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Ben Gurion University of the Negev

Guilford Glazer Faculty of Business and Management

**The role of the quality manager**

**Compared to other semi-professional occupations Organizational and at different Organizational**

 Doctoral Studies

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# תקציר

בשנים האחרונות נראו הפרות רבות של תקני איכות בישראל ובעולם. תקריות אלו השפיעו לרעה על השימוש במוצר ופגעו בדימוי וברווחים של החברות. מצב זה הוחמר במהלך מגיפת הקורונה. כתוצאה מכך, גוברת המודעות למשבר באיכות, גם בארגונים שיש להם מערכות בקרת איכות תקינות, לרבות תקנות לניטור ובקרה על איכות המוצר. במחקר זה אני טוען שצריך למסד את מעמדם של מנהלי איכות, תפקידם תלוי בתרבות הארגונים המעסיקים אותם, ולא ברגולציות מאקרו-מוסדיות. לפיכך, כיום הסמכות מוקנית למנהלי איכות מתוקף תפקידם בארגונים המעסיקים שלהם, ולא על ידי רגולטורים (כגון משרד הבריאות). מחקר זה טוען כי הרווחיות של חברות בישראל נפגעת מתרבות בקרת איכות ירודה, לרבות נטייה של חברות להעסיק מנהלי איכות חסרי ידע וסמכות. Anker and Lurie (2022) טוענים כי הקושי באפיון מנהלי איכות כמומחים נובע מהאופי המעורפל ואף המעורפל של תפקידם. מנהלי איכות חייבים להכיר בסגנונות תקשורת שונים ולהשתמש בהם, ומידת הצלחתם תלויה במידה רבה בתרבות הארגונים המעסיקים שלהם.

עבודה זו מרחיבה את מחקר העבר על סמכותם ומומחיותם של מנהלי איכות בישראל, ראשית בכל הנוגע לתפקידם של עיסוקים סמי-מקצועיים אחרים בארגונים המעסיקים שלהם, ושנית באמצעות השוואת המומחיות והסמכות של מנהלי איכות במגזרים שונים. כמו כן, הוא בוחן כיצד מנהלי איכות מתמודדים עם אתגרים בעבודתם היומיומית, הן בזמני שגרה והן במקרי חירום. המחקר גם בוחן את תפקידי מנהלי האיכות במבנה הארגונים המעסיקים שלהם, את היחסים ההדדיים בינם לבין אחרים תפקידים (שעשויים להיחשב למקצועיים יותר) באמצעות ראיונות איכותניים ותצפיות עם מנהלי איכות, ושאלון כמותי להצלבת הנתונים שהושגו בשלב הקודם, תוך שימוש בניתוח תוכן למחקר חקרני של ארגונים ושאלון כמותי להצלבת נתונים שהתקבלו בשלבים הקודמים.

מילות מפתח: איכות, מנהלי איכות, החברה הישראלית לאיכות, סמכות

# Abstract

Recent years have seen numerous quality standards violations in Israel and around the world. These incidents have negatively impacted on product use and damaged the companies’ images and profits. This situation was exacerbated during the coronavirus pandemic. As a result, there has been a growing awareness of a crisis in quality, even in organizations that have sound quality control systems, including regulations for monitoring and controlling product quality (note). In this research I argue that the status of quality managers needs to be institutionalized, their role depends on the culture of the organizations employing them, not on macro-institutional regulations. Thus, currently authority is conferred upon quality managers by virtue of their position within their employing organizations, and not by regulators (such as the Ministry of Health). This study argues that the profitability of companies in Israel is harmed by a poor quality-control culture, including by a tendency for companies to employ quality managers who lack knowledge and authority. Anker and Lurie (2022) argue that the difficulty in characterizing quality managers as experts is a result of the vague and even ambiguous nature of their role. Quality managers must recognize and use different communication styles, and the extent of their success depends to a large extent on the culture of their employing organizations.

This work expands on past research on the authority and expertise of quality managers in Israel, first in terms of the role of other semi-professional occupations in their employing organizations, and second by comparing the expertise and authority of quality managers in different sectors. Further, it examines how quality managers handle challenges in their day-to-day work, both in routine times and in emergencies, The study also explores the roles of quality managers within the structure of their employing organizations, the mutual relations between them and other roles (which may be considered more professional) through qualitative interviews and observations with quality managers, and a quantitative questionnaire to cross-check the data obtained in the previous stage, using content analysis for exploratory research of organizations and a quantitative to cross-check the data obtained in the previous stages

**Keywords**: Quality, Quality managers, Israeli Society for Quality, authority

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# Introduction

# The Research Problem and research questions

In this study, I examine the role and influence of quality managers in their organizations and in various sectors. The study expands on existing work that examined the authority and expertise of quality managers as a profession, with respect to other semi-professional roles (i.e., who have similar status to quality managers within their employing organizations) and in various business sectors, in particular in light of the increase in food and drug standards violations (Ministry of Health website[[1]](#footnote-1)). The current study examines the role of quality managers within the structure of their employing organizations and the between quality managers and other semi-professional employees, through qualitative interviews and discussions with quality managers, using content analysis for exploratory research of organizations and a quantitative to cross-check the data obtained in the previous stages.

In the organizations, quality managers are responsible for product quality. However, in Israel and other countries, the role of the quality manager is not rigidly-defined, and the authority they have is effectively conferred on them by their employing organizations rather than government regulators. Anker and Lurie (2022) argue that the difficulty in characterizing quality managers as experts lies in the vague and even ambiguous nature of their role. Quality managers must recognize and use different communication styles, and the degree of their success depends mainly on the culture in their employing organizations. Anker and Lurie’s 2022 study was undertaken within a broader context of recognized professions (including pharmaceuticals and law) and showed that quality managers require relevant knowledge of their employing organization’s field as well as training in quality control and assurance. Some respondents thought that quality managers should be granted official regulatory authority by giving them professional status. Others believed that authority should be conferred on quality managers by their employing organizations ([Anker & Lurie, 2022](#Anker)).

This research expands on past work examining the authority and expertise of quality managers with regard to other semi-professional roles within the organization (i.e., those with a similiar status in the employing organization), including, inter alia, marketing managers, operations, production, planning control, and human resources.

This work also examines the authority and expertise of quality managers in different sectors, in light of the rise in standards violations in food and drugs manufacturing (Ministry of Health website2). Poor quality can have a significant impact on a company’s profitability. recalls have significant impact on the brand on the long term and on the profitability in the short term.The study will include in-depth interviews with quality managers from different sectors and observations of their activities to understand how they deal with day-to-day work challenges. The research will use an integrated research methodology, and using content analysis for exploratory research of organizations and a quantitative to cross-check the data obtained in the previous stages. The Sources of data could be from interviews, open-ended questions, field research notes, conversations, or literally any occurrence of communicative language (such as organization’s internal documents).

The influence of the authority and expertise of quality managers in different organizations has been examined in the literature. The recent events that took place in quality control (see below) show that there is a connection between organizational culture and product quality, and that neglecting quality can lead to substandard products. In most organizations, the role responsible for quality culture is that of the quality manager, so it is likely that this role has an influence on product quality. This study is based on the premise that while responsibility for quality lies with the quality manager, the level of professionalism and expertise of those in this role varies from one organization to another (commercial, public, voluntary, and military).

The research hypothesis is that differences in the expertise and authority of quality managers with respect to that of other semi-professional or quasi-professional roles in their employing organizations (e.g., marketing managers. operations managers, production managers, planning and control managers, human resources managers) and with respect to various market sectors (pharmaceuticals, food, the service industry, hi-tech, and the military), negatively impacts on their ability to prevent quality violations

# Research Overview

 The proposed research includes three distinct yet related chapters, using quantitative and qualitative methods. In the first chapter, I offer a thematic analysis of the literature, in order to identify and classify the authority and expertise of quality managers in Israel. In the second chapter the role the throaty and expertise of quality manager to semi-professional occupations in their employing organizations. This thematic analysis will contribute to at establishing the variables that influence demand for authority at organizations. In the second chapter, I comparing the expertise and authority of quality managers in different sectors. The model is based on results from an electronic survey of 1500 quality managers

 in the 7 different sectors which evaluates the following variables: decision-making transparency, the number of participants, the need for technology, and the informed decisions. Finally, the third chapter comparing the expertise and authority of quality managers in different sectors using Total Interpretive Structural Modeling (TISM).

# The Process of Thematic Literature Review

# Quality review

Strict customer demands regarding quality standards have led organizations in Israel to appoint quality managers even though they are not required to do so by law. In this study, I argue that the role of the quality manager needs to be institutionalized, since currently, their successful performance in the role depends on the culture of the organizations employing them. Quality managers must ensure that the demands of industry regulators and consumers are met, but at the same time they are also part of the management structure in their own organizations, which seek to implement processes quickly and save resources and time. It is common for an organization’s management to see quality control as a function that “burdens” production processes, and quality managers find themselves in conflict with senior management and the consumer and/or regulator.

In Israel, quality control as a profession developed from the field, with a low level of regulatory intervention. There has been no oversight from academic experts, and developments in the profession have been disconnected from those in other countries. Quality control is a profession that requires soft skills and there are no restrictions over who is appointed to the role in terms of education, training, or professional qualifications This is also reflected in the fact that, often, quality managers are granted minimal authority in their role.

There are three main aspects that characterize the role of the quality manager:

1. Relevant knowledge—a professional background pertinent to the employing organization.
2. The ability to work in a team, represent stakeholders, and communicate well with all stakeholders in the employing organization.
3. Extensive knowledge of the quality profession and the employing organization.

In recent years there have been various quality standards violations in Israel and other countries. In some cases, these have harmed human health, and have also impacted on the profitability of companies. These events were exacerbated by the coronavirus pandemic. Eldina (2020) examined the impact of the pandemic on quality management procedures in food industries, and found that closures led to difficulties in transporting goods between countries, that there was an increase in demand for food products, and a decrease in the market for agricultural equipment.

In light of this, organizations shifted employees between departments without appropriate training, which affected the safety and quality of products sold to the consumer.

Barel (2022) identified an increase in incidents of quality standards violations, including in organizations with good quality control infrastructure and teams whose role is to monitor and control the quality of products in companies.

The events of the pandemic can also be viewed as an opportunity for organizations to improve quality control. The United States Food and Drug Administration (which is very conservative) agreed to speed up the process of approval for a Covid-19 vaccine from 12 years to 18 months, based on the fact that the pharmaceutical companies involved in developing vaccines (Moderna and Pfizer) had built quality control infrastructure into their core processes. Anker (2022) argued that the difficulty of characterizing quality managers as experts lies in the vague, even ambiguous nature of their role. They must recognize and use different communication styles, and their successful performance depends mainly on the culture of the organizations in which they are employed. Corporate culture is crucial in distinguishing between two main types of organization: organizations that are excellent and provide real value to customers and will, therefore, be successful over time, and organizations that do the minimum necessary, do not themselves, and usually will only survive for a while.

I argue that there are four main types of organizations in Israel in terms of their approaches to quality control:

1. Organizations that operate according to government regulations, e.g., the pharmaceutical and food industries. Quality assurance and regulation are critical elements in every food, and drug company. The reason for this lies in the importance of maintaining strict hygiene in the production, packaging, and distribution of human grade food products. In Israel, strict laws governing food production, which are enforced by the Ministry of Health, have led to an increase in the requirements for quality assurance management in food manufacturing businesses, to ensure product safety and quality. Food quality control is performed by professionals, who ensure that companies comply with Israeli and international standards.
2. Military organizations that work with the aviation or aerospace industries and the Ministry of Defense (e.g., the Israeli Air Force, Rafael Advanced Defense Systems, Beit Shemesh Engines).

The demand for these organizations to hire quality managers comes from their customers (e.g., Boeing, Airbus) or from within the existing organizational culture (e.g., the R&D culture in the Israeli Air Force, which is different from the rest of the Israeli military).

1. Hi-tech companies (except software quality managers) that usually are not required to employ quality managers, but that have a culture of quality control that is instilled in employees, given that poor quality work negatively impacts on profits.
2. Manufacturing organizations and service providers constitute (in the opinion of the research author) about 75% of all organizations. There is no requirement for these organizations to hire quality managers.

Some of these organizations employ external consultants for standards certification, while those employed in this role are considered a “burden” and in most cases are pushed away due to business considerations.

Anker (2022) argued that the authority of quality managers who are hired to help their organizations comply with government regulation, e.g., in the pharmaceutical and food industries, is greater than that of those who work in industry and service. In this study, I expand on past work examining the authority and expertise of quality managers in relation to other semi-professional roles in the organizations that employ them (including marketing, operations, production, planning and control, and human resources managers).

The role of the quality manager within the structure of the organizations that employ them and the interrelationships between them and other semi-professional roles, via interviews and observations with quality managers and a questionnaire to cross-check the data obtained in the previous stages, using content analysis for exploratory research of organizations and a quantitative to cross-check the data obtained in the previous stages.

# The history of quality

The concept of “quality” has existed since humans began creating products. In the Middle Ages, craftspeople and toolmakers based their professional pride and economic success on creating high quality goods that would ensure their customers were happy. To this end, craftspeople had to manage the quality of their work. From the end of the eighteenth century, after the Industrial Revolution ushered in an era of mass production, workers’ salaries became based on the quality of their output, and therefore the amount of proper production provided to users decreased. Factories now needed to employ “quality inspectors” within their production lines.

The impact of this was felt in three industries in the United States: the arms industry, consumer goods, and agricultural equipment The need for change became apparent when only a third of all ammunition that reached the battlefield was in good condition. The use of the term “quality control” began to describe a process of assuring product quality using statistical control methods and standards.

In recent years, companies have begun to understand that statistical methods and quality standards are not enough. Today, companies often use the term “organizational quality and excellence” (some companies also make reference to “innovation”) alongside other terms, such as management, “employee empowerment,” “learning organization,” “knowledge management,” and other terms indicating care for customer and employee needs. It also became clear that adherence to quality standards requires coordination between all areas of knowledge in an organization, to create a level of standardization that can reduce the number of production errors to a minimum.

Product quality is measured according to a set of requirements. These include the organization’s internal procedures, quality standards, regulatory requirements, and the customer’s requirements, from which the production process is derived. Efforts to improve quality are concentrated on the product itself and the entire production process. The goal of commercial organizations is to maximize profits. Since revenue comes from the sales of products and services to customers, the amount of profit a company makes depends partly on customers deciding that they are satisfied with the quality of a company’s products and services (since quality is an objective characteristic).

According to [Edwards](#Edwards) (1950), defective products have a cost since “someone produces them and pays for the repairs, at least the cost required to produce them the first time.” Most organizations employ a quality engineer, whose responsibility is to ensure compliance with the requirements of the regulator and the consumer, but whose degree of authority and expertise varies from one organization to another. The role of the quality manager is very complex—they are required to make numerous decisions over a short period of time, based on the knowledge they have gained, even if a particular decision goes against those of other roles—e.g., those of the operations, purchasing, or research and development manager. Without the authority (organizational or regulatory) to perform the role there is a high chance of an increase in quality violations ([Anker & Lurie 2022](#Anker)).

# Authority and expertise in the context of the quality management

Anker and Lurie (2022) discussed the concept of “profession” and the authority and expertise of recognized professions (doctors and lawyers) in the context of quality managers across different types of organizations in Israel.

In this study, I will expand this examination to the following sectors:

1. Commercial organizations – manufacturing organizations (e.g., food, cosmetics, hi-tech, etc.) and service providers (e.g., restaurants, shops, travel agencies, hotels, hairdressers, and gyms).
2. Public organizations – organizations engaged in providing services to all residents of the country (e.g., municipalities, hospitals, etc.).
3. Voluntary organizations – organizations that operate to promote interests or provide various services to their members or to defined groups (the Israeli Society for Quality, etc.).
4. Military organizations – organizations related to the military or providing products to it (e.g., the Israeli Air Force, Rafael Advanced Defense Systems, Beit Shemesh Engines).

# Organizational culture

Culture is a key concept in social science research. Corporate culture is a cognitive system that includes beliefs, attitudes, values, behavioral norms, shared assumptions, and expectations that shape the way people act and manage interactions in the organization ([Parker, 2000](#Parker)).

One of the well-known models for studying organizational culture was developed by Edgar Schein (1994, 2004), and offers analysis at three levels: (a) a basic level—the values used in the field; (b) the values that characterize an organization (each organization has values regarding what it considers to be acceptable and desirable behavior). Sometimes these are declared values that the organization strives for and implements in their daily norms; (c) the basic assumptions on which the organization is based.

Corporate culture can be seen as a sort of genetic code or glue that connects employees to the organizations in which they work and to the external environment, and directly affects various aspects of their professional and personal behaviors.

Quality (“the customer at the center”) is an important factor that distinguishes between an organization that strives for excellence, and one that does the minimum necessary (an organization that will not survive over time).

In 2020, a research survey was published[[2]](#footnote-2) that examined the program’s contribution to promoting quality and excellence in industry and associations in northern Israel. The findings show that the organizations that who won the competition have an orderly quality infrastructure across their operations, and a culture of quality that extends from management to the most junior employees (see Table 22 ).

The factors responsible for corporate culture include:

* 1. The external environment.
	2. The organization’s management.
	3. The employees of the organization.

The author of the article distributed four types of dominant organizational culture:

* 1. Sales culture (market culture)—this focuses on mutual or exchange relations with external entities including suppliers, customers, contractors, unions, and regulators.
	2. “Clan” culture—this is characterized by teamwork (employee involvement and the organization’s commitment to the employee). Such organizations are managed in the best way through teamwork, development, and investment in staff, a humane work environment, loyalty, and tradition;
	3. Hierarchical—these organizations are very structured and formal, and are oriented towards stability over time, with the ability to predict the future, and efficiency. There is a stated policy and clear and official rules;
	4. Adhocracy - which focuses on cultivating adaptability, flexibility, and creativity even under conditions of uncertainty. There is a large emphasis on innovation alongside individuality, and a high level of involvement of employees in production, research, and development.

Corporate culture = the culture for quality, which refers to commitment and focus on the customer. Quality-oriented culture (“the customer at the center”) is the most important factor that allows us to distinguish between an organization that strives for excellence and provides real value to its customers (an organization that will succeed over time), and one that does the minimum necessary (an organization that will not survive over time). Organizations that have learned how to promote quality have been able to maximize their profits and survive ([Ashwin & Bryan, 2014](#Ashwin)). For example, the Kodak company lost 90% of its shares and filed for bankruptcy because it did not move into digital photography in time.

One of the reasons for the difficulty in matching authority and expertise in the context of the quality manager is the influence of controlled factors on uncontrollable factors and performance measures ([Goold, 1993](#Giddens1984); [Merchant & Otley, 2006](#Merchant2006)). In the context of quality, are failures unexpected (uncontrollable) events or negligence? Can quality managers influence uncontrollable factors? A lack of answers to these questions makes it difficult to prove the hypothesis that a quality manager with authority and expertise can reduce and/or prevent the events mentioned above. Therefore, the extent of an individual’s success in their role depends to a large extent on the support given by their organization’s management, other employees, and their organizational culture ([Ericsson, 2007](#Ericsson)).

The author of the study defined four main types of organizations in terms of their attitudes toward quality:

1. Organizations that operate according to government regulation, e.g., the pharmaceutical industry and the food industry. These organizations are required by the regulator to hire a quality manager and the authority of the role is granted by virtue of the law or regulatory standards;
2. The high-tech industry is not required by the regulator to hire quality control staff. However, some companies have a quality culture that is instilled in all employees;
3. Industry and service providers, which I argue constitute about 75% of all organizations, has no regulatory requirement to hire quality control staff;
4. The IDF- There is no requirement to hire a quality control position. Quality culture varies within the IDF (despite the rapid turnover of soldiers, quality culture in the Israeli Air Force is higher).

# Extreme events

Extreme events are events whose chances of occurrence are estimated to be very low, usually result in negative outcomes, and are defined as “disruptive” in that they undermine the existing order. These include natural disasters, terrorist events, military activity, accidents or technological failures, and pandemics (e.g., Covid-19). The impact of such events is far-reaching, and organizations and systems must be prepared for them.

Response to extreme events varies from one country to another. In Israel, there has been a permanent state of emergency since its declaration of independence. The state of emergency must be renewed on an annual basis. During an extreme event, the minister in charge declares that there is a grave danger and initiates a legislative procedure in the Knesset to declare a state of emergency, in accordance with the Defense (Emergency) Regulations (1945).

In 2020, the coronavirus pandemic impacted on ordinary life and forced people to adapt to working at a social distance. The decision on implementing social distancing in Israel began with the declaration of a state of emergency under the Law of Special Authorities to Deal with the Novel Coronavirus (Temporary Provision) 2020, which, among other things, defined essential workplaces in addition to the concept of the essential worker (an employee who is deemed essential in order for a business to continue to operate).

The impact was also felt in quality control, and companies had to use creative ways to ensure that they complied with quality standards and that their products were suitable for the consumer, e.g., tests that had been carried out on site had to be performed remotely.

During the pandemic, the author of the study (the chair of the Israel Association for Quality) identified differences between organizations in terms of whether quality managers were allowed to be on site. In the food and medical fields, quality managers were defined as essential employees, while quality managers in the industrial sector and service industries were defined as non-essential employees. In 2022, the author sent an attitude survey to 520 quality managers in Israel.

The findings showed:

* 1. **Correlation between the role of the quality manager and organizational culture.**

The aim of testing the correlation between professional and success in the quality manager role. This included an examination of the suitability of the criteria required to perform the role of quality manager, including analytical ability (the ability to solve problems quickly); critical thinking (after identifying the problem, the ability to find a solution), attention to detail, teamwork skills, extensive knowledge of the quality profession, authority to perform the role, integrity, openness, and relevant knowledge of the employing organizations’ field of practice.

The questionnaire was created using Google Forms and sent to participants or posted on social media (Facebook, LinkedIn, and WhatsApp).

 Each questionnaire took an average of 10 minutes to complete. Data analysis was completed using SPSS and is based on a Chi-squared test.

A total of 49 quality professionals responded to the survey. The findings showed that some respondents did not begin their careers in quality, but came from other fields. In terms of quality as a professional field, respondents considered this to be a true calling that they chose as part of their personal career development. Respondents said that when they began working in the role, they did not feel they had regressed in terms of their image or authority, a trend that has changed since a survey carried out in 2012 ([Akroni & Milo 2012](#Akroni)).

Over 70% of respondents believed that teamwork skills and critical thinking were more highly valued than relevant knowledge in quality. Most respondents thought that soft skills were more important than relevant quality assurance knowledge or authority to perform the role.



Graph 1: Which characteristics reflect your role in the organization?

Over 86% of respondents believed that, as their level of professionalism increased, their success in their position also increased, which could be expressed in terms of the authority granted to them by stakeholders to prevent quality violations. Most respondents believed that employees who “challenge the quality manager’s opinion in certain cases” harmed their ability to perform their duties and limited their authority with respect to stakeholders, which in turn prevented them from being a partner in the success of the business. These results are consistent with the article published in 2022 ([Anker and Lurie](#Anker)).

* 1. **A survey to examine the impact of the coronavirus pandemic on quality management in organizations**

In 2022, the research author carried out a survey to examine the impact of the coronavirus pandemic on quality management in organizations. The questionnaire was created using Google Forms and was sent to participants by email or posted on social media (Facebook, LinkedIn, and WhatsApp). A total of 137 quality personnel responded to the survey. The questionnaire took an average of 10 minutes to complete. Data analysis was undertaken using SPSS and is based on a chi-square test.

The findings showed that over 76% of quality managers in Israel worked on-site during the lockdown period. Over 82% of respondents believed that the importance of quality did not change during this period. Over 81% of respondents said that their job depended on the culture. Over 76% of respondents who worked on-site believed that their status had not changed, those who did not attend work (because they were either furloughed or made redundant) thought that quality culture was the cause of the decrease in quality and safety and in their status.

# The functional authority (role) of Quality managers

The responsibility for the quality of a product lies with everyone involved in its preparation (ISO:9001), but quality managers are required to have knowledge of quality standards and relevant laws in order to ensure that their employing organizations comply with them, and as such they are informally responsible for product quality.

Since quality managers do not hold authority by virtue of their position ([Ekroni & Milou 2012](#Ekroni)), they must base it on personal and professional relationships with other employees.

 Moreover, I argue that the challenges facing quality managers are likely to increase in the coming years, in light of the fact that consumer demands for compliance with quality standards are getting stricter. However, requirements for quality knowledge and the authority to perform the role have not changed and remain minimal ([Akroni & Milo 2012](#Akroni)). Quality managers state that, for their opinions to gain validity among managers and employees, and for them to be able to verify that a product meets consumer requirements and warn of any possible deviations, they must be granted authority with respect to the areas of expertise of their employing organization ([Akroni & Milo 2012](#Akroni)). Since quality managers do not hold authority by virtue of their position ([Ekroni & Milou 2012](#Ekroni)), they must base their authority on personal and professional relationships with other employees.

Quality managers are required to have knowledge of quality standards and laws in order to ensure that their employing organizations comply with these, and as such they are informally responsible for product quality). An organization that implements quality work practices easily gains the trust and interest of existing and potential customers.

The cost of fixing a problem increases by orders of magnitude as the length of time after it occurred increases—the cost doubles in development phase, increases by10 times in the production phase, a hundred times in the supply phase, and a thousand times in the legal action phase ([Labovitz & YuSang Chang, 1992](#Labovitz)). For quality managers to prevent quality control violations, they must be granted the authority to create a quality system that includes all employees and the production system.

# The purpose of the study

In this study, I will examine the role and influence of quality managers in their organizations and in various sectors with respect to other semi-professional or quasi-professional managerial roles in their employing organization (inter alia, marketing, operations, production, planning and control, human resources) and also compare the authority of quality managers in various sectors (pharmaceuticals, food, the service industry, hi-tech, and the military). I will also examine how quality managers deal with the challenges they face in their day-to-day work (in both routine and emergency times).

This work will, using content analysis for exploratory research of organizations rely on internal documents from employing organizations that show the position of quality managers within the organizational structure, the interrelationships between quality managers and other semi-professional or quasi-professional roles, as well as interviews and observations with quality managers, and a questionnaire to cross-check the data gathered in the previous stages.

# Limitations of the study

The extent to which the findings of this study can be generalized to the entire population of quality managers in Israel and globally, or even across industry sectors, is unclear. The organizations examined in the study’s qualitative section will not be randomly selected. At the same time, the quantitative survey will be sent to as many quality personnel in Israel as possible, some of whom are affiliated with the Israeli Society for Quality, which may influence their position in the field and the discourse.

# Research hypotheses

The research hypothesis is that differences in the expertise and authority of quality managers with respect to that of other semi-professional or quasi-professional roles in their employing organizations (e.g., marketing managers, operations managers, production managers, planning and control managers, human resources managers) and with respect to various market sectors (pharmaceuticals, food, the service industry, hi-tech, and the military), negatively impacts on their ability to prevent quality violations. The research hypothesis was formulated based on a literature review of critical terms: expertise, authority, organizational culture, and extreme events. The theoretical basis of the research was examined by Anker and Lurie (2022).

# The importance of the research and its expected contributions

This study on quality control aims to deepen knowledge and clarify important issues in this field. Its findings can help connect the expertise and authority of quality managers in their employing organizations and in various industry sectors to deepen this knowledge further.

In the last decade, there has been a trend toward standardizing the professional status of various roles, including that of quality managers. This study can therefore serve as a theoretical anchor to help strengthen the role of quality managers and support professional development, including through reclassifying quality managers as professionals, which in turn will help them contribute to AI (artificial intelligence) and organizations.

# Chapter 1 – literature on the status of quality managers in various industry sectors in the context of their expertise and authority

The goal of this chapter is to offer a thematic analysis of the literature. will provide a review of the literature on the status of quality managers in various industry sectors in the context of their expertise and authority. This thematic analysis will contribute to establishing the variables that influence expertise and authority at the Organization and in different sectors.

This will be done through a systematic literature review (SLR). SLR is a research process that seeks to generate knowledge on a given topic by searching, appraising, and synthesizing previous studies on the topic ([Okoli, C. 2015](#Okoli)). More specifically, this chapter seeks to:

1. Identify, analyze, and categorize literature on the status of quality managers in various industry sectors in the context of their expertise and using data collected from previous studies.
2. Determine the various variables that influence the status of quality managers in various industry sectors in the context of their expertise and using data collected from previous studies.

For decades, it is written that the management's responsibility affects the quality culture and the status of the quality practitioner, An article has not yet been found that links the status of quality managers in various industry sectors in the context of their expertise and authority,

# Method

This research employs the methodology of a systematic literature review. Systematic literature reviews provide a comprehensive overview of a specific area. In "Mental Health Informatics" ([Hanson and Lubotsky Levin, 2013](#Hanson)), the authors describe this method: "According to the Cochrane Collaborative, a systematic review is a review of clearly formulated question that uses systematic and explicit methods to (1) identity, select, and critically appraise relevant research, and (2) to collect and analyze data from the studies that are included in the review. Statistical methods (meta-analysis) may or may not analyze and summarize the included studies' results. Meta-analysis refers to using statistical techniques in a systematic review to integrate the results of included studies" (p.185)

This research aims to quantitatively examine the literature on the status of quality managers in various industry sectors in the context of their expertise and authority, based on data collected from a systematic review of the literature in the field. I note that I will not perform a meta-analysis as described above but a systematic literature review. As far as I know there, is no previous study on the status of quality managers in various industry sectors in the context of their expertise and authority. To achieve this purpose, I will employ the PRISMA method for case selection in the SLR research process. The PRISMA method is the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (Liberati et al., 2009).

The steps of the PRISMA method are described below in the article selection strategy section. For the coding process, I will use thematic analysis, a qualitative research method employed to interpret the text's content through a systematic process of identifying, coding, and classifying themes ([Hsieh and Shannon 2005](#Hsieh), [Krippendorff 2004](#Krippendorff)). Accordingly, this research consists of two consecutive phases.

**Phase 1 –** Presents a coherent qualitative status of quality managers in various industry sectors in the context of their expertise and authority, by reviewing the literature regarding perceptions expertise and authority.

**Phase 2 –** Includes a comprehensive, descriptive, quantitative overview and analysis of the results of phase 1 examining the status of quality managers in various industry sectors using the categories, which arose from exploratory research as detailed below such as: gender, age, education, expertise, and authority.

In the next section, I present the coding variables for the systematic qualitative review of

the literature and the development of themes for the thematic analysis

**The Process of Thematic Literature Review**

# Article Selection Strategy

For the SLR research, I have selected the period from 1973 to 2023. I picked this time period because this is the period in which the research field of quality managers in various industry sectors in the context of their expertise and authority exists in the literature.

Three primary data sources used to identify the articles were: Emerald Publishing, Total Quality Management & Business Excellence, google scholar, Oxford Academic, Taylor & Francis, Harvard Business Review Home, Elsevier SDOS, all searches were conducted in March 2023. These three sources produced a total of 1471 search results. These results were entered into a reference management program (RefWorks) to identify and eliminate duplicate records. The literature survey is based on a search for the keyword index ‘quality management' on the online database, After topic filtering, there were only 145 articles related to the keyword ‘quality management' 32 of them were connected to the methodology of keyword ‘literature on the status of quality managers in various industry sectors’, Based on the scope of 21 articles on knowledge management application, this paper surveys and classifies (see the full list in [Appendix A](#_Appendix_A_-); see [Figure 1](#Figure1)).

The focus will be on status of quality managers in various industry sectors in the context of their expertise and authority. Theoretical and empirical studies will be included in this work because I am interested in grasping the overall understanding of citizen beliefs and attitudes toward local government transparency.

# Descriptive Variables

The analysis begins with a descriptive quantitative overview of the citizen's attitudes toward transparency by using the descriptive variables described in phase 2. These descriptors are based on the explanatory study as described below, and they will be used in quantitative overview as closed codes (see [Appendix B](#_Appendix_B_-), the possible coding of these descriptors).

**Figure 1**: PRISMA Flowchart for Database Searches and Additional Studies

Record indemnified database researching (n=300)

Additional record indemnified other source (journal n=7)

Record after duplicators Removed.

(n=210)

Record screened base on publication title and abstract

(n=101)

Record screened by full text assessed for eligibility

(n=32)

Record included

in the review

(n=4)

Record excluded (inappropriate based on general eligibility criteria)

n =30))

Record excluded (inappropriate based on design topic)

n =20))

# Grounded in Data Codes

The thematic analysis is used for identifying, reporting, and analyzing patterns within data. The patterns are called themes. There are several ways to identify themes; two main ways are a theoretical-driven deductive method and an inductive method grounded in the data (Boyatzis, 1998). The deductive approach uses the theory to identify themes, and the inductive approach uses the data as a source from which the theory is created. I chose the inductive approach and thematic analysis method as the most suitable for identifying emerging patterns of relatively new knowledge from the set of less analytic studies. To code the articles, I begin with the questions arising from the articles regarding status of quality managers in various industry sectors attitudes. Next, I present the open coding variables derived from these questions.

**Figure 2**: Steps of Thematic Analysis

# Questions Arising from the Data

In this research, I focus on the perspective of provide a review of the literature on the status of quality managers in various industry sectors in the context of their expertise and authority. Using the existing studies, I will flesh out/identify the variables influencing the expertise and authority Which variables influence the expertise and authority quality managers?

1. Is expertise and authority is the to semi-professional in the same organization?
2. Is there a difference expertise and authority at a different occupations organization? Based on these questions, I have created a tentative thematic map and then will conduct the open coding

**Figure 3**: Steps of Thematic Analysis

Authority an expertise at occupations organization

authority of quality at semi-professional

expertise and authority of quality managers at Organizations that operate according to government

expertise and authority quality managers at military organizations

expertise and authority of quality managers at Hi-tech companies

expertise and authority of quality managers Manufacturing organizations and service providers constitute

# Thematic Open Codes

In [Appendix C](#_Appendix_C_-), I sum up the coding variables that I extracted from the proposed questions, namely: other variables (Gender, Age, Your job description, the main industry, position in which you are employed, How long have you worked in quality).

 Note that the thematic analysis leaves open the possibility for new codes and themes to emerge from the data (Sandelowski, 2010).

# Preliminary Results

The 4 studies included in the systematic review were published between 1973 and 2023 (see Figure 2). Figure 2 reveals that the research topic grew more rapidly from 2022 to the present. Before 2020 this topic was not popular among scholars as today

this research, as an explanatory study, I have analyzed 10 of the most cited articles in quality management , as listed in Google Scholar (within the 4studies described in Figure 1) using the coding method described above. .

# Potential Theoretical Contributions

This field is captured as a "young science," so further study will contribute to the field's development and apply to quality management. This chapter has three theoretical and applied potential.

contributions:

1. To deepen the understanding of status of quality managers in various industry sectors attitudes.
2. Possible use of the methodology of this study for future studies on the difference and

similarities between status of quality managers at industry sectors attitudes.

# Chapter 2 – Quality Managers and other Managers in the Organization

This chapter will examine the **authority** and **expertise** of quality managers in their employing organizations in Israel with respect to other semi-professional roles in the same organization (i.e., those that have a similar status), including: marketing, operations, production, planning control, and human resources. According to academic papers (note), most failures are caused by a lack of involvement in quality by senior management. therefore, the hierarchical position of quality management and relation between quality the top management are very important.

The current study examines the role of quality managers within the structure of their employing organizations and the between quality managers and other semi-professional employees, through qualitative interviews and discussions with quality managers, using content analysis for exploratory research of organizations. The Sources of data could be from interviews, such as organization’s internal documents (Organizational structure, job description, conversations or literally any occurrence of communicative language), and a quantitative to cross-check the data obtained in the previous stages.

# Method

The research employs mixed methodology, with elements of both quantitative and qualitative research. I will triangulate different data collection methods, namely, semi-structured, in-depth interviews, document analysis, and conduction an electronic survey. The methodology of this chapter includes two consecutive phases:

**Phase 1-**

* + Conceptualizing and clarifying the decision-making process transparency by exploratory ([**Appendix A**](#_Appendix_A_-_1)**,** [**Appendix B**](#_Appendix_B_–)**,** [**Appendix C**](#_Appendix_C_-_1)**)**
	+ Mapping main events (including the Covid-19 crisis) in the period of In reference to the position dealing with quality

 In researching the internal documents, the following questions will be asked:

Who defines the job description for the quality manager position?

Who defines the work plan for quality control?

Who approves the work plan for quality control?

Are any success indicators defined for the position?

To whom does the quality manager report when there is an exception in quality?

To whom does the quality manager report when there is an exception outside the organization?

**Phase 2:**

* + Evaluating the variables (decision-making transparency, the number of participants, the need for technology, and informed decisions) using a sample of 1000 quality management in the 8 in various industry sectors in the context of their expertise and authority Preliminary exanimating of hypotheses.
	+ Formulating of conceptual models to provide high-level understanding of the research topic.
	+ Conducting path analysis (SEM/AMOS) to describe the directed dependencies among the variables.
* [**Appendix D**](#_Appendix_C_-_1)

# various industry sectors

This stage will comprise in-depth interviews of 3 hours per interviewee with 8 quality personnel. They will schedule observations in advance (one day in each organization) in order to see how they deal with challenges in their day-to-day work. The observations will provide in-depth information and insights about the phenomenon being studied and the research question.

A sample of experts. In-depth interviews will be conducted with quality managers from the pharmaceuticals, food, service, and hi-tech industries, and the military. All interviewees will have over 10 years of experience in quality. The interviewees will also be asked to describe how they deal with challenges in their day-to-day work.

a closed questionnaire will be sent to quality managers by email, posted on the website of the Israeli Quality Association, and made available at leading quality control conferences in Israel. The respondents will be from various sectors including industrial, service, food, medical, high-tech, and military sectors and differed in terms of their seniority and experience in quality control. In the next section, I present the coding variables for the systematic qualitative review of the literature and the development of themes for the thematic analysis.

#  Statistical Analysis

Statistical analysis will be performed using the SPPS program. After completing the reliability and validity tests for the research variables, the data will be described and analyzed. A bivariate analysis would be conducted using Pearson's test to examine correlations between the continuous variables. In addition, I will perform the factor Analysis method and the Cronbach’s alpha test to make sure that the various items component the dependent variable belongs to the same content world. Then, multivariate analysis will be conducted using a General Linear Model (GLM).

SPSS software does not have the direct ability to estimate regressions according to Fixed or Random Effect Panel Data Models. However, it is possible to estimate the regressions according to the above models using an estimation according to the GLM. Regarding the path analysis the SPSS software will provide a comparison of indirect and direct variable relationships. It is also an extension of multi-variable regression that aims to magnitude and casual relationships estimates between variable groups.

The data will be examined using SPSS. To test the reliability of the questionnaire and its consistency, Cronbach’s alpha will calculated. This calculation examines the internal consistency of questionnaire items , I will use structural equation modeling using IBM SPSS[[3]](#footnote-3)Amos. Structural equation modeling is based on two main models, a measurement model and a structural model. The “observed variable” is a score extracted from a source questionnaire. The “latent variable” is the factor that explains the variation between the observed variables. The structural model details the causal relationships between the latent variables.

# Chapter 3 – Quality Managers in Different Sectors

The purpose of this chapter is to identify and analyze organizational, behavioral, and psychological incentives, preconditions, and barriers to transparency in local government authorities using Total Interpretive Structural Modeling (TISM) (Warfield (1973)). The main goal is to generate an integrated overview of the incentives, preconditions, and barriers that influence transparency by providing evidence from the local government authorities. For example, technological or economic elements can be seen as incentives, preconditions, or barriers. The chapter can be viewed through the theoretical framework of Lewin's (1958) organizational change theory.

This chapter will examine the authority of quality managers in different sectors (including pharmaceuticals, pharmaceuticals, food, the service industry, hi-tech, and the military). The data obtained in Chapter 2 will be further examined via interviews and observations with quality managers using content analysis for exploratory research of organizations to cross-check the data obtained in the previous stages.

In this study, I will address the following questions:

1. Is it essential that every organization appoint an individual or team responsible for quality control? Through a critical analysis of the findings obtained through the qualitative and quantitative parts of this study, I will examine the importance of the role of quality managers in organizations;
2. What is the authority of a quality manager in an organization compared to other semi-professional roles in the same organization?
3. Does the authority of quality managers and their influence within their employing organizations differ among industry sectors?
4. How do quality managers deal with challenges in their day-to-day work?

# Method

The research will employ mixed methods, with elements of both quantitative and qualitative research. As in chapter II, I will triangulate different data collection methods: semistructured, in-depth interviews, and a survey. I will use the partial results of the survey conducted in the research described in chapter II. The methodology of this chapter includes four consecutive phases; the research design is described in figure 4:

**Figure 4**: Research Design Phase

Literature Review

Identification of the Incentive and Preconditions (driving forces) and Barriers (restraining forces) to Transparency

Categorization Incentive and preconditions (driving forces) and Categorizing the Barriers (restraining forces) to Transparency

Survey

TIMS Process

Result Analysis

Of TIMS

Tow Confirmatory Interview

Consulting with expert

Five

Semi Structural in Depth Interview

**Phase 1:**

* Firstly, review on transparency and secondly, review on quality manganate. Because of the lack of sufficient studies regarding the authority and expert of quality manganate , I will use related studies in other fields, such doctors and lawyers

**Phase 2:**

Developing a survey. I will collect the data through a questionnaire that will be completed

* by the management in the local government authorities. The questionnaire construction will consist of four steps:
1. The selection of suitable items from previous studies (Sharon and Yotam 2022)
2. Performing consultation with experts in the field to quality valid content.
3. Collecting data by surveying those who work as managers in quality manegmant.

**Phase 3 –** The work will be based on a mixed methods approach ([Denzin & Lincoln, 2005](#Denzin)). The qualitative section consists of in-depth interviews with 8 quality managers who have worked in the field for at least ten years, and who can provide detailed information and insights regarding the research topic. The study also involves observations of their daily work. The quantitative section is based on a questionnaire examining the role specification, requirements for professional development, and professional identity of quality managers. The questionnaire will be distributed at major quality conferences among a sample of quality managers from various organizations across different industries (see [Appendix A](#_Appendix_A_–)).

A closed questionnaire will be sent to quality professionals by email, as well as being made available on the website, and will be distributed at quality conferences in Israel. Respondents will come from a variety of industries, including the commercial, public, voluntary, and military industries, and from academia. Independent quality consultants will also be asked to participate.

**Phase 4 –** Analyzing the authority and expert in quality management in occupations Organizational and at different Organizational using TISM to decipher the contextual relationships among the incentives, preconditions, and the barriers (Warfield, 1974, Sushil, 2012). Figure 2 describes the basic process of TISM, as described in the article of Sushil (2012). In Appendix D, the steps of the interpretive structural modeling (ISM) and the total interpretive structural modeling (TISM) are presented. The TISM methodology has already experimented in a variety of organizational research contexts (Nasim, 2011, Srivastava, and Sushil, 2011). The elements considered in this methodology's applications have used literature and grounded theory as the base. Furthermore, the TISM process has been used to research organizational change forces (Sushil, 2012). Therefore, I have found this methodology highly suitable for the current study.

Participants will be sent an email that will include a link to the questionnaire in Google Forms on the ISQ website. The questionnaire will take an average of 20 minutes to complete of 20 minutes to complete.

The questionnaire has four parts:

1. Statements describing the quality management role.
2. Statements describing the role of management with respect to quality.
3. Statements that reflect the personality of the quality manager.
4. Background data.

**Figure 5**: Basic Process of TISM

IX. Prepare total interpretive
structural model

Satisfied

I. Define element to be linked

II. determine contextual relation between element element to be linked

III. Define basic interpretation of the contextual relation.

IV. carry out pair –wise comparison of all elements with refences to contextual the relation and

 V. Develop reachability matrix.

Test for matrix for Transitivity Rute

VI. Determine levels by

level partitioning

VII. Prepare Diagraph for by reachability matrix and eliminate transitive links level partitioning

VIII. Develop interaction matrix form the final diagraph and convert interpretive matrix

 Not Satisfied

Model the interpretive logic.

– knowledge base

# Local Government Authorities Selection

As in chapter I, II intend to research the 7 or in Israel.

# Potential Theoretical Contributions

This chapter has three theoretical and applied potential contributions:

* 1. To deepen the understanding the role of the quality management at occupations Organizational and at different Organizational
	2. This study's findings might contribute to quality management at occupations organizational and at different organizational and provide practical tools to management the quality

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Weber, M. (1968). *Economy and society*. Barkley, CA: University of California.

[שאלון - תפקידו של המנהל באיכות](https://docs.google.com/forms/d/1wmLdHIFtRMkL2eF78UQxndEmCa7lKhSKgrZLQQQHXM8/edit)

**First Chapter’s Appendix**

# Appendix A - Articles for Systematic Review

Anker, S., & Lurie, Y. 2022. On the professional authority of quality engineers and the gaps in their epistemic and organizational authority. *Journal of Professions and Organization,* 9(1), 62-76. <https://doi.org/10.1093/jpo/joab020>.

Ekroni, and Milo, (2012). Challenges and ways to empower the quality manager. Journal of Quality and Excellence of the Israeli Association for Quality, 50, 12–14

Otley, D. (2016). The contingency theory of management accounting and control: 1980–2014. Management Accounting Research, 31, 45-62. doi:10.1016/j.mar.2016.02.001

Ronan, G. (February 18, 2018). Who is responsible for quality management and how should it be done? Retrieved from <https://business-excellence.co.il/blog/584-quality-responsibility>

Ronen, Z. (2013). *How to proceed when serious faults are discovered in the quality of the products*. Business Excellence. <https://business-excellence.co.il/blog/489-quality-manager-status>

Siljkovic, Eldina. (2020). [How quality management has been impacted in the face of COVID-19](http://scholarworks.uni.edu/etd/1069). Dissertations and Theses @ UNI. 1069. Available at: https://scholarworks.uni.edu/etd/1069

Wilson LL. The quality manager. J Qual Clin Pract. 2000 Dec;20(4):127-30. doi: 10.1046/j.1440-1762.2000.00375.x. PMID: 11207949

# Appendix B - Descriptive Coding Variables

|  |  |
| --- | --- |
| **Variable** | **Coding** |
| Gender | Male, female |
| Age | 18-24 years, 25-44 years, 45-64 years, 65 years, over |
| Your job description | Quality management, , Quality engineer , other |
| Education | Did not finish middle school, middle school diploma, high schooldiploma, university degree, post-university degree |
| What is the main industry in which you work? | Food, Medicine, Service providers, Low-tech, military, Defense industry, High-tech, Business, Non-profit, Other |
| Quality certification (You can choose more than one.) | Quality Engineering (ICQE), Corporate Quality engineer (ICQM), Reliability, Engineering (ICRE), Other  |
| Are you certified by a professional association | Yes, No |
| Does your organization have a quality Manager? | Yes, No, I am a consultant |
| What is the scope of the position in which you are employed? | Full time, Half time, Quarter time |
| How long have you worked in quality? | Less than 1 year, 1-5 years , 5-10 years, Over 10 years |
| Research methods employed | Quantitative, qualitative, mixed methods, experimental |
| are investigated | All the Quality management |

# Appendix C – Thematic Codes Offered

|  |  |  |
| --- | --- | --- |
| **Code** | **Definition** | **Possible Extracts** |
| occupations Organizational  | Consist: Accountability, trust, confidence, trustworthiness, ethics, integrity | Authority, expiries  |
| Quality management Characteristics | Personal, characteristics | Age, gender, education, income,political ideology |
| management Perceptions | How management view the quality and the quality management | Performance, efficiency,effectiveness, achievements, expectations |

**Second Chapter’s Appendix**

# Appendix A - Criteria for Choosing the Local Authority

In Israel, There are and hundreds organization, I will choice 7 different sectors which evaluates the following variables

I will choose one city using the following criteria:

* + Bet Shemesh Engines.
	+ Ashot Ashkelon Industries.
	+ Umentech.
	+ Gavish sapphire product.
	+ Air force.
	+ Strauss.
	+ NRCN
	+ MDA.
	+ Trichome LTD.

# Appendix B – Semi-Structured, In-depth Questionnaire for quality

My name is Sharon Anker, and I am a Ph.D. student in the Faculty of Management at Ben-Gurion University, supervised by Prof. Yotam Lurie.

In an article published in 2021, I examined the authority and expertise of quality engineers in organizations (<https://academic.oup.com/jpo/article-abstract/9/1/62/6464076?redirectedFrom=fulltext>

My research involves interviews and observations of quality managers in the workplace, to learn how they deal with challenges in their day-to-day work. The data collected will be very helpful in advancing knowledge about the quality profession.

You are asked to participate in an interview that will take about three hours, as well as several hours of observations in your organization.

Quality managers who participate will receive an analysis of their organization and its strengths, and suggestions for improvement.

Below are the questions that will be asked in the interview:

1. Tell me a little about yourself
2. Do you think it is important that every organization appoint a person responsible for quality control?
3. Was there a requirement for a certification or training in quality for your role, for example, from the Israeli or American Association for Quality?
4. Did your position require a degree in a subject related to quality management?
5. Are you aware of the code of ethics of the Israeli Quality Association/the organization you work for? Do you act in accordance with this code of ethics? Do you know the ethics committee of your trade union, and its role?
6. Do you think your expertise in quality is recognized by all stakeholders in your organization? Can you give an example of a conflict where your expertise was challenged, by whom, and how was the problem resolved?
7. Are you given the appropriate authority to perform your role in your organization, and who gives this authority? Can you give an example of a time when your authority was challenged? Who challenged it, and how was this problem resolved?
8. Are there interactions between yourself and other roles in your organization?
9. Have you experienced any power struggles with your organization’s stakeholders? Can you give an example of a power struggle, and how you reached a solution?

# Appendix C – Document Analyses

As a qualitative research method, document analysis refers to a systematic procedure for reviewing or evaluating documents. Document analysis involves skimming, reading, and interpretation. This iterative process combines elements of content analysis and thematic analysis (Bowen, 2009). In this research, document analysis is used in combination with other qualitative research methods to triangulate. The goal is to validate and corroborate findings across data sets obtained during the study.

I assume that analysis of the protocols of meetings before, during, and after the relevant

events can uncover meaning and discover more data relevant to the research problems. The

documentary data will be analyzed together with data from interviews so that themes would

emerge across all three sets of data.

# Appendix D - Developing Scales

I will build the scales based on the steps described in scale development guides (Clark and Watson, 1995; Clark and Watson, 2019). First, the scales will be constructed based on a literature review. The review will include a review of the first chapter regarding the qyality management, which will also shed light on decision-making transparency. Second, I will create an item pool that demonstrates content validity. Third, I will examine the construct validity of the evaluations using a sample of 7 sector. I will use the Cronbach's alpha to access the internal consistency, and the confirmatory factor analysis (CFA) to access the discriminant validity. In addition, to minimize common methods bias, I will follow [MacKenzie and Podsakoff](#Podsakoff) (2012) study regarding adjusting the survey to the responders' capabilities as a means of minimizing common method bias.

In addition, to minimize common methods bias, I will follow [MacKenzie and Podsakoff](#Podsakoff)

(2012) study regarding adjusting the survey to the responders' capabilities as a means of

minimizing common method bias. So, I will select currently working officials with appropriate experience to answer the survey questions

# Appendix E – Questionnaire for quality management

Dear Participant,

My name is Sharon Anker and I am a Ph.D. student in the Faculty of Management at Ben-Gurion University, supervised by Prof. Yotam Lurie.

In an article published in 2021, I examined the authority and expertise of quality managers in organizations (<https://academic.oup.com/jpo/article-abstract/9/1/62/6464076?redirectedFrom=fulltext>).

I would like to invite you to answer a few questions related to my research. The questionnaire will take about 15 minutes to complete. Please answer all the questions, and do not move on to the next question before you have finished the one you are on. There are no right or wrong answers—the correct answer is the one that reflects your role and perceptions.

All data will remain confidential and will be used for research purposes only.

The data will be very helpful in advancing knowledge about the quality profession.

For any further questions, please contact: shorn.anker03@gmail.com.

Thank you very much for your cooperation.

Please note that completing the questionnaire constitutes consent to participate in the study.

**Background data:**

**A. Gender**

1. Male 2. Female

**B. Age**

1. 18-24 years 2. 25-44 years 3. 45-64 years 4. 65 years 5. over

**C. Your job description**

Free text \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**D. What is the main industry in which you work?**

1. Food 2. Medicine 3. Service providers 4. Low-tech 5. Military 6. Defense industry

 7. High-tech 8. Business 9. Non-profit 10. Other

**E. Education.(Please indicate the highest level of education you have achieved. Please choose only one.)**

1. Did not finish middle school, 2.middle school diploma, 2. high school

diploma, 3. university degree, 4. post-university degree

**F. Quality certification (You can choose more than one.)**

1. Quality Engineering (ICQE) 2. Corporate Quality engineer (ICQM) 3. Reliability

Engineering (ICRE) 4. Other

**G. Are you certified by a professional association?**

1. Yes 2. No

**H. If yes, which?**

1. The Israeli Association for Quality 2. The American Association for Quality 3. The European Association for Quality

**I. Does your organization have a quality Manager?**

1. Yes 2. No 3. I am a consultant.

**J. Does your organization have a quality department?**

1. Yes 2. No

**K. What is the scope of the position in which you are employed?**

1. Full time 2. Half time 3. Quarter time

**L. How long have you worked in quality?**

1. Less than 1 year 2. 1-5 years 3. 5-10 years 5. Over 10 years

**Below is a list of statements. For each, please indicate how important it is to you:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Strongly disagree (1)** | **Somewhat disagree (2)** | **Pretty much agree (3)** | **Somewhat agree (4)** | **Strongly agree (5)** | **Statement** | **#** |
|  |  |  |  |  | I always adhere to quality rules, without cutting corners or taking shortcuts. | 1 |
|  |  |  |  |  | I make decisions autonomously. | 2 |
|  |  |  |  |  | I have the authority with respect to other employees to enable me to perform my role.  | 3 |
|  |  |  |  |  | I have the authority with respect to management to enable me to perform my role.  | 4 |
|  |  |  |  |  | I have the expertise (knowledge) to perform my role. | 5 |
|  |  |  |  |  | My professional decisions cannot be changed. | 6 |
|  |  |  |  |  | I have the responsibility to perform my role. | 7 |
|  |  |  |  |  | My role provides added value to the organization and its employees. | 8 |
|  |  |  |  |  | I feel comfortable commenting on quality issues to other employees (without fear). | 9 |
|  |  |  |  |  | I feel comfortable reporting to my direct line manager about poor behavior from other employees (without fear). | 10 |
|  |  |  |  |  | There is a correlation between my professional knowledge and the degree of my success in my role. | 11 |
|  |  |  |  |  | My role is dependent on the organizational culture in my organization. | 12 |
|  |  |  |  |  | Appointing a quality manager raises the status of quality, professionalizes it, and gives it legitimacy and authority. | 13 |
|  |  |  |  |  | It is important to appoint a suitable person to quality roles and to train and empower them as professionals. | 14 |
|  |  |  |  |  | Quality managers have a defined role. | 15 |

**Below is a list of statements. For each, please indicate how important it is to you:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Strongly disagree (1)** | **Somewhat disagree (2)** | **Pretty much agree (3)** | **Somewhat agree (4)** | **Strongly agree (5)** | **Statement** | **#** |
|  |  |  |  |  | Management promotes quality at an organizational level. | 1 |
|  |  |  |  |  | When quality problems are reported to management, they respond quickly to solve the problem. | 2 |
|  |  |  |  |  | Management insists that quality checks be carried out regularly. | 3 |
|  |  |  |  |  | Management will stop any process or work that results in a defective product. | 4 |
|  |  |  |  |  | Management requires each manager to improve quality in their department. | 5 |
|  |  |  |  |  | Management provides all the professional tools required to ensure work is high quality. | 6 |
|  |  |  |  |  | Management invests in quality training, even though it consumes valuable time. | 7 |
|  |  |  |  |  | Training in quality helps improve understanding of the importance of product quality. | 8 |
|  |  |  |  |  | Management invests time and money in quality training for employees. | 9 |
|  |  |  |  |  | Management takes quality into account when determining production speed and timings. | 10 |
|  |  |  |  |  | Management gives quality personnel the authority they need to do their job. | 11 |
|  |  |  |  |  | Management requires each manager to help improve quality in their department. | 12 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Strongly disagree (1)** | **Somewhat disagree (2)** | **Pretty much agree (3)** | **Somewhat agree (4)** | **Strongly agree (5)** | **Statement** | **#** |
|  |  |  |  |  | Management uses all available information to improve quality. | 13 |
|  |  |  |  |  | Management provides employees with information on quality issues. | 14 |
|  |  |  |  |  | My co-workers follow production instructions verbatim, as they appear in the process instructions. | 15 |
|  |  |  |  |  | Management gives quality personnel the power they need to do their jobs. | 16 |
|  |  |  |  |  | Line managers praise employees who pay particular attention to quality. | 17 |

**Below is a list of statements. For each, please indicate how important it is to you:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Strongly disagree (1)** | **Somewhat disagree (2)** | **Pretty much agree (3)** | **Somewhat agree (4)** | **Strongly agree (5)** | **Statement** | **#** |
|  |  |  |  |  | Analytical ability (I identify problems quickly.) | 1 |
|  |  |  |  |  | Critical thinking (After identifying the problem, I can find a solution.) | 2 |
|  |  |  |  |  | Attention to detail | 3 |
|  |  |  |  |  | Teamwork  | 4 |
|  |  |  |  |  | Relevant knowledge of my organization’s work | 5 |
|  |  |  |  |  | Extensive knowledge of the quality profession | 6 |
|  |  |  |  |  | The authority to perform my job | 7 |

# Third Chapter’s Appendix

# Appendix A – Questionnaire for quality management

In researching the internal documents, the following questions will be asked:

* Can you talk briefly about your role at the authority and your key responsibilities? Who defines the job description for the quality manager position?
* Who defines the work plan for quality control?
* Who approves the work plan for quality control?
* Are any success indicators defined for the position?
* To whom does the quality manager report when there is an exception in quality?
* To whom does the quality manager report when there is an exception outside the organization?
* What is your opinion about the level of transparency in authority, and do you think it is connected to the legal state organizing policy?

#

# Appendix B – Questionnaire for quality management

The application development of the ISM approach was carried out by Warfield (1973), and the analytical details of the ISM process were developed in the researchers of Warfield (1974, 1976, 1994, 1999) and many other authors (Sushil ,2012). In time, interpretive structural modeling (ISM) leads to evolving the framework and methodology of total interpretive structural modeling (TISM).

have chosen to apply this method in the present research because of its advantages: (1) By the method, I will be able to present a complex system in a simplified way; (2) The method can provide an interpretation of the embedded object; (3) The method transforms unclear models of systems into visible and helps to answer questions as to how and why in theory building; (4) Also, the method enables researchers to identify the structure within a system. Nevertheless, the method has limitations, the interpretation is partial, and thus there is exposure to the researcher's interpretations; also, the method does not answer the relationship of causality between the elemental and thus makes it difficult to construct theories in answering the question of why (Sushil ,2012).

1. מזון (www.gov.il) [↑](#footnote-ref-1)
2. [The program for promoting quality and excellence in industry and associations in northern Israel is based on a commitment to society and the community of large companies and individuals. Survey findings for the evaluation of the program's contributions (neaman.org.il)](https://www.neaman.org.il/Files/%D7%94%D7%AA%D7%9B%D7%A0%D7%99%D7%AA%20%D7%9C%D7%A7%D7%99%D7%93%D7%95%D7%9D%20%D7%90%D7%99%D7%9B%D7%95%D7%AA%20%D7%95%D7%9E%D7%A6%D7%95%D7%99%D7%A0%D7%95%D7%AA%20%D7%91%D7%AA%D7%A2%D7%A9%D7%99%D7%99%D7%94%20%D7%95%D7%91%D7%A7%D7%94%D7%99%D7%9C%D7%94%20%D7%91%D7%A6%D7%A4%D7%95%D7%9F%20%D7%99%D7%A9%D7%A8%D7%90%D7%9C_20200122114539.584.pdf) [↑](#footnote-ref-2)
3. <https://www.ibm.com/downloads/cas/PQWMKEM5> [↑](#footnote-ref-3)