An-Najah National University
Faculty of Graduate Studies

Analysis of Project Management Practices in Public Sector in West Bank "Ministry of Public Works & Housing"

By
Sajeda Rashed Mustafa Janem

Supervisor
Dr. Riyad Abdel Kareem Awad

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This thesis was defended successfully on 13/11/2011 and approved by:

Defense Committee Members	**Signature**
1. Dr. Riyad Abdel Kareem Awad / Supervisor	**……..**
2. Dr. Iyad Rammal / External examiner	**……**
3. Dr. Husam Arman / Enternal examiner	**.....**

DEDICATION

I would like to dedicate my thesis to all of those who supported me in any respect during the completion of the thesis.

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In the beginning I thank God and praise Him in a manner that befits the (infinite) number of His creation, and as it pleases Him, for supporting me in the completion of this work.

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الإقرار

أنا الموقعة أدناه مقدمة الرسالة التي تحمل عنوان

Analysis of Project Management Practices in Public Sector in West Bank ''Ministry of Public Works & Housing"

دراسة تحليلية في ممارسات وتطبيقات إدارة المشاريع في القطاع العام في الضفة الغربية (وزارة الأشغال العامة والإسكان)

أقر بأن ما اشتملت عليه هذه الرسالة إنما نتاج جهدي الخاص، باستثناء ما تمت الإشارة إليه حيثما ورد، وان هذه الرسالة ككل، أو أي جزء منها لم يقدم من قبل لنيل أية درجة علمية أو بحث علمي أو بحثي لدى أية مؤسسة تعليمية أو بحثية أخرى.

Declaration

The work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

Student's name: **اسم الطالبة:**

Signature: **التوقيع:**

Date: **التاريخ:**

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Analysis of Project Management Practices in Public Sector in West Bank "Ministry of Public Works & Housing"

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Abstract

This study aims at assessing the different project management practices and tools followed by the different departments in public sector in West Bank, in particular, in Ministry of Public Works and Housing as well as to explore effective techniques and tools in project management within public sector, and to understand the main factors that hinder achieving project goals.

In order to achieve the objectives of this study; a survey based on a questionnaire was carried out among General Directors, Directors, Head of Divisions, and Project Managers of related different departments in Ministry of Public Works and Housing in West Bank.

Based upon the analysis of responses and studying case study of projects, the results of the study proved that there is an inefficiency of project management practices followed within Ministry of Public Works and Housing, and these practices could be graded as moderate with respect to best practices.

The results revealed that officials believe that using a simple and well defined framework with a staged approach ensures project success.

They also had the conviction that post evaluation of projects is essential to project success; to deduce and file continuous recommendations so as to overcome possible shortcoming in new projects. Nevertheless, miscommunication among project team, absence of thorough planning and non-adopting of clear methodologies revealed as the main factors that lead for hindrance of achieving project goals.

Keywords: Public Sector, Ministry of Public Works & Housing, Project Management.

CHAPTER 1
INTRODUCTION

1.1 Overview

Palestine, a state under formation and has limited resources, faces challenges towards achieving its future visions and national strategic plans. (National Development Plan, 2011-2013).

Palestine faces a tremendous challenge within its institutions to manage the implementation of various planned projects in an efficient way by using abiding methodologies. These projects, (mostly infrastructure projects) are desperately needed to establish a strong foundation base for a future prosperous state. National responsibilities of public & private institutions towards sustainable development are highly expected.

Infrastructure has a significant position in the economic sector development. The studies done by the World Bank shows a close reciprocal relationship between infrastructure availability – Gross Domestic Product (GDP) growth. Empirically and intuitively, the investment of infrastructure has a significant influence against national economic growth. In the era of globalization, the national economy is not released from global economy, while the national economy is the resultant of the local economies. There is a close relationship between economy and the infrastructure availability and also between global economies, nationally and locally. To ensure the growth of national economic, the infrastructure development should be selected, reliable planning and to meet the feasibility conditions in order to

establish economic network locally, nationally and globally in sustainable manner. (Salvatore, 1977)

So, practitioners are increasingly using project management tactics to plan and organize resources to achieve a specified outcome within a given timeframe and a constrained budget. They also try to manage and anticipate risks in a structured manner.

Organizations using project management have shown better utilization of resources, shorter development times, reduced costs, inter-departmental cooperation that builds synergies across the organization, and a better focus on results and quality. (Morris, 2007).

Each project proceeds through a life cycle (almost typical) from preplanning to post evaluation. During implementation changes and differences are encountered and decisions are bound to be taken so that the project can proceed to completion. Management teams are usually grouped from various disciplines and backgrounds reflecting different attitudes and beliefs imposing distant views and solutions that lead to severe conflicts.

Palestine is greatly dependant on foreign aid and interventions from donors often require certain procedures to be followed which may differ from general practices carried out by the concerned national parties.

Different Implementing Agencies follow different procedures for the different stages of the project life cycle depending on its legal entity and

source of funding. Financing requirements are always imposed following the Donors' home countries laws and regulations for external aid. Nevertheless, the Palestinian law and regulations do exist and usually the agreements signed between the Palestinian Authority and Donors do allow deviations of Palestinian regulations.

Performance during implementation is not up to expectations. This is due to different reasons. The absence of clear internal co-ordination mechanisms and regulations within public institutions, inefficient personnel and absence of motivation are among these causes. Institutions react to performance inefficiency in many ways. Possible solutions may be oriented towards purchasing consultancy services, training of personnel, change of regulations, and adoption of new methods and tools.

There is no evidence that the above measures are definitely successful in improving project performance. However, the question that is constantly imposed and practitioners strive to answer is:

"What can be done to develop project management practices in public sector in Palestine and enhance project performance?"

1.2 Research Problem

Ministry of Public Works and Housing, the formal governmental implementing agency of public sector projects, is considered the first executive arm and responsible of implementation of government programs. The Ministry of Public Works and Housing undertakes the construction and

development of the network of roads as well as the construction of buildings and government constructions, and the development and construction of housing sector, in addition to the development of work in the construction sector.

One of the main challenges that face this government agency to realize their vision and strategic plans, is how to apply the project management principles effectively in its activities.

So, in this study, an attempt has been made to provide some aspects of the answers to the management dilemma embodied in the question: "What can be done to develop project management practices in public sector in Palestine and enhance project performance?"

1.3 Research Importance

Nowadays, on one side the development of infrastructure projects of all countries in the world is demanded to implement fast, reliable, efficient and effective, useful and having high capacity for competition in the global era. On the other side, the development of infrastructure projects is expected to support the national economic growth, to increase the prosperity of the people and make the quality of the local environment better. Therefore, the government of the countries should take a policy to develop the infrastructure projects in accordance with the current era, while the private sector and the community are expected to participate in the construction services. In this regard, the development of infrastructure

projects should fulfill the feasibility of technical, economical, financial, social and environmental, to support the development of economic network locally, nationally, and globally in sustainable manner.

To fulfill the demand, project management development should be an important issue in the public and private sectors. The development of project management practices in public sector is the most important field in developed and developing countries, since it identifies the methodologies and actions needed to achieve government strategic goals.

So, the successful processes of identification, planning, implementation, and completion of projects present an urgent need that has attracted considerable interest and activity on the part of organizational developers.

The benefits of assessing of the project management practices and exploring the effective practices in Ministry of Public Works and Housing will strengthen these practices within its various departments and be the leading institution for enforcing effective project management practices in West Bank through:

1- Building awareness among employees to apply project management effectively,

2- Facilitating the work flow.

3- Improving the performance, productivity, quality and efficiency of projects.

4- Developing management skills, tools and techniques.

5- Encouraging team work rather than individual work.

6- Avoiding problems which hinder of achieving project's goals.

1.4 Research Objectives

To obtain a high level of efficiency of implementation of the public projects, a clear and well defined system should be institutionalized. This study is an attempt to highlight and examine project management practices in public sector in West Bank. So, this study aims:

- To assess the different project management practices and tools followed by the different departments in public sector in West Bank, in particular, in Ministry of Public Works and Housing.
- To explore the effective techniques and tools in project management practices within public sector.
- To add a contribution of understanding the main factors that hinder achievement of projects goals.
- To provide recommendations to improve project management practices in the Palestinian public sector as well as enhance the success of projects.

1.5 Research Questions

Based on the above objectives, this study should result in answers to the following questions:

- Q1. What is the reality of project management in public sector in West Bank?
- Q2. What are the effective techniques and tools in project management practices within public sector?
- Q3. What are the main factors that hinder achievement of projects goals?

1.6 Research Hypotheses

- H1. There is a deficiency in project management practices applied by the Public Sector in West Bank with the best practices.
- H2. Participants in the survey should not differ in their responses to the questionnaire due to the qualification.
- H3. Participants in the survey should not differ in their responses to the questionnaire due to job title.
- H4. Participants in the survey should not differ in their responses to the questionnaire due to years of experience.
- H5. Participants in the survey should not differ in their responses to the questionnaire due to age.

1.7 Thesis Methodology:

The methodology of this study is based on:

1. Review of available literature concerning project management culture and practices.
2. Depicting a typical project cycle and exploring management tools and procedures applied with respect to every stage within the public sector.
3. Field visits to concerned parties to conduct interviews with officials concerning management practices.
4. Conducting a survey to evaluate the usage and efficiency of followed management practices.
5. Collection of data related to general problems that hinder progress, affect performance and study of causes.
6. Case studies of some projects.
7. Conducting analysis of the data collected.
8. Developing conclusions and recommendations.

1.8 Research Limitations

The research will be limited to the following:

- Only one ministry.
- Construction projects only; projects of other types will not be discussed.

- Projects built by public sector.

1.9 Research Outlines

This thesis is divided into five chapters, as follows:

Chapter (1): Introduction

This chapter contains an introduction which is intended to give an overview of the importance of project management, followed by the statement of the problem, the objectives of the research and research questions.

Chapter (2): Literature Review

This chapter displays brief history of project management, reviews many definitions and concepts of project management and outlines its importance. It attempts to emphasize the importance of the adoption of a formal project management methodology and well-defined framework. Finally, it presents the different phases of project life cycle.

Chapter (3): Research Methodology

This chapter presents the research methodology, which explains how the investigation was through, and the methods of data collection.

Chapter (4): Data Analysis and Discussion

This chapter presents a comprehensive analysis and discussion of the questionnaire results and summarizes the inferences concerning the study questions that were stated in chapter one.

Chapter (5): Conclusions and Recommendations

This chapter concludes the study through an articulation of the research findings, puts recommendations and suggestions for future works.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

As previously mentioned in Chapter 1, the aim of this research is to assess project management practices in public sector in West Bank, as well as to explore effective techniques and tools in project management within public sector, and to understand the main factors that hinder achievement of project goals.

The main concern of this chapter is to provide needed background and information to overshadow the research subjects and objectives.

This chapter displays development of project management, reviews many definitions and concepts of project management, outlines the importance of project management and presents the different phases of project life cycle.

2.2 Development of Project Management

Projects from ancient times have left impressive legacies on our architectural and industrial culture. One wonders how some of those early masters managed without the technology that is cheaply available today. However, with the exception of a few notable philanthropic employers, concern for the welfare and safety of workers was generally lacking and many early project workers actually lost their lives through injuries, disease and unbearable physical exhaustion. People were often regarded as a cheap and expendable resource (Morris, 1994).

Formal management organizational structures have existed from early times, but these flourished in military, church and civil administrations rather than in industry. Industrial organization came much later.

Rapid industrialization and the demands of munitions production in World War One saw the emergence of management scientists and industrial engineers such as Elton Mayo and Frederick Winslow Taylor, who studied people and productivity in factories (Kanigel, 1997). Henry Ford made production-line manufacture famous with his Model T automobile and Henry Gantt (1861-1919) developed his famous charts which are still popular and universally used up till now with an especial importance for project managers.

By the end of the 1930s, modern project management had begun to emerge most conspicuously in the military and process engineering industries. The Manhattan project, which involved the development of the first atomic bomb, is commonly presented as the first evidence of modern project management, although it did not use abundantly available project management tools such as network planning or work breakdown structures.

It is not generally appreciated that early examples of critical path networks were developed before 1950's as their value was not widely appreciated at the time. Without the existence of computers, these networks were inflexible to change, tedious to translate into working schedules and thus impracticable and difficult to use. Gantt’s bar charts

were generally preferred as often set up on proprietary charts that allowed rescheduling using movable magnetic or plug-in strips or cards. Everything from the allocation of labor and machinery to holiday schedules, was controlled by charts and were usually displayed prominently on office walls.

The early 1950s showed little progress in the formalization of project management, but by the end of the decade, this situation had been significantly changed by two major developments: the development of the network project planning and monitoring techniques of PERT (Project Evaluation Review Technique), CPM[1] (Critical Path Method), and PDM (Precedence Diagramming Method) ; and systems engineering. (Morris, 1994)

The 1960s witnessed an intellectual push to apply general management theories to project management, particularly in terms of the "system approach" and organizational factors such as differentiation, integration, and interdependence. The late years of 1960s witnessed a shift form focus upon organizational and scheduling aspects to more comprehensive texts on project management (Morris, 1994).

The 1960s also witnessed the establishment of the two major professional project management bodies independently in Europe and North America.

[1] Critical Path Method (CPM), and Project Evaluation Review Technique (PERT) were developed in the USA independently in the late 1950s. (Kelley & Walker, 1989). On the other hand, the networking method which later came to be called PDM was initiated with the award of a research contract by the US bureau of Yard and Docks of Stanford University, Civil Engineering Department (Fondahl, 1987).

- **IPMA (International Project Management Association)**

IPMA was formed in 1965 originally as a forum for European network planning practitioners to exchange knowledge and experience. IPMA's focus is in the development and promotion of the project management profession and provides standards and establishes guidelines for the work of project management professionals through the IPMA Competence Baseline.

- **PMI (Project Management Institute)**

North America's PMI was formed in 1969, PMI is a professional organization for the project management profession with the purpose of advancing project management.

Due to the rapid growth in information technology or IT, industrial project management continued as before but with more project management software available and wider recognition of the role.

Furthermore, project management was spreading to many diverse industries such as banking, law, pharmaceuticals and advertising.

Snyder (1987) noted that in the 1970's, the writings on project management took two significant new directions; applications and professional recognition.

Many of the distinctive project management techniques which were developed or refined during the1970s appear to owe much to the rational

problem-solving approaches which were characteristic of the systems concepts of the time. These include WBS (Work Breakdown Structure), OBS (Organization Breakdown Structure), responsibility assignment matrices (e.g. Linear Responsibility Charts) and earned value methods (Stretton, 2007)

Development of the professional project management associations grew during this period, which also witnessed the development of legislation to protect workers' health and safety.

Although project management software became more widely available, processing continued to be carried out on big expensive mainframe computers in batch mode. Graphics were primitive compared with modern equipment. Data input was still accomplished by copying data from network diagrams on to coding sheets from which cards had to be punched and verified, sometimes needing two cards for every network activity. After sorting, these punched cards had to be taken to trained computer operators, who worked in clean air-conditioned rooms where entry was usually forbidden to project managers. The first process results always seemed to produce a large pile of print-out listing a crop of errors that needed considerable detective work before the faults could be identified, and then corrected by punching several new cards before the computer could produce its practical working schedules (Morris, 1994).

During 1980s, project management began to become a mature management discipline "The eighties was a period of integration of the

many different areas of emerging experience into accepted principles and practices common to most application areas" (Stretton, 1994b).

Before the 1980s, the emphasis in project management tools and techniques had tended to be on the execution or implementation phases of projects. But that situation was changing, and in the 80s increasing emphasis was being placed on the "front end" of projects[2]. So, during the 1980s, increasing attention was directed towards needs determination, feasibility studies, value analysis, risk management and project startup. In 1980s a certification program was developed and approved by the PMI Board.

Practically all software suppliers recognized the need to make their products compatible with Microsoft Windows. Microsoft itself introduced Microsoft Project into their Office suite of programs. One or two operating and plotting faults in very early versions of Microsoft Project were eliminated in later versions and the program is now by far the most widely used program especially among students who appreciate its user-friendly features. However, many professionals continue to use programs at the high end of the software market preferring their greater power, versatility and adaptability for particular project applications.

[2] Barnes & Wearne (1993) express it: "The evolution of techniques of project management has moved progressively from concentration upon the problems apparent at the tail end towards the front end - from downstream to upstream. The emphasis for project management now is to start with attention to a project's needs and risks as a whole so as to anticipate the potential problems and shrink the risks".

Project risk is taken seriously and people pay more attention to predicting risk events so that contingencies and risk mitigation strategies can be planned. Of immense importance is the power of communication made possible by satellites and the Internet, effectively shrinking the world and making it possible to transmit drawings, reports and other documents almost instantaneously to almost anywhere.

2.3 What is a Project?

The definition of a project has been the subject of considerable debate over the years among the practitioners of project management and the goal of developing a comprehensive definition of what a project is has remained elusive over the years (Cleland & Ireland, 2002; Crawford & Pollack, 2007).

In order to understand the theory and practice of project management, it is necessary to first establish the definition of a project and then to define project management. Once the concept of a project has been defined, it is possible to define project management. Several definitions can be found in the literature with enough basic similarities that a clearer definition can be deducted.

Davis (1951) defined a project as “any undertaking that has definitive and final objectives representing specific values to be used in the satisfaction of some need or desire”.

Kerzner (1979) defined a project as: " A unique undertaking that consists of a specific objective, series of tasks, defined scope and specifications, a schedule for completion, a budget and resource consumption".

Tuman (1983) defined a project as: "An organization of people dedicated to a specific purpose or objective. Projects generally involve large, expensive, unique or high risk undertakings which have to be completed by a certain date, for a certain amount of money, within some expected level of performance. At a minimum, all projects need to have well defined objectives and sufficient resources to carry out all the required tasks".

Wideman (1985) defined project as follows: "Any undertaking with a defined starting point and defined objectives by which completion is identified. In practice most projects depend on finite or limited resources by which the objectives are to be accomplished".

The Project Management Institute (2004) defines a project as:" A temporary endeavor undertaken to create a unique product or service". Temporary means that every project has a specific beginning and a specific end. Unique means that a product or service is different in some characteristic way from all other products or services. One of the aspects of a project that the PMI emphasizes is progressive elaboration; a term that refers to a characteristic of projects that integrates the concepts of unique and temporary. "Because the product of each project is unique, the

characteristics that distinguish the product or service must be progressively elaborated. Progressively means proceeding in steps; continuing steadily by increments, while elaborated means worked out with detail; developed thoroughly" (PMI, 2004).

There are three key dimensions to a project:

- budget
- time
- quality

These have to be balanced to manage a project successfully. A successfully completed project would finish on time, within the estimated budget and having achieved all of the quality requirements. These three dimensions of budget, time and quality are often regarded as the aspects of a project that must be kept in an appropriate balance if the project is to achieve a successful outcome (Hamilton,2004).

2.4 What is Project Management?

Havranek (1999) defined project management as "the art and science of planning, organizing, integrating, directing and controlling all committed resources throughout the life of a project to achieve the predetermined objectives of scope, quality, cost and customer satisfaction".

Kerzner (2003) offered the following definition of project management: "Project management is the planning, organizing, directing and controlling of company resources for a relatively short-term objective that has been established to complete specific goals and objectives".

The PMI (2004) defined project management as "the application of knowledge, skills, tools and techniques to project activities to meet project requirements. Project management is accomplished through the use of the processes such as: initiating, planning, executing, controlling and closing". PMI went on to explain that the work of projects usually involves (a) competing demands for scope, time, cost, risk and quality; (b) stakeholders with different needs and expectations; and (c) identified requirements.

Westland (2006) also defines project management as: "the skills, tools and management processes required to undertake a project successfully". It incorporates:

- A set of skills: specialist knowledge, skills and experience are required to reduce the level of risk within a project and thereby enhance its likelihood of success.

- A suite of tools: various types of tools are used by project managers to improve their chances of success. Examples include document templates, registers, planning software, modeling software, audit checklists and review forms.

- A series of processes: various processes and techniques are required to monitor and control time, cost, quality and scope of projects. Examples include time management, cost management, quality management, change management, risk management and issue management.

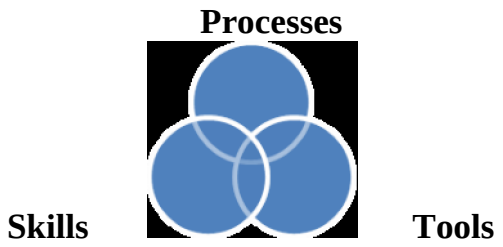

Figure (2.1): Project Management Components.

2.5 Project Failure and Success

2.5.1 Project Success

Freeman and Beale (1992) stated that project success has different meanings to different people and it is very context dependent. "Trying to pin down what success means in the project context is akin to gaining a consensus from a group of people on the definition of good art" (Jugdev & Muller, 2005).

At its most basic level, project success is seen as finishing project deliverables on time, on budget and to a quality grade (Greer, 1999). As found in the early literature and practice, "the Iron Triangle (schedule, scope and budget) was a measure of success" (Cooke-Davis, 2002; Hartman, 2000).

Thomsett, following extensive study of 20 failing projects over a period of 18 years, expands this criteria of success as what "satisfies stakeholder groups, meets requirements, meets quality expectations / requirements, within cost (paid, unpaid and business expert costs), within deadline, delivers sustained and actual benefits and provides the team with professional satisfaction and learning" (Thomsett, 2002).

Lim and Mohamed (1999) used the analogy of the forest and the trees to illustrate the difference between the macro and micro points of view of project success. The micro point of view is concerned with assessing project management success based on project completion, while the macro point of view involves the longer range perspective of product use to measure customer satisfaction. The point is that determining whether or not the project has succeeded could not be determined until the operational stage that occurred after the project had passed to the receiving organization and the project received evaluation input from the users and stakeholders. "Lim and Mohammed’s work was significant because it referred to setting expectations at the project’s onset. This approach contributed to alignment between project deliverables and expectations so that the work could be guided along those lines" (Jugdev & Muller ,2005).

2.5.2 Project Success and Failure Factors

The project management literature reviewed shows that the concept of project success has been and continues to be a major concern in this field. The two different aspects of concern are the following: (a) How

success is measured (success criteria), and (b) what are the factors that contribute to project success (Crawford, 2002).

The first aspect of the concern was mentioned in the previous section.

Project success factors (PSFs) are factors or characteristics that, when present, improve the likelihood that projects will be implemented successfully (Kerzner, 1997, 2003; Pinto & Slevin, 1987). Kerzner (1987) also defined PSFs as "elements required to create an environment where projects are managed consistently with excellence".

Greer (1999) states that "Planning is everything and ongoing", and expands this by saying "planning and re-planning must be a way of life for project managers", and due to the dynamic nature of many projects, the plan must be regularly revised. The planning and control of project scope is important to avoid higher costs and late delivery (Butterick, 2000). Well defined requirements are an important input into the scope management process.

The management of change in a project is a critical success factor, a formal method of recording change requests, assessing the effect of the change on the project and a change approval process are required to be controlled (Thomsett , 2002).

Management of Risk in a project is another element of successful projects. Risk management should begin during project planning and

identify risks that can cause problems later in the project. Some risks can never be totally eliminated and they may change during a project, but ongoing well thought out risk assessment and risk mitigation strategies together with risk contingencies in the project budget are required to avoid unpleasant project surprises. (Cameron, 2002).

Butterick summarizes the results of a benchmarking study into project success factors across a wide range of industries into ten "lessons learned". One of these lessons is to "use the same, simple and well defined framework with a staged approach in all circumstances". Constantly using the same staged approach minimizes confusion and the need for re-learning for people connected with the project. The staged approach allows planning of the next stage in detail while further stages are planned in summary form. Separating each stage is a decision point or gate. The gate allows for quality control checks, prioritization and a point from which to plan forward. Traditionally the gate ends each phase. Some organizations use the gate as an entry point to the next phase which allows phases to overlap (start before the previous phase has finished) without increasing risk (Butterick, 2000).

In conclusion, the main causes of project failure include: poor project sponsorship, undefined requirements and miscommunication. However the number one cause of project failure is the lack of adoption of a formal project methodology. Without adopting a clear methodology or framework for delivery, most project teams start building deliverables before their

scope and objectives are clearly thought through. They have no structured processes for undertaking project tasks, and so they fail to effectively manage time, cost, quality, risks, issues and changes within the project. It is inevitable that such projects suffer from scope creep, milestone delays, poor deliverable quality and a lack of customer satisfaction. So, to avoid project failure: a repeatable project methodology to be used with structured project processes for initiating, planning, executing and closing projects effectively.

2.6 Project Cycle Management (PCM) and Logical Framework Approach (LFA)

2.6.1 Project Cycle Management

Project Cycle Management (PCM) was introduced by the European Commission in the early 1990's to improve the quality of project design and management and thereby to improve aid effectiveness.(ITAD,1999)

The way in which projects are planned and carried out follows a sequence beginning with an agreed strategy that leads to an idea for a specific action an oriented towards achieving a set of objectives which is then is formulated, implemented and evaluated with a view to improve the strategy for further action.

Project Cycle Management is an approach to managing projects. It determines particular phases of the project and outlines specific actions and approaches to be taken within these phases. The PCM approach

provides for planning and review processes throughout a cycle and allows for multiple project cycles to be supported.

2.6.2 Logical Framework Approach

Project planning and management tools provide the practical mechanisms by which relevance, feasibility and sustainability can be achieved. The core tool used within PCM for project planning and management is described as Logical Framework Approach (LFA).

The LFA is a tool for the systematic management of projects and programs that focuses on results and not on activities. It provides the tools for logically establishing project objectives and defining their causal relationships. Additionally, it describes external factors that influence success; assumptions for implementation and the risks confronting the project. The LFA also supports regular monitoring and evaluation through the identification of verifiable and measurable indicators that help determine whether objectives have in fact been met.

The LFA is a purposive approach that entails stakeholder involvement to ensure project relevance or sustainability. It has two phases; namely the analysis phase and the planning phase.

The LFA also is defined as a tool for planning and managing development projects. It looks like a table (or framework) and aims to present information about the key components of a project in a clear, concise, logical and systematic way. The log frame model was developed

in the United States and has since been adopted and adapted for use by many other countries. (Cordingley, 1995)

The LFA summarizes, in a standard format the following:

- What the project is going to achieve?
- What activities will be carried out to achieve its outputs and purpose?
- What resources (inputs) are required?
- What are the potential problems which could affect the success of the project?
- How the progress and ultimate success of the project will be measured and verified? (Cordingley, 1995)

(WWF. 2005) The logical framework approach provides a set of design tools that when applied creatively can be used for planning, designing, implementing, monitoring and evaluating projects. Log frames give a structured, logical approach to setting priorities, and determining the intended purpose and results of a project. Used correctly, log frames can provide a sound mechanism for project development. Logical frameworks also lay the basis for activity scheduling, budgeting, monitoring and for evaluating the impact, effectiveness, efficiency and relevance of a project.

The evolution of LFA has been driven largely by international and bilateral aid agencies for use in Third World development planning and

project management. Curiously, even though its core tool – the log frame matrix - is a mature 30 years old, its use in Australia has been very inconsistent and its potential is still largely unrecognized. At the federal government level, LFA has been adopted by AusAID and, in part, by Land & Water Australia, while in Queensland it is now used by most state government departments and by the corporate sector, largely due to its promotion by a Brisbane-based project management training and consultancy firm, Project Management Solutions Australia Pty Ltd. (Finlayson, P.M. ,1999).

2.7 Project Life Cycle

The idea of a life cycle suggests that a project has a life. This implies a sequence of phases, including birth, growth, maturity, aging and death.

The project life cycle model describes the different phases that a project normally passes through as it progresses to a conclusion. The model is based on the idea that, although all projects are different, they all progress through similar phases. Each phase completes a stage of the project. (Martin, 2006)

The project cycle also provides a structure to ensure that stakeholders are consulted and relevant information is available throughout the life of the project, so that decisions can be made at key stages in the life of a project.

According to (Westland, 2006) The project life cycle consists of four phases as shown in Figure 2.2.

Figure (2.2): Project Life Cycle

2.7.1 Project Initiation

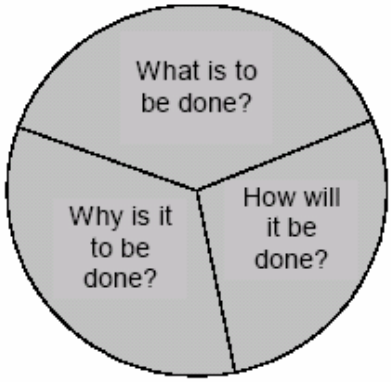

Figure (2.3) Major Questions to Be Answered During the Initiation Phase

The project initiation phase is the conceptualization of the project. Accordingly, the purpose of the project initiation phase is to specify what the project should accomplish. The caution in this purpose lies the customer's needs if inadequately articulated and poorly formulated goals and objectives will stand out as a significant source of concern. This starting point is critical because it is essential for those who will deliver

the product/process and for those who will use that product/process and for those who have a stake in the project to reach agreement on its initiation. (Project Management Methodology, 2004)

The initiation phase is the first phase of a project management life cycle and the most crucial phase. During this phase a business problem or opportunity is identified and a business case providing various solution options is defined. Next, a feasibility study is conducted to investigate whether each option addresses the business problem and a final recommended solution is then put forward. Once the recommended solution is approved, a project is initiated to deliver the approved solution. Project charter is completed outlining the objectives, scope and structure of the new project and a project manager is appointed. The project manager begins recruiting a project team and establishes a project office environment. Approval is then sought to move into the detailed planning phase.

There are six key steps to properly initiate a new project and are as follows:

1- Develop a business case

The trigger to initiating a project is identifying a business problem or opportunity to be addressed. A business case is created to define the problem or opportunity in detail and identify a preferred solution for implementation. The business case includes:

• A detailed description of the problem or opportunity.

• A list of the alternative solutions available.

• An analysis of the business benefits, costs, risks and issues.

• A description of the preferred solution.

• A summarized plan for implementation.

The business case is then approved by an identified project sponsor, and the required funding is allocated to proceed with a feasibility study.

2- Undertake a feasibility study

At any stage during or after the creation of a business case, a formal feasibility study may be commissioned. The purpose of a feasibility study is to assess the likelihood of each alternative solution option achieving the benefits outlined in the business case. The feasibility study will also investigate whether the forecast costs are reasonable, the solution is achievable, the risks are acceptable and the identified issues are avoidable.

3- Establish the project charter

After the business case and feasibility study have been approved, a new project is formed. At this point, project charters are created. The project charter defines the vision, objectives, scope and deliverables for the new project. They also describe the organization structure, activities, resources and funding required to undertake the project. Any risks, issues, planning assumptions and constraints are also identified.

Without a project charter, the goals of the project will be ambiguous and often understood incorrectly by the key stakeholders who have different points of interest in the project. The result is a project beset with conflicting priorities and role confusion in many cases to failed project.

While unique charters are to be written for each specific project, charters should contain at least the following aspects:

Project Authorization*:* A brief written statement should identify the authorized project by name and/or number.

Project Manager Authorization*:* The name of the project manager, including a description of his/her responsibilities should be clearly identified.

Key Stakeholders*:* All key stakeholders identified in the project proposal. Their functions and roles must be defined clearly to avoid role confusion. List all stakeholders, their roles and how they will contribute to the project.

Project Goal(s): Having a clear, agreed-upon goal statement is vital to the success of the project. The goal statement in the project charter must be identical to the goal established in the approved project proposal. The goals must be specific, measurable, achievable, relevant to corporate goals and must have a timeline.

Project Priorities*:* A list of the project priorities (time, cost, scope, etc.) must be included and delineated in the order of importance. These priorities should remain constant throughout the project whenever

possible. The importance of conveying project priorities to the project manager should be well stressed.

Scope Statement*:* A scope statement should describe the major activities of the project in such a way that it will be absolutely clear. The scope statement in the project charter must reflect the approved scope described in the project proposal and may further expand on its details.

Project Constraints & Boundaries*:* Any constraints or boundaries placed on this project must be clearly described. This might include budget/funding limits, time constraints, regulations or quality standards that must be met.

Initial Project Risk*:* Any identifiable obstacles and risks (threats) that might prevent the successful attainment of the project goals must be considered. Each risk must be analyzed, quantified and prioritized as much as possible with the information available at this stage of a new project. Risk responses, including mitigations, risk sharing, risk avoidance and risk tolerances should be described in this portion of the project proposal.

List of Deliverable*:* The project charter should include a list of deliverables produced by the project and submitted to a customer or a production manager for acceptance. There can be both intermediate and end deliverables.

Cost Estimate: Any cost estimates that were developed and approved in the project proposal must be reflected in the project charter.

Schedule Estimate. Any project duration estimates that were developed and approved in the project proposal must also be reflected in the project charter.

Success Criteria*:* In addition to the project goals it is also important to determine the success criteria of a project. Not all projects finish exactly on time, within budget or with all initial scope completed but this does not mean that a project has failed. Aggressive, but doable success criteria will ensure motivating a project team.

4- Appoint the project team

The project team is now ready to be appointed. Although a project manager may be appointed at any stage during the life of the project, the manager will ideally be appointed prior to recruiting the project team. The project manager creates a detailed job description for each role in the project team, and recruits people into each role based on their relevant skills and experience.

5- Set up a project office

The project office is the physical environment within which the team is based. Although it is usual to have one central project office, it is possible to have a virtual project office with project team members located around the world. A project office environment should include:

• Equipment, such as office furniture, computer equipment, stationery and materials.

• Communications infrastructure, such as telephones, computer network, e-mail, Internet access, file storage, database storage and backup facilities.

• Documentation, such as a project methodology, standards, processes and forms.

• Tools, such as accounting, project planning and risk modeling software.

6- Perform a phase review

At the end of the initiation phase, a phase review is performed. This is basically a checkpoint to ensure that the project has achieved its objectives as planned.

2.7.2 Project Planning

By now, the project costs and benefits have been documented, the objectives and scope have been defined, the project team has been appointed and a formal project office environment established. It is now time to undertake detailed planning to ensure that the activities performed during the execution phase of the project are properly sequenced, resourced, executed and controlled. The activities undertaken are:

1- Create a project plan

The first step in the project planning phase is to document the project plan. A work breakdown structure (WBS) is identified which includes a hierarchical set of phases, activities and tasks to be undertaken to complete the project. Then, an assessment of the level of effort required to undertake

each activity and task is made. The activities and tasks are then sequenced, resources are allocated and a detailed project schedule is formed. This project plan is the key tool used by the project manager to assess the progress of the project throughout the project life cycle.

2- Create a resource plan

Immediately after the project plan is formed, the level of resource that is required to undertake each of the activities and tasks listed within the project plan will need to be allocated. Although generic resource may have already been allocated in the project plan, a detailed resource plan is required to identify the following:

• Type of resource required, such as labor, equipment and materials.

• Quantification of each type of resource required.

• Roles, responsibilities and skill-sets of all human resource required.

• Specifications of all equipment resource required.

• Items and quantities of material resource required.

A schedule is assembled for each type of resource so that the project manager can review the resource allocation at each stage in the project.

3- Create a financial plan

A financial plan is created to identify the total amount of money required to undertake each phase in the project (in other words, the

budget). The total cost of labor, equipment and materials is calculated and an expenses schedule is defined which enables the project manager to measure the forecast spend versus the actual spend throughout the project. Detailed financial planning is an extremely important activity within the project as the customer will expect the final solution to have been delivered within the allocated budget.

4- Create a quality plan

Meeting the quality expectations of the customer can be a challenging task. To ensure that the quality expectations are clearly defined and can be reasonably achieved, a quality plan is documented. The quality plan should:

• Define the term ‘quality’ for the project.

• List clear and unambiguous quality targets for each deliverable. Each quality target provides a set of criteria and standards to be achieved to meet the expectations of the customer.

• Provide a plan of activities to assure the customer that the quality targets will be met (in other words a quality assurance plan).

• Identify the techniques to be used to control the actual quality level of each deliverable as it is to be built (in other words a quality control plan).

Not only is it important to review the quality of the deliverables produced by the project, it is also important to review the quality of the management processes applied. A quality plan will summarize each of the management processes undertaken during the project, including time, cost, quality, change, risk, issue, procurement, acceptance and communications management.

5- Create a risk plan

The next step is to document all foreseeable project risks within a risk plan. This plan should identify the required actions for prevention as well as mitigation measures in case any of those risks occur. Developing a clear risk plan is an important activity within the planning phase as it is crucial to scrutinize all project risks prior to the execution phase of the project.

6- Create an acceptance plan

To deliver the project successfully, the deliverables should meet or exceed requirements to the satisfaction and acceptance of stakeholders.

An acceptance plan is created to help achieve this by clarifying the completion criteria for each deliverable and providing a schedule of acceptance reviews. These reviews provide the customer with the opportunity to assess each deliverable and provide formal acceptance that it meets the requirements.

7- Create a communications plan

Prior to the execution phase, it is also necessary to identify how stakeholders will be kept informed of the progress of the project. The communications plan identifies what information to be distributed, means and frequency of distribution and those of charge of the process.

8- Create a procurement plan

The last planning activity within the planning phase is to identify the elements of the project to be acquired from external suppliers. The procurement plan provides a detailed description of the products (that is, goods and services) to be acquired from suppliers, the justification for acquiring each product externally as opposed to from within the business, and the schedule for product delivery. It also describes the process for the selection of a preferred supplier (the tender process), and the ordering and delivery of the products (the procurement process).

9- Contract the suppliers

Although external suppliers may be appointed at any stage of the project, it is usual to appoint suppliers after the project plans have been documented but prior to the execution phase. Only at this point will the project manager have a clear idea of the role of suppliers and the expectations for their delivery. A formal tender process is undertaken through a short-list of capable suppliers. The tender process involves creating a statement of work, a request for submission of offers. Once a

supplier has been selected through a selection process, a contract is reached that governs the delivery processes.

10- Perform a phase review

At the end of the planning phase, a phase review is performed. This is a checkpoint to ensure that the project has been well planned to achieved its objectives.

2.7.3 Project Execution

The execution phase is typically the longest phase of the project in terms of duration. It is the phase within which the deliverables are physically constructed and presented to the customer for acceptance. To ensure that the customer's requirements are met, the project manager monitors and controls the activities, resources and expenditure required to build each deliverable. A number of management processes are undertaken to ensure that the project proceeds as planned.

This phase involves implementing the plans created during the project planning phase. While each plan is being executed, a series of management processes are undertaken to monitor and control the execution. This includes identifying change, risks and issues, assuring quality and measuring each deliverables.

1- Build the deliverables

This phase involves physical construction. The activities undertaken to construct each deliverable will vary depending on the type of project

being undertaken. Activities may be undertaken in a ‘waterfall’ fashion, where each activity is completed in sequence until the final deliverable is produced, or an ‘iterative’ fashion, where iterations of each deliverable are constructed until the deliverable meets the requirements of the stakeholders. Regardless of the method used to construct each deliverable, careful monitoring and control processes should be employed to ensure that the quality of the final deliverable meets the acceptance criteria.

2- Monitor and control

While the project team are physically producing each deliverable, the project manager implements a series of management processes to monitor and control the activities being undertaken by the project team. An overview of each management process follows.

Time Management

Time management is the process of recording and controlling time spent on the project. As time is a scarce resource within projects, each team member should record time spent undertaking project activities on a timesheet. This will enable the project manager to control the amount of time spent undertaking each activity within the project. A timesheet register is also completed providing a summary of the total time spent so that the project schedule can always be kept updated.

Cost management

Cost management is the process by which costs/expenses incurred are formally identified, approved and paid. Different expenses forms are prepared for manpower, equipment and materials. Expense forms are approved by the project manager and recorded within an registers for auditing purposes.

Quality management

Quality is defined as the extent to which the final deliverable conforms to the customer requirements. Quality management is the process by which quality is assured and controlled, using quality assurance and quality control techniques. Quality reviews are undertaken frequently and the results recorded on a quality review form.

Change management

Change management is the process by which changes to the project scope, deliverables, timescales or resources are formally requested, evaluated and approved prior to implementation. A core aspect of the project manager's role is to manage change within the project. This is achieved by understanding the business and system drivers requiring the change, identifying the costs and benefits of the change, and formulating a structured plan for implementing the change. To formally request a change to the project, a change form is completed.

Risk management

Risk management is the process by which risks are formally identified, quantified and managed. The process entails completing a number of actions to reduce the likelihood of occurrence and the severity of impact of each risk. A risk process is used to ensure that every risk is formally identified, quantified, monitored, avoided, transferred and/or mitigated.

Although a risk process is undertaken during the execution phase of the project, risks may be identified at any stage of the project life cycle. In theory, any risk identified during the life of the project will need to be formally managed as part of the risk management process. Without a risk management process in place, unforeseen risks may impact the ability of the project to meet its objectives. The risk management process is terminated only when the execution phase of the project is completed.

Issue management

Issue management is by which issues currently affecting the production of the required deliverables are formally managed. After an issue form has been completed and the details logged in the issue register, each issue is evaluated by the project manager and a set of actions are to be undertaken to resolve the issue identified.

Procurement management

Procurement management is the process of sourcing products from an external supplier. Purchase orders are used to purchase products from suppliers and a procurement register is maintained to track each purchase request to completion.

Acceptance management

Acceptance management is the process of gaining acceptance for deliverables produced. Acceptance forms are used to enable project staff to request acceptance for a deliverable once completed. Each acceptance form identifies the acceptance criteria, review methods and results of the acceptance reviews undertaken.

Communications management

Communications management is the process by which formal communications are identified, created, reviewed and delivered within a project. The most common method of communicating the status of the project is via a project status report. Each communication released is recorded in a communications register.

Perform a phase review

At the end of the execution phase, a phase review is performed. This is a checkpoint to ensure that the project has achieved its objectives as planned and that the deliverables produced are compatible with the

acceptance criteria. Once all of the deliverables are produced and compatible with the acceptance criteria up to the satisfaction and consent of the stakeholders, the project is ready for closure.

2.7.4. Project Closure

Following the acceptance of all project deliverables, the project will have met its objectives and be ready for closure. Project closure is the last phase in the project life cycle and must be conducted formally so that the business benefits delivered by the project are fully realized by the stakeholders.

Project closure involves releasing the final deliverables to the stakeholders, handing over project documentation, completion of supplier contracts and releasing project resources. The last remaining step is to undertake a post-implementation review to quantify the level of project success and put recommendations for future projects.

1- Perform project closure

Project closure, or close-out, essentially involves winding up the project. This includes:

- Determining whether all of the project completion criteria have been met.
- Identifying any outstanding project activities, risks or issues.

- Handing over all project deliverables and documentation to the stakeholders.
- Completion of cancelling supplier contracts and releasing project resources.
- Declaration of the closure of the project to all stakeholders and concerned parties.

A project closure report is documented and submitted to the stakeholders and concerned parties. The project manager is responsible for preparation of a comprehensive closure report.

2- Review project completion

The final activity within a project is conducting a post evaluation of the project to determine if objectives are met through the management processes outlined in the planning phase.

To determine how well it performed, the following types of questions are answered:

- Did it result in the benefits defined in the business case?
- Did it achieve the objectives outlined in the terms of reference?
- Did it operate within the scope of the terms of reference?
- Did the deliverables meet the criteria defined in the quality plan?

•Was it delivered within the schedule outlined in the project plan?

• Was it delivered within the budget outlined in the financial plan?

To determine how well it conformed, an assessment is made of the level of conformity to the management processes outlined in the quality plan. These results, as well as a list of the key achievements and lessons learnt, are documented within a post-implementation review and presented to the customer and/or project sponsor for approval. This completes the project life cycle overview.

2.8 Ministry of Public Works and Housing

Ministry of Public Works was established in 1996 after establishment of Palestinian National Authority; to be responsible of development of infrastructure of the state.

In 2002, Palestinian National Authority had merged Ministry of Public Works and Ministry of Housing in one ministry called Ministry of Public Works and Housing to be responsible in addition to the above of planning, organization and development of housing sector.

Ministry of Public Works and Housing is considered the first executive arm responsible of implementation of government programs. The ministry undertakes the construction and development of the network of roads as well as the construction of buildings and government constructions, and planning, development and construction of housing sector, in addition to the development of work in the construction sector.

According to Palestinian Reform and Development Plan (2008-2010), the ministry aims to achieve this plan through developing the sectors which is responsible for; to achieve the national prosperity.

2.8.1 Role of Ministry of Public Works and Housing

Ministry of Public Works and Housing contributes effectively to achieve sustainable development in infrastructure, constructions and housing sectors in order to build national prosperity. The main tasks that the ministry undertakes are:

- Provision a high quality and safety of network of roads.
- Provision suitable public buildings to accommodate the ministries and institutions of Palestinian National Authority to decrease the operational expenditure as well as to provide a high quality of services to the people.
- The ministry aims to increase the national balance of housing units through provision a suitable climate to invest in this sector. The ministry aims to develop the strategies, laws and policies build up the housing sector.
- The ministry seeks to develop the constructions sector to support the growth of the national economy through increase quality of national products.

- Developing and organizing the contracting and consultants sectors through issuing laws and instructions that achieve the efficiency of its performance.

2.8.2 Project Management at Ministry of Public Works and Housing

The ministry seeks to realize its vision and strategic plans through enhance the performance, training the personnel and adoption of new methods and systems. But, one of the main issues that should be addressed and highlighted is how to apply project management principles effectively in its activities.

Initiating, planning and implementing of infrastructure projects is one of the main roles that the ministry undertakes which is needed to provide better services to the people. Success of these projects means nationally building and developing our future prosperous state.

So, due to the importance and proportion of projects that the ministry undertakes, developing of project management should be an urgent need to take into consideration.

2.9 Summary

Project management is the application of knowledge, skills, tools and techniques to project activities to meet project requirements. Project management is accomplished through the application and integration of the project management processes of initiating, planning, executing, monitoring and controlling, and closing.

Managing of infrastructure projects is one of the main challenges that faces the governmental institutions and ministries. Successful application of project management in their projects leads to build strong foundations for the national economic growth.

Ministry of Public Works and Housing is one of the most important institutions that implements different infrastructure projects which is needed to achieve sustainable development for our country.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

This chapter aims to provide an overview of the methodological approaches and research design selected to assess the different project management processes and practices followed by the different departments in public sector in West Bank and in particular within the Ministry of Public Works & Housing as a case study. Then, to explore effective project management practices followed. In addition the main factors that hinder achievement of project goals are emphasized through studying the current working environment while comparing with global project management practices.

Ministry of Public Works & Housing was used as a case study in order to explore research environment features and characteristics. The different related departments in the hierarchy of the ministry (see Appendix B) were chosen to investigate the thesis objectives.

3.2 Research Background

3.2.1 Research Hypotheses

- H1. There is a deficiency in project management practices applied by the public sector with the best practices.
- H2. Participants in the survey should not differ in their responses to the questionnaire due to the qualification.

- H3. Participants in the survey should not differ in their responses to the questionnaire due to job title.

- H4. Participants in the survey should not differ in their responses to the questionnaire due to years of experience.

- H5. Participants in the survey should not differ in their responses to the questionnaire due to age.

3.2.2 Research Objectives

- To assess the different project management practices and tools followed by the different departments in public sector in West Bank (Ministry of Public Works and Housing).

- To explore the effective techniques and tools in project management practices within public sector.

- To add a contribution in highlighting of understanding the factors that hinder of achievement of project goals.

3.2.3 Research Questions

- Q1. What is the reality of project management in public sector in West Bank?

- Q2. What are the effective techniques and tools in project management practices within public sector?

- Q3. What are the main factors that hinder achievement project goals?

3.3 Research Design and Methodology

A research methodology approach defined as academia's established regulatory framework for the collection and evaluation of existent knowledge for the purpose of arriving at, and validating, new knowledge (Sekaran ,2003). Cooper and Schindler (1998) stated that the determination of the research methodology is one of the most important challenges which confront the researcher. In essence, the research activity is a resource consumptive one and must maintain its purposeful or functional activity through the justification of resource expenditure. In other words, given that research is ultimately defined as constructive, the resources that it utilizes must fulfill explicit purposes and withstand critical scrutiny. Research methodology occupies a position of unique importance.

A methodology does not simply frame a study but it identifies the research tools and strategies (i.e. resources) that will be employed, and relates their use to specified research aims. As Sekaran (2003) suggests, its importance emanates from the fact that it defines the activity of a specified research, its procedural methods, strategies, progress measurement and criteria for research success.

Within the context of the research methodology, each research poses a set of unique questions and articulates a specified group of objectives.

The research design functions to articulate the strategies and tools by and through which empirical data will be collected and analyzed. It additionally serves to connect the research questions to the data and

articulate the means by which the research hypothesis shall be tested and the research objectives satisfied (Punch, 2000). In order to satisfy the stated, the research design has to proceed in response to four interrelated research problems. These are (1) the articulation and selection of the research questions; (2) the identification of the relevant data; (3) determination of data collection focus; and (4) the selection of the method by which the data will be analyzed and verified (Punch, 2000).

Although research methodology and research design are distinct academic constructs, Punch (2000) maintains the former to be more holistic than the latter and, in fact, inclusive of it.

The selection of the research approach is a critically important decision. The research approach embraces the quantitative versus the qualitative and the deductive versus the inductive.

3.3.1 The Deductive versus the Inductive Approach

The deductive approach can be defined as a testing of theories. (Marcoulides,1998). The researcher proceeds with a set of theories and conceptual precepts in mind and formulates the study's hypotheses on their basis.

Following that, the research proceeds to test the proposed hypotheses.

The inductive approach, on the other hand, follows from the collected empirical data and proceeds to formulate concepts and theories in accordance with that data.

3.3.2 The Qualitative versus the Quantitative Approach

The differences between the quantitative and qualitative approaches are illustrated in Table 3. (Creswell, 2003).

Table (3.1) : Differences between quantitative and qualitative methods.

Quantitative Approach	Qualitative Approach
Objective is to test hypotheses that the researcher generates.	Objective is to discover and encapsulate meanings once the researcher becomes immersed in the data.
Concepts are in the form of distinct variables	Concepts tend to be in the form of themes, motifs, generalizations, and taxonomies. However, the objective is still to generate concepts.
Measures are systematically created before data collection and are standardized as far as possible; e.g. measures of job satisfaction.	Measures are more specific and may be specific to the individual setting or researcher; e.g. a specific scheme of values.
Data are in the form of numbers from precise measurement.	Data are in the form of words from documents, observations, and transcripts. However, quantification is still used in qualitative research.
Theory is largely causal and is deductive.	Theory can be causal or non-causal and is often inductive.
Procedures are standard and replication is assumed.	Research procedures are particular and replication is difficult.
Analysis proceeds by using statistics, tables, or charts and discussing how they relate to hypotheses.	Analysis proceeds by extracting themes or generalizations from evidence and organizing data to present a coherent, consistent picture. These generalizations can then be used to generate hypotheses.

According to Punch's (2000) advice that a research value is inevitably maximized should it exploit both approaches; this research contained both quantitative and qualitative approaches. These approaches have been adapted in the survey in order to collect the data required for this research.

3.4 Research Purpose

Research scholars have identified three main purposes to the research activity. These are the exploratory, the descriptive and the explanatory purposes (Saunders, 2000). Proceeding from Jackson's (1994) contention that the researcher should identify the purpose(s) by correlating the research questions to the research objectives; this is precisely the strategy that the current research adopted.

3.4.1 Exploratory

Exploratory research unfolds through focus group interviews, structured or semi structured interviews with experts and a search of the relevant literature (Saunders, 2000). Its primary purpose is the exploration of a complex research problem or phenomenon with the objective being the clarification of the identified complexities and the exposition of the underlying nature of the selected phenomenon.

3.4.2 Descriptive

Punch (2000) explains the purpose of the descriptive research as the collection, organization and summarization of information about the

research problem and issues identified therein. Similar to the descriptive research, it renders complicated phenomenon and issues more understandable. Dane's (1990) definition of the descriptive research and its purposes coincides with the stated. Descriptive research entails the thorough examination of the research problem, for the specified purpose of describing the phenomenon, as in defining, measuring and clarifying it (Dane, 1990). Jackson (1994) contends that all research is partly descriptive in nature. The descriptive aspect of a research is, simply stated, the (1) who, (2) what, (3) when, (4) where, (5) why, and (6) how.

3.4.3 Explanatory

Explanatory research functions to highlight the complex interrelationships existent within, and around, a particular phenomenon and contained within the research problem (Miles & Huberman, 1994).

Expounding upon this, Punch (2000) asserts that explanatory, or causal research, elucidates upon the nature of the problem under investigation and explains the basis for the proposed solution. It is an explanation of the complex web of interrelated variables identified and follows directly from a clearly stated central research hypothesis and research question.

While both research questions have an undeniably descriptive component to them, they possess a fundamentally explorative intent.

3.5 Data Collection Methods

In order to present clear ideas about project management practices in public sector in West Bank and to examine the hypotheses identified, it was decided to conduct two stages of study. The first was a comprehensive review of the relevant literature, starting with an overview of the topics concerned in this research. The second stage included data collection by preparing a questionnaire and conducting a direct questionnaire survey, and studying cases studies of some projects, in addition, conducting direct interviews which was then used to highlight and explore the effective techniques and tools of project management, and understand the main factors that hinder achievement of project goals.

3.5.1 Literature Review

The basic concern throughout the review stage was to identify some of the broader parameters likely to be relevant in studying project management. A systematic literature review was conducted, covering textbooks, institutional and statutory publications, periodicals, trade and academic journals, and seminar and conference papers.

3.5.2 Questionnaire

The questionnaire was designed as a main tool to meet the research aims and objectives and to test its hypotheses. First, the information presented in the previous chapter helped to widen the researcher knowledge and create an awareness of other issues that might not otherwise have been

taken into account. Second, the researcher experience in project management in public sector helped also in formulating the questionnaire. A provisional version of the questionnaire was then developed to cover all aspects needed to accomplish the purpose of the research. However, it was also necessary to ensure that the questionnaire is reliable.

For this reason, a quality control process was undertaken, starting by ensuring that each objective and hypothesis had questions corresponding to it, passing through a practical test in which specialists were asked to fill in the questionnaire in order to examine the level of clarity, and ending with an approval by the research supervisor.

The questionnaire consisted of three sections: The first section consisted of personal data about the study sample (qualification, job title, years of experience and age). The second section consisted of thirty three items to measure the reality of project management cycle. The third section consisted of eighteen items to measure the main factors that hinder achievement of project goals**.**

The scores of responses of the participants to each item were calculated according to the four-point-scale, “Likert scale”, in which strongly agree = 4 points, agree = 3 points, disagree = 2 points, strongly disagree = 1 point.

The Cronbach Alpha Coefficient was used to find out the reliability for the questionnaire. The reliability values of study domains were (0.97) and (0.96) respectively which are high, and suitable for scientific purposes.

Questionnaire Writing, Distribution, and collection

The questionnaire was written in one format to be distributed in different departments of the Ministry of Public Works and Housing. Four points were considered in order to obtain a high level of response. Also, the following were considered:

1- Providing a covering letter (see Appendix A).
2- Structuring the questionnaire in a smart and attractive design.
3- Presenting the questionnaire in a multi-options format.
4- Keeping the questionnaire as short as possible, but comprehensive enough so that it could be completed within 15 to 20 minutes.

Because the mother tongue of most people working in public sector is Arabic, it was necessary to provide an Arabic questionnaire format. However, some English common terms were used. (see Appendix A).

To obtain a speedy interaction, the questionnaire was distributed and collected by hand. This method was effective as there was direct communication between the researcher and respondents.

The researcher projected that at least 40 responsive forms would be completed, representing 73% of the targeted group that was calculated as an appropriate sample satisfying research requirements. The researcher explained the purposes of the study while distributing the questionnaire forms.

A period of one month was taken for the completion and collection of the surveys. At the end of the period, thirty six surveys were completed. The average time to complete the survey was twenty minutes.

To estimate the sample response towards the questionnaire, the researcher used scales depending on percentages as follows:

*80-100% and more is a very high degree.

*70-79.9% is a high degree.

*60-69.9% is a moderate degree.

* less than 60% is low degree.

3.5.3 Direct Interviews

In this research, the unstructured interview form was adopted to get the needed detailed information and data for the project management practices. The key of successful unstructured interviews is learning how to probe effectively; that is, to stimulate an informant to produce more information without injecting the researcher's words, ideas or concepts into the conversation.

In total, two unstructured interviews were conducted with key persons of top level of the ministry who have experience in the domain of the research.

3.5.4 Cases Studies of Some Projects

In order to achieve credibility and quality of research findings, reviewing and studying the documentations of some projects was done to get the needed information to support this research.

3.6 Population of the study

The population of this study consisted of all the decision makers; General Directors, Directors, Head of divisions and Project Managers of related departments in the Ministry of Public Works & Housing.

The total number of this population is fifty five according to the General Directorate of Human Resources in the ministry.

3.7 Survey Sample

The sample members of this research consist of thirty six decision makers (General Directors, Directors, Head of Divisions and Project Managers) working in the Ministry of Public Works and Housing. The type of the sampling is stratified random, which according to Zikmund (2000) is a sampling technique in which selection of the sample is based upon some appropriate characteristics of the sample members. For the present study, the targeted sample members were chosen as described above as they are best to reveal and assess the reality of the project management practices used.

The sample chosen were classified according to four categories: (Qualification, Job titles, Years of experience and Age). The sample represented (65 %) of the whole population.

Tables (3.2, 3.3, 3.4and 3.5): below indicate the sample distribution in accordance with the four independent variables.

Table (3.2): Distribution of sample according to Qualification

Qualification	Frequency	Percentage %
B.A	22	61.1
M.A and over	14	38.9
Total	36	100%

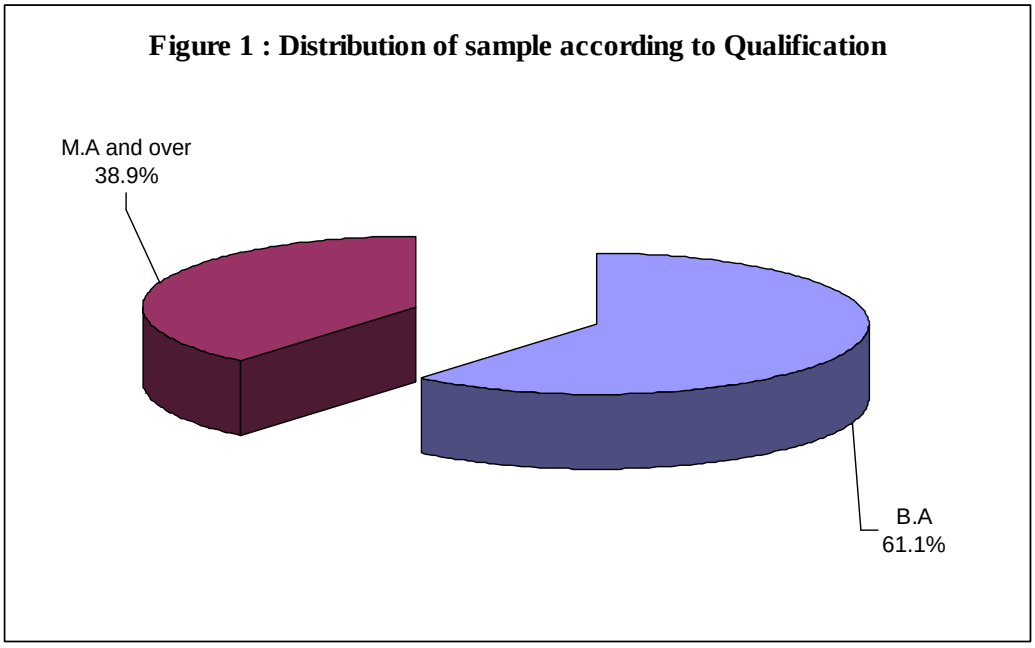

Figure (3.1): Distribution of sample according to qualification

Table (3.3): Distribution of sample according to Job title

Job title	Frequency	Percentage %
General director	7	19.4
Director	14	38.9
Head of Division	5	13.9
Others	10	27.8
Total	36	100%

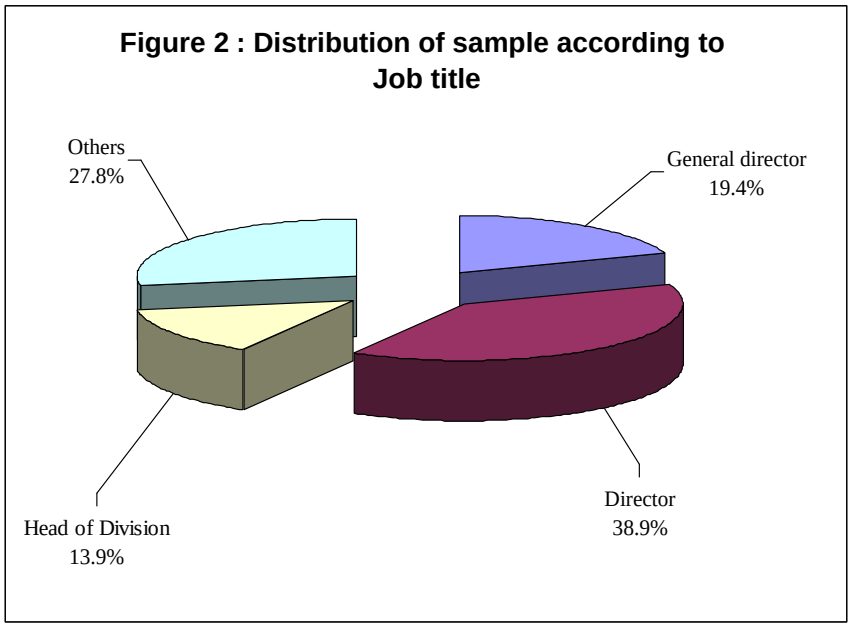

Figure (3.2): Distribution of sample according to job title.

Table (3.4): Distribution of Sample According to Years of Experience

Years of Experience	Frequency	Percentage %
Less than 10 years	11	30.6
10 – 15 years	9	25.0
More than 15 years	16	44.4
Total	**36**	**100 %**

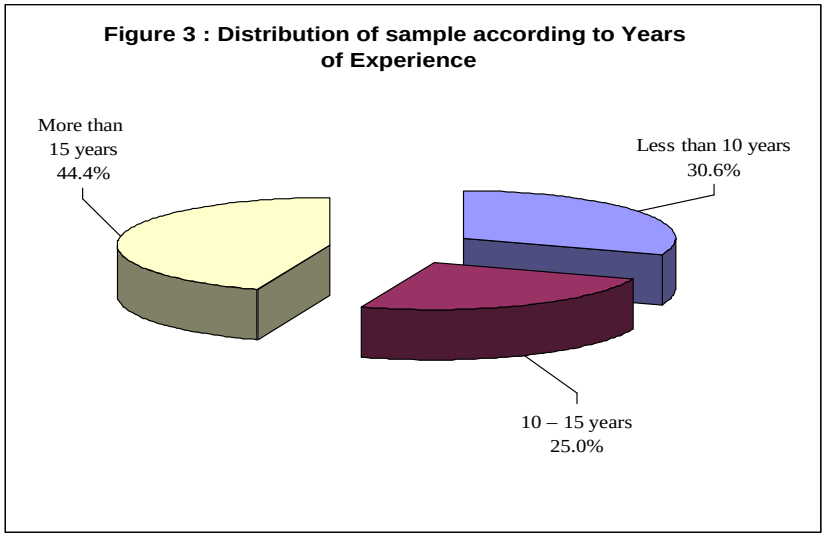

Figure (3.3): Distribution of sample according to years of experience

Table (3.5): Distribution of Sample According to Age

Age	Frequency	Percentage %
Less than 35 years	10	27.8
36 – 45 years	10	27.8
More than 45 years	16	44.4
Total	**36**	**100 %**

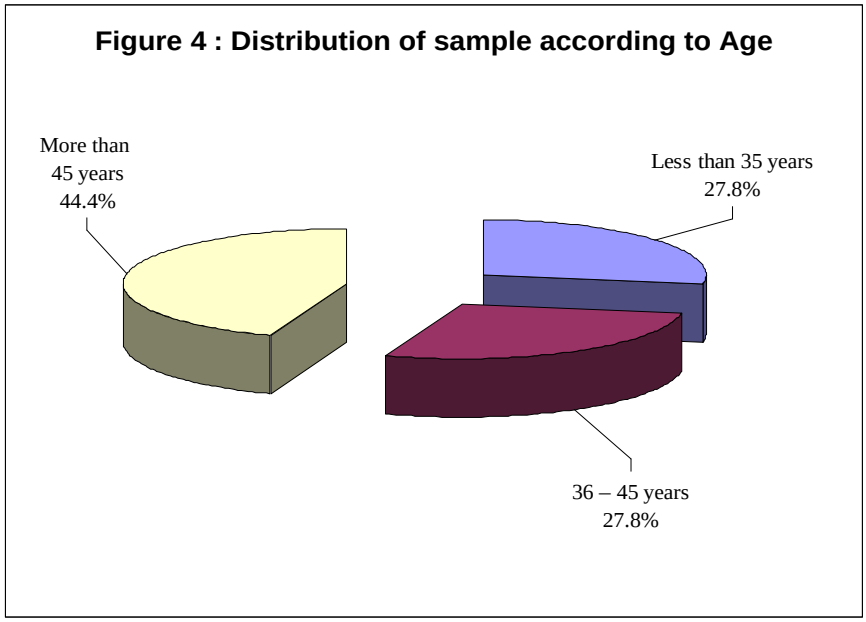

Figure (3.4): Distribution of sample according to age

3.8 Methods of Analysis

Data collected from the survey was analyzed using descriptive statistical techniques. An advanced and accurate analysis method was needed to arrange the large body of data in a systematic, fast and reliable way. For this purpose the computer software Statistical Package for Social Science (SPSS V.17) was chosen as the best options available.

The following statistics were used:

1. Means, frequencies, percentages, and standard deviations.

2. T-Test for Independent samples.

3. One-Way Analysis of Variance (ANOVA).

3.9 Research Methodology Description

After deciding research objectives, the researcher started by collecting project management and project life cycle related topics in a literature review chapter which form the main base for the research. Then Ministry of Public Works and Housing has been chosen as a representative research sample in order to investigate the current situation of the project management practices. Then a survey has been developed, interviews, and field visits, cases studies of some projects have been conducted in order to gather comprehensive data.

According to the results came from gathering data, and also according to the related researches and observations within research environment, the researcher attempted to provide some aspects to develop the project management practices in public sector. Figure 3.5 shows research methodology diagram.

Literature Review

- Collecting some of related topics based on a comprehensive literature review.
- Depicting a typical project cycle.

Research Study and Data Gathering

- Identifying research objectives.
- Sample study choosing.
- Developing a direct questionnaire survey.
- Conducting the actual survey.

Data Analysis

- Data processing and analysis.

Conclusions and Recommendations

- Results and conclusions formulations.
- Recommendations

Figure (3.5): Research Methodology Diagram.

3.10 Summary

This chapter gives an overview of the research setting and methodology. As may have been deduced from the above, this research adopted qualitative, quantitative, inductive and deductive methodological

approaches. Exploratory, descriptive, explanatory, and research purposes have been formulated; the collected data was validated by using different data sources. Research hypotheses have been approved using quantitative statistical tools.

CHAPTER 4
DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents a comprehensive analysis and discussion of the results obtained from the direct questionnaire survey distributed among related departments of the ministry, where the design of the analysis is such that it elaborates and summarizes the answers of the study questions that were stated in chapter one. Each research question will be answered by presenting and discussing the results obtained from the data analysis appropriate for each particular question. Moreover, analysis of researcher experience and observations was presented and discussed.

It consists of two major parts: The first part described and analyzed the data related to the project life cycle. The second part focused on presenting and ranking the factors that hinder achievement of project goals.

4.2 Discussion of Results

As noted earlier, the survey was distributed at the Ministry of Public Works and Housing in Palestine, the formal governmental implementing agency of public sector projects.

The researcher chose this sample of governmental officials in order to achieve the research objectives.

4.2.1 Results Related to the Research Questions

4.2.1.1 Results Related to the First and Second Questions

In order to answer these questions, the researcher calculated the means, standard deviations, percentages and levels, for items of reality of project cycle management . Tables (4.1, 4.2, 4.3, 4.4 and 4.5) show the results.

Table (4.1): Means, standard deviation, percentages and levels of the items of Project Identification

Item	M	SD	Percentage	Level
The project is convenient with the Ministry Strategy?	2.61	0.80	65.25	Moderate
The project is convenient with the State Strategy?	2.50	0.65	62.25	Moderate
Total score \Average	**2.56**	**0.67**	**64.00**	**Moderate**

Table 4.1: shows that the total score of Project Identification phase achieved a mean of (2.56) and a percentage of (64.00) which indicates a moderate level of identification.

As a result, projects were moderately developed in line of the state or ministry strategic plans.

Identification any project should be convenient with the ministry vision and serves the national plans to obtain a high level of project efficiency.

Table (4.2): Means, standard deviation, percentages and levels of the items of Project Formulation phase:

Items	M	SD	Percentage	Level
Undertaking Feasibility Study for the Project?	2.75	0.79	68.75	Moderate
Studying Environmental Impact Assessment?	3.14	0.64	78.50	High
Studying Sustainability for the Project?	2.78	0.72	69.50	Moderate
Studying Risks of the Project?	2.72	0.78	68.00	Moderate
Operation and Maintenance of the project on short and long term?	2.81	0.86	70.25	High
Appoint Project Team from the Beginning?	2.42	0.84	60.50	Moderate
Set up Project Office?	2.39	0.69	59.75	Low
Studying all project requirement?	2.58	0.84	64.50	Moderate
Preparing Project Charter to clarify description, goals, outputs, budget, time & project risks?	2.73	0.76	68.25	Moderate
Preparing a clear job description for project team?	2.69	0.75	67.25	Moderate
Total score	2.70	0.54	67.50	Moderate

Table 4.2: shows that the total score of project formulation phase achieved a mean of (2.70) and a percentage of (67.50) which indicates a moderate level of project formulation phase.

According to above results above, the project formulation should be reinforced, and all tools and techniques mentioned above should be studied carefully.

Table (4.3): Means, standard deviation, percentages and levels of the items of the Planning phase

Items	M	SD	Percentage	Level
Preparing detailed plan describes how to implement the project?	2.58	0.73	64.50	Moderate
Preparing financial detailed plan shows the costs required during the implementation phases of the project?	2.67	0.76	66.75	Moderate
Determining quality target?	2.19	0.58	54.75	Low
Developing quality plan to monitor the quality of the outputs and to identify actions that will be used to achieve the required quality	2.69	0.71	67.25	Moderate
Preparing procurement plan	2.75	0.69	68.75	Moderate
Preparing clear term of references for tendering documents	3.14	0.65	70.25	High
Preparing risk plan for the project	2.08	0.76	52.00	Low
Preparing communication plan for all related parties	2.53	0.70	63.25	Moderate
Total score \Average	**2.58**	**0.52**	**64.50**	**Moderate**

Table 4.3: shows that the total score of the planning phase achieved a mean of (2.58) and a percentage of (64.50) which indicates a moderate level of planning phase.

Planning phase is the critical phase of the project cycle management; planning and re-planning must be a way of life for project managers. Due to the dynamic nature of many projects, plans must be regularly reviewed.

The level of planning should reflect the complexity of the project – a complex project may need extensive planning while simple projects can be

managed with simple planning. Inadequate planning can predispose a project to failure.

The planning and control of project scope is important to avoid budget deficits and late deliveries. Well defined requirements are an important input to control project scope.

Based on the results mentioned above, it is noted that risk planning and quality planning recorded a low level. Actions must be taken to develop these two very important issues.

Table (4.4): Means, standard deviation, percentages and levels of the items of the Execution phase

Items	M	SD	Percentage	Level
Controlling and managing activities carried out by the project team	2.39	0.64	59.75	Low
Managing Costs so it does not exceed the allocated budget for the project	2.42	0.73	60.5	Moderate
Managing time effectively	2.74	0.67	68.50	Moderate
Managing bidding processes effectively	2.14	0.59	53.50	Low
Using Mechanisms to monitor quality during the implementation of effective and sound (Quality Assurance)	2.64	0.76	66.00	Moderate
Setting standards for the delivery of project outputs	2.33	0.68	58.25	Low
Managing risks effectively	2.20	0.63	55.00	Low
managing changes that arise during the implementation of the project effectively and properly	2.64	0.72	66.00	Moderate
Managing communication among all relevant parties effectively	2.50	0.65	62.5	Moderate
Managing problems and issues that arise during the implementation of the project effectively	2.47	0.61	61.75	Moderate
Total score \Average	**2.50**	**0.48**	**62.50**	**Moderate**

Table 4.4: shows that the total score of execution phase achieved a mean of (2.50) and a percentage of (62.50) which indicates a moderate level of execution phase.

As a deduction of the above results, monitoring and controlling processes should be developed. To ensure that the project goals are met, the project manager should monitor and control the production of each deliverable. While the project team is physically constructing each deliverable, the project manager undertakes a series of management processes to monitor and control the activities being undertaken.

Acceptance management has also a low level as shown in the results. Without a formal acceptance process in place, the stakeholders may not accept the final deliverables produced by the project, thereby questioning the project's overall success. Acceptance management is highly related to quality management; reviewing deliverable quality and measuring each deliverable produced against the acceptance criteria must be taken care of.

As shown in the results, little attention is given to risk management. Risk management in a project is another element of project success. Risk management should begin during project planning as mentioned before to identify risks that can cause problems and to put "concrete actions" for treatment and prevention.

Some risks can never be totally eliminated and they may change during a project, but ongoing well thought out risk assessment and risk

mitigation strategies together with risk contingencies in the project budget are required to avoid unpleasant project surprises.

Table: (4.5): Means, standard deviation, percentages and levels of the items of the Project Closure

Items	M	SD	Percentage	Level
Evaluating the project after the closure to determine the level of achievement of the objectives of the project and its success and lessons learned	2.10	0.72	52.50	Low
Disseminating the lessons learned from the project	2.23	0.72	55.75	Low
Documenting and archive all documentations for the project after finishing	2.80	0.53	70.00	High
Total score \Average	**2.38**	**0.56**	**59.40**	**Low**

Table 4.5: shows that the total score of the project closure achieved a mean of (2.38) and a percentage of (59.40) which indicates a low level of closure phase.

The final step in the project cycle management is to review the project completion. A post-implementation review is undertaken to formally review the project and identify any lessons learnt.

A post implementation review (PIR) is an assessment of the overall success of the project. The PIR is conducted by closely reviewing the project's performance against the original plans and conformance against the project management processes defined for the project. The purpose of the PIR is not only to assess the project's level of success but also to identify lessons learnt and make recommendations for future projects to enhance their likelihood of success.

Table 4.6: summarizes the results of the reality of Project Cycle Management.

Table (4.6): Means, standard deviation, percentages and levels of the Project Cycle Management domains

Domain	M	SD	Percentage	Level
Project Identification	2.56	0.67	64.00	Moderate
Project Formulation	2.72	0.54	68.00	Moderate
Planning phase	2.58	0.52	64.50	Moderate
Execution phase	2.54	0.48	63.50	Moderate
Project Closure	2.38	0.56	59.40	Low
Total score \Average	**2.56**	**0.47**	**63.90**	**Moderate**

Table 4.6: shows that the total score of the reality of Project Cycle Management achieved a mean of (2.56) and a percentage of (63.90) which indicates a moderate level of reality of project cycle management.

Why project cycle management achieves moderate level in the ministry?

In general, the results show that absence of strict and clear methodology leads to this level. Most of funds of projects come from Donors, and each Donor has his regulations and procedures. So, the ministry adapts with these procedures to implement its projects.

In the other hand, the results proved that project management in the ministry is set of separate processes in separate departments. Project management becomes depends on background and experience of individuals.

In addition, absence of monitoring and evaluation department leads to lose an important and valuable worth of lesson learnt from accomplished projects.

The hierarchy of the ministry should embrace project management

4.2.1.2 Results Related to the Third Questions:

Q2: What are the main factors that hinder project goals achievement?

In order to answer this question, the researcher calculated the means, standard deviations, percentages and levels, for items of main factors that hinder to achieve project goals as shown in the table (4.7).

Table (4.7): Means, standard deviation, percentages and levels of the items of the main factors that hinder to achieve project goals

Factors	M	SD	Percentage	Level
The lack of feedback from previous projects	3.53	0.51	88.25	Very high
Lack of attention to stimulation motivation and morale of employees	3.39	0.55	84.75	Very high
The absence of pre-planning the project	3.36	0.59	84.00	Very high
Low communication between project team and stakeholders	3.28	0.61	82.00	Very high
Not studying the components and requirements of the project in the beginning	3.28	0.57	82.00	Very high
The absence of funding effectively	3.22	0.64	80,50	Very high
Experience and competence team project is not appropriate to the nature of the project	3.21	0.79	80.25	Very high
Non adopting well –defined framework	3.20	0.62	80.00	Very high
Lack of understanding of Principles of project Management	3.14	0.64	78.50	High
Lack of experience of service providers (Consultants & Contractors)	3.14	0.64	78.50	High
Not appoint project team from the beginning	3.11	0.71	77.75	High
Preparation & Exposure of Project Team to components of project	3.11	0.67	77.75	High
Lack of clarity of standards and specifications for the elements of the project	3.06	0.75	76.50	High
The absence of Team working between all crew members of the project	3.06	0.63	76.50	High
Complicated routines procedures	3.03	0.65	75.75	High
The absence of mechanisms with clear methodology	3.03	0.61	75.75	High
Non-use of computing and software programs to manage the project effectively	2.92	0.77	73.00	High
Mismanagement and to understand the components of the contract	2.86	0.64	71.50	High
Total score \Average	**3.16**	**0.37**	**79.00**	**High**

Table (4.7): shows that the total score of the main factors that hinder achievement of project goals scored a mean of (3.16) and a percentage of

(79.00) which indicates a high level for the main factors that hinder achievement of project goals.

The table also shows the rank of main factors that hinder achievement of project goals. As seen, lack of feedback from previous projects scores the highest of main factors as a hindrance to achievement of project goals. So, the post-evaluation technique should be strongly used as a project management practice. Lessons learned from the project should be documented and disseminated to develop next projects.

Attention to motivation and morale of employees should be considered as a main factor to project success.

As mentioned previously, lack of planning activities of the project also leads to project failure.

Clear, accurate, and timely communication is critical to the success of any project, as miscommunication can result in increased project risks. Clear project communication therefore ensures that the stakeholders have the right information, at the right time, with which to take well-informed decisions.

Project requirements should be clear and documented from the beginning to ensure satisfaction of all related stakeholders.

It is no surprise that employing the suitable project manager and project team is a critical activity in the project cycle management. One needs a skilled team that has suitable similar expertise. So, appointing the

appropriate team project with direct and complete exposure to complete project components, help achieving project success. On the other hand, the project manger should be, as a leader, able to inspire a shared vision, communicate with people at all levels in the project, demonstrate integrity by embracing ethical practices, lead with enthusiasm, encourage the team working and display sympathy towards the workers of the project.

One of the causes of project failure is the lack of adoption of a formal project methodology with clear mechanisms. Using a repeatable project methodology, with structured project processes for all project phases lead to project success.

Promoting a culture of project management can be achieved by increasing awareness and holding training courses.

Prequalification and post evaluation for service providers should be used as a tool to improve project success.

Meeting quality expectations of the stakeholders can be a challenging task. To ensure that the quality expectations are clearly defined and can reasonably be achieved, a quality plan should be documented.

Use of computing and software programs can help manage the project activities effectively as well as increase monitoring and controlling quality processes.

4.2.2 Results Related to the Study Hypothesis

4.2.2.1 Results related to the first hypothesis (H1):

"There are no significant differences at (α=0.05) between the degree of analysis of Project Management Practices in public sector in Palestine "Ministry of Public Works & Housing" and the criteria (3/4= 75%)."

The researcher used One Sample T-Test. Table (4.8) shows the results.

Table (4.8): One Sample T-Test to test the first hypothesis (H1)

Domain	M	SD	T - value	Sig.
Project Closure	2.76	0.56	3.958	0.0001*
After Project Identification	2.72	0.54	3.059	0.004*
Planning phase	2.58	0.52	4.861	0.0001*
Project Identification	2.56	0.67	5.770	0.0001*
Execution phase	2.54	0.48	2.600	0.014*
Total score \Average	**2.62**	**0.47**	**4.785**	**0.0001***

*** Significant at (α= 0.05)**

Table (4.)8: shows that there are significant differences at (α=0.05) between the degree of analysis of project management practices in public sector in West Bank "Ministry of Public Works & Housing" and the criteria (3/4= 75%) in favor of the criteria (3/4=75%). This means there is a gap between the project management practices in public sector in West Bank and the best criteria.

4.2.2.2 Results related to the second hypothesis (H2)

"There are no significant differences at (α=0.05) in the degree of analysis of Project Management Practices in public sector in Palestine "Ministry of Public Works & Housing" due to qualification."

The researcher used T-Test for independent samples. Table 4.9 shows the results.

Table (4.9): T-Test for independent samples of analysis of project management practices in public sector in West Bank "Ministry of Public Works & Housing" due to qualification

Domain		Qualification	Frequency	Mean	S.D	D.F	T-value	Sig.*
Project Management Cycle	Project Identification	B.A	22	2.45	0.58	34	1.132	0.266
		M.A and over	14	2.71	0.80			
	Project Formulation	B.A	22	2.65	0.59		0.959	0.344
		M.A and over	14	2.83	0.47			
	Planning phase	B.A	22	2.49	0.54		1.251	0.220
		M.A and over	14	2.71	0.47			
	Execution phase	B.A	22	2.52	0.53		0.206	0.838
		M.A and over	14	2.56	0.42			
	Project Closure	B.A	22	2.73	0.65		0.428	0.671
		M.A and over	14	2.81	0.39			
	Total score	B.A	22	2.57	0.50		0.872	0.389
		M.A and over	14	2.71	0.42			
Main factor		B.A	22	1.81	0.40		0.682	0.500
		M.A and over	14	1.89	0.34			

*** Significant at (α= 0.05)**

Table 4.9: shows that there are no significant differences at (α=0.05) in the degree of analysis of project management practices in public sector in West Bank "Ministry of Public Works & Housing" due to qualification.

4.2.2.3 Results related to the third hypothesis (H3)

There are no significant differences at (α=0.05) in the degree of analysis of Project Management Practices in public sector in West Bank "Ministry of Public Works & Housing" due to job title."

The researcher used One Way ANOVA to test the hypothesis. Tables (4.10, 4.11) show the frequencies, means and standard deviations of the degree of analysis of Project Management Practices in public sector in Palestine “Ministry of Public Works & Housing" due to job title and the results of One Way ANOVA test respectively.

Table (4.10): Frequencies, means, and standard deviations of the degree of analysis of Project Management Practices in public sector in Palestine “Ministry of Public Works & Housing" due to job title

Domain		Job title	Frequency	Mean	S.D
Project Management Cycle	Project Identification	General director	7	2.14	0.48
		Director	14	2.68	0.77
		Head of Division	5	2.60	0.89
		Project Managers	10	2.65	0.47
		Total	36	2.56	0.67
	Project Formulation	General director	7	2.46	0.49
		Director	14	2.79	0.54
		Head of Division	5	2.62	0.67
		Project Manager	10	2.86	0.53
		Total	36	2.72	0.54
	Planning phase	General director	7	2.43	0.55
		Director	14	2.62	0.49
		Head of Division	5	2.28	0.62
		Others	10	2.79	0.46
		Total	36	2.58	0.52
	Execution phase	General director	7	2.20	0.40
		Director	14	2.55	0.40
		Head of Division	5	2.44	0.50
		Project Manager	10	2.80	0.54
		Total	36	2.54	0.48

	Project Closure	General director	7	2.52	0.92
		Director	14	2.79	0.43
		Head of Division	5	2.60	0.49
		Project Manager	10	2.97	0.40
		Total	36	2.76	0.56
	Total score	General director	7	2.36	0.48
		Director	14	2.67	0.41
		Head of Division	5	2.48	0.58
		Project Manager	10	2.82	0.45
		Total	36	2.62	0.47
Main factors		General director	7	1.78	0.27
		Director	14	1.88	0.40
		Head of Division	5	1.96	0.43
		Project Manager	10	1.77	0.40
		Total	36	1.84	0.37

Table (4.11): One Way ANOVA to test the differences of the degree of analysis of project management practices in public sector in West Bank "Ministry of Public Works & Housing" due to job title

Domain		Source of variation	Sum of Squares	D.F	Mean Squares	F	Sig.*
Project Management Cycle	Project Identification	Between groups	1.503	3	0.501	1.115	0.358
		Within groups	14.386	32	0.450		
		Total	15.889	35			
	Project Formulation	Between groups	0.790	3	0.263	0.881	0.461
		Within groups	9.566	32	0.299		
		Total	10.356	35			
	Planning phase	Between groups	1.074	3	0.358	1.375	0.268
		Within groups	8.337	32	0.261		
		Total	9.411	35			
	Execution phase	Between groups	1.536	3	0.512	2.480	0.079
		Within groups	6.607	32	0.206		
		Total	8.143	35			
	Project Closure	Between groups	0.955	3	0.318	1.034	0.391
		Within groups	9.848	32	0.308		
		Total	10.802	35			
	Total score	Between groups	1.010	3	0.337	1.590	0.211
		Within groups	6.779	32	0.212		
		Total	7.789	35			
Main factors		Between groups	0.159	3	0.053	0.363	0.780
		Within groups	4.667	32	0.146		
		Total	4.826	35			

***Significant at (α= 0.05)**

Table 4.11: shows that there are no significant differences at (α=0.05) in the degree of analysis of project management practices in public sector in West Bank “Ministry of Public Works & Housing" due to job title.

4.2.2.4 Results related to the fourth hypothesis (H4):

There are no significant differences at (α=0.05) in the degree of analysis of project management practices in public sector in West Bank “Ministry of Public Works & Housing" due to years of experience.”

The researcher used One Way ANOVA to test the hypothesis. Tables (12, 13) show the frequencies, means and standard deviations of the degree of analysis of Project Management Practices in public sector in Palestine “Ministry of Public Works & Housing" due to years of experience and the results of One Way ANOVA test respectively.

Table (4.12): Frequencies, means, and standard deviations of the degree of analysis of Project Management Practices in public sector in Palestine "Ministry of Public Works & Housing" due to years of experience

Domain		Years of experience	Frequency	Mean	S.D
Project Management Cycle	Project Identification	**Less than 10 years**	11	2.45	0.52
		10 – 15 years	9	2.61	0.65
		More than 15 years	16	2.59	0.80
		Total	**36**	**2.56**	**0.67**
	After Project Identification	Less than 10 years	11	2.75	0.60
		10 – 15 years	9	2.62	0.63
		More than 15 years	16	2.75	0.48
		Total	**36**	**2.72**	**0.54**
	Planning phase	Less than 10 years	11	2.57	0.60
		10 – 15 years	9	2.47	0.55
		More than 15 years	16	2.65	0.47
		Total	**36**	**2.58**	**0.52**
	Execution phase	Less than 10 years	11	2.67	0.57
		10 – 15 years	9	2.53	0.44
		More than 15 years	16	2.44	0.45
		Total	**36**	**2.54**	**0.48**
	Project Closure	Less than 10 years	11	2.70	0.38
		10 – 15 years	9	2.78	0.82
		More than 15 years	16	2.79	0.51
		Total	**36**	**2.76**	**0.56**
	Total score	Less than 10 years	11	2.66	0.53
		10 – 15 years	9	2.57	0.48
		More than 15 years	16	2.63	0.45
		Total	**36**	**2.62**	**0.47**
Main factors		Less than 10 years	11	1.88	0.41
		10 – 15 years	9	1.87	0.41
		More than 15 years	16	1.79	0.34
		Total	**36**	**1.84**	**0.37**

Table (4.13): One Way ANOVA to test the differences of the degree of analysis of Project Management Practices in public sector in Palestine "Ministry of Public Works & Housing" due to years of experience

Domain		Source of variation	Sum of Squares	D.F	Mean Squares	F	Sig.*
Project Management Cycle	**Project Identification**	Between groups	0.163	2	0.082	0.171	0.843
		Within groups	15.726	33	0.477		
		Total	15.889	35			
	After Project Identification	Between groups	0.114	2	0.057	0.183	0.834
		Within groups	10.243	33	0.310		
		Total	10.356	35			
	Planning phase	Between groups	0.181	2	0.091	0.324	0.726
		Within groups	9.230	33	0.280		
		Total	9.411	35			
	Execution phase	Between groups	0.342	2	0.171	0.723	0.493
		Within groups	7.801	33	0.236		
		Total	8.143	35			
	Project Closure	Between groups	0.063	2	0.031	0.096	0.909
		Within groups	10.740	33	0.325		
		Total	10.802	35			
	Total score	Between groups	0.039	2	0.020	0.084	0.920
		Within groups	7.750	33	0.235		
		Total	7.789	35			
Main factors		Between groups	0.067	2	0.033	0.232	0.795
		Within groups	4.759	33	0.144		
		Total	4.826	35			

***Significant at (α= 0.05)**

Table 4.13: shows that there are no significant differences at (α=0.05) in the degree of analysis of project management practices in public sector in West Bank “Ministry of Public Works & Housing" due to years of experience.

4.2.2.5 Results related to the fifth hypothesis (H5):

There are no significant differences at (α=0.05) in the degree of analysis of Project Management Practices in public sector in West Bank “Ministry of Public Works & Housing" due to age.”

The researcher used One Way ANOVA to test the hypothesis. Tables (4.14, 4.15) show the frequencies, means and standard deviations of the degree of analysis of project management practices in public sector “Ministry of Public Works & Housing" due to age and the results of One Way ANOVA test respectively.

Table (4.14): Frequencies, means, and standard deviations of the degree of analysis of Project Management Practices in public sector "Ministry of Public Works & Housing" due to age

Domain		Age	Frequency	Mean	S.D
Project Management Cycle	Project Identification	Less than 35 years	10	2.50	0.53
		36 – 45 years	10	2.85	0.78
		More than 45 years	16	2.41	0.66
		Total	36	2.56	0.67
	Project Formulation	Less than 35 years	10	2.76	0.63
		36 – 45 years	10	2.82	0.58
		More than 45 years	16	2.63	0.49
		Total	36	2.72	0.54
	Planning phase	Less than 35 years	10	2.65	0.64
		36 – 45 years	10	2.65	0.46
		More than 45 years	16	2.49	0.49
		Total	36	2.58	0.52
	Execution phase	Less than 35 years	10	2.71	0.61
		36 – 45 years	10	2.63	0.27
		More than 45 years	16	2.37	0.47
		Total	36	2.54	0.48
	Project Closure	Less than 35 years	10	2.77	0.45
		36 – 45 years	10	3.03	0.43
		More than 45 years	16	2.58	64.
		Total	36	2.76	0.56
	Total score	Less than 35 years	10	2.70	0.57
		36 – 45 years	10	2.74	0.35
		More than 45 years	16	2.50	0.47
		Total	36	2.62	0.47
Main factors		Less than 35 years	10	1.75	0.39
		36 – 45 years	10	1.94	0.35
		More than 45 years	16	1.83	0.38
		Total	36	1.84	0.37

Table (4.15): One Way ANOVA to test the differences of the degree of analysis of Project Management Practices in public sector "Ministry of Public Works & Housing" due to age

Domain		Source of variation	Sum of Squares	D.F	Mean Squares	F	Sig.*
Project Management Cycle	Project Identification	Between groups	1.255	2	0.627	1.414	0.257
		Within groups	14.634	33	0.443		
		Total	15.889	35			
	Project Formulation	Between groups	0.242	2	0.121	0.395	0.677
		Within groups	10.114	33	0.306		
		Total	10.356	35			
	Planning phase	Between groups	0.221	2	0.111	0.397	0.675
		Within groups	9.190	33	0.278		
		Total	9.411	35			
	Execution phase	Between groups	0.839	2	0.419	1.895	0.166
		Within groups	7.304	33	0.221		
		Total	8.143	35			
	Project Closure	Between groups	1.247	2	0.623	2.153	0.132
		Within groups	9.556	33	0.290		
		Total	10.802	35			
	Total score	Between groups	0.449	2	0.224	1.009	0.376
		Within groups	7.341	33	0.222		
		Total	7.789	35			
Main factors		Between groups	0.179	2	0.090	0.637	0.535
		Within groups	4.646	33	0.141		
		Total	4.826	35			

***Significant at (α= 0.05)**

Table 4.15: shows that there are no significant differences at (α=0.05) in the degree of analysis of project management practices in public sector “Ministry of Public Works & Housing" due to age.

The last four hypotheses proved that culture and awareness of project management do not differ between participants.

4.3 Conclusion

This chapter illustrates the findings of the direct questionnaire carried out with related departments within the ministry to reveal the actual project management practices followed, and the main factors that hinder achievement of project goals . The findings strongly sustain that there is a need to reinforce and develop the project management practices in the public sector in Palestine.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter restates the research problem and provides an overview of the methodology used for the study. Discussion of the major findings that were obtained out of the research, and provision of recommendations and suggestions for further research related to project management in public sector were presented.

5.2 Summary

The research was carried out with the following goals: to assess the project management practices in public sector in West Bank; to explore the effective tools and techniques in project management within public sector; to understand the main factors that hinder achievement of project goals. Therefore, the study started with a literature review and was followed by a survey distributed to decision makers; General Directors, Directors, Head of Divisions, and Project Mangers of related departments in the Ministry of Public Works and Housing.

5.3 Major Findings

Valuable information was revealed following the conducted survey that helped to draw attention to the outstanding issues in the light of the results obtained. Brief descriptions of major findings are as follows:

5.3.1 Reality of project cycle management in public sector in West Bank

Based on the results of this study and according to the four-point-scale, “Likert scale”, project cycle management in our case study achieved a moderate level.

Identification of any project should be in line with pre-drawn strategies to serve and support the objectives of general policies.

After identification, project formulation should be studied carefully and feasibility studies should be conducted. Resources should be exploited in an economic manner to create sustainable projects. Short and long term Operation and Maintenance policies should be considered. Environmental impact assessment (EIA) should be conducted.

A project charter should be used as main practice as it clarifies the scope, objective, time, budget, and output of the project. It should be adopted and followed by the appointed project team.

As discussed in Chapter Four, precise project planning is a critical project success practice.

Project processes include monitoring and controlling activities to ensure that the project objectives are met.

A post-evaluation report should be undertaken to measure the project success as well as to draw recommendations to improve practices.

In summary, using a simple, well defined framework with a staged approach ensures project success. Constantly using the same staged approach minimizes confusion and imperfection.

Moreover, the outcomes of this work showed that there is a gap of inadequacy between the project management practices in public sector in Palestine and the best practices. This is mainly due to the absence of clear framework for implementation of projects. It was clear from the results that projects management did not follow an integrated system.

5.3.2 Main factors that hinder achievement of project goals

In this study, the participants' answers proved to be identical to a high degree. However, the results were ranked according to the relative importance of these factors based on the participants' answers as shown in Chapter Four. Lack of feedback from previous projects represents an important setback to wished improvements. Miscommunication between members of the project team among themselves and different stakeholders, absence of planning and non-adoption of clear methodology lead to the questionability of project success.

5.4 Contributions to knowledge and practice

This research adds several contributions to the topic which can be summarized as follows:

1. Shedding light on the current situation of project management in public sector in West Bank.

2. Exploring the effective tools and techniques required within project life cycle phases.
3. Highlighting the main factors that affect project success.

5.5 Recommendations

In addition to the above, the following main recommendations are to be considered by the public sector to achieve exemplary performance:

1. Stronger emphasis on project identification. Identification should be carried out in accordance to the strategic plans drawn. In addition, Donors are urged to support the national vision and the mission of the national implementing agencies.

2. Stronger emphasis on the planning process prior to project implementation. Risk management is another critical element of successful projects. Contingencies plans in the project budget are required to avoid unpleasant project surprises.

3. Stronger focus on quality assurance management as well as full attention to define clear, standard specifications.

4. Post evaluation should be applied, and lessons learned from previous project should be disseminated and documented.

5. Adopting a well-defined, comprehensive methodology in project management is one of the most important strategies that decision makers and public officials must take into consideration. It will

improve the performance and close up the gap mentioned earlier with respect to best practices.

6. It is highly recommended to increase motivation and morale among employees through inspiring a shared vision, encouraging team work and applying punishment and reward policies.

7. Build awareness among civil servants is an important starting point. All related parties to project management should attend workshops, classes or conferences on project management to build up the formal public awareness.

8. Hierarchy of the ministry should embrace and enforce the application of project management effectively in its activities.

9. It is recommended to co-relate with other countries in order to exchange experiences in project management domains.

5.6 Recommendations for Future Studies

While this study was able to provide additional insight into project management practices in public sector, other domains could be explored by further research works.

- This study focused only on one study sample. Future research could thus focus on other samples within the public sector. By doing so, a better understanding of the current situation can be achieved and other domains could be explored.

- Further studies could be done to develop a well-defined methodology of project management appropriate to different types of projects.

- It would be useful if a comparative study of project management practices in public sector is conducted with another advanced country in this domain.

- Further studies would be useful to study specific techniques and explore certain tools applied internationally in specific domains of project management.

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APPENDICES

Appendix A

Questionnaire

Questionnaire Form (English Format)

An-Najah National University
Faculty of Graduate Studies
Master Program in Engineering Management

Dear Sir or Madam:
Subject: Survey

I am presently preparing a thesis on **Analysis of Project Management Practices in Public Sector in Palestine "Ministry of Public Works & Housing"** as part of my Masters degree course in Engineering Management.
An important element of the thesis is to carry out a field survey to assess the project management practices in public sector in Palestine.

Enclosed please find a questionnaire, and based on your experience as a professional in the field of project management, I kindly request you to spare part of your valuable time to fill it in.
The collected data will be statistically analyzed, and a conclusion will be finalized. If you wish, I shall be happy to provide you with the results of the study once finished.

Your assistance and cooperation will be highly appreciated.

Thank you,

Eng. Sajeda Janem

SECTION ONE: ***Questions related to the respondent's experience***.
Please respond to the following questions either by ticking the appropriate box or by writing your answer in the space provided.

1- Your Education:

☐ **BA** ☐ **Master** ☐ **Other** _____

2- Job Title:

☐ **General Director** ☐ **Director** ☐ **Head of Division**
☐ **Other**_____

3- Experience Years

☐ **5-10 years** ☐ **11-15 years** ☐ **more 15 years**

4- Age:

☐ **25-35 years** ☐ **36-45 years** ☐ **more 45 years**

Please respond to the following questions either by Choose the correct answer

SECTION TWO: Project Cycle Management
When Identification a Project:

1- Is the project is convenient with the Ministry Strategy?
1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

2- Is the project is convenient with the State Strategy?
1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

After Project Identification:

3- Undertaking Feasibility Study for the project?
1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

4- Studying environmental impact assessment ?
1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

5- Studying sustainability for the project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

6- Studying risks of the project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

7- Studying Operation and Maintenance of the project on short and long term?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

8- Appoint Project Team from the Beginning?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

9- Set up Project Office?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

10- Studying all project requirement?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

11- Preparing "Project Charter" which describes scope, objectives, time, budget, and risks?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

12-Setting up "Job Description" for project team?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

Planning Phase:

13-Preparing detailed plan describes how to implement the project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

14-Preparing financial detailed plan shows the costs required during the implementation phases of the project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

15-Determining quality target?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

16-Developing quality plan to monitor the quality of the outputs and to identify actions that will be used to achieve the required quality?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

17-Preparing procurement plan?

1.Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

18-Preparing clear term of references for tendering documents?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

19-Preparing risk plan for the project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

20-Preparing communication plan for all related parties?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

Execution Phase:

21-Controlling and management activities carried out by the project team?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

22-Managing Costs so it does not exceed the allocated budget for the project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

23-Managing time effectively?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

24-Managing bidding processes effectively?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

25-Using Mechanisms to monitor quality during the implementation of effective (Quality Assurance)?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

26-Setting standards for the delivery of project outputs?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

27-Managing risks effectively?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

28-Managing changes that arise during the implementation of the project effectively and properly)?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

29-Managing communication among all relevant parties effectively?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

30-Managing problems and issues that arise during the implementation of the project effectively?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

Project Closure:

31-Evaluating the project after the voting to determine the level of achievement of the objectives of the project and its success and lessons learned?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

32-Disseminating the lessons learned from the project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

33-Documenting and archive all Documentation for the project after finishing?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

SECTION THREE: Main factors that hinder of achieving project goals?

34-Non appointing project team from the beginning?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

35-Experience and competence team project is not appropriate to the nature of the project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

36-Preparation & Exposure of Project Team to components of project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

37-Lack of understanding of Principles of project Management?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

38-Non adopting well –defined framework ?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

39-Non-using of computing and software programs to manage the project effectively?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

40-Low communication between project team and stakeholders?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

41-Mismanagement and to understand the components of the contract?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

42-The absence of pre-planning the project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

43-The lack of feedback from previous projects?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

44-Non studying the components and requirements of the project at the beginning?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

45-Lack of clarity of standards and specifications for the elements of the project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

46-Lack of attention to stimulation motivation and morale of employees?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

47-Complicated routines procedures?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

48-The absence of mechanisms with clear methodology?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

49-The absence of Team working between all crew members of the project?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

50-Lack of experience of service providers (Consultants & Contractors)?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

51-The absence of funding effectively?

1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

Questionnaire Form (Arabic Format)

جامعة النجاح الوطنية
الدراسات العليا
برنامج الإدارة الهندسية

الأخ/ الأخت المهندس (ة) المحترم (ة)
تحية طيبة و بعد،،،

يجري بحث لإعداد دراسة بعنوان:
"دراسة تحليلية في ممارسات وتطبيقات إدارة المشاريع في القطاع العام في فلسطين" (وزارة الأشغال العامة والإسكان)
وذلك لإتمام رسالة الماجستير في الادارة الهندسية في جامعة النجاح الوطنية، وعليه فقط طورت الباحثة استبانة حول الموضوع المذكور أعلاه.
إن تعاونكم في تعبئة الاستمارة إسهام في تطوير البحث العلمي وهو محل التقـدير والامتنـان والمعلومات التي سوف تقدم لن تستخدم إلا لأغراض البحث العلمي.

مع وافر الاحترام والتقدير

الباحثة : م.ساجدة جانم

القسم الأول: البيانات الأساسية

يحتوي هذا القسم على المعلومات الشخصية الخاصة بك، ضع /ي إشارة (×) في الخانـــة التـــي تلائمك.

1 - المؤهل العلمي: ☐ بكالوريوس ☐ ماجستير فأعلى ☐ أخرى حدد_____

2 - المسمى الوظيفي: ☐ مدير عام ☐ مدير ☐ رئيس قسم ☐ أخرى: حدد_____

3 - سنوات الخبرة: ☐ من 5 -10 سنوات ☐ من 10 -15 سنة ☐ أكثر من 15 سنة

4 - العمر: ☐ من 25 -35 سنة ☐ من 36 -45 سنة ☐ أكبر من 45 سنة

اختار / ي الاجابة التي تناسبك فيما يلي:

القسم الثاني: دورة حياة إدارة المشروع

عند تحديد فكرة المشروع:

1 - يتم دراسة مدى توافق المشروع مع الخطة الإستراتيجية للوزارة؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

2 - يتم دراسة مدى توافق المشروع مع الخطة الإستراتيجية والتطويرية للدولة؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

بعد تحديد فكرة المشروع:

3 - يتم عمل دراسة جدوى للمشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

4 - يتم دراسة الأثر البيئي للمشروع أثناء إجراء دراسة جدوى للمشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

5 - يتم دراسة ديمومة المشروع (Sustainability)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

6 - يتم دراسة المخاطر المحتملة للمشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

7 - يتم دراسة تشغيل وصيانة المشروع على المدى القريب والطويل (short, Long Term)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

8 - يتم تعيين طاقم المشروع ليواكب مراحل المشروع في البداية؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

9 - يتم توفير المكان والأدوات الملائمة والمناسبة لإدارة المشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

10 - يتم دراسة جميع متطلبات المشروع ؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

11 - يتم إعداد "Project Charter' يوضح الوصف والأهداف والمخرجات والميزانية والمدة الزمنية والمخاطر للمشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

12 - يتم إعداد وصف وظيفي واضح لطاقم المشروع (Job Description)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

مرحلة التخطيط

13 - يتم وضع خطة تفصيلية توضح كيفية تنفيذ المشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

14 - يتم إعداد خطة مالية مفصلة تبين التكاليف المطلوبة خلال مراحل تنفيذ المشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

15 - يتم تحديد الجودة والمواصفات (Quality Target)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

16 - يتم وضع خطة لمراقبة عمليات الجودة للمخرجات وتحديد الاجراءات التي سيتم استخدامها لتحقيق الجودة المطلوبة (Quality Plan)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

17 - يتم إعداد خطة شاملة للمشتريات (Procurement Plan)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

18 - يتم إعداد شروط مرجعية واضحة (TOR) لوثائق العطاءات ؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

19 - يتم إعداد خطة لمعالجة المخاطر المحتملة ظهورها خلال فترة تنفيذ المشروع وكيفية التعامل معها (Risk Plan)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

20 - يتم إعداد خطة لتحديد قنوات الاتصال بين جميع الأطراف ذات العلاقة للمشروع (Communication Plan)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

مرحلة التنفيذ:

21 - يتم مراقبة وإدارة النشاطات التي ينفذها طاقم المشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

22 - يتم إدارة التكلفة بحيث لا تتجاوز الميزانية المرصودة للمشروع (Cost Management)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

23 - يتم إدارة الوقت بشكل فعال (Time Management)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

24 - يتم إدارة ومراقبة عمليات العطاءات بشكل فعال وسليم (Procurement Management)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

25 - يتم استخدام آليات مراقبة عمليات الجودة خلال التنفيذ بشكل فعال وسليم (Quality Assurance)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

26 - يتم تحديد معايير الاستلام لمخرجات المشروع (Acceptance Management) ؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

27 - يتم إدارة المخاطر بشكل فعال وسليم (Risk Management) ؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

28 - يتم إدارة التغييرات التي تظهر خلال تنفيذ المشروع بشكل فعال وسليم (Change Management)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

29 - يتم إدارة التنسيق بين جميع الأطراف ذات العلاقة بالمشروع بشكل فعال؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

30 - يتم إدارة المشاكل والقضايا التي تظهر خلال تنفيذ المشروع بشكل فعال (Issue Management)؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

إغلاق المشروع:

31 - يتم تقييم المشروع بعد انتهائه لتحديد مستوى تحقيق أهداف المشروع ونجاحه والدروس المستفادة؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

32 - يتم تعميم الدروس المستفادة من المشروع ؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

33 - يتم توثيق وأرشفة جميع ما يتعلق بالمشروع بعد انتهائه؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

القسم الثالث: أهم العوامل التي تعيق تحقيق أهداف المشروع:

34 - عدم تعيين طاقم لإدارة المشروع من البداية ؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

35 - خبرة وكفاءة طاقم المشروع غير مناسبة لطبيعة المشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

36 - عدم تحضير وعرض مكونات المشروع لطاقم المشروع في البداية؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

37 - غياب فهم أساسيات إدارة المشاريع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

38 - عدم تبني منهجية واضحة وموحدة ؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

39 - عدم استخدام الحوسبة والبرامج الالكترونية لإدارة المشروع بشكل فعال؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

40 - تدني مستوى التنسيق بين طاقم المشروع والأطراف ذات العلاقة؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

41 - سوء إدارة وفهم مكونات العقد؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

42 - غياب التخطيط المسبق للمشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

43 - عدم وجود تغذية راجعة من المشاريع السابقة والاستفادة منها؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

44 - عدم دراسة مكونات ومتطلبات المشروع بالكامل في البداية؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

45 - عدم وضوح المواصفات لعناصر المشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

46 - عدم الاهتمام بالتحفيز motivation والروح المعنوية لدى العاملين؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

47 -الإجراءات الروتينية معقدة؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

48 - عدم وجود آليات بنماذج واضحة وموحدة؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

49 - غياب روح الفريق بين جميع أفراد طاقم المشروع؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

50 - نقص خبرات مقدمي الخدمات (Consultants & Contractors)؟

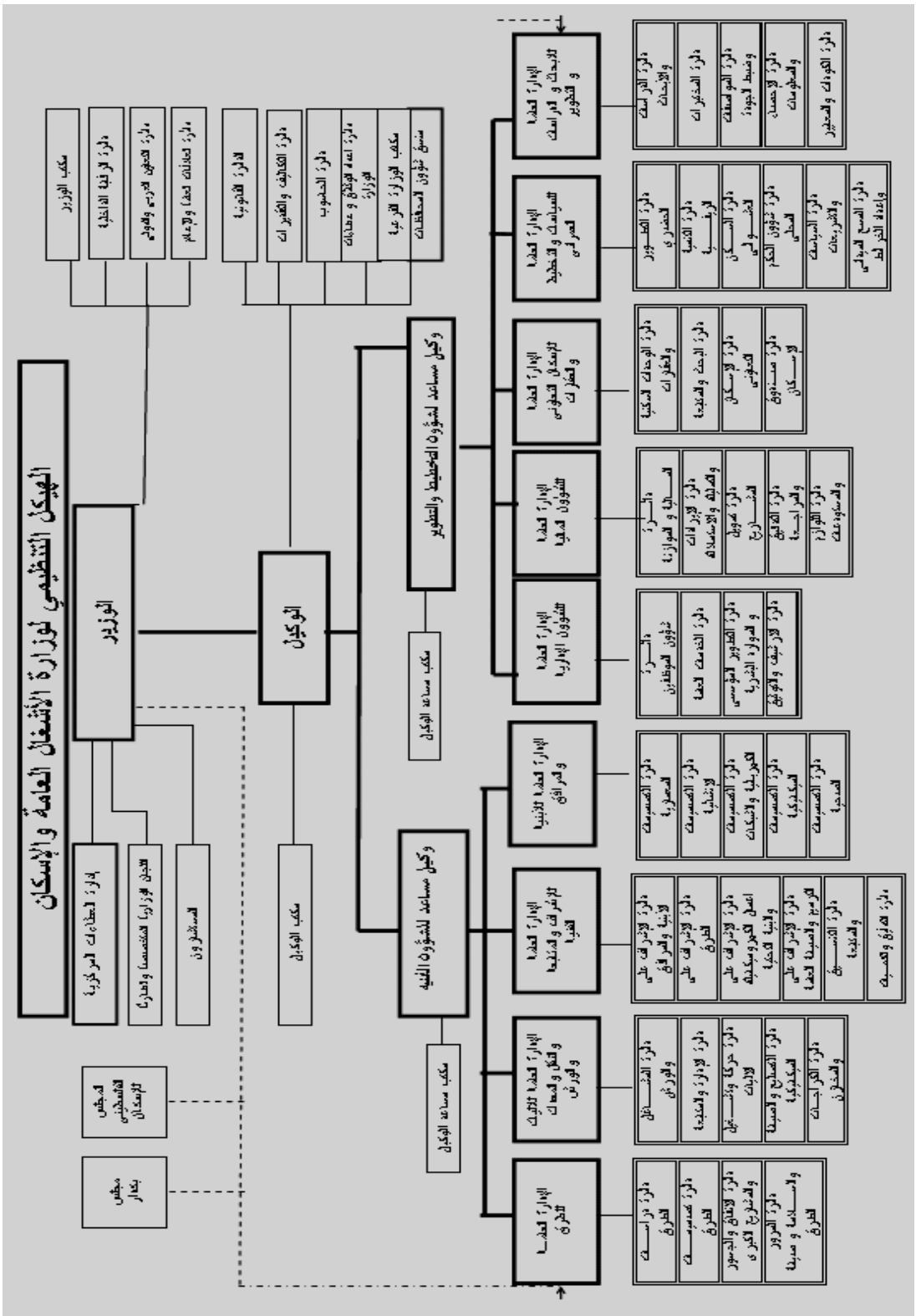
1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

51 - غياب توظيف التمويل بشكل فعال؟

1. أوافق بشدة 2. أوافق 3. أعارض 4. أعارض بشدة

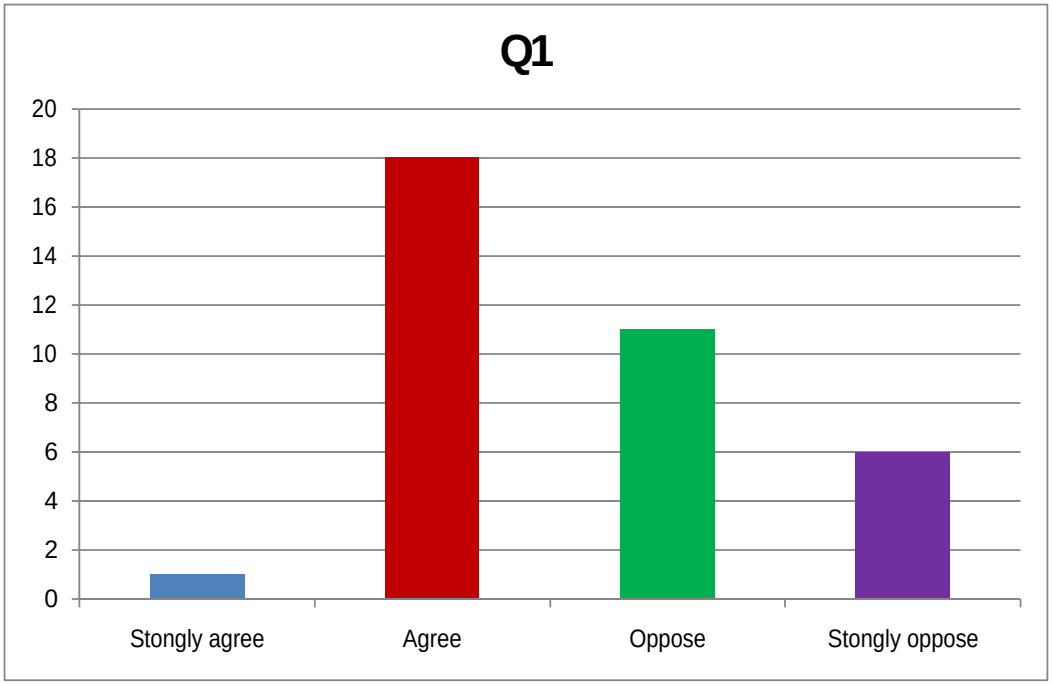
Appendix B

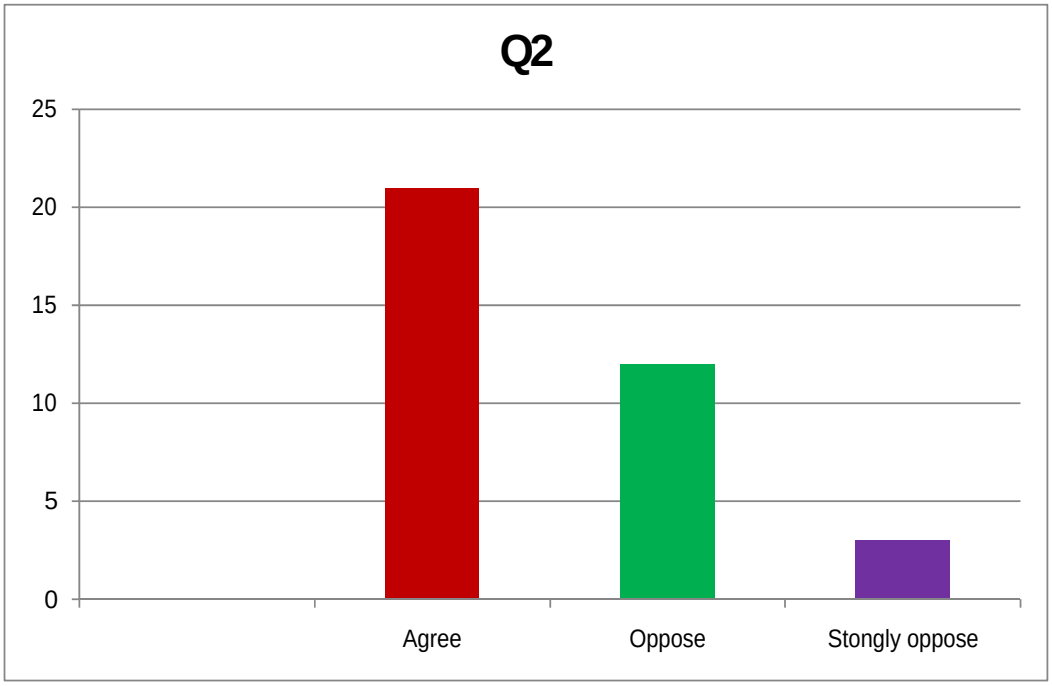
Hierarchy of Ministry of Public Works &Housing

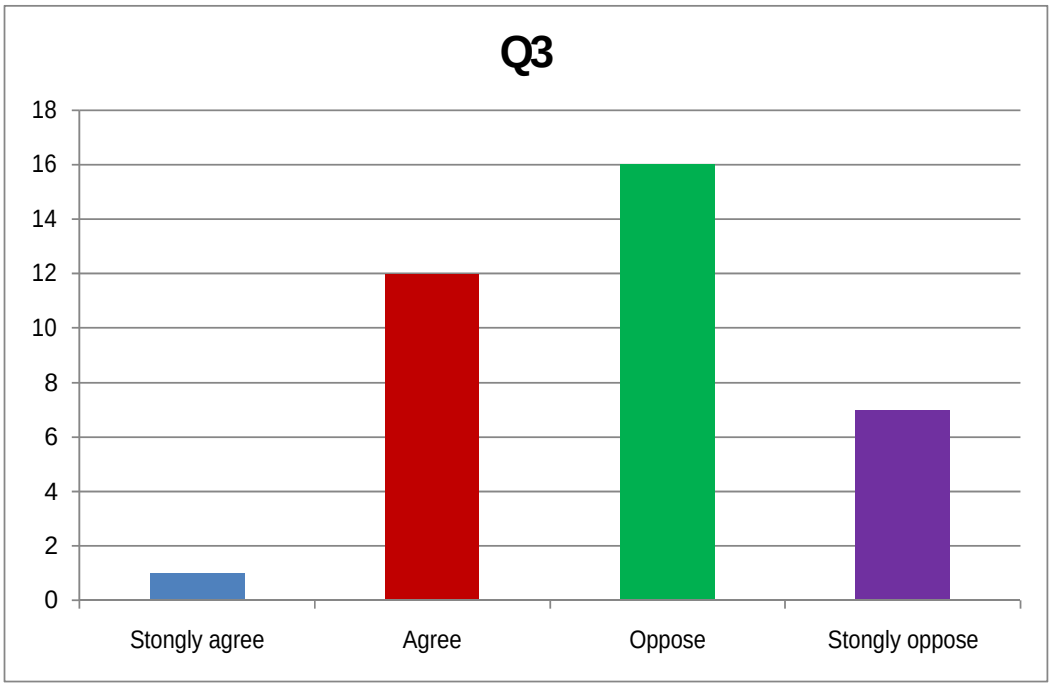


Appendix C

Survey Raw Data



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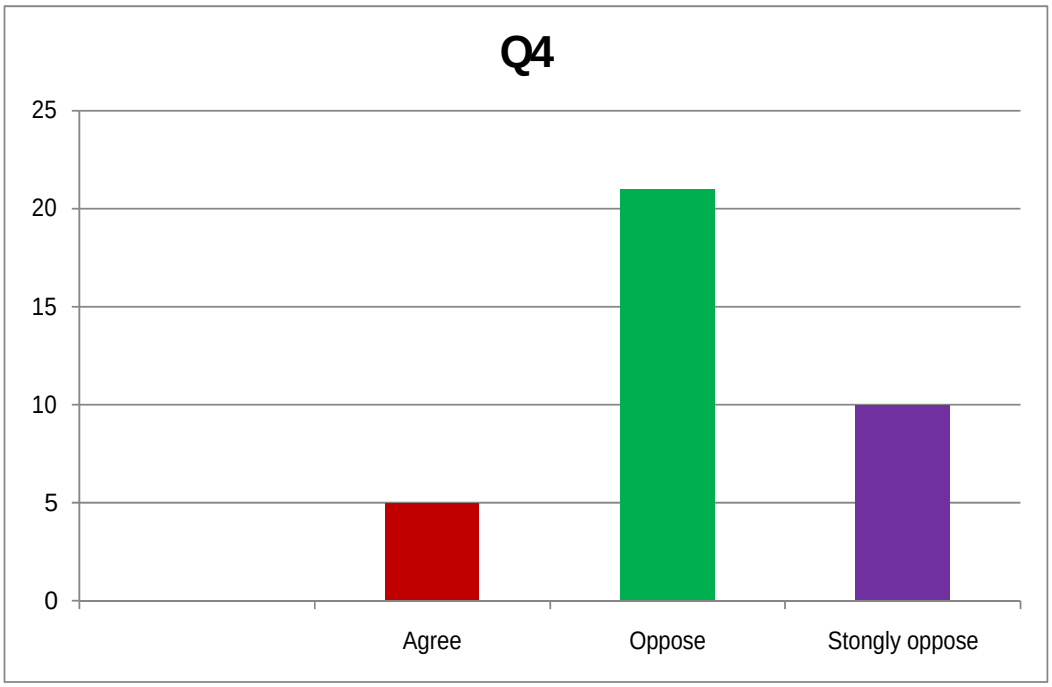
Stongly agree
Agree
Oppose
Stongly oppose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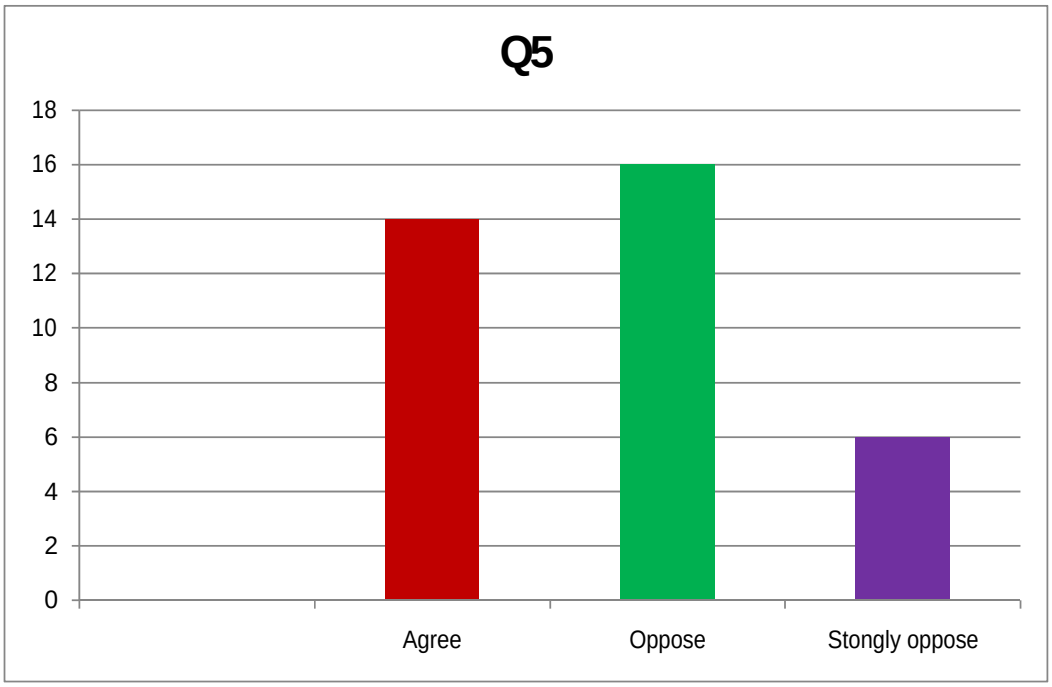
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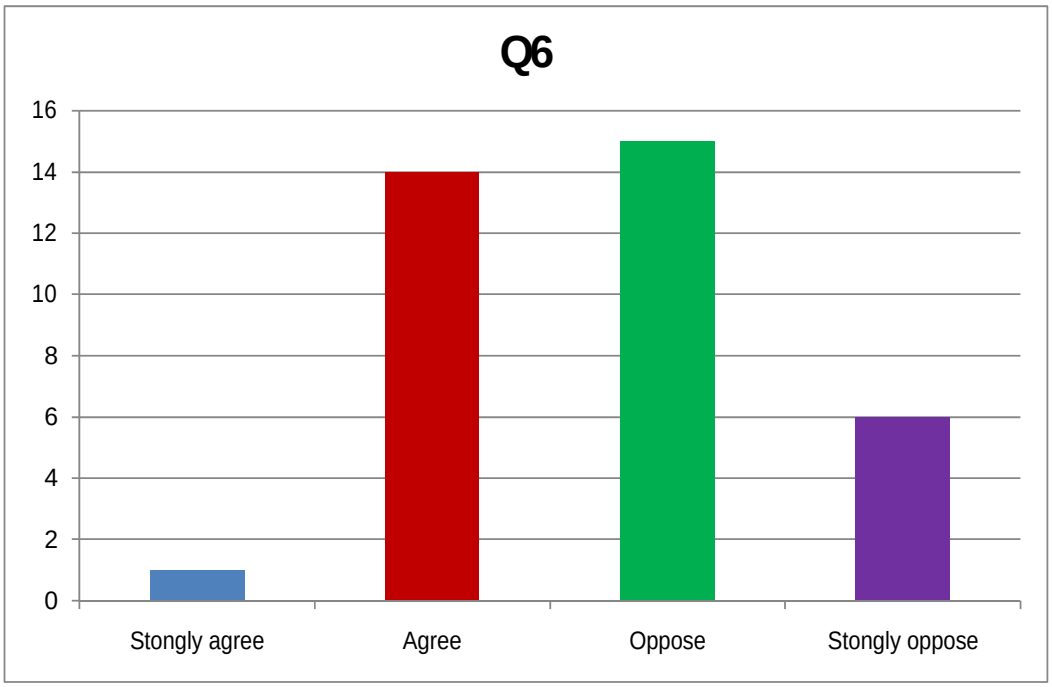
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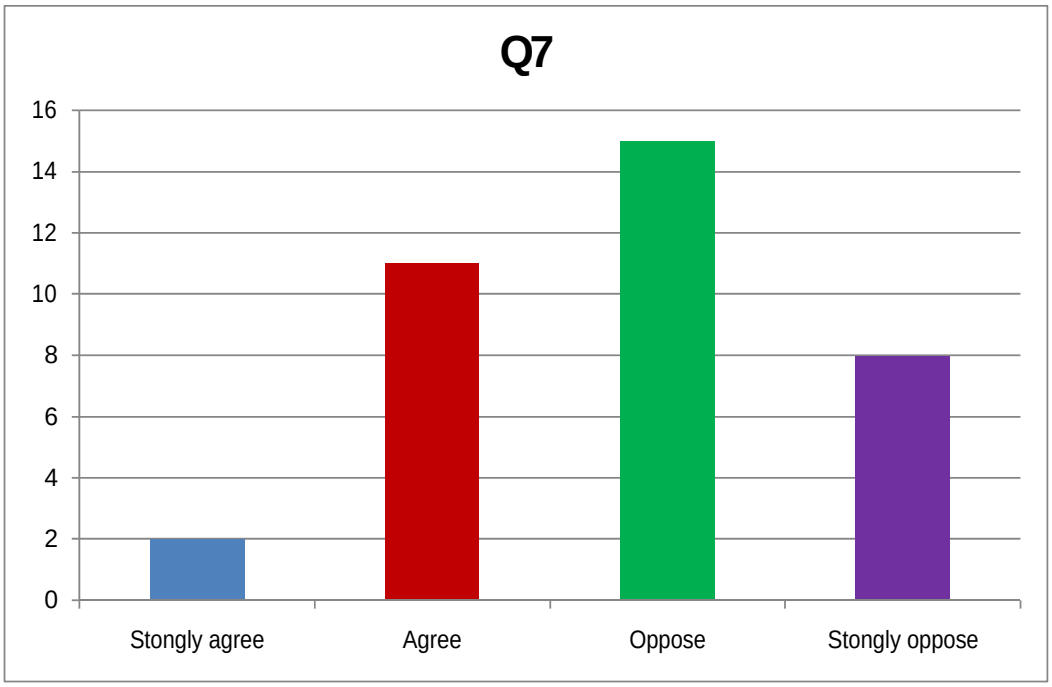
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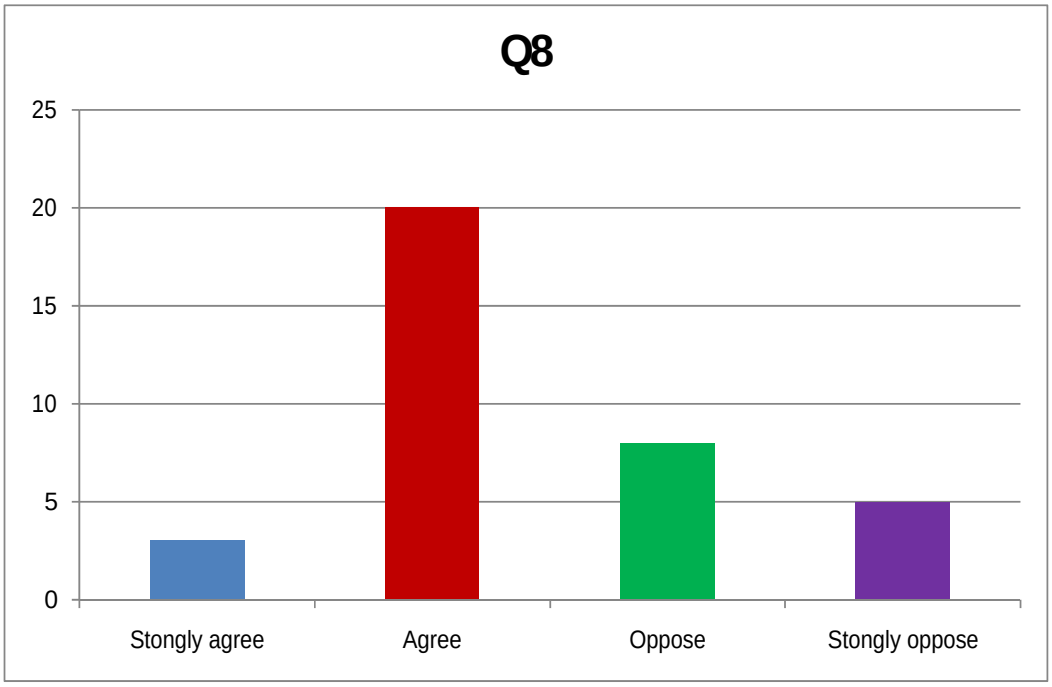
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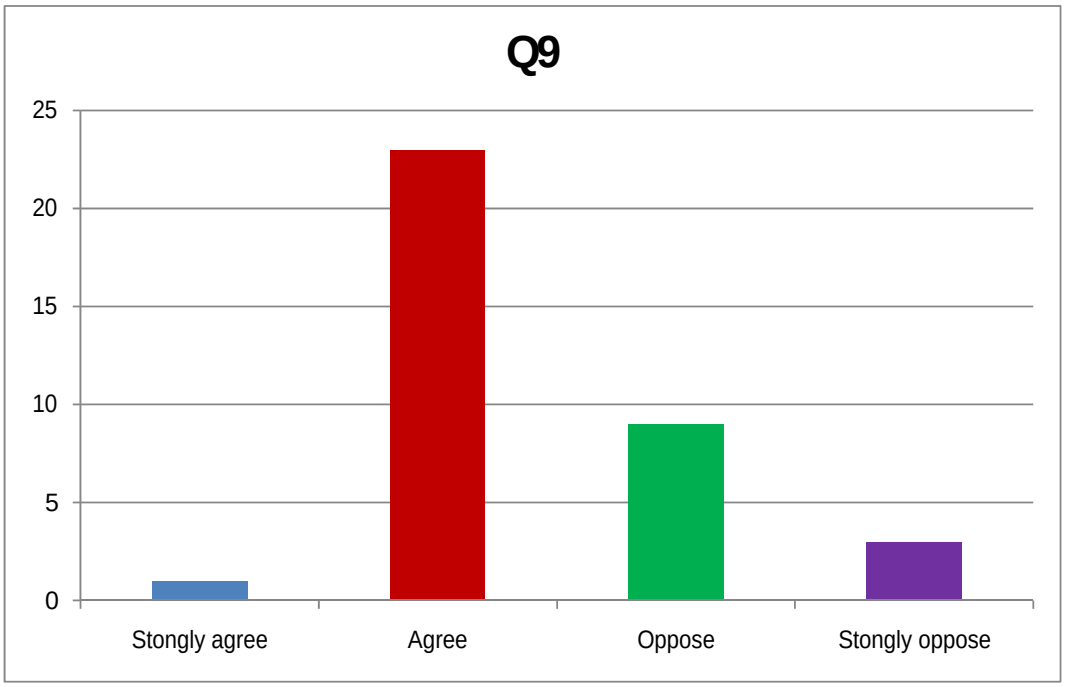
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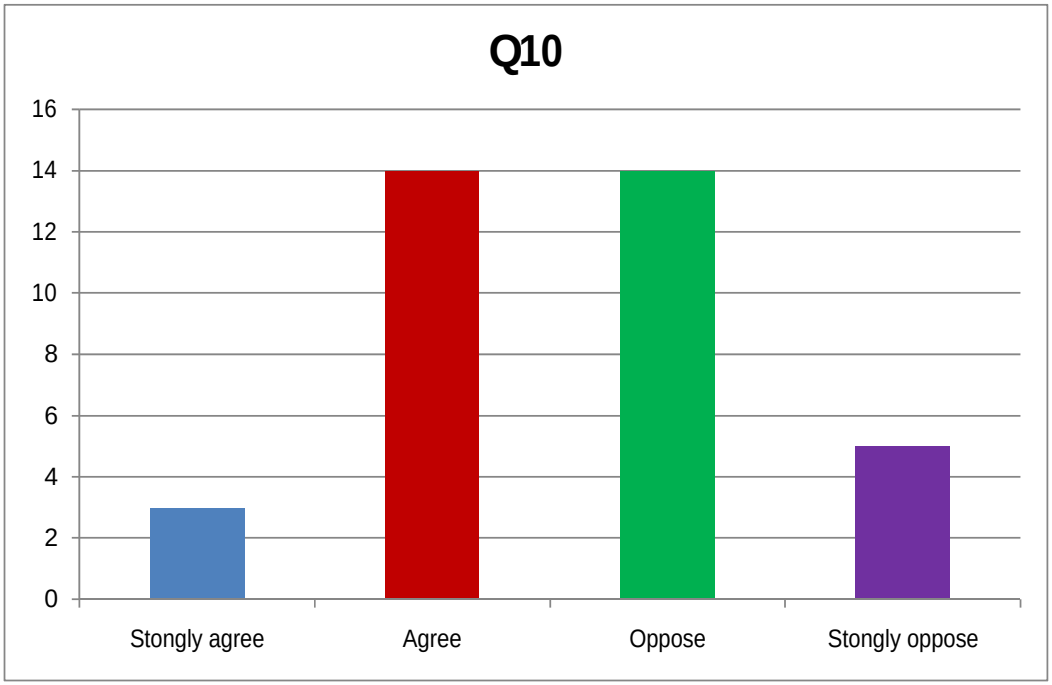
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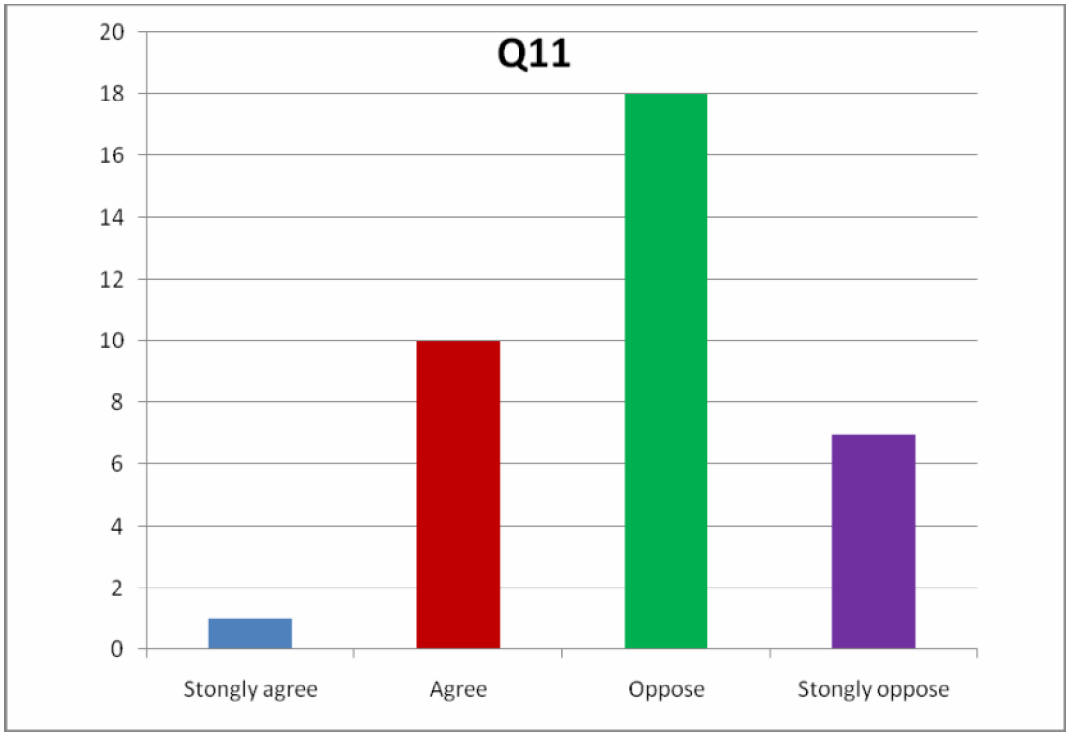
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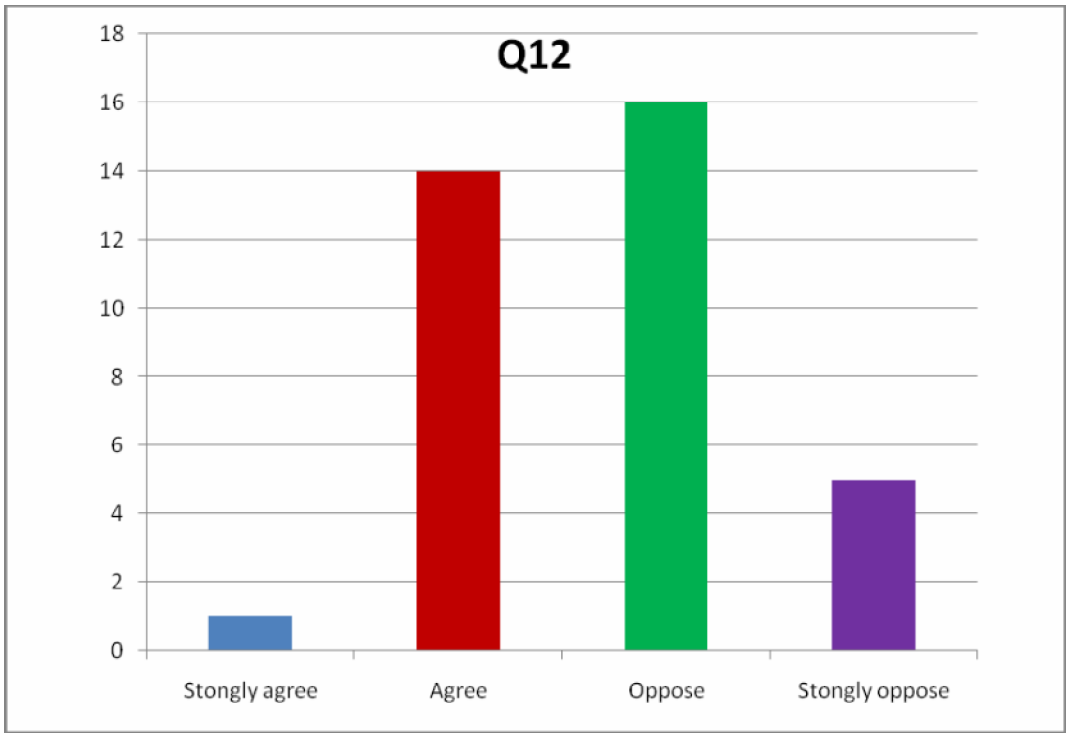
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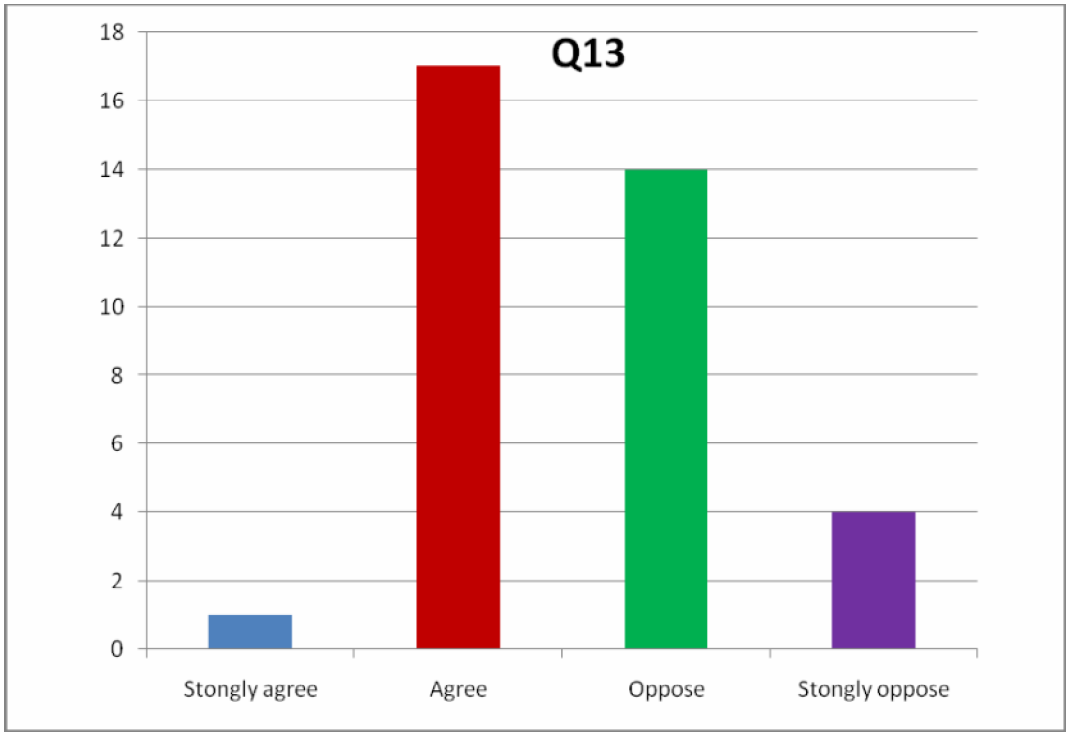
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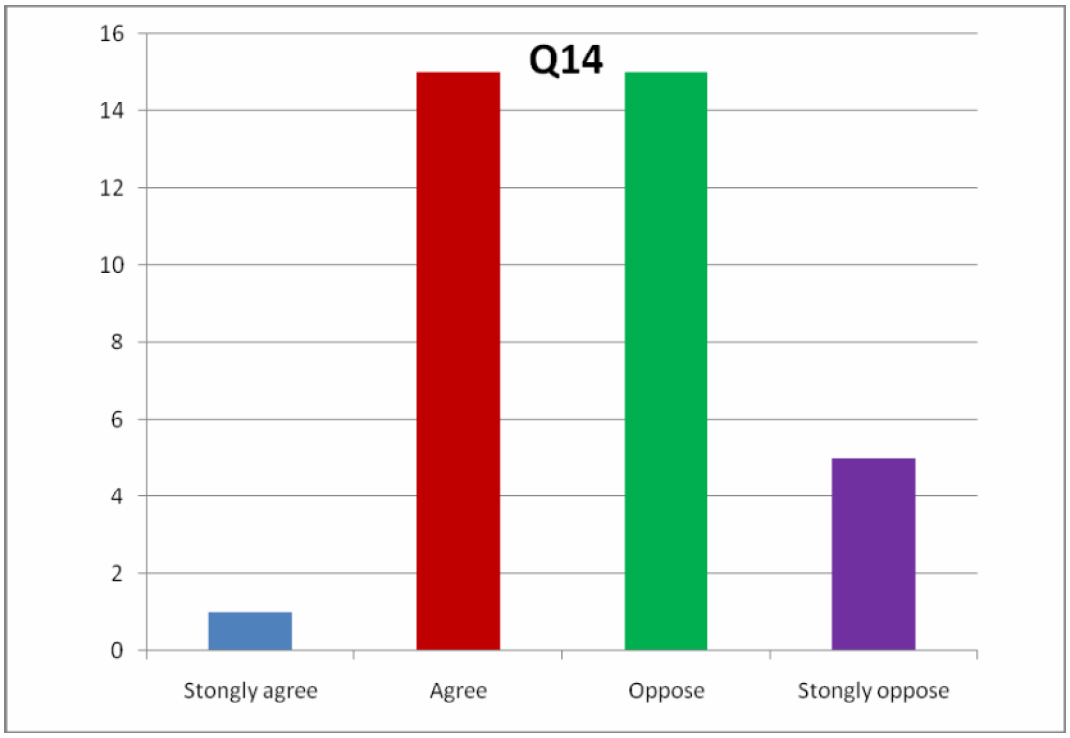
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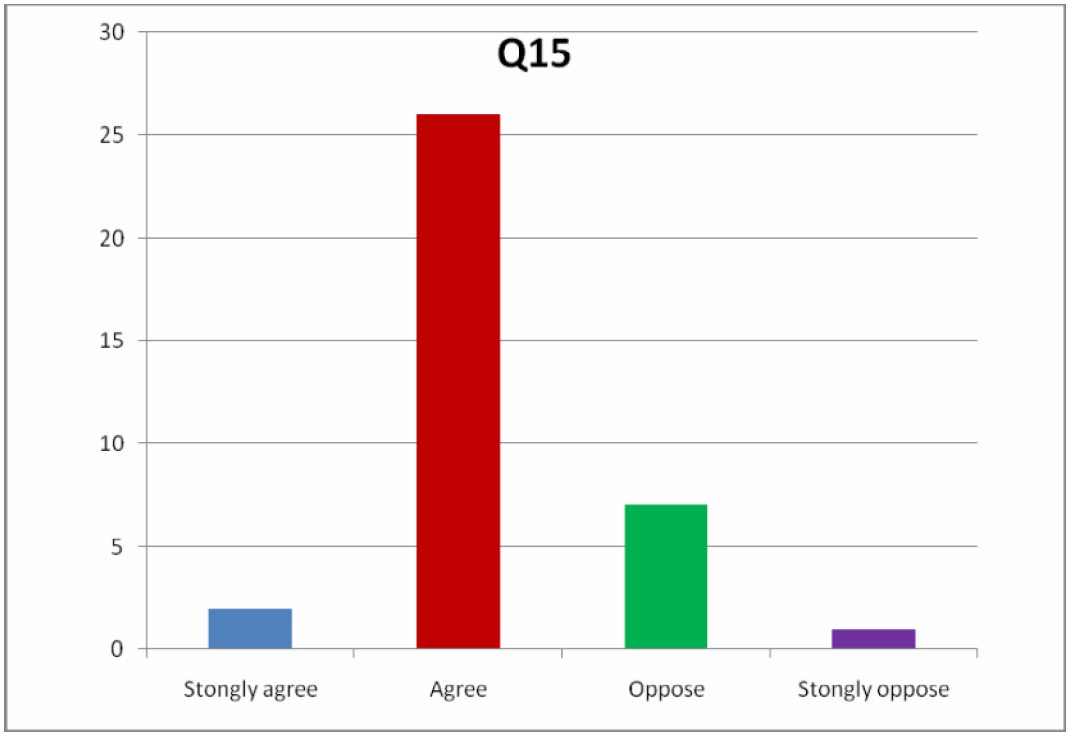
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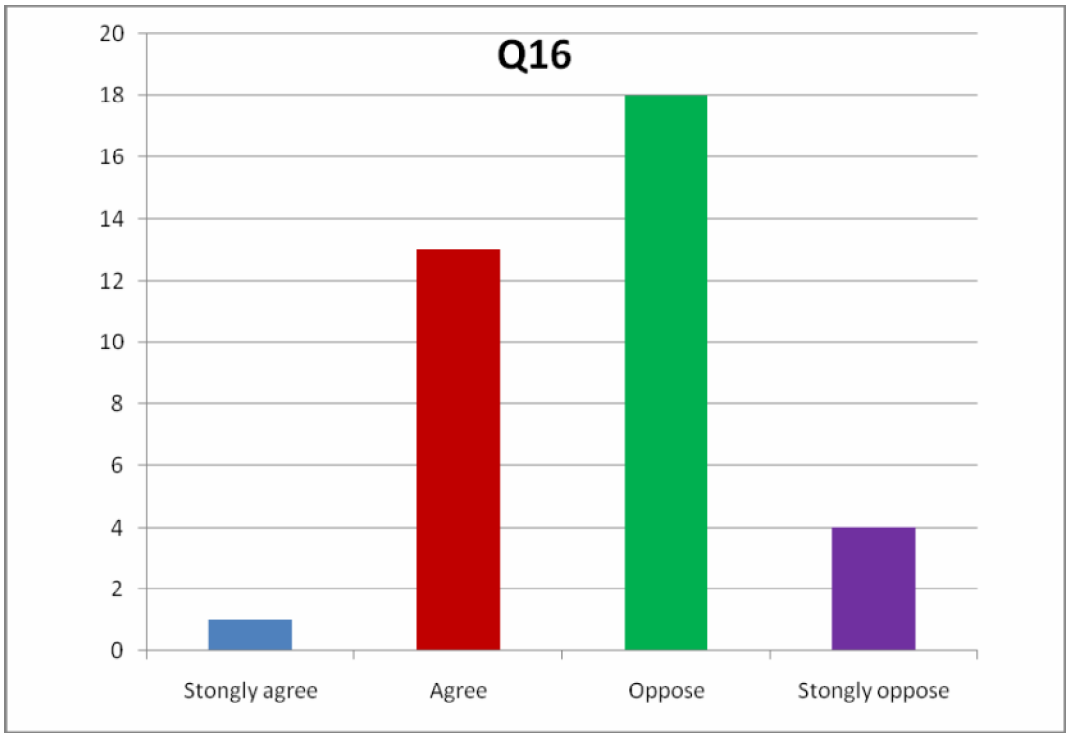
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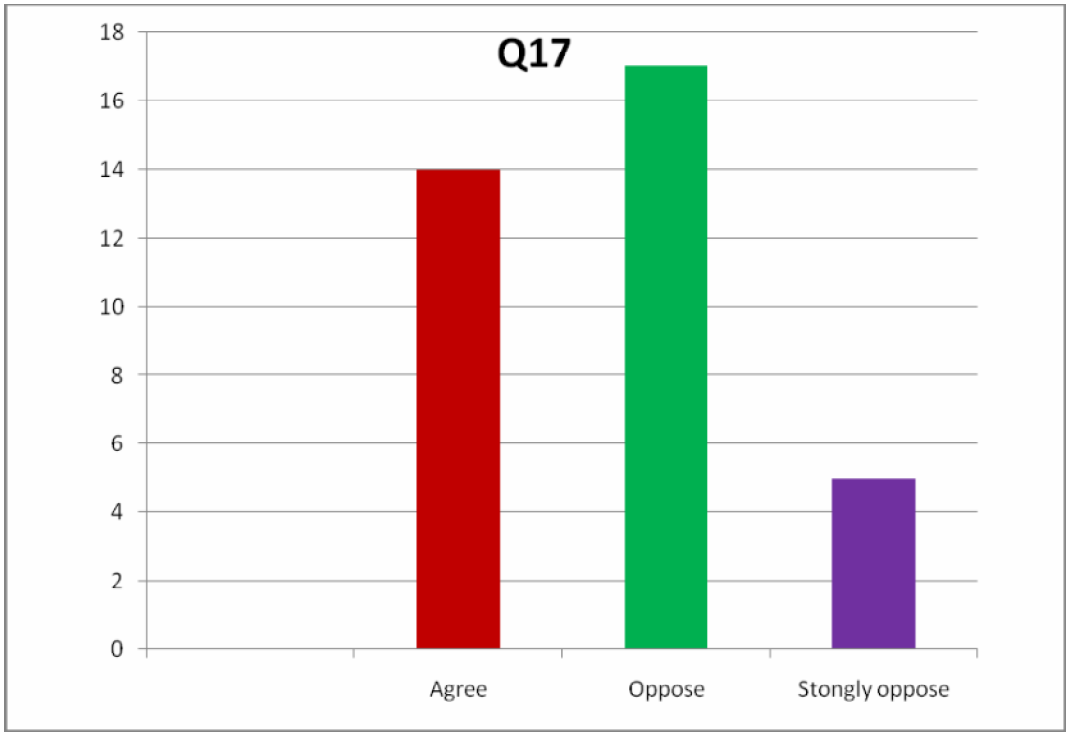
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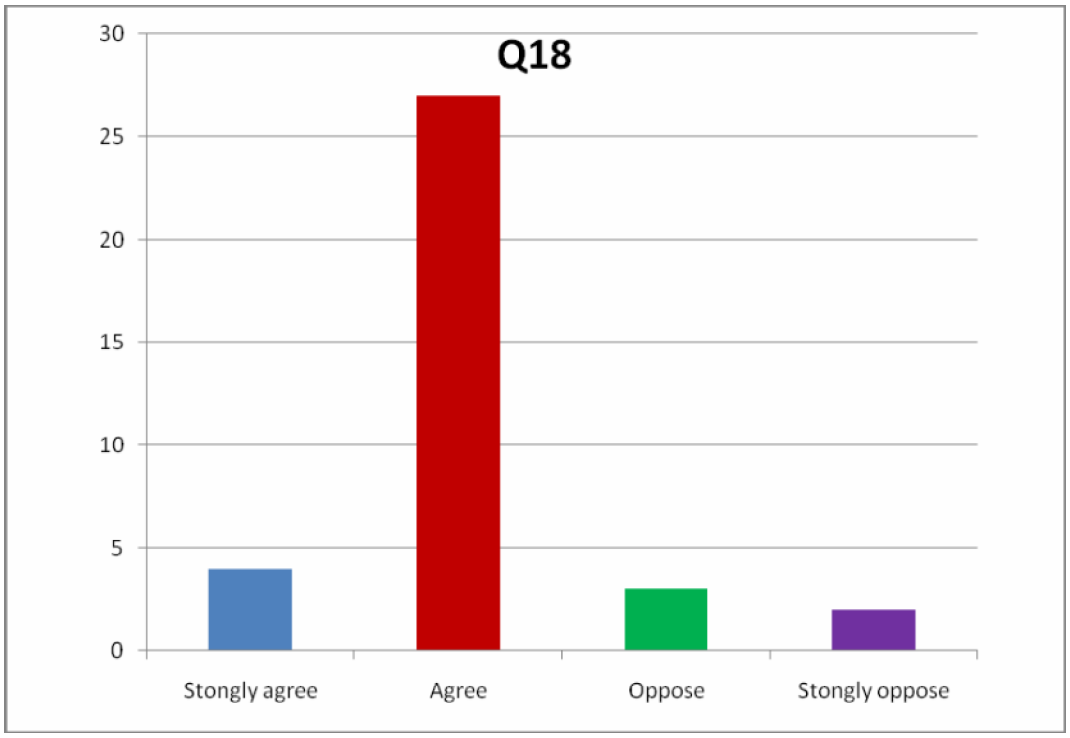
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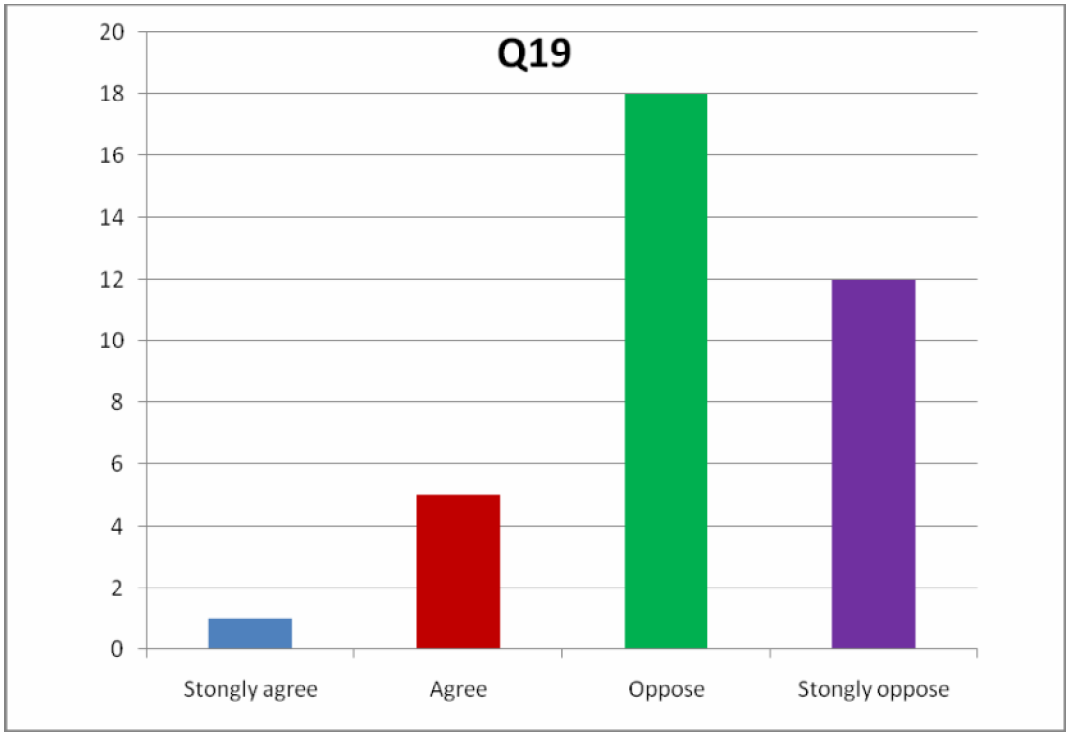
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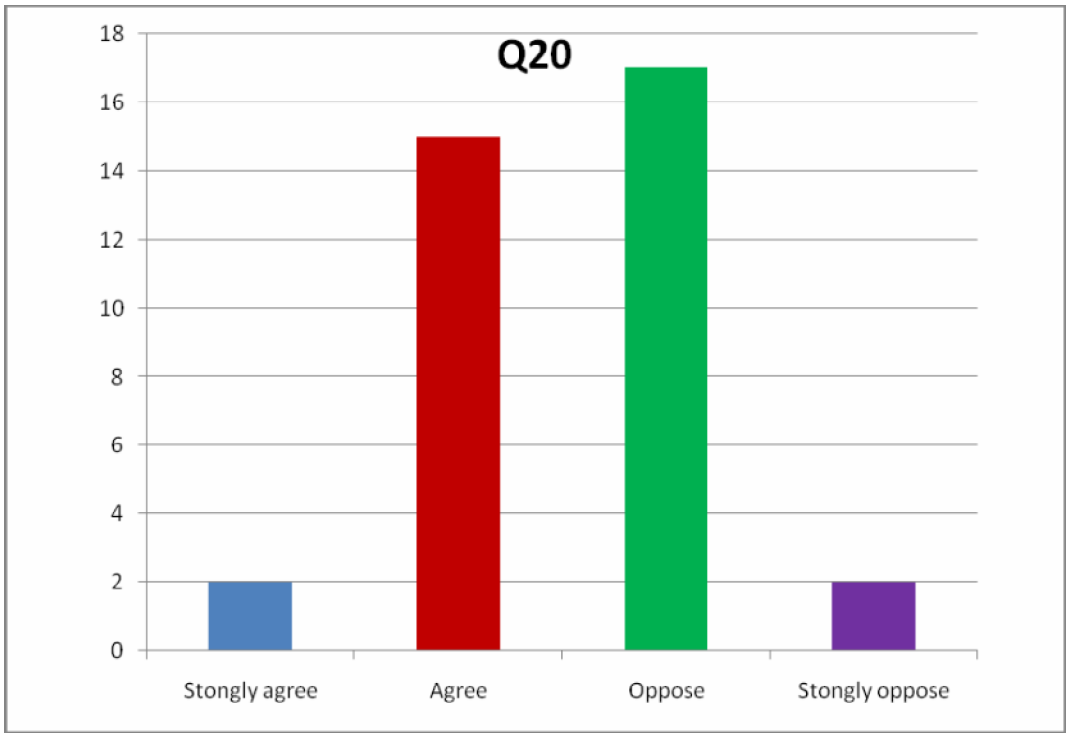
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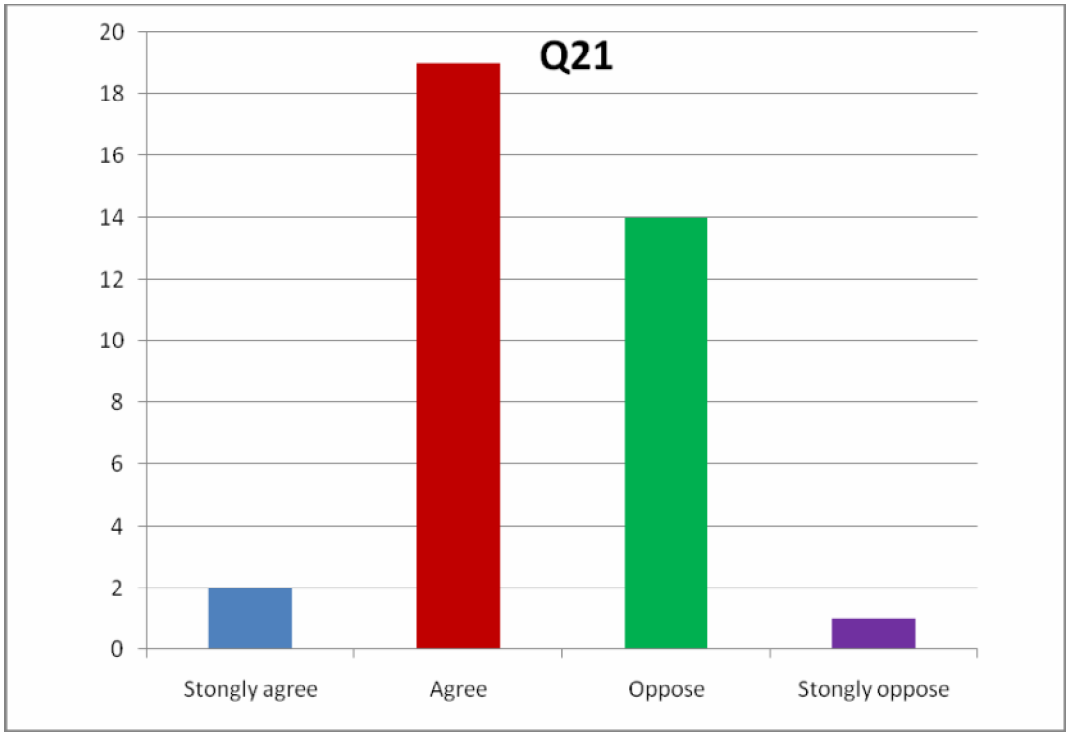
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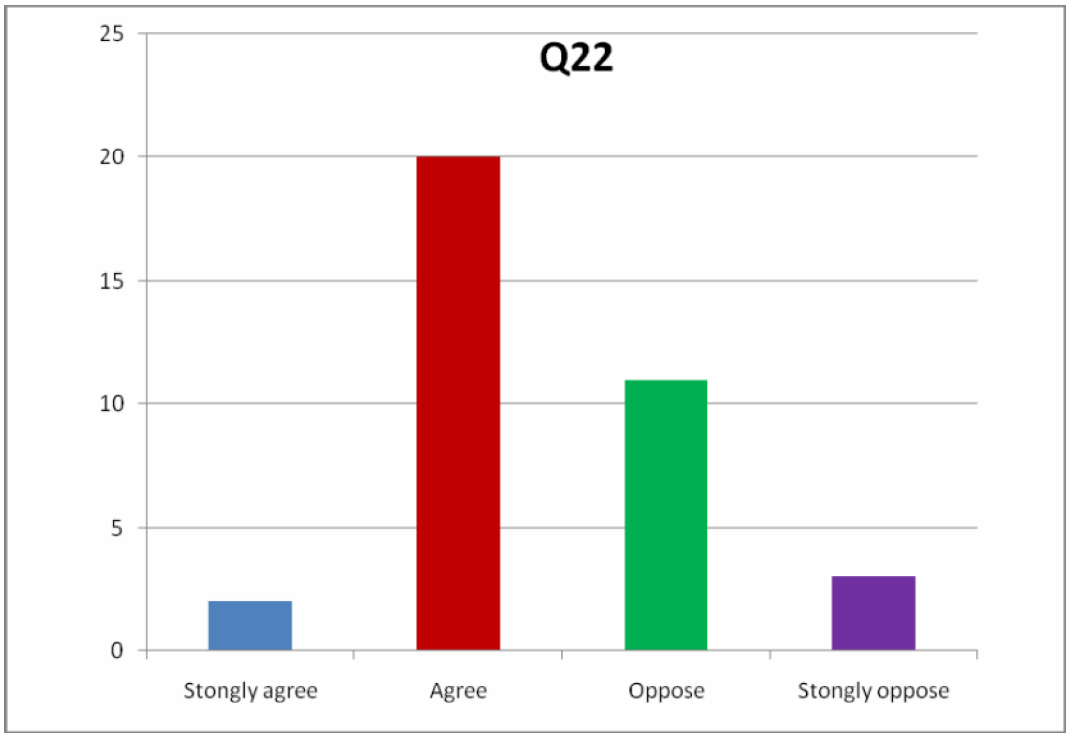
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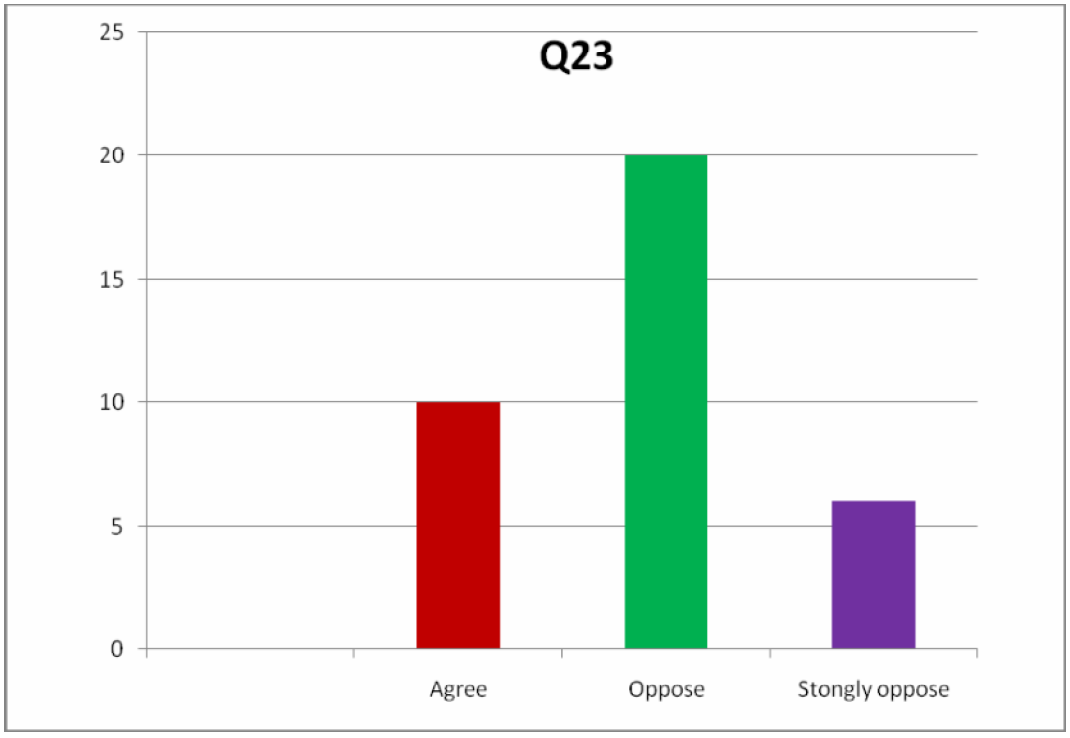
Agree
Oppose
Stongly oppose


Q23
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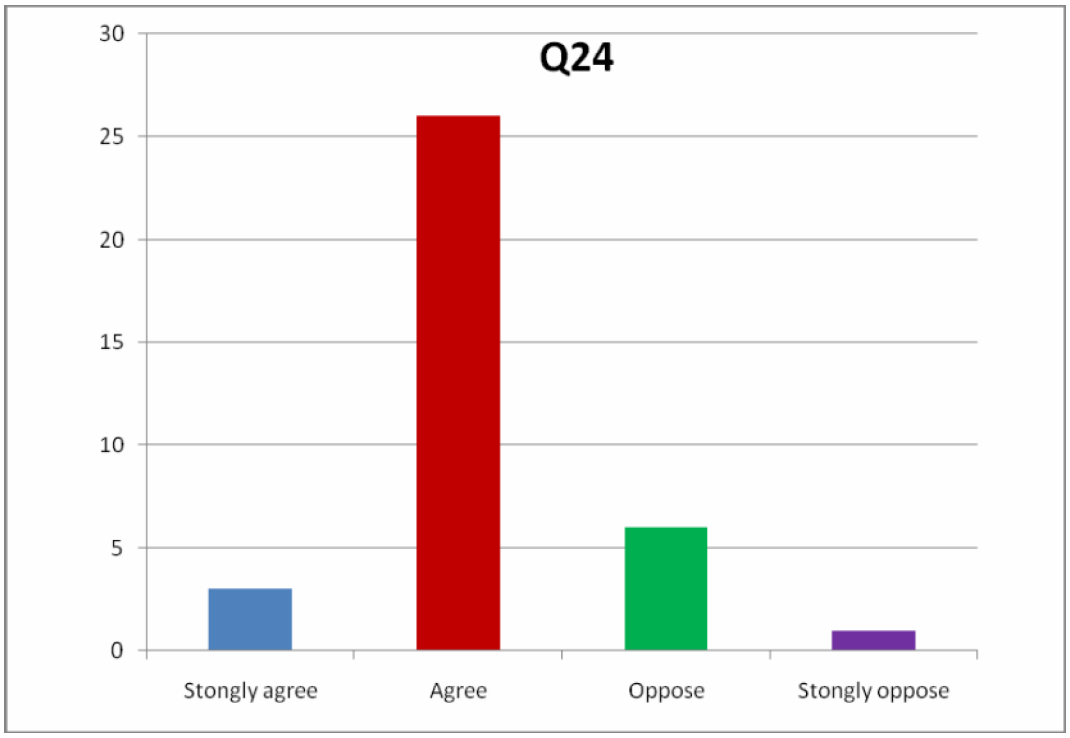
Agree
Oppose
Stongly oppose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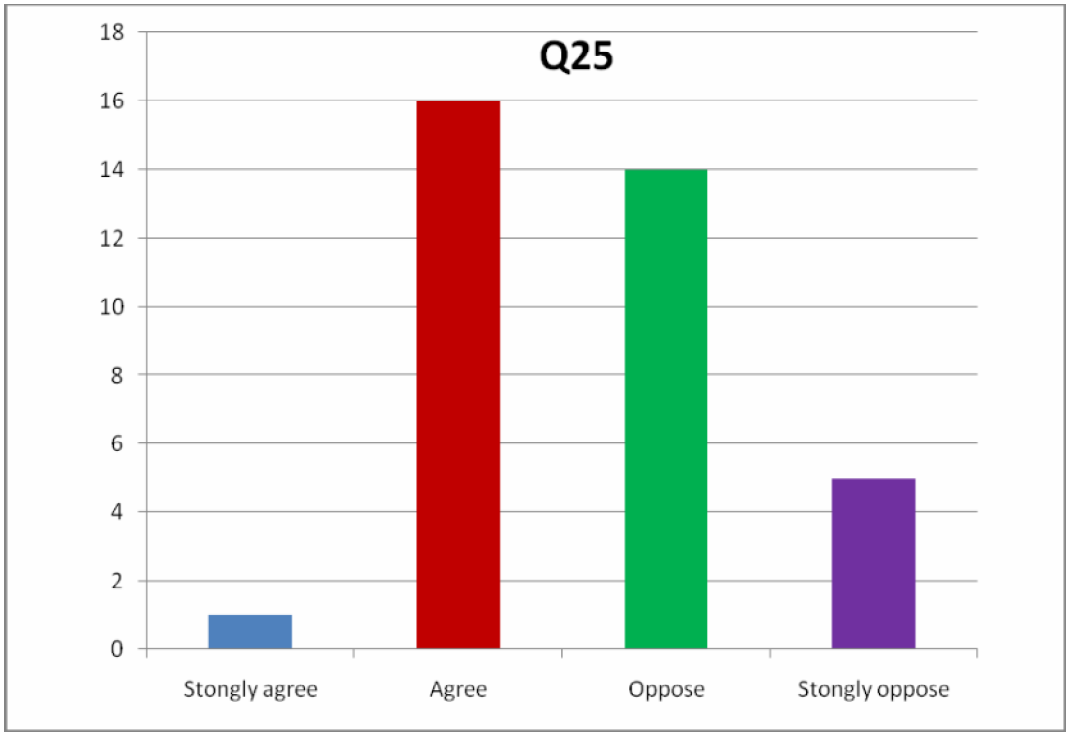
Agree
Oppose
Stongly oppose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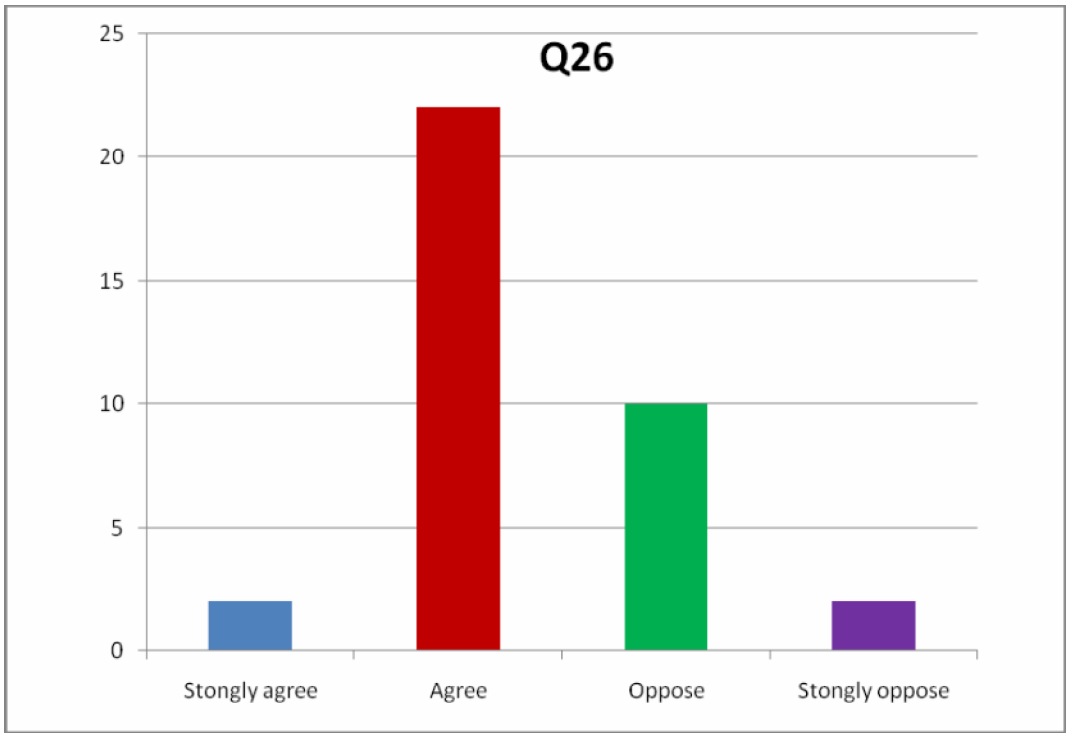
0
Stongly agree
Agree
Oppose
Stongly oppose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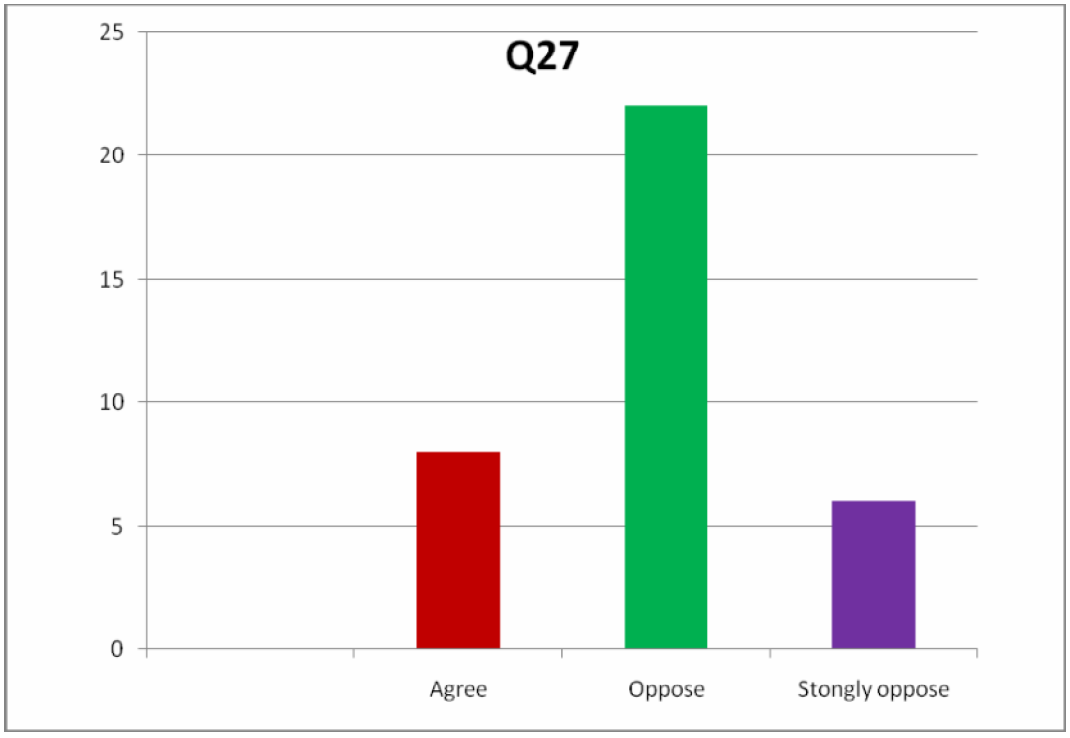
Stongly agree
Agree
Oppose
Stongly oppose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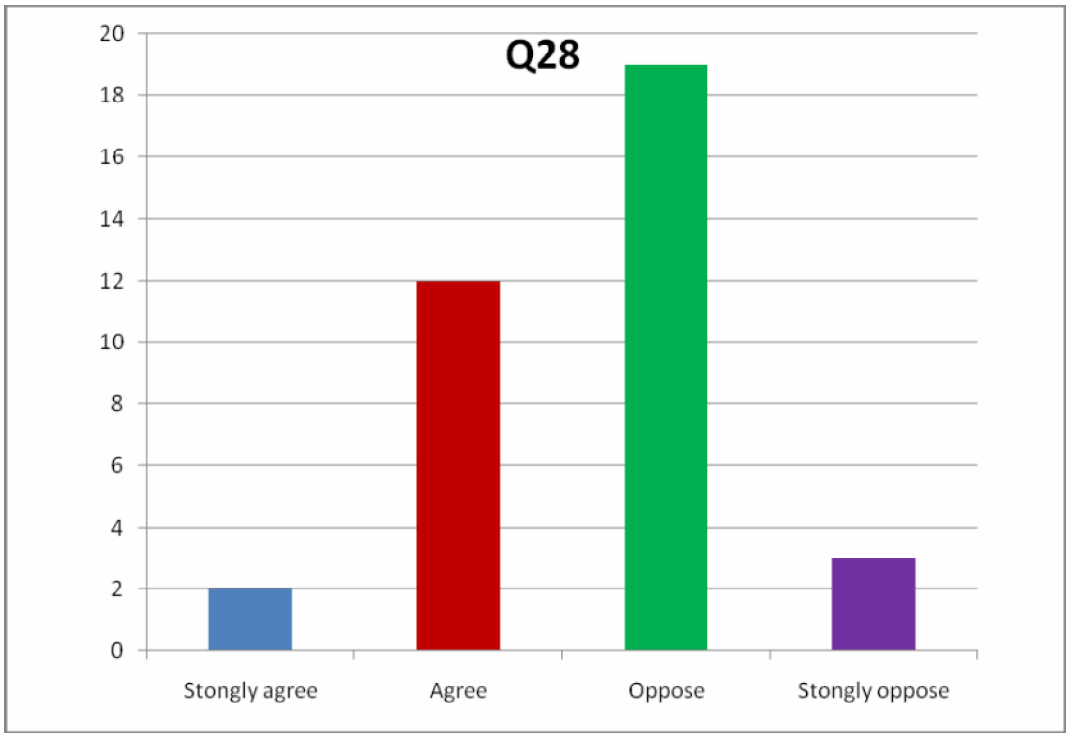
Agree
Oppose
Stongly oppose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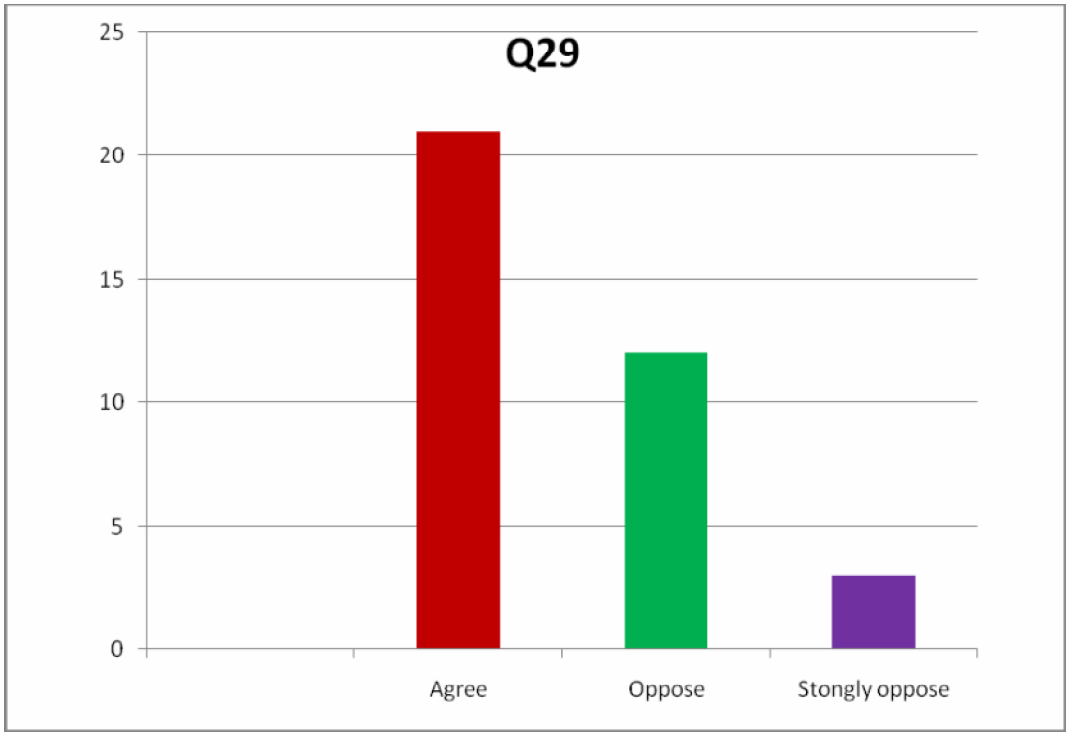
Stongly agree
Agree
Oppose
Stongly oppose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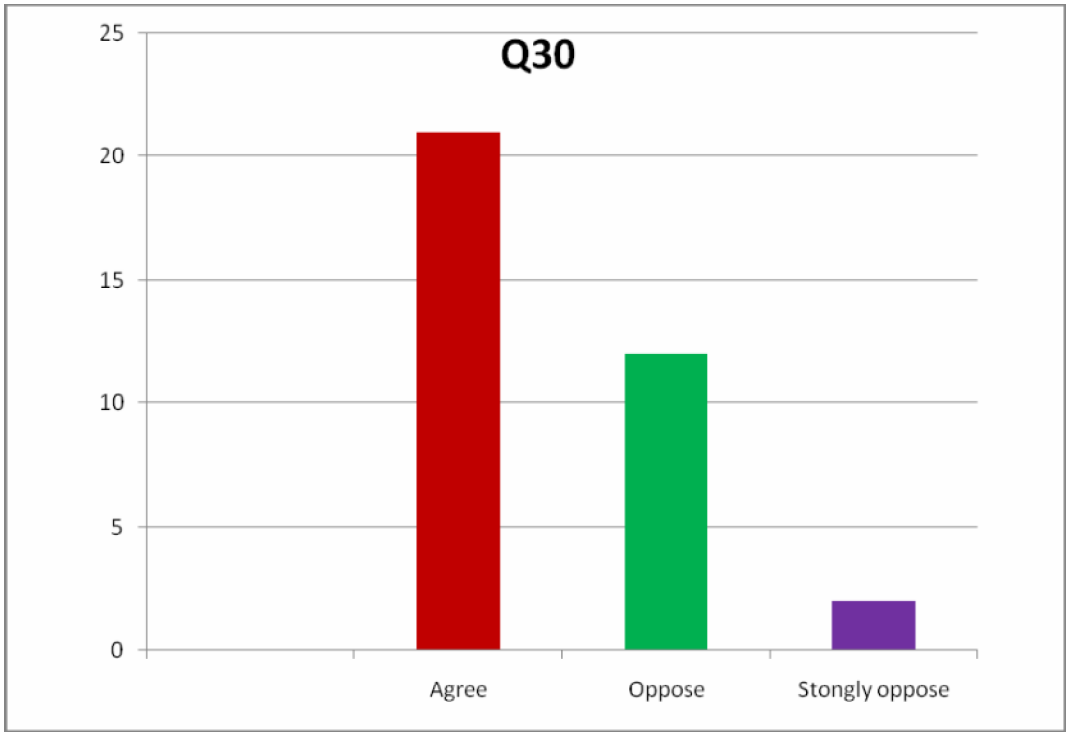
Agree
Oppose
Stongly oppose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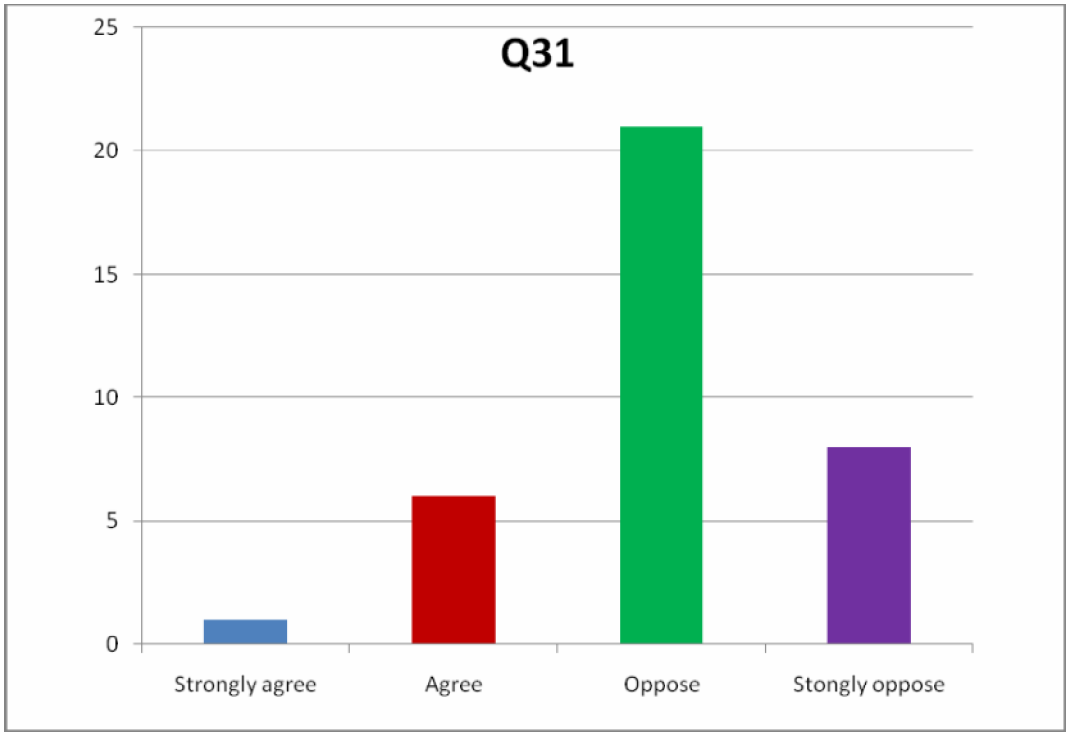
Oppose
Stongly oppose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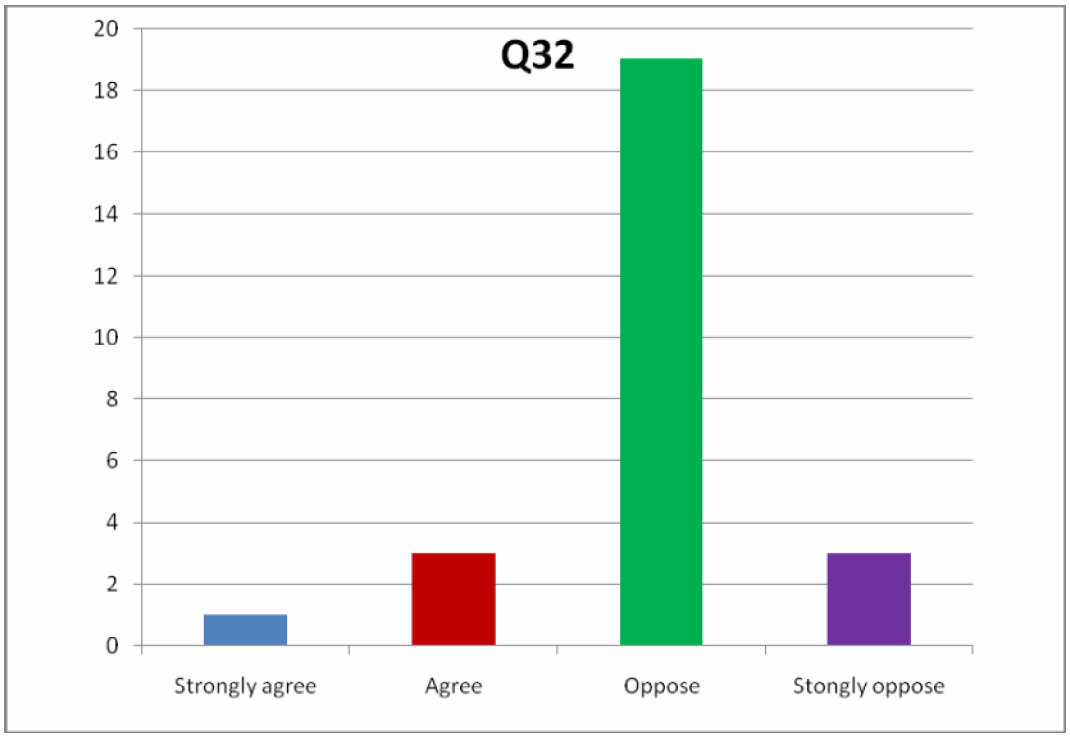
Strongly agree
Agree
Oppose
Stongly oppose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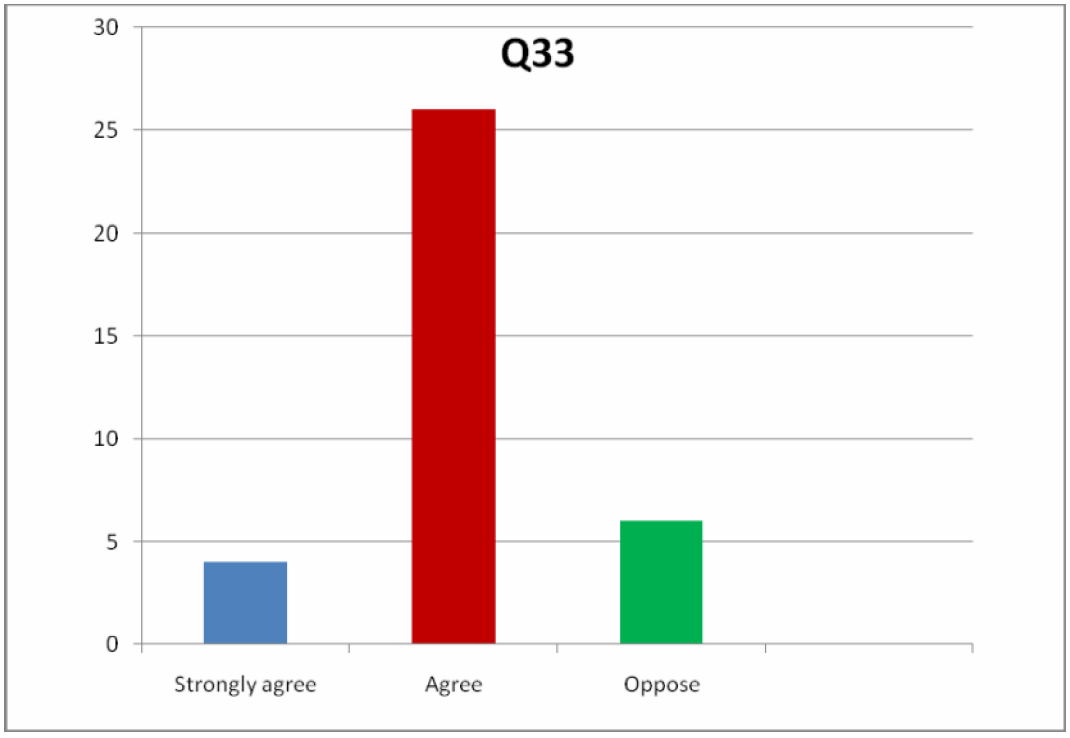
Strongly agree
Agree
Oppose
Stongly oppose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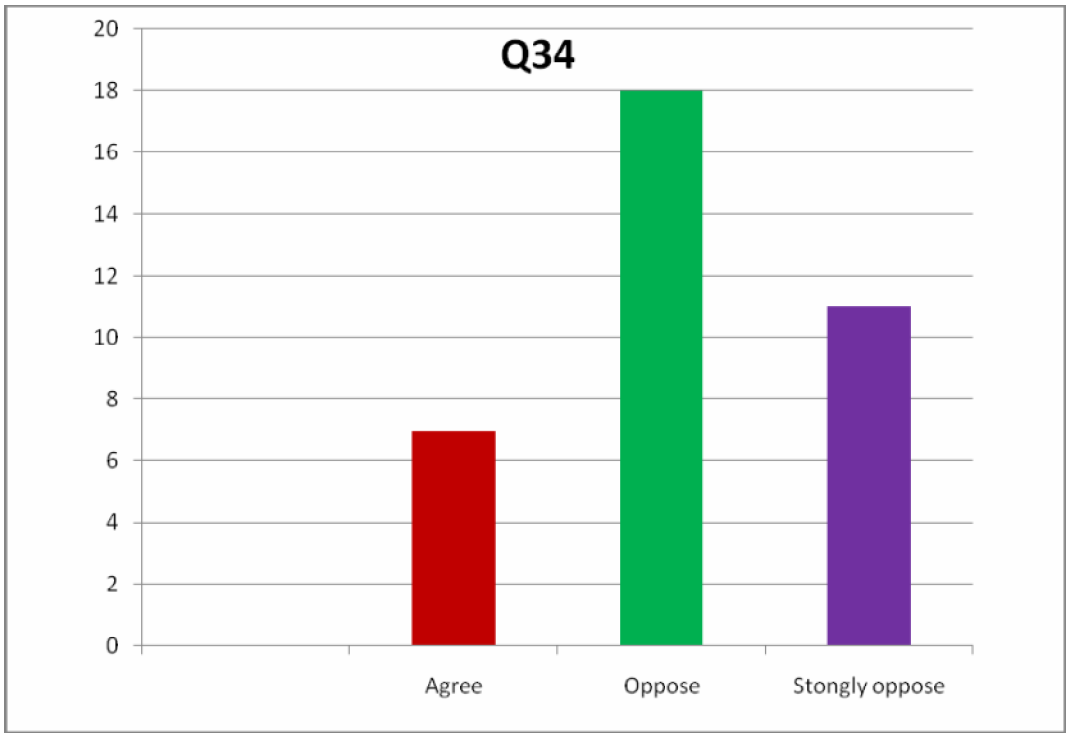
Strongly agree
Agree
Oppose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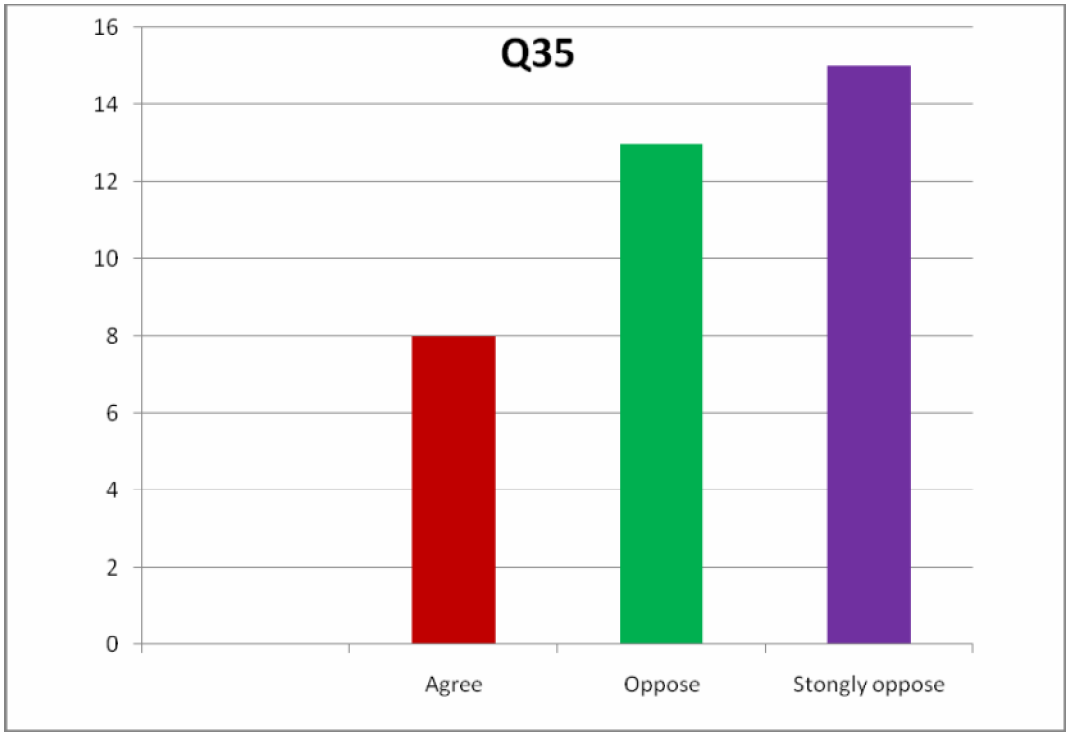
Agree
Oppose
Stongly oppose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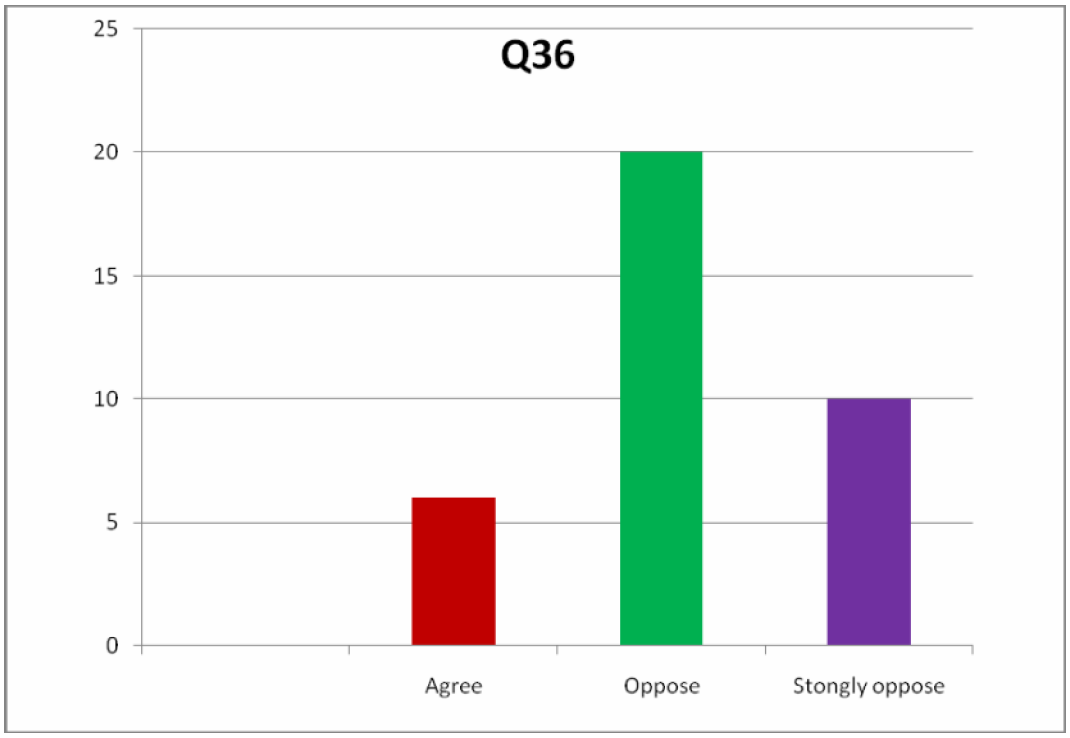
Agree
Oppose
Stongly oppose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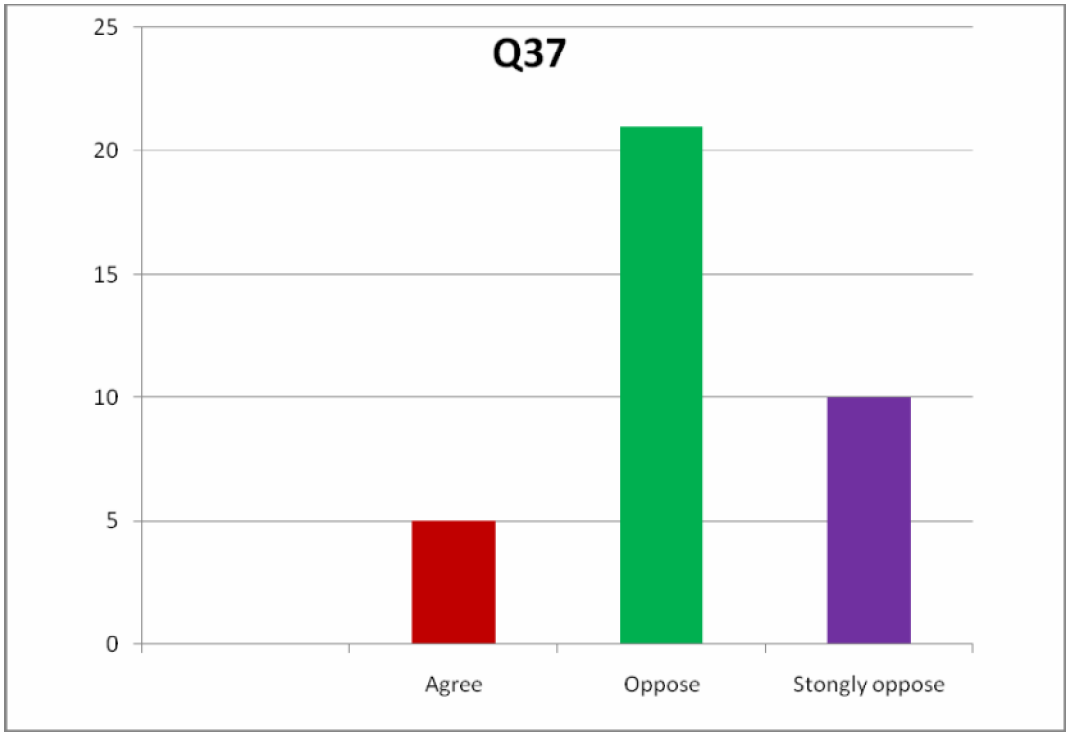
Agree
Oppose
Stongly oppose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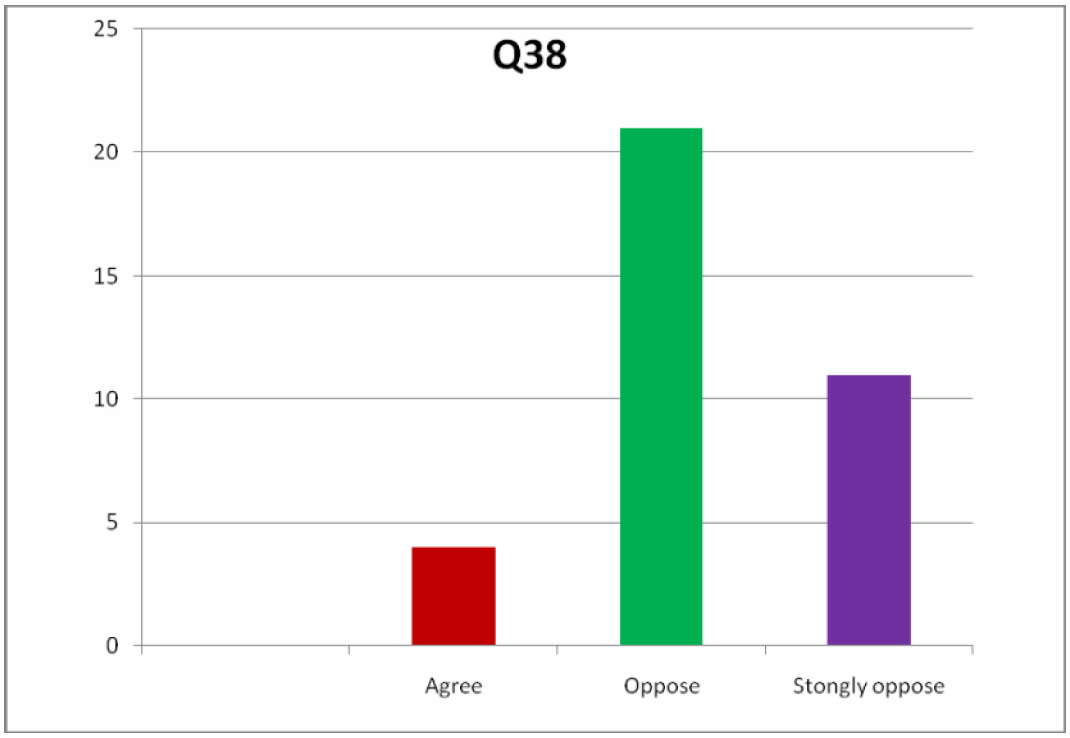
Agree
Oppose
Stongly oppose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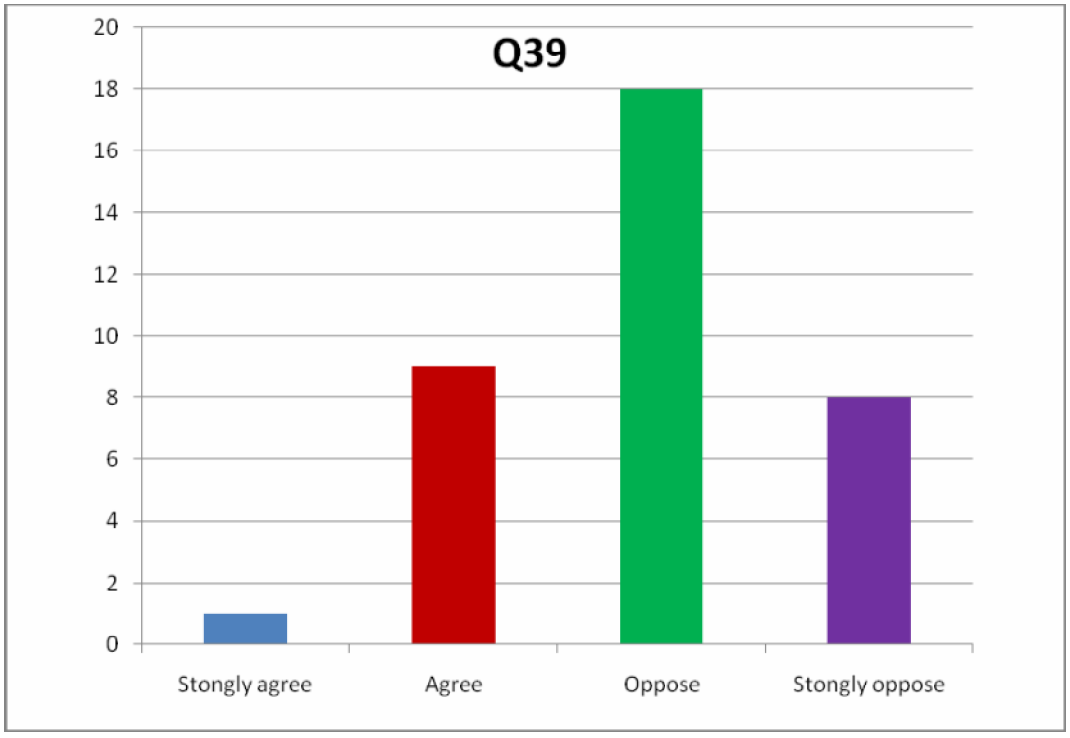
Oppose
Stongly oppose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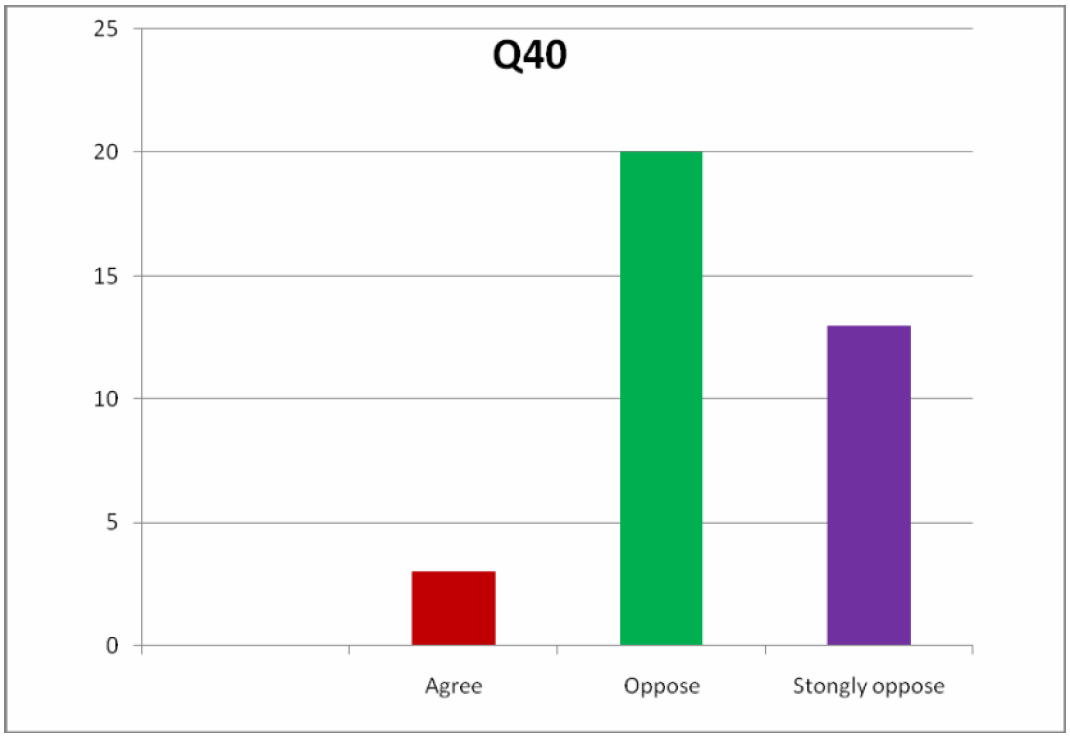
0
Stongly agree
Agree
Oppose
Stongly oppose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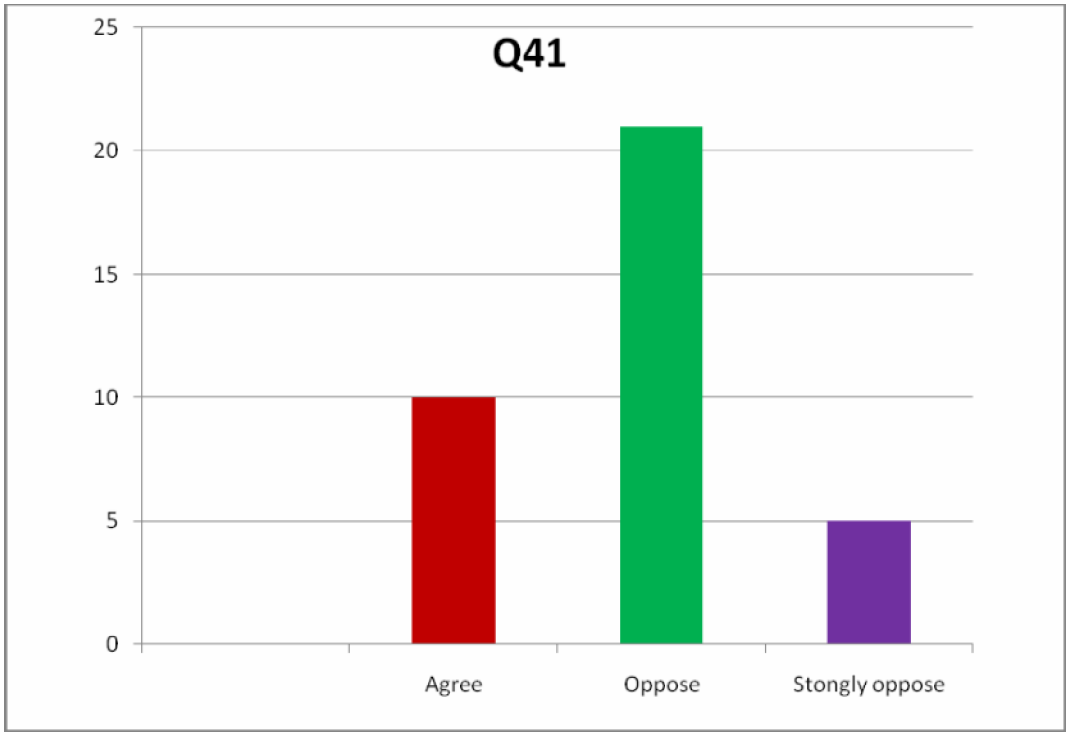
Agree
Oppose
Stongly oppose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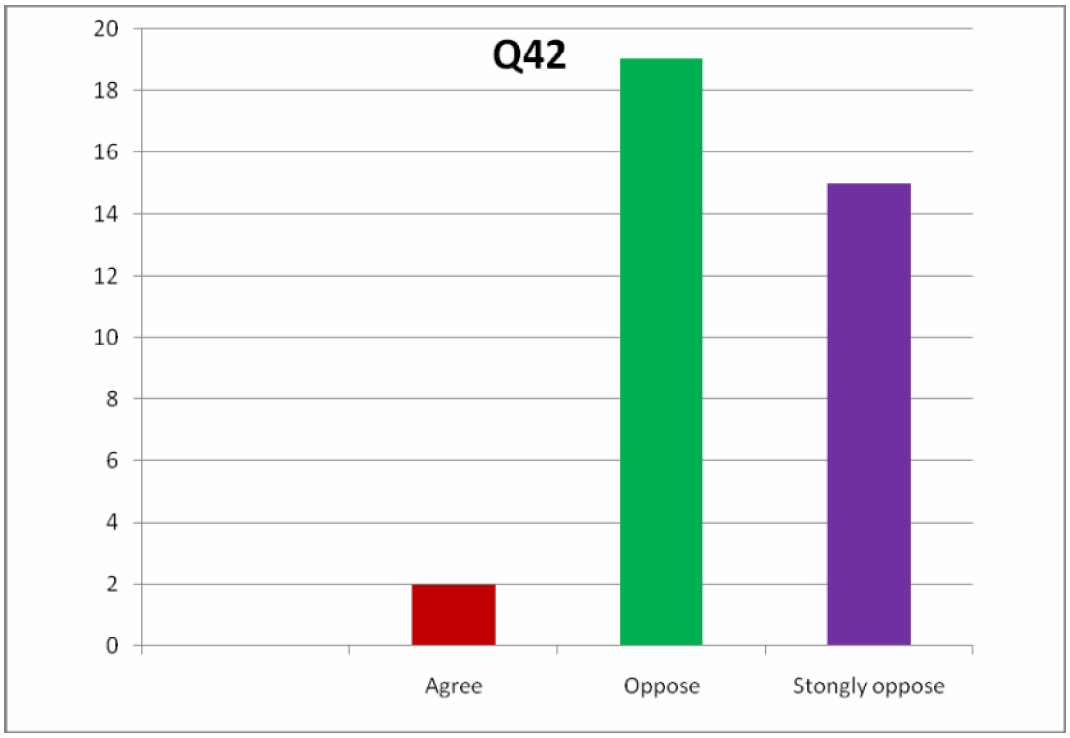
Agree
Oppose
Stongly oppose


Q42
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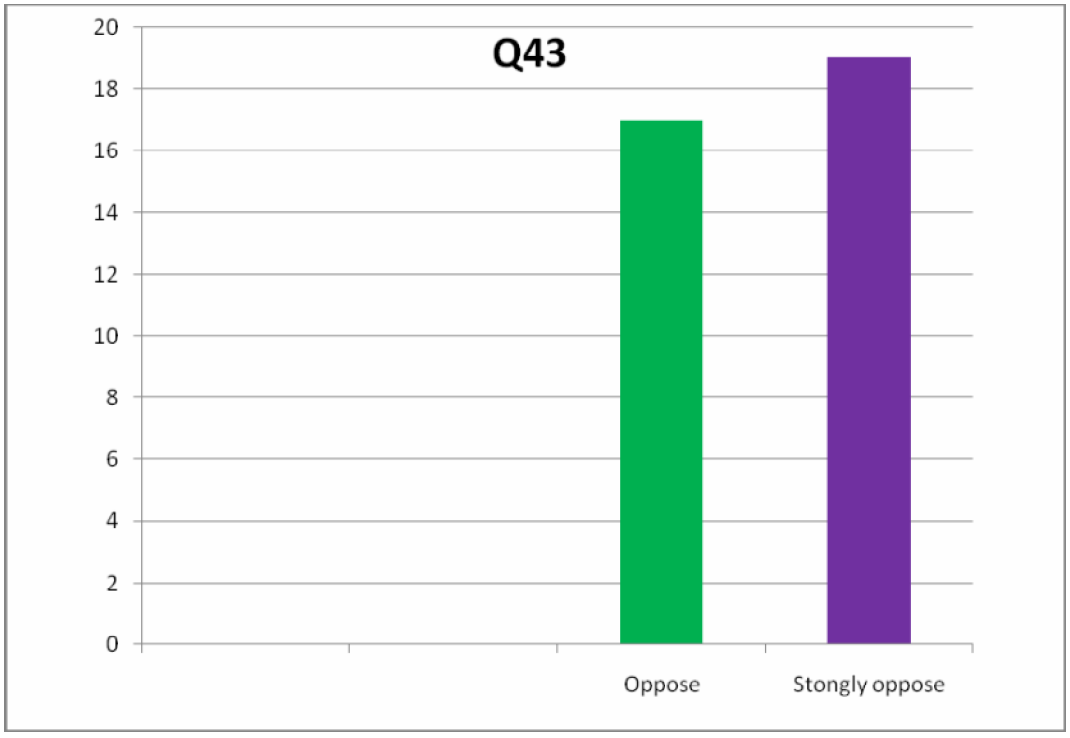
Agree
Oppose
Stongly oppose


Q43
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12
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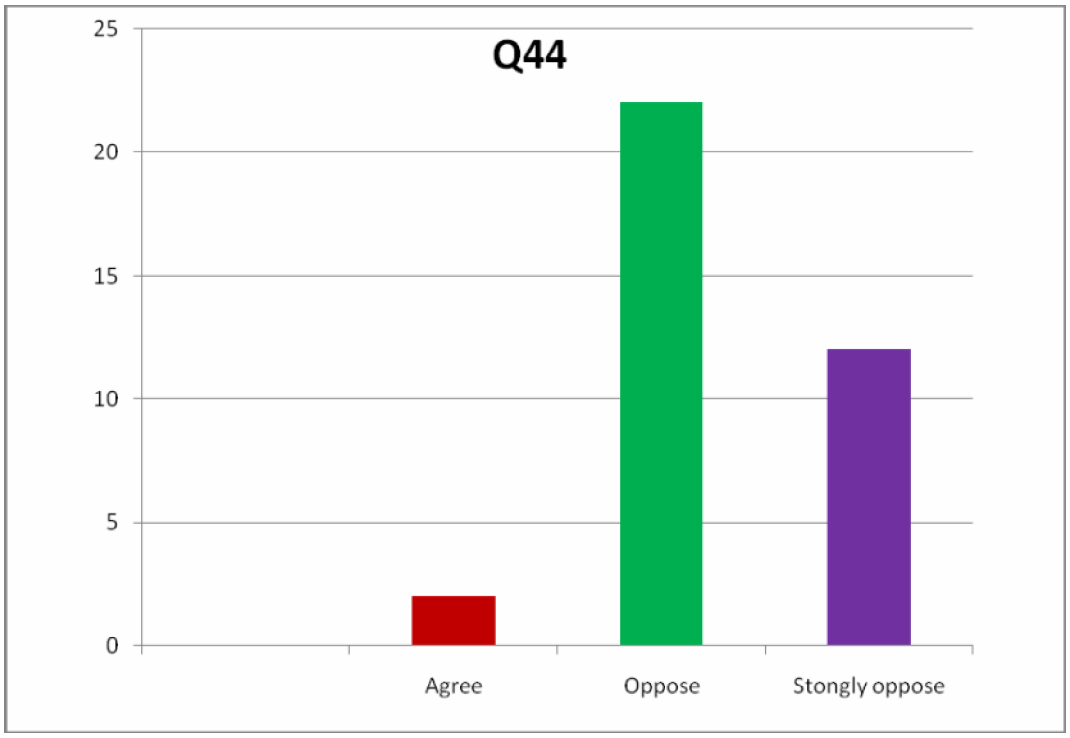
Oppose
Stongly oppose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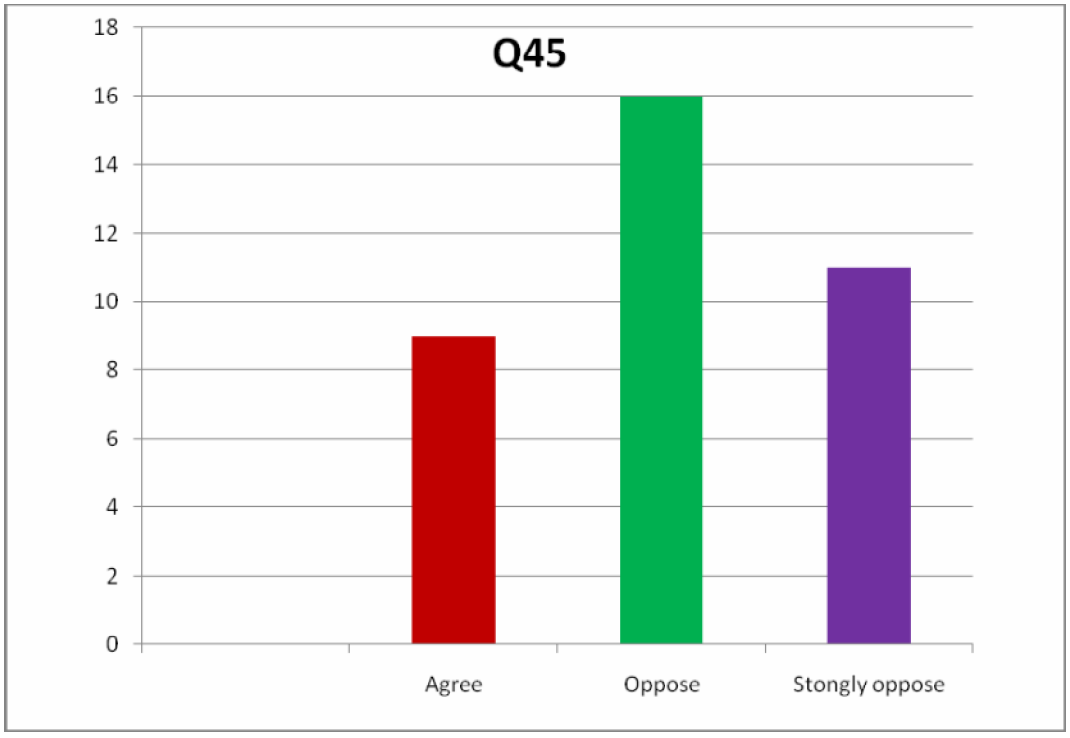
Agree
Oppose
Stongly oppose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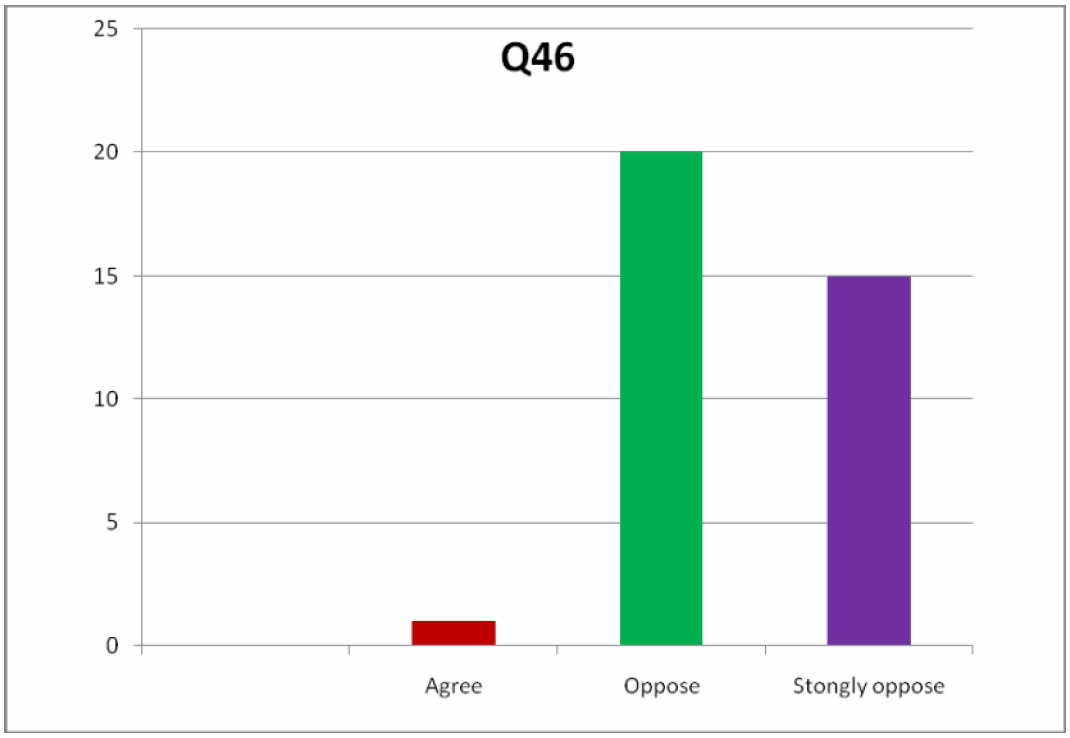
Agree
Oppose
Stongly oppose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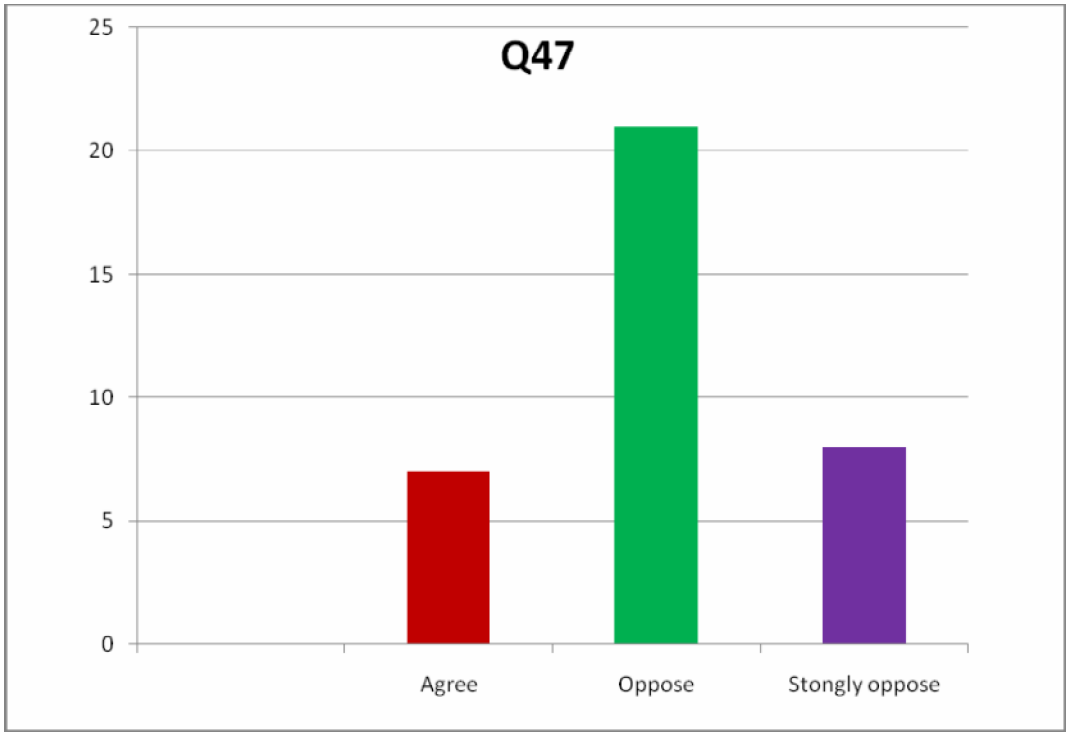
Agree
Oppose
Stongly oppose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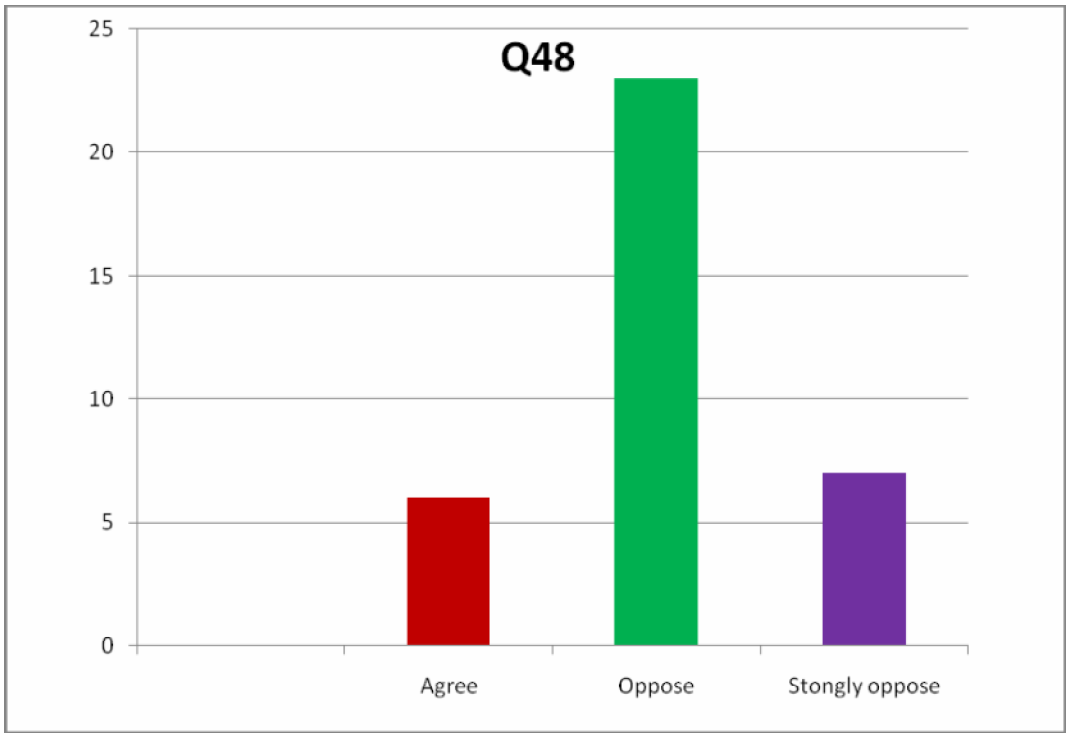
Agree
Oppose
Stongly oppose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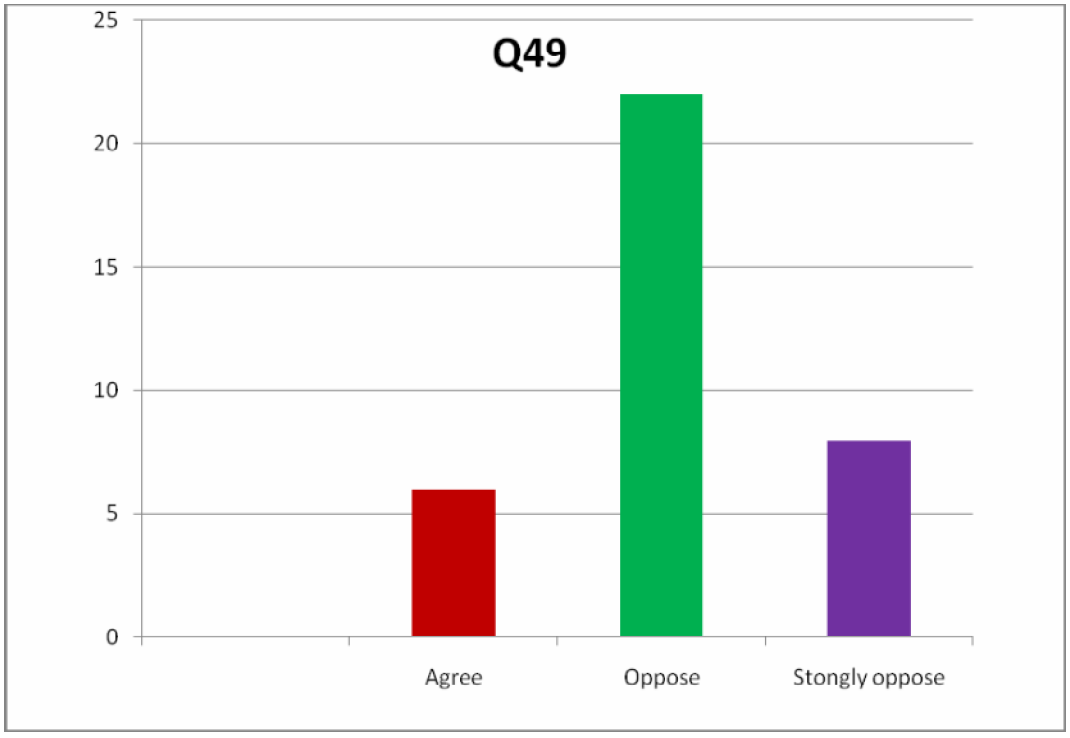
Agree
Oppose
Stongly oppose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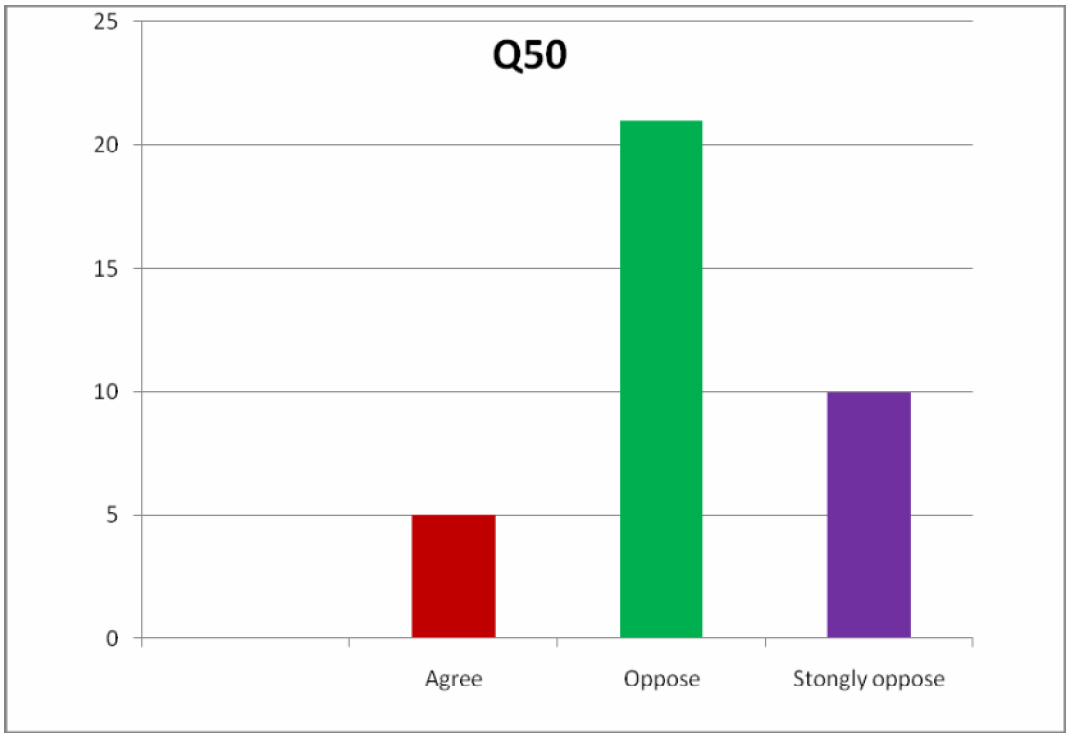
0
Agree
Oppose
Stongly oppose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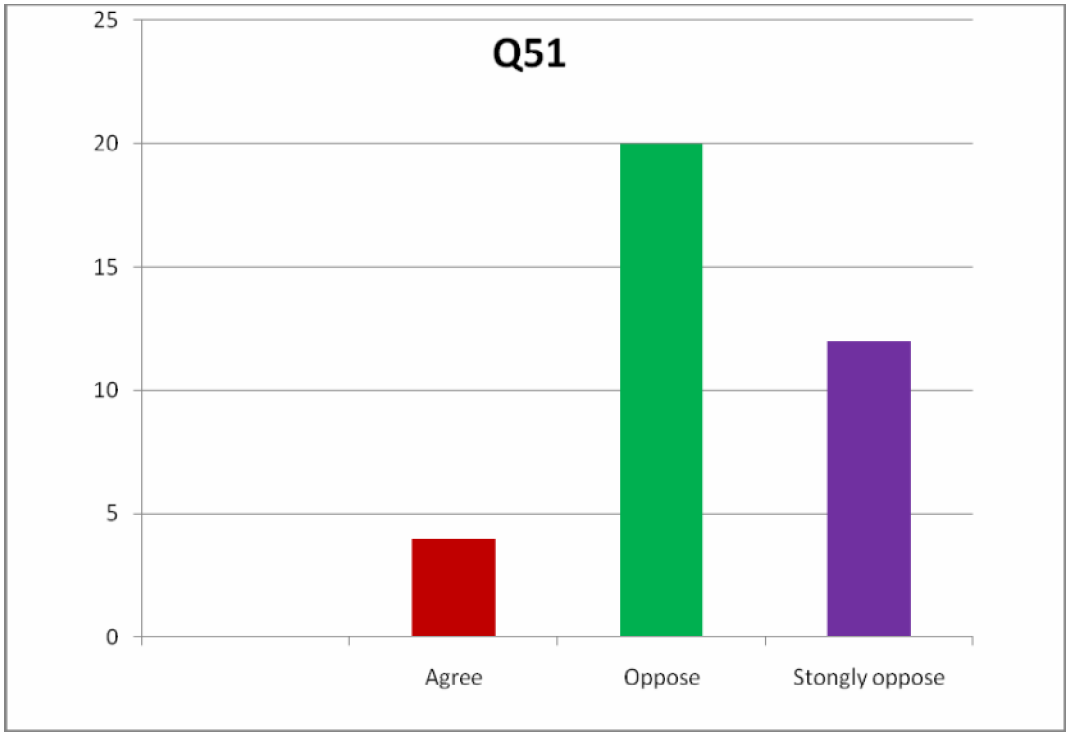
Agree
Oppose
Stongly oppose


Q51
25
20
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10
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Agree
Oppose
Stongly oppose

جامعة النجاح الوطنية
كلية الدراسات العليا

دراسة تحليلية في ممارسات وتطبيقات إدارة المشاريع في القطاع العام في الضفة الغربية"وزارة الأشغال العامة والإسكان"

إعداد
ساجدة راشد مصطفى جانم

إشراف
د.رياض عبد الكريم عوض

قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الماجستير في الإدارة الهندسية في كلية الدراسات العليا في جامعة النجاح الوطنية في نابلس، فلسطين.
2011م

دراسة تحليلية في ممارسات وتطبيقات إدارة المشاريع في القطاع العام في الضفة الغربية "وزارة الأشغال العامة والإسكان"

إعداد

ساجدة راشد مصطفى جانم

إشراف

د.رياض عبد الكريم عوض

الملخص

تهدف هذه الدراسة إلى تقييم ممارسات وتطبيقات إدارة المشاريع التي تتبعها الإدارات المختلفة في القطاع العام في فلسطين (الضفة الغربية) ، ولا سيما في وزارة الأشغال العامة والإسكان ، وكذلك تهدف إلى استكشاف تقنيات وأدوات فعالة في إدارة المشاريع ضمن القطاع العام ، بالإضافة إلى فهم العوامل الرئيسية التي تحول دون تحقيق أهداف المشروع.

وبغية تحقيق أهداف هذه الدراسة ، تم إجراء مسحا على أساس استبيان بين مدراء العامين والمدراء ورؤساء الأقسام ، ومديري المشاريع من مختلف الإدارات ذات الصلة في وزارة الأشغال العامة والإسكان.

أثبتت نتائج الدراسة ، أن هناك عدم كفاءة في ممارسات إدارة المشاريع في القطاع العام في فلسطين وبالمقارنة مع الممارسات العالمية الموصى بها. ويمكن تصنيف ممارسات إدارة المشاريع في وزارة الأشغال العامة والإسكان بأنها متوسطة مقارنة بالمعايير العالمية .

نقص التغذية الراجعة وعدم تعميم الدروس المستفادة من المشاريع السابقة تمثل أهم العوامل التي تؤدي إلى انخفاض مستوى نجاح المشروع، وعدم الاتصال الفعال بين فريق المشروع غير المناسب لطبيعة المشروع ، وغياب التخطيط المكثف، وعدم اعتماد منهجية واضحة كانت من أهم العوامل الرئيسية التي تؤدي إلى إعاقة تحقيق أهداف المشروع.

الكلمات الرئيسية : القطاع العام ، وزارة الأشغال العامة والإسكان ، وإدارة المشاريع.