2015). '5 (Good) talk about ways to data'. *Educational Leadership*, 73(3), pp.10–15. https://eds-p-ebscohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=0&sid=d4c71afe-4d9b-4218-bd49-38a9938c7bf3%40redis.

Delone, W. and McLean, E. (2003). 'The DeLone and McLean Model of Information Systems Success: A Ten-Year Update'. *Journal of Management Information Systems*, 19(4), pp.9–30. http://dx.doi.org/10.1080/07421222.2003.11045748.

Di Zhang, D. and Bruning, E. (2011). 'Personal characteristics and strategic orientation: entrepreneurs in Canadian manufacturing companies'. *International Journal of Entrepreneurial Behavior & Research*, 17(1), pp.82–103. http://dx.doi.org/10.1108/13552551111107525.

Diabat, A. and Deskoores, R. (2016). 'A hybrid genetic algorithm-based heuristic for an integrated supply chain problem'. *Journal of Manufacturing Systems*, 38(1), pp.172–180. http://dx.doi.org/10.1016%2Fj.jmsy.2015.04.011.

Dickinson, J.I., Marsden, J.P. and Read, M.A. (2007). 'Empirical Design Research: Student Definitions, Perceptions, and Values'. *Journal of Interior Design*, 32(2), pp.1–12. https://doi.org/10.1111/j.1939-1668.2006.tb00309.x.

Dorsey, D. (2002). *Information technology*. San Francisco: Jossey-Bass.

Dragota, V. (2016). 'When making bad decisions becomes habit: Modelling the duration of making systematically bad decisions'. *Economic computation and economic cybernetics studies and research / Academy of Economic Studies* 50(1):123-140. [online] Available at; https://www.researchgate.net/publication/297397367_When_making_bad_decisions_b ecomes_habit_Modelling_the_duration_of_making_systematically_bad_decisions?enric hId=rgreq-7bc8c0b6e71b8576e62443616d437f57- XXX&enrichSource=Y292ZXJQYWdlOzI5NzM5NzM2NztBUzozMzczNDU5MTMwODE4NTh AMTQ1NzQ0MDk0MTQzMw%3D%3D&el=1_x_2&_esc=publicationCoverPdf [Accessed 28 Jan. 2021].

Dutton, J.E., Ashford, S.J., Lawrence, K.A. and Miner-Rubino, K. (2002). 'Red light, green light: Making sense of the organizational context for issue selling'. *Organization Science*, 13(4), pp.355-369. https://doi.org/10.1287/orsc.13.4.355.2949.

Easterby-Smith, M., Thorpe, R. and Jackson, P. (2013). *Management research*. Los Angeles; London: Sage.

Eddy, D.M. (2005). 'Evidence-Based Medicine: A Unified Approach'. *Health Affairs*, 24(1), pp.9–17. https://doi.org/10.1377/hlthaff.24.1.9.

Edelhauser, E. (2012). 'Human Resource Information System in Romanian Organizations'. *Review of International Comparative Management*, 13(5), pp.756–767. [online] Available at: https://www.ceeol.com/search/article-detail?id=732160 [Accessed 8 March. 2021].

Eden, C. and Huxham, C. (1996). 'Action research for management research'. *British Journal of Management*, 7(1), pp.75–86. [online] Available at: https://www.academia.edu/23651310/Action_research_for_management_research [Accessed 1 Sep. 2020].

Elbanna, S. and Elsharnouby, T.H. (2018). 'Revisiting the relationship between formal planning process and planning effectiveness.' *International Journal of Contemporary Hospitality Management*, 30(2), pp.1016–1034. https://doi.org/10.1108/IJCHM-12-2016-0675.

Ely, R. and Padavic, I. (2007). 'A feminist analysis of organizational research on sex differences'. *Academy of Management Review*, 32(4), pp.1121–1143. https://www.jstor.org/stable/20159359.

Evered, R. and Louis, M.R. (1981). 'Alternative Perspectives in the Organizational Sciences: "Inquiry from the inside" and "Inquiry from the outside." *The Academy of Management Review*, 6(3), p.385. http://links.jstor.org/sici?sici=0363-7425%28198107%296%3A3%3C385%3AAPITOS%3E2.0.CO%3B2-W.

Fargher, J. (2018). 'How to get managers on board with performance management'. People Management (online). 24 May.

Feldman, A., Altrichter, H., Posch, P., Somekh, B. and Routledge (2018). *Teachers investigate their work: an introduction to action research across the professions*. London; New York: Routledge - Taylor & Francis Group.

Fenech, R., Baguant, P. and Ivanov, D. (2019). 'The Changing Role of Human Resource Management in an Era of Digital Transformation'. *Journal of Management Information and Decision Sciences*, 22(2), pp.1–10. Semantic Scholar Corpus ID: 202361559.

Fischer, R. (2008). 'Rewarding Seniority: Exploring Cultural and Organizational Predictors of Seniority Allocations'. *The Journal of Social Psychology*, 148(2), pp.167–186. https://doi.org/10.3200/SOCP.148.2.167-186.

Fisher, C.D. (2010). 'Happiness at Work'. *International Journal of Management Reviews*, 12(4), pp.384–412. https://doi.org/10.1111/j.1468-2370.2009.00270.x.

Francioni, B., Musso, F. and Cioppi, M. (2015). 'Decision-maker characteristics and international decisions for SMEs'. *Management Decision*, 53(10), pp.2226–2249. https://doi.org/10.1108/md-03-2015-0094.

Fugard, A. and Potts, H. (2015). 'Supporting thinking on sample sizes for thematic analyses: a quantitative tool'. *International Journal of Social Research Methodology*, 18(6), pp.669–684. https://doi.org/10.1080/13645579.2015.1005453.

Fulop, L. and Mark, A. (2013). 'Relational leadership, decision-making and the messiness of context in healthcare'. *Leadership*, 9(2), pp.254–277. https://doi.org/10.1177/1742715012468785.

Garcia-Perez, A. (2018). 'Living with data: Scale, time, and space dimensions in a data-driven culture'. *Social Business*, 8(1), pp.87–93. https://doi.org/10.1362/204440818X15208755029591.

Ghosh, A. and Sengupta, T. (2016). Editors J. Fitz-Enz and I. I. John Mattox, Predictive analytics for human resources. *Human Resource Development International*, 20(2), pp.180-183. https://doi.org/10.1080/13678868.2016.1258914.

Gibson, D.E. and Callister, R.R. (2009). Anger in Organizations: Review and Integration. *Journal of Management*, 36(1), pp.66–93. https://doi.org/10.1177/0149206309348060.

Gill, J. and Johnson, P. (2002). *Research Methods for Managers*. 3rd ed. London: Sage Publications.

Glennon, R., Hodgkinson, I. and Knowles, J. (2018). 'Learning to manage public service organisations better: A scenario for teaching public administration'. *Teaching Public Administration*, 37(1), pp.31–45. https://doi.org/10.1177/0144739418798148.

Goldsmith, M. and Carter, L. (2010). *Best practices in talent management how the world's leading corporations manage, develop, and retain top talent*. San Francisco, Calif. Jossey-Bass.

Grubic-Nesic, L., Mitrovic, S., Melovic, B. and Milisavljevic, S. (2016). 'Differences between the state/public and private sectors in organizations in Serbia regarding the functionality of managers' decision making'. *Journal of East European Management Studies*, 21(1), pp.82–102. DOI 10.1688/JEEMS-2016-Grubic-Nesic.

Guest, D. (2011). 'Human resource management and performance: still searching for some answers". *Human resource management Journal*, 33(2). https://onlinelibrary.wiley.com/doi/full/10.1111/j.1748-8583.2010.00164.x

Guo, R., Berkshire, S.D., Fulton, L.V. and Hermanson, P.M. (2017). 'Predicting intention to use evidence-based management among U.S. healthcare administrators: Application of the theory of planned behavior and structural equation modeling'. *International Journal of Healthcare Management*, 12(1), pp.25–32. https://doi.org/10.5465/ambpp.2016.13298abstract.

Haegemans, T., Snoeck, M. and Lemahieu, W. (2019). 'A theoretical framework to improve the quality of manually acquired data'. *Information & Management*, 56(1), pp.1–14. https://doi.org/10.1016/j.im.2018.05.014.

Hailey, V.H., Farndale, E. and Truss, C. (2005). The HR department's role in organisational performance. *Human Resource Management Journal*, 15(3), pp.49–66. https://doi.org/10.1111/j.1748-8583.2005.tb00153.x.

Hammond, J.S., Keeny, R.L. and Raiffa, H. (1998). 'The hidden traps of decision-making'. *Harvard Business Review*, 76(5), pp.47–58. [online] Available at: https://hbr.org/1998/09/the-hidden-traps-in-decision-making-2. [Accessed 25 April. 2020].

Harbi, S.Al., Thursfield, D. and Bright, D. (2016). 'Culture, Wasta and perceptions of performance appraisal in Saudi Arabia'. *The International Journal of Human Resource Management*, 28(19), pp.2792–2810. https://doi.org/10.1080/09585192.2016.1138987.

Harris, D. (2015). 'HR Data Privacy in the Era of Big Data'. *Workforce Solutions Review*, 6(5), pp.41–42. https://doi.org/10.1108/MD-12-2020-1581.

Harris, J.G., Craig, E. and Light, D.A. (2011). 'Talent and analytics: new approaches, higher ROI'. *Journal of Business Strategy*, 32(6), pp.4–13. https://doi.org/10.1108/02756661111180087.

Harry, W. (2007). 'Employment creation and localization: the crucial human resource issues for the GCC'. *The International Journal of Human Resource Management*, 18(1), pp.132–146. https://doi.org/10.1080/09585190601068508.

Haug, A., Zachariassen, F. and Liempd, D. van (2011). 'The costs of poor data quality'. *Journal of Industrial Engineering and Management*, 4(2). http://dx.doi.org/10.3926/jiem.2011.v4n2.p168-193.

Hazen, B.T., Boone, C.A., Ezell, J.D. and Jones-Farmer, L.A. (2014). Data quality for data science, predictive analytics, and big data in supply chain management: An introduction to the problem and suggestions for research and applications. *International Journal of Production Economics*, 154(1), pp.72–80. DOI: 10.1016/j.ijpe.2014.04.018.

Heidary Dahooie, J., Beheshti Jazan Abadi, E., Vanaki, A.S. and Firoozfar, H.R. (2017). 'Competency-based IT personnel selection using hybrid SWARA and ARAS-G methodology'. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 28(1), pp.5–16. https://doi.org/10.1002/hfm.20713.

Hirshleifer, D.A. (2001). Investor Psychology and Asset Pricing. *SSRN Electronic Journal*, [online] 56(4). Available at: https://www.bus.umich.edu/pdf/mitsui/nttdocs/hirshleifer-Investor_Psychology.pdf [Accessed 11 Nov. 2019].

Hodgkinson, M. (2000). 'Managerial perceptions of barriers to becoming a "learning organization"'. *The Learning Organization*, 7(3), pp.156–167. https://doi.org/10.1177/0144739418798148.

Hoffmann, T., Jansen, J. and Glasziou, P. (2018). 'The importance and challenges of shared decision making in older people with multimorbidity'. *PLOS Medicine*, 15(3), p.e1002530. https://doi.org/10.1371/journal.pmed.1002530.

Hofstede, G. (2001). 'Culture's Recent Consequences: Using Dimension Scores in Theory and Research'. *International Journal of Cross-Cultural Management*, 1(1), pp.11–17. https://doi.org/10.1177/147059580111002.

Hofstede, G., Hofstede, G. and Minkov, M. (2010). *Cultures and organizations. Software of the mind: intercultural cooperation and its importance for survival*. [online] Available at: https://search-ebscohost-com.liverpool.idm.oclc.org/login.aspx?direct=true&db=cat00003a&AN=lvp.b2393957&site=eds-live&scope=site [Accessed 4 Jun. 2020].

Hofstede, G., Neuijen, B., Ohayv, D.D. and Sanders, G. (1990). 'Measuring Organizational Cultures: A Qualitative and Quantitative Study Across Twenty Cases'. *Administrative Science Quarterly*, 35(2), p.286. DOI:10.2307/2393392.Hogan, J. and Holland, B. (2003). 'Using theory to evaluate personality and job-performance relations: A socioanalytic perspective'. *Journal of Applied Psychology*, 88(1), pp.100–112. https://doi.org/10.1037/0021-9010.88.1.100.

Holly, N. (2010). '*HR models: lessons from best practice'*. Henley: Henley Business School.

House, R., Javidan, M. and Dorfman, P. (2001). 'Project GLOBE: An Introduction'. *Applied Psychology*, 50(4), pp.489–505. https://doi.org/10.1111/1464-0597.00070.

Howcroft, D. and Richardson, H. (2012). 'The back office goes global: exploring connections and contradictions in shared service centres'. *Work, Employment and Society*. 26(1), pp.111-127.

Huber, J., MMller, S., Fleischmann, M. and Stuckenschmidt, H. (2017). 'A Data-Driven Newsvendor Problem: From Data to Decision'. *SSRN Electronic Journal*, 278(3). DOI:10.2139/ssrn.3090901.

Huemer, L. (2012). 'Organizational identities in networks: Sense-giving and sense-taking in the salmon farming industry'. *The IMP Journal*, [online] 6(1). Available at: https://core.ac.uk/download/pdf/52040244.pdf.

Hunter, M., Uwaydah Mardini, R., El-Seblani, A. and Elsayed, S. (2020). 'Anti-corruption, Transparency and Accountability: Case Study of Healthcare in the Arab Countries'. *Global Health Action*, 13(sup1), p.1704529. https://doi.org/10.1080/16549716.2019.1704529.

Hussain, Z., Wallace, J. and Cornelius, N.E. (2007). 'The use and impact of human resource information systems on human resource management professionals'. *Information & Management*, 44(1), pp.74–89. https://doi.org/10.1016/j.im.2006.10.006.

Ikram, K. and Ahmed, A. (2020). 'The Role of Accounting Information in the Company's Decision-Making Process'. *International Journal of Psychosocial Rehabilitation*, 24(03), pp.645–656. https://doi.org/10.37200/IJPR/V24I3/PR200821.

Iles, P., Almhedie, A. and Baruch, Y. (2012). 'Managing HR in the Middle East: Challenges in the Public Sector'. *Public Personnel Management*, 41(3), pp.465–492. https://econpapers.repec.org/RePEc:hal:journl:hal-00809649.

Ilie, C. and Cardoza, G. (2018). 'Thinking styles, gender, and decision making in Latin American management'. *Academia Revista Latinoamericana de Administración*, 31(1), pp.29–42. https://doi.org/10.1108/ARLA-04-2017-0093.

Intindola, M., Weisinger, J. and Gomez, C. (2016). 'With a little help from my friends'. *Management Decision*, 54(10), pp.2562–2586. http://dx.doi.org/10.1108/MD-06-2015-0237.

Ismail, A. and Muafi, M. (2019). 'The Influence of Talent Management, Servant Leadership and Trust in Employee Performance Mediated by Online Training (Study of Pt. Ruma Employees)'. *Proceedings on Engineering Sciences*, 1(2), pp.115–130. http://dx.doi.org/10.24874/PES01.02.012.

Iyengar, R., Mahal, A., Felicia, U., Aliyu, B. and Karim, A. (2015). 'Federal Policy to Local Level Decision-Making: Data Driven Education Planning in Nigeria'. *International Education Journal: Comparative Perspectives*, 14(3), pp.76–93. https://eric.ed.gov/?id=EJ1086809.

Jacobs, R. and Washington, C. (2003). 'Employee development and organizational performance: a review of literature and directions for future research'. *Human Resource Development International*, 6(3), pp.343–354. https://doi.org/10.1080/13678860110096211.

Janati, A., Hasanpoor, E., Hajebrahimi, S., Sadeghi-Bazargani, H. and Khezri, A. (2018). 'An Evidence-Based Framework for Evidence-Based Management in Healthcare Organizations: A Delphi Study'. *Ethiopian Journal of Health Sciences,* 28(3), p.305. https://doi.org/10.4314/ejhs.v28i3.8.

Janis, I.L. (1973). 'Groupthink and Group Dynamics: A Social Psychological Analysis of Defective Policy Decisions'. *Policy Studies Journal*, 2(1), pp.19–25. DOI:10.1111/J.1541-0072.1973.TB00117.X.

Jasim, S. (2020). 'Impact of Human Resource Management Practices on Enhancing Organizational Performance'. *Calitatea*, 21(174), pp.28–34. https://doi.org/10.3390/su14052872.

Jiang, Z., DeHart, D.L. and Borry, E.L. (2022) 'Managerial Practice and Diversity Climate: The Roles of Workplace Voice, Centralization, and Teamwork', *Public Administration Review*, 82(3), pp. 459–472. doi:10.1111/puar.13494.Johnson, P. and Duberley, J. (2000). *Understanding management research*. London; Thousand Oaks; New Delhi: Sage Publications, Cop.

K, R.K. and Thakur, G. (2019). 'The Influence of Organizational Culture on HRM Practices at Academic Institutions in Oman'. *International Journal of Business Administration and Management Research*, 5(1), p.1. http://dx.doi.org/10.24178/ijbamr.2019.5.1.01.

Katou, A.A., Budhwar, P.S., Woldu, H. and Basit Al-Hamadi, A. (2010). 'Influence of ethical beliefs, national culture and institutions on preferences for HRM in Oman'. *Personnel Review*, 39(6), pp.728–745. https://doi.org/10.1080/09585190601068243.

Kels, P. and Vormbusch, U. (2020) 'People Analytics im Personalmanagement: Auf dem Weg zur automatisierten Entscheidungskultur?'. *Industrielle Beziehungen. Zeitschrift für Arbeit, Organisation und Management*, 27(1-2020), pp.69–88. https://doi.org/10.3224/indbez.v27i1.04.

Kemmis, S., McTaggart, R. and Nixon, R. (2003). *Action Research Planner: Doing Critical Participatory Action Research.* 2nd ed. Springer.

Kerry, T. (2003). 'Middle managers as followers and leaders'. *Management in Education*, 17(3), pp.12–15. https://doi.org/10.1177/08920206030170030301.

Khan, S. (2011). 'Convergence, Divergence or Middle of the Path: HRM Model for Oman'. *Journal of Management Policy and Practice*, 12(1), pp.76–87. [online] https://www.academia.edu/4338846/Convergence_Divergence_or_Middle_of_the_Path_HRM_Model_for_Oman [Accessed 14 Feb. 2020].

Khilji, S.E. and Wang, X. (2006). '"Intended" and "implemented" HRM: the missing linchpin in strategic human resource management research'. *The International Journal of Human Resource Management*, [online] 17(7), pp.1171–1189. Available at: https://www.ingentaconnect.com/content/routledg/rijh/2006/00000017/00000007/art00001 [Accessed 25 Aug. 2019].

Kieser, A. and Leiner, L. (2009). 'Why the Rigour-Relevance Gap in Management Research Is Unbridgeable'. *Journal of Management Studies*, 46(3), pp.516–533. https://doi.org/10.1111/j.1467-6486.2009.00831.x.

King, K.G. (2016). 'Data Analytics in Human Resources'. *Human Resource Development Review*, 15(4), pp.487–495. https://doi.org/10.1177/1534484316675818.

Klein, H.K. (2004). 'Seeking the new and the critical in critical realism'. *Information and Organization*, 14(2), pp.123–144. http://dx.doi.org/10.1016/j.infoandorg.2004.02.002.

Koornneef, E. J., Robben, P., & Blair, I. (2017). 'Progress and outcomes of health systems reform in the United Arab Emirates: A systematic review'. *BMC Health Services Research*, 17(1), 672. https://doi.org/10.1186/s12913-017-2597-1.

Kossek, E.E., Young, W., Gash, D.C. and Nichol, V. (1994). 'Waiting for innovation in the human resources department: Godot implements a human resource information system'. *Human Resource Management*, 33(1), pp.135–159. https://doi.org/10.1002/hrm.3930330108.

Kotlyar, I. and Karakowsky, L. (2006). 'Leading Conflict? Linkages Between Leader Behaviors and Group Conflict'. *Small Group Research*, 37(4), pp.377–403. https://doi.org/10.1177/1046496406291388.

Kovner, A.R. and Rundall, T.G. (2006). Evidence-Based Management Reconsidered. *Frontiers of Health Services Management*, 22(3), pp.3–22. PMID: 16604900.

Kozak, M., Krzanowski, W., Cichocka, I. and Hartley, J. (2015). 'The effects of data input errors on subsequent statistical inference'. *Journal of Applied Statistics*, 42(9), pp.2030–2037. PMID: 16604900https://eds-p-ebscohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=0&sid=d4c71afe-4d9b-4218-bd49-38a9938c7bf3%40redis Kroll, A. (2015). 'Drivers of Performance Information Use: Systematic Literature Review and Directions for Future Research'. *Public Performance & Management Review*, 38(3), pp.459–486. https://doi.org/10.1080/15309576.2015.1006469.

Kumar, N. and Che Rose, R. (2012). 'The impact of knowledge sharing and Islamic work ethic on innovation capability'. *Cross Cultural Management: An International Journal*, 19(2), pp.142–165. https://doi.org/10.1108/13527601211219847.

Kvale, S. (1996). 'The 1,000-Page Question'. *Qualitative Inquiry*, 2(3), pp.275–284. [online] Available   at: https://journals.library.ualberta.ca/pandp/index.php/pandp/article/view/15073/11894. [Accessed 28 Jan. 2020].

Lackes, R., Siepermann, M. and Vetter, G. (2020). 'What drives decision makers to follow or ignore forecasting tools - A game-based analysis'. *Journal of Business Research*, 106(1), pp.315–322. http://hdl.handle.net/10125/50029.

Leicht-Deobald, U., Busch, T., Schank, C., Weibel, A., Schafheitle, S., Wildhaber, I. and Kasper, G. (2019). 'The Challenges of Algorithm-Based HR Decision-Making for Personal Integrity'. *Journal of Business Ethics*, [online] 160(2), pp.377–392. Available at: https://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=139772641&S=R&D= ofs&EbscoContent=dGJyMNLe80SeprM4wtvhOLCmr1GeprZSs6q4SbeWxWXS&ContentC ustomer=dGJyMPGnsEq3q7FIuePfgeyx43zx [Accessed 5 Dec. 2019].

Lench, H.C., Flores, S.A. and Bench, S.W. (2011). 'Discrete emotions predict changes in cognition, judgment, experience, behavior, and physiology: a meta-analysis of experimental emotion elicitations'. *Psychological Bulletin*, [online] 137(5), pp.834–855. Available at: https://www.ncbi.nlm.nih.gov/pubmed/21766999 [Accessed 18 Apr. 2020].

Levin, J.A. and Datnow, A. (2012). 'The principal role in data-driven decision making using case-study data to develop multi-mediator models of educational reform'. *School Effectiveness and School Improvement*, 23(2), pp.179–201. https://doi.org/10.1080/09243453.2011.599394.

Levy, M., Powell, P. and Yetton, P. (2001). 'SMEs: Aligning is and the Strategic Context'. *Journal of Information Technology*, 16(3), pp.133–144. https://doi.org/10.1080/02683960110063672.

Levy, Y. and J. Ellis, T. (2006). 'A Systems Approach to Conduct an Effective Literature Review in Support of Information Systems Research'. *Informing Science: The International Journal of an Emerging Transdiscipline*, 9(1), pp.181–212. https://doi.org/10.28945/479.

Lewin, A.Y. and Stephens, C.U. (1994). 'CEO Attitudes as Determinants of Organization Design: An Integrated Model'. *Organization Studies*, 15(2), pp.183–212. 10.1177/017084069401500202.

Liang, Z., Howard, P., and Rasa, J. (2011). 'Evidence-Informed Managerial Decision-Making: what evidence counts? (Part Two)'. *Asia Pacific Journal of Health Management*, 6(2), pp.12–21. [online] Available at: https://www.academia.edu/47980243/Evidence_informed_managerial_decision_making_what_evidence_counts_. [Accesssed 25 Dec 2019].

Liang, Z., Howard, P. and Rasa, J. (2011). 'Evidence-Informed Managerial Decision-Making: what evidence counts? (Part One)'. *Asia Pacific Journal of Health Management*, 6(1), pp.23–29. [online] Available at: https://www.academia.edu/47980243/Evidence_informed_managerial_decision_making_what_evidence_counts_. [Accesssed 1 Jan. 2020].

Lincoln, Y.S. and Denzin, N.K. (1998). *The landscape of qualitative research: theories and issues.* London: Sage.

Low, C., Chen, Y. and Wu, M. (2011). 'Understanding the determinants of cloud computing adoption'. *Industrial Management & Data Systems*, 111(7), pp.1006–1023. https://doi.org/10.1108/02635571111161262.

Ma, Z., Ren, Y., Xiang, X. and Turk, Z. (2020). 'Data-driven decision-making for equipment maintenance'. *Automation in Construction*, 112(1), p.103103. http://dx.doi.org/10.1016/j.autcon.2020.103103.

Macey, W.H. and Schneider, B. (2008). 'The Meaning of Employee Engagement'. *Industrial and Organizational Psychology*, 1(01), pp.3–30. https://doi.org/10.1111/j.1754-9434.2007.0002.x.

Mahmoud, M. (2014). 'A review of human resource information systems (HRIS) in organisations'. *SIU Journal of Management*, 4(1), pp.148–181. https://researchbank.rmit.edu.au/view/rmit:40187.

Mamabolo, M. and Pillay, K. (2021) 'Skills to Support Managers in Data-based Decision-making', 2021 IST-Africa Conference (IST-Africa), IST-Africa Conference (IST-Africa), 2021, pp. 1–12. https://ieeexplore-ieee-org.liverpool.idm.oclc.org/document/9576940.

Marks, A.D.G., Hine, D.W., Blore, R.L. and Phillips, W.J. (2008). 'Assessing individual differences in adolescents' preference for rational and experiential cognition'. *Personality and Individual Differences*, 44(1), pp.42–52. https://doi.org/10.1016%2Fj.paid.2007.07.006.

Marshall, L. and De la Harpe, R. (2009). 'Decision making in the context of business intelligence and data quality'. *SA Journal of Information Management*, 11(2). http://dx.doi.org/10.1080/08850607.2014.900299.

Martin, K. (2016). 'Understanding privacy online: Development of a social contract approach to privacy'. *Journal of Business Ethics*, 137(3), pp.551–569. https://doi.org/10.1007/s10551-015-2565-9.

Matsumoto, D. and Yoo, S.H. (2006). 'Toward a New Generation of Cross-Cultural Research'. *Perspectives on Psychological Science*, 1(3), pp.234–250. https://doi.org/10.1111/j.1745-6916.2006.00014.x.

Maxwell, N.L., Rotz, D. and Garcia, C. (2016). 'Data and Decision Making'. *American Journal of Evaluation*, 37(4), pp.463–485. https://doi.org/10.1177/1098214015623634.

Mcniff, J. and Whitehead, J. (2011). *All you need to know about action research*. London: Sage.

Meijerink, J., Bondarouk, T. and Looise, J.K. (2013). 'Value creation through HR shared services: towards a conceptual framework'. *Personnel Review*, 42(2), pp.154-175.

Mellahi, K. and Budhwar, P.S. (2010). 'Introduction: Islam and human resource management'. *Personnel Review*, 39(6), pp.685–691. https://doi.org/10.1108/00483481011075558.

Merriam, S.B. and Tisdell, E.J. (2016). *Qualitative research: a guide to design and implementation*. 4th ed. San Francisco, Ca: Jossey-Bass, Cop.

Metcalfe, B.D. (2007). 'Gender and human resource management in the Middle East'. *The International Journal of Human Resource Management*, 18(1), pp.54–74. https://doi.org/10.1080/09585190601068292.

Miles, M.B. and Huberman, M.A. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. Thousand Oaks: Sage Publications.

MOH (2020). البداية - *Ministry of Health*. [online] Moh.gov.om. Available at: http://www.moh.gov.om [Accessed 15 Apr. 2020].

Mohamed, H, Y. and Elamir, E. A. H. (2021). 'The Role of Human Resource Policies in Fostering Organizational Success: An Evidence from Bahrain's Construction Sector'. *Third International Sustainability and Resilience Conference: Climate Change*, pp.573-578, doi: 10.1109/IEEECONF53624.2021.9667966.

Mohan, N. (2014). 'A review of the gender effect on pay corporate performance and entry into top management'. *International Review of Economics & Finance*, 34(1), pp.41–51. https://doi.org/10.1016/j.iref.2014.06.005.

Moonen, P. (2017). 'The impact of culture on the innovative strength of nations'. *Journal of Organizational Change Management*, 30(7), pp.1149–1183. DOI:10.1108/JOCM-08-2017-0311.

Mueller, C. and Wynn, T. (2000). 'The Degree to Which Justice Is Valued in the Workplace'. *Social Justice Research*, 13(1), pp.1–24. https://doi.org/10.1023/A:1007515618127.

Murphy, K. (2019). 'Performance evaluation will not die, but it should'. *Human Resource Management Journal* (online). 16 October. Reviewed in In a Nutshell, issue 92.

Nasar, N., Ray, S., Umer, S. and Mohan Pandey, H. (2020). 'Design and data analytics of electronic human resource management activities through Internet of Things in an organization'. *Software: Practice and Experience*. 51. Pp. 2411–2427 https://doi.org/10.1002/spe.2817.

National Center for Statitscs and Infomration (2020). https://data.gov.om/vulilrg/labour-market. [Accessed on 1st August 2022].

Negulescu, O. and Doval, E. (2014). 'The Quality of Decision-Making Process Related to Organizations' Effectiveness'. *Procedia Economics and Finance*, 15(1), pp. 858–863. https://doi.org/10.1016/S2212-5671(14)00548-6.

Ni, Q. (2022) 'Deep Neural Network Model Construction for Digital Human Resource Management with Human-Job Matching'. *Computational Intelligence and Neuroscience* doi: 10.1155/2022/1418020.

Nutt, P.C. (2000). 'Decision-Making Success in Public, Private and Third Sector Organisations: Finding Sector Dependent Best Practice'. *Journal of Management Studies*, 37(1). https://doi.org/10.1111/1467-6486.00173.

Nutt, P.C. (2005). 'Comparing Public and Private Sector Decision-Making Practices'. *Journal of Public Administration Research and Theory*, 16(2), pp.289–318. https://doi.org/10.1093/JOPART%2FMUI041.

Nyambegera, S.M., Sparrow, P. and Daniels, K. (2000). 'The impact of cultural value orientations on individual HRM preferences in developing countries: lessons from Kenyan organizations'. *The International Journal of Human Resource Management*, 11(4), pp.639–663. https://doi.org/10.1080/09585190050075042.

Oaks, S. (2016). *Integrated Talent Management*. [online] Available at: http://www.e learn ing guild.com/show File.cfm?id=3882. [Accessed 2020].

Obeidat, B., Al-Sarayrah, S., Tarhini, A., Al-Dmour, R.H., Al-Salti, Z. and Sweis, R. (2016). 'Cultural Influence on Strategic Human Resource Management Practices: A Jordanian Case Study'. *International Business Research*, 9(10), p.94. https://doi.org/10.5539/ibr.v9n10p94.

Obeidat, B., Shannak, R., Masa'deh, R. and Al-Jarrah, I. (2012). 'Toward Better Understanding for Arabian Culture: Implications Based on Hofstede's Cultural Model'. *European Journal of Social Sciences*, 28(4), pp.512–522. https://d1wqtxts1xzle7.cloudfront.net/46105900/Toward_Better_Understanding_for_Arabian_20160531-3381-zgudmz-with-cover-page-v2.pdf?Expires=1663523459&Signature=cbMjOOhajsx-1~lztAVyCxKSWLwL3bbWyE2dAgy4~~JmNKMMZlm4Ktj98R21c5CHnoTk8-lgvQ2rYMyzaCeGhzE2XUcNil7waM0JUU~~U2cRGo6y0U~0Cr6Gh5JjCkXnfWtm0XNhI1g~RrBG9aD2543WIOh5ieem2mUpojUcYcAqx0lhC7mZJEg6W9D~3SQjPLgFUpZ9wyXJBnKuWYGXn6LfmWQUHuMhYKRjyZZbTNYvfPzE18WQ4UcTtABjqtPEUXIp57qPEpjIb9O~cp0BGH6tbzr4WTQCRnfW9Mds0LdpTEeuG57~kcsztD~7BSVIutrr-etOJNy2l1Gg-67E2w__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA

Omaniya (2020). *The Official Oman e-Government Services Portal*. [online] Omaniya. Available at: https://omanportal.gov.om/wps/portal/index/eservices/!ut/p/a1/hc5NC4JAEAbg39LBY86gYtrNkkJNOhilewmNbRXUlXVr699n0iXo473N8LzMAIEUSJtfK5bLird5_ZyJfUzCaJEEloHo2BYGS9eIYmeGQwaQDQC_xMN__YS2cAAyMhPXiFs3iKNd7KFh7lehu7FN37de4MeZEAireTG-nHltYToMiKBnKqjQL2JYl1J2_VxDDZVSOuOc1VQ_8UbDT5WS9xLSdwldk96CKSnuyps8APlTxFI!/dl5/d5/L0lKQSEvUUt3SS80RUkhL2Vu/ [Accessed 8 Jun. 2020].

Ozanne, J. and Saatcioglu, B. (2008). 'Participatory Action Research'. *Journal of Consumer Research*, 35(3), pp.423–439. DOI: 10.1086/586911.

Paagman, A., Tate, M., Furtmueller, E., and Bloom, J. (2015). 'An integrative literature review and empirical validation of motives for introducing shared services in government organizations'. *International Journal of Information Management*, 35(1), pp.110-123, https://doi.org/10.1016/j.ijinfomgt.2014.10.006.

Packalén, K. (2010). 'ICT Capabilities and Possibilities in Micro-firms: A Study of Micro-firms in the Åland Islands Archipelago'. In: *In Bled eConference*. p.7. https://aisel.aisnet.org/bled2010/7/

Parekh, R. and Breen, D. (2018). 'The HR challenges of shared service centres. People Management', (online). 25 June.

Park, V. and Datnow, A. (2017). 'Ability Grouping and Differentiated Instruction in an Era of Data-Driven Decision Making'. *American Journal of Education*, 123(2), pp.281–306. https://doi.org/10.1086/689930.

Parry, E. (2011). 'An examination of e-HRM as a means to increase the value of the HR function'. *The International Journal of Human Resource Management*, 22(5), pp.1146–1162. https://doi.org/10.1080/09585192.2011.556791.

Patra, S. and Rebellow, M. (2017). 'A Study of Decision-Making Systems in Indian Corporate Executives'. *International Journal of Economic Perspectives*, 11(3), pp.1415–1421. https://doi.org/10.1146%2Fannurev-soc-060116-053622.

Patton, M.Q. (2015). *Qualitative research & evaluation methods: integrating theory and practice*. 4th ed. Thousand Oaks, California: Sage Publications, Inc.

Pedler, M. (2008). *Action Learning for Managers.* 2nd Edition. Routledge.

Powell, G.N. and Butterfield, D.A. (2013). 'Sex, gender, and aspirations to top management: Who's opting out? Who's opting in?'. *Journal of Vocational Behavior*, 82(1), pp.30–36. https://doi.org/10.1016/j.jvb.2012.11.003.

Price, R. and Shanks, G. (2011). 'The Impact of Data Quality Tags on Decision-Making Outcomes and Process'. *Journal of the Association for Information Systems*, 12(4), pp.323–346. https://doi.org/10.17705/1jais.00264.

Provost, F. and Fawcett, T. (2013). 'Data Science and its Relationship to Big Data and Data-Driven Decision Making'. *Big Data*, 1(1), pp.51–59. https://doi.org/10.1089/big.2013.1508.

Qanoon (2020). الجريدة الرسمية العدد ١٣٥٣ – *Qanoon.om*. [online] Official Gazette 1353. Available at: https://qanoon.om/p/2020/og1353/.

Ragins, B.R. and Winkel, D.E. (2011). 'Gender, emotion and power in work relationships'. *Human Resource Management Review*, 21(4), pp.377–393.

Naveed, R.T., Alhaidan, H, Al Halbusi, H., Al-Swidi, A.K. (2022). 'Do organizations really evolve? The critical link between organizational culture and organizational innovation toward organizational effectiveness: Pivotal role of organizational resistance', *Journal of Innovation & Knowledge*, Volume 7, Issue 2, 100178. http://hdl.handle.net/10419/260998.

Rass, R.A. (2011). 'Cultural Transfer as an Obstacle for Writing Well in English: The Case of Arabic Speakers Writing in English'. *English Language Teaching*, [online] 4(2), p.206. Available at: https://files.eric.ed.gov/fulltext/EJ1080754.pdf [Accessed 12 Dec. 2018].

Rass, R.A. (2015). 'Challenges Face Arab Students in Writing Well-Developed Paragraphs in English'. *English Language Teaching*, 8(10). http://dx.doi.org/10.5539/elt.v8n10p49.

Ravitch, S.M. and Riggan, M. (2017). *Reason & rigor: how conceptual frameworks guide research*. Los Angeles: Sage.

Rees, C.J. and Althakhri, R. (2008). 'Organizational Change Strategies in the Arab Region: A Review of Critical Factors'. *Journal of Business Economics and Management*, 9(2), pp.123–132. DOI: 10.3846/1611-1699.2008.9.123-132.

Reilly, P., and William, T. (2017). '*How to get best value from HR: the shared services option'*. London: Routledge.

Richter, P. and Brühl, R. (2017). 'Shared service center research: A review of the past, present, and future'. *European Management Journal*, 35(1), pp.26-38.https://doi.org/10.1016/j.emj.2016.08.004.

Robertson, C.J., Al-Khatib, J.A. and Al-Habib, M. (2002). 'The relationship between Arab values and work beliefs: An exploratory examination'. *Thunderbird International Business Review*, 44(5), pp.583–601. https://doi.org/10.1002/tie.10036.

Robertson, C.J., Al-Khatib, J.A., Al-Habib, M. and Lanoue, D. (2001). 'Beliefs about work in the Middle East and the convergence versus divergence of values'. *Journal of World Business*, 36(3), pp.223–244. https://www.sciencedirect.com/science/article/abs/pii/S1090951601000530?via%3Dihub

Roth, J., Shani, A.B. (Rami) and Leary, M.M. (2007). 'Insider action research'. *Action Research*, 5(1), pp.41–60. https://dx.%3Cwbr%3Edoi.%3Cwbr%3Eorg/10.4135/9781446289112.n5.

Rowley, J. (2007). 'The wisdom hierarchy: representations of the DIKW hierarchy'. *Journal of Information Science*, [online] 33(2), pp.163–180. Available at: https://unigis.at/schnuppermodul/modul_gisintro/html/lektion5/media/rowley-2007.pdf [Accessed 23 Apr. 2019].

Rubenfeld, M. (2018). 'A framework for data accuracy and supporting better decision-making'. *Journal of Securities Operations and Custody*, 11(1), pp.6–13. https://eds-p-ebscohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=0&sid=b4d402da-d387-4db3-939d-cedf6180dc93%40redis.

Ryan, B. (2006). 'The problematic nature of organizational culture and a changing control context'. *Strategic Direction*, 22(8).

Ryan, M.K. and Haslam, S.A. (2007). 'The Glass Cliff: Exploring the Dynamics Surrounding the Appointment of Women to Precarious Leadership Positions'. *Academy of Management Review*, 32(2), pp.549–572. https://doi.org/10.5465/amr.2007.24351856.

Sackett, D.L., Rosenberg, W.M.C., Gray, J.A.M., Haynes, R.B. and Richardson, W.S. (1996). 'Evidence based medicine: what it is and what it isn't'. *BMJ*, [online] 312(7023), pp.71–72. Available at: https://www.bmj.com/content/312/7023/71.

Salipante, P. and Aram, J.D. (2003). 'Managers as knowledge generators: The nature of practitioner-scholar research in the nonprofit sector'. *Nonprofit Management and Leadership*, 14(2), pp.129–150. https://doi.org/10.1002/nml.26.

Sargeant, J. (2012). 'Qualitative Research Part II: Participants, Analysis, and Quality Assurance'. *Journal of Graduate Medical Education*, [online] 4(1), pp.1–3. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3312514/ [Accessed 27 Mar. 2019].

Saunders, M., Lewis, P. and Thornhill, A. (2007). *Research methods for business students*. 4th ed. Pearson.

Saunders, M., Lewis, P. and Thornhill, A. (2009). *Research methods for business students*. 5th ed. Pearson.

Saunders, M., Lewis, P. and Thornhill, A. (2012). *Research methods for business students*. 6th ed. Pearson.

Savvas, M., El-Kot, G. and Sadler-Smith, E. (2001). 'Comparative study of cognitive styles in Egypt, Greece, Hong Kong and the UK'. *International Journal of Training and Development*, 5(1), pp.64–73.

Schroeder, H. (2012). 'The Importance of Human Resource Management in Strategic Sustainability: An Art and Science Perspective'. *Journal of Environmental Sustainability*, [online] 2(1), pp.1–9. Available at: http://scholarworks.rit.edu/cgi/viewcontent.cgi?article=1011&context=jes [Accessed 11 Jul. 2019].

Schuler, R.S. and Jackson, S.E. (1987). 'Linking Competitive Strategies with Human Resource Management Practices'. *Academy of Management Executive*, [online] 1(3), pp.207–219. Available at: http://personal.cityu.edu.hk/~mghempel/HNA/Competitive-Strategies-and-HRM.pdf [Accessed 1 Apr. 2019].

Schwarz, J.L. and Murphy, T.E. (2007). 'Human Capital Metrics: An Approach to Teaching Using Data and Metrics to Design and Evaluate Management Practices'. *Journal of Management Education*, 32(2), pp.164–182. [online] Available at: https://www.cipd.co.uk/Images/human-capital-metrics-and-analytics-assessing-the-evidence_tcm18-22291.pdf. [Accessed 2 Jan. 2020].

Sheehan, C. (2006). 'Current developments in HRM in Australian organisations'. *Asia Pacific Journal of Human Resources*, 44(2), pp.132–152. https://doi.org/10.1177/1038411106066391.

Siddique, C.M. (2017). National culture and the learning organization. *Management Research Review*, 40(2), pp.142–164.

Siikaniemi, L. (2012). 'Information pathways for the competence foresight mechanism in

talent management framework'. *European Journal of Training and Development*, 36(1), pp.46–65. https://eric.ed.gov/?id=EJ978759.

Silver, C. and Lewins, A. (2014). *Using software in qualitative research: a step-by-step guide*. Los Angeles: Sage.

Singh, R. and Singh, K. (2010). 'A descriptive classification of causes of data quality problems in data warehousing'. *International Journal of Computer Science Issues*, 7(3), pp.41–50.

Skinner, J. (2004). Temporal strategies and fear in the workplace. *Journal of Sociology*, 40(4), pp.417–431. https://doi.org/10.1177/1440783304048384.

Smith, J., Flowers, P. and Larkin, M. (2009). *Interpretative Phenomenological Analysis Theory, Method and Research*. 1st ed. London: SAGE Publications Ltd.

Son, H. (2015). *JPMorgan algorithm knows you're a rogue employee before you do*. [online] Available at: http://www.bloomberg.com/news/articles/2015-04-08/jpmorgan-algorithm-knows-you-re-a-rogue-employeebefore-you-do [Accessed 20 Jun. 2020].

Syed, J. (2007). 'A context-specific perspective of equal employment opportunity in Islamic societies'. *Asia Pacific Journal of Management*, 25(1), pp.135–151. DOI: 10.1007/s10490-007-9051-6.

Teclemichael Tessema, M. and Soeters, J.L. (2006). 'Challenges and prospects of HRM in developing countries: testing the HRM–performance link in the Eritrean civil service'. *The International Journal of Human Resource Management*, 17(1), pp.86–105. https://doi.org/10.1080/09585190500366532.

Tett, R.P. and Burnett, D.D. (2003). 'A personality trait-based interactionist model of job performance'. *Journal of Applied Psychology*, 88(3), pp.500–517. https://doi.org/10.1037/0021-9010.88.3.500.

Tharenou, P., Donohue, R. and Cooper, B. (2007). *Management research methods*. Port Melbourne, Vic.; Cambridge: Cambridge University Press.

Treiger, T.M. (2020). 'Shared Decision-Making'. *Professional Case Management*, 25(2), pp.56–76. https://doi.org/10.1097/ncm.0000000000000394.

Tsai, M.-H. and Young, M.J. (2010). 'Anger, fear, and escalation of commitment'. *Cognition & Emotion*, 24(6), pp.962–973. https://doi.org/10.1080/02699930903050631.

Uçaktürk, A. and Villard, M. (2013). 'The Effects of Management Information and ERP Systems on Strategic Knowledge Management and Decision-making'. *Procedia - Social and Behavioral Sciences*, 99(1), pp.1035–1043. doi:10.1016/j.sbspro.2013.10.577

Ulrich, D. and Grochwski, J. (2012). 'From shared services to professional services'. *Strategic HR Review*, 11(3), pp.136-142.

Van Oudenhoven, J.P. (2001). 'Do organizations reflect national cultures? A 10-nation study'. *International Journal of Intercultural Relations*, 25(1), pp.89–107. http://dx.doi.org/10.1016/S0147-1767(00)00044-4.

Waheed, S., Zaim, A. and Zaim, H. (2012). 'Talent Management in Four Stages. *USV Annals of Economics & Public Administration*, 12(1), pp.130–137. http://dx.doi.org/10.12738/estp.2015.5.2357.

Waters, E., Armstrong, R., Swinburn, B., Moore, L., Dobbins, M., Anderson, L., Petticrew, M., Clark, R., Conning, R., Moodie, M. and Carter, R. (2011). 'An exploratory cluster randomised controlled trial of knowledge translation strategies to support evidence-informed decision-making in local governments (The KT4LG study)'. *BMC Public Health*, 11(1).

Webb, J. (2018). *Flint's Data Story: A Government, Corporate, and University Collaboration*. [online] Available at: https://data.bloomberglp.com/company/sites/2/2018/09/flint.pdf.

Weick, K.E. and Quinn, R.E. (1999). 'Organizational change and development'. *Annual Review of Psychology*, 50, pp.361–386. https://doi.org/10.1146/ANNUREV.PSYCH.50.1.361.

Weinberger, L.A. (2009). 'Emotional Intelligence, Leadership Style, and Perceived

Leadership Effectiveness'. *Advances in Developing Human Resources*, 11(6), pp.747–772. https://doi.org/10.1177/1523422309360811.

Weinreich, R. and Groher, I. (2016).' The Architect's Role in Practice: From Decision Maker to Knowledge Manager?'. *IEEE Software*, 33(6), pp.63–69. https://doi.org/10.1109/MS.2016.143.

Weir, D. and Hutchings, K. (2005). 'Cultural embeddedness and contextual constraints: knowledge sharing in Chinese and Arab cultures'. *Knowledge and Process Management*, 12(2), pp.89–98. https://doi.org/10.1002/kpm.222.

West, A. (2019). 'Data-Driven Decision Making for Not-for-Profit Organizations'. *CPA Journal*, 89(4), pp.10–12. https://scholarworks.uni.edu/grp/2060?utm_source=scholarworks.uni.edu%2Fgrp%2F2060&utm_medium=PDF&utm_campaign=PDFCoverPages.

Wohlstetter, P., Datnow, A. and Park, V. (2008). 'Creating a system for data-driven decision-making: applying the principal-agent framework'. *School Effectiveness and School Improvement*, 19(3), pp.239–259. https://doi.org/10.1080/09243450802246376.

Woolley, C.S.C., Handel, I.G., Bronsvoort, B.M., Schoenebeck, J.J. and Clements, D.N. (2020). 'Is it time to stop sweeping data cleaning under the carpet? A novel algorithm for outlier management in growth data'. *PLOS ONE*, 15(1), p.e0228154.

Wright, A.L., Irving, G., Hibbert, P. and Greenfield, G. (2018). 'Student Understandings of Evidence-Based Management: Ways of Doing and Being'. *Academy of Management Learning & Education*, 17(4), pp.453–473. https://doi.org/10.5465/amle.2016.0249.

Yu, S. et al. (2022) 'Data-Driven Decision Making in COVID-19 Response: A Survey'. Available at: https://search-ebscohost-com.liverpool.idm.oclc.org/login.aspx?direct=true&db=edsarx&AN=edsarx.2202.11435&site=eds-live&scope=site (Accessed: 11 June 2022).

Yusuf Issan, S.A. (2010). 'Preparing for the Women of the Future: Literacy and Development in the Sultanate of Oman'. *Hawwa*, 8(2), pp.120–153. https://doi.org/10.1163/156920810X529967.

Zhang, L. (2006). 'Thinking styles and the big five personality traits revisited'. *Personality and Individual Differences*, 40(6), pp.1177–1187. doi:10.1016/j.paid.2005.10.011.

Zhang, L. and Higgins, P. (2008). 'The predictive power of socialization variables for thinking styles among adults in the workplace'. *Learning and Individual Differences*, 18(1), pp.11–18. https://schlr.cnki.net/Detail/doi/GARJ0010_3/SJES72909D717355E06401F8CED330442D 11.

Zuber-Skerritt, O. (2018). 'An educational framework for participatory action learning and action research (PALAR)'. *Educational Action Research*, 26(4), pp.513–532. https://doi.org/10.1080/09650792.2018.1464939.

8 Appendices

Appendix 1: Thematic Analysis Codes

- Problems with colleagues.
- Problems with seniors.
- Problems with juniors.
- Unwillingness to acknowledge problems.
- Ignorance of the problem.
- Carelessness.
- Lack of integrity.
- Ineffective.
- Uncertainty.
- Regulatory changes.
- Technological advancements.
- The structure of the organisation.
- Unit design.
- Unit system.
- Unit arrangements.
- Unit structure.
- Organisation structure.
- Restructure.
- Training of personnel.
- Training.
- Development.
- Professional development.
- Coaching.
- Leadership style.
- Managers habit.
- Traditions.
- Organisational culture.
- Work environment.
- Values.