

The role of creativity in Project Management success

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DECLARATION

I, Vanashree Padayachee, declare that this research article is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the Graduate School of Business Administration, University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Vanashree Padayachee

Signed at Johannesburg

On the 11th day of April 2021

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ABSTRACT

Creativity has always been valued throughout the centuries. This study investigates the role of creativity in project management success. Primary data collection was conducted through an online survey. Analysis was done through the Pearson's Correlation and One Way Anova. The results show that the output of the regression analysis indicates that Creativity is significant with a $p < 0.000$ and positive coefficient of 0.920 with standard error of 0.070 suggesting that Creativity has a stronger positive impact on Project Success. The findings should benefit project management specialists by highlighting the importance of creativity in teams in achieving project management success.

Keywords: Creativity; Project Management Success

1. Introduction

Driven by the emergence of the information economy, globalisation and considerable technological advancements there is an increasing trend of organisations using the project approach to remain competitive in the intensely evolving and complex market. Success of these projects depends largely on a number of factors (Anderson, Birchall, Jessen, & Money, 2006).

The Pyramids of Giza, the Great Wall of China, and the Colosseum are all excellent illustrations of the existence of successful PM throughout the course of history. While examples in ancient history speak to the evolution of PM over time, these remarkable projects and their methodologies were for various reasons not documented (Seymour & Sara, 2014).

The literature is not in agreement in terms of how and when modern PM started. Chiu (2011), in his book, *An introduction to the History of Project Management: From the Earliest Times to A.D.1900*, proclaims that the forefathers of PM are both Henri Foyal and Henry Gantt. Both these individuals made noteworthy contributions to the PM Field (Chiu, 2011). Other literature points towards the seminal work of early pioneers in the field, Pinto, Slevin and Prescott. In the late

1980's when projects were initially gaining attractiveness as a way to achieve organisational goals, their well-known articles were published which have been famous over the years due to the methodologies of their studies, which were expansive and systematic (Muller & Jugdev, 2012). PM success in this study will be based theoretically on modern PM.

Historically psychologists have long differed on a definition of creativity. Defining creativity can be traced back to the work of Max Wertheimer, a founder of Gestalt psychology, who in 1945 proposed that creative thinking arose as a result of the thinker comprehending the important features of a problem and their consequent association to a concluding explanation. Other definitions over the years have looked at defining creativity in terms of the person (Kurtzberg & Amabile, 2001), in addition there have been various definitions that have existed conceptually but have not been operationalised (Amabile, 1983). J. P. Guilford (1950) and E. Paul Torrance (1962, 1974) are both regarded as pioneers in the field of creativity (Sternberg, 2006). Since their seminal work on creativity, there has been numerous studies done on creativity but research into the role of creativity in PM success have been neglected in studies (Bouncken, Brem, & Kraus, 2016).

1.1 Delimitations, Assumptions and Limitations of the Research

The study will be conducted in the Republic of South Africa (RSA) using only a limited number of success criteria for measuring project success.

2. Literature review

The 21st century is characterised by hyper competition, firms are now more than ever rapidly strategizing on a frequent basis on how to satisfy customer needs. With reduced time frames to achieve project success, firms now need to look beyond line managers and leaders to execute project goals but are forced to rely on other factors such as team creativity to retain their competitive advantage. The competitive landscape has been revolutionised by the technological revolution, globalisation and an increase in innovation (Hitt, Keats, & DeMarie, 1998).

Understanding project success and the determinants of realising project success are essential for organisational sustainability and profitability. This literature review is informed by the new competitive landscape that organisations now operate in and is structured to provide a thorough review of the literature on PM success and team creativity (Hitt, Keats, & DeMarie, 1998).

2.1 Project Success and Team Creativity

The Project Management Institute (PMI) is a global professional membership association for project managers and define PM as “the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements”, (Anon, 2018).

Modern PM can be identified in history by four distinct periods:

- (1) **Prior to 1958:** Characterised by expansions in technology, vehicles permitted effective resource sharing and movement. Communication was also advanced due to Telecommunication systems. Principal PM Tools such as the Gantt chart and the Work Breakdown Structure (WBS) were created (Kwak, 2005).
- (2) **1958 – 1979:** This period saw the birth of major technological developments driven by innovation, Xerox presented the first automatic plain-paper copier, and Bell Laboratories established programming language UNIX, which propelled the computer industry. Bill Gates and Paul Allen founded Microsoft. It was an era that saw bursts of innovation and the beginning of numerous core PM tools including Programme Evaluation and Review Technique (PERT), the Critical Path Method (CPM), Material Requirement Planning (MRP) (Kwak, 2005).
- (3) **1980 – 1994:** During the 1950's-1970's, computer engineers were primarily responsible for the operation of PM systems, however during the mid-1980's there was an increase in PM software being made more accessible by numerous companies due to the innovation of the Personal Computer (PC) (Kwak, 2005).

(4) **1995 to present:** The internet was a catalyst for the change in many business practices in the mid 1990's. Since then the PM community implemented internet technology to increase efficiencies in the monitoring and running of many facets of projects (Kwak, 2005).

The history of PM clearly outlines the contribution of creativity to PM success over the years. The adoption and application of PM tools and methods in numerous organisations have also expanded exponentially in recent years as a result of three fundamental stimuli namely *complexity* (an increase in the degree of specialisation and complexity of tasks), *change* (an increase in globalisation has led to an increase in competition and thus an increased pressure on organisations to meet and exceed consumer needs) and *time* (with an increase in complexity and rapidly changing business objectives, there has been an increase in the demand for tasks to be completed in the quickest possible time (Murphy & Ledwith, 2007).

Defined as a series of linked activities with a well-defined set of desired end results, projects are temporary organizational forms with distinctive features that set them apart from permanent organizational forms (Dandage et al., 2018). In project management, high levels of risk are considered to be a major obstacle for project success. Projects are often unprotected and averse to risks, as such risk management becomes an essential part of project management. Dandage et al. (2018) explored various definitions of risk and defined risk as an unreliable event or condition that, if it occurs, has a positive or negative effect on the project objectives; as the presence of potential or actual threats or opportunities that have an influence on the objective of the project and since all project lifecycles involve a sequence of stages and activities, from beginning to completion, there is always a degree of risk associated with each stage. Risk can be managed but must be managed at every phase to improve project success rates. Since risk management is an iterative process throughout the lifecycle of a project, the information generated through project risk management can be applied within the project to identify, calculate, and control the risks for project success. Risk identification is a key stage of risk analysis can lead to the development of

implementation of risk management strategies which can be carried throughout the life of a project (Dandage et al, 2018).

Despite major differences that occur across projects there is an assumption in the literature that there is a universal theory of project management that can be useful to all types of projects. Various studies have suggested several classification frameworks for projects but none of these paradigms has become regular practice for classifying projects (Dvir, Lipovetsky, Shenhar, & Tishler, 1998).

Turner & Müller (2003) classify the nature of projects as temporary organisations by valuating projects in terms of:

- **The project as a production function** – This looks at defining projects as was done traditionally whereby projects were classified as production functions.
- **The project as a temporary organisation** – This occurs when human and non-human resources come together as a temporary organisation in order to realise an indicated purpose. Projects are then defined as temporary organisations.
- **The project as an agency for change** – This definition emphasises that projects deliver some sort of change and act as agents of change.
- **The project as an agency for resource utilization** - The role of the project in this definition is thought to act as a vehicle for assigning resources for achievement of the task.
- **The project as an agency for uncertainty management** – While the literature does not deal specifically with the project as an agent for uncertainty, this definition looks at the uncertainty of the process and or product (Turner & Müller, 2003).

(Gido & Clements, 2013), define a project as an attempt to complete a precise objective through an exclusive set of interconnected activities and the effective use of resources. Projects are further defined by several aspects such as:

- Having a clear *objective* established of what is to be accomplished which is typically defined in terms of an end product, deliverables, schedule and budgets.
- Tasks or mutually dependent activities that need to be completed in order to achieve the project objective.
- Countless resources are used to carry out the activities.
- A precise beginning and end time by which the project objective must be accomplished and, can also be a distinctive endeavour, has a sponsor or client and involves a grade of uncertainty (Gido & Clements, 2013).

Since the success of a project can be viewed from the viewpoint of the project itself (the means) or the end (what it was expected to accomplish) depending on the interests of the stakeholder, the determination of project success is greatly dependent upon the expectations and views of different stakeholders as well as when the assessments are made. The classical criterion of project management success: time; cost and/or quality is used in practice to measure the performance of a project against its key design parameters (Bannerman, 2008).

2.1.1 Project Success

There are various definitions of project success (Muller & Jugdev, 2012) but there is no fixed understanding of the term. Pereira, et al., 2022 found that two perspectives should be highlighted concerning the success of a project: One perspective is that all business objectives can be met, despite project management failing to comply with the project schedule, budget and quality. Furthermore another perspective is that project management can still be successful, in terms of scope, quality and budget, but fails to meet the client's expectations. As such success has several meanings depending on the perspective and the stakeholder. (Pereira, et al., 2022). Additionally there is no consistent definition of the term and the methodology for measuring project success is not still not standardised despite the growing body of literature on the subject. There are two key success concepts when talking about projects: project success and project management success. Project management success can be

measured with the traditional iron triangle but can also be evaluated through models of measuring success. Project management success factors which contribute the most to both successful projects and project management success include: Competencies of the project manager; soft project manager elements (e.g. emotional intelligence); organisational structure and culture; project management tools and techniques as well as project management standards (Radujković & Sjekavica, 2017). A distinction is also made between project success and project management success in an attempt to suitably evaluate success since both concepts concentrate on the successful execution of a project, but also reflect utterly different objectives and character. Moreover, it is generally accepted that project success comprises of two central components, namely project success criteria and project success factors. While project success criteria are the dependent variables that measure and evaluate the successful result of a project, project success factors are the independent elements of a project that may escalate the likelihood of success. (Lamprou & Vagiona 2018).

Between the 1960's and 1980's most project managers focused on the so-called iron triangle (cost, time and scope) and achieving it as a means of measuring project success. However (Chih & Zwikael, 2015) found that a project can still be a failure or unsuccessful even if the project's iron triangle is delivered. PM was developed in the 1990's in a narrow number of engineering founded industries (Cooke-Davies & Arzymanow, 2003) but has since grown to include various industries and stakeholders (Davis, 2014). Therefore currently project success is measured from a number of perspectives and can include such measures such as project efficiency, the realisation of business objectives or any number of other project success aspects (Badewi, 2015).

Conventionally PM success was focused on of the effective achievement of success criteria such as cost, time, quality objectives and the excellence of the project processes (Munns & Bjeirmi, 2006). However, Muller & Jugdev, (2012) suggest that project success is a multi-dimensional construct that is impacted through the exchanges of personal, project, team and organisational success. Pinto and Slevin's (1987) list of ten critical success factors (CSF's) was a pivotal

contribution to the meaning of PM success (Pinto & Prescott, 1987). The ten factors are:

1. **Project Mission** – This talks about where the goals of the project are distinct and understood by the project team
2. **Top Management Support** – In addition to the support from management (time, manpower, financial), this factor also refers to both the nature and amount of support the project manager can expect from top management.
3. **Project Schedule/Plans** – Time schedules, milestones, manpower, and equipment necessities are what is referred to as project plans/schedules.
4. **Client Consultation** – This factor includes anyone who will ultimately be utilizing the result of the project, as either a client external to the company or a division within the organisation.
5. **Personnel issues** – This covers recruitment, selection, and training/
6. **Technical Tasks** - Accessibility of the necessary technology and expertise to achieve the specific technical requirements
7. **Client Acceptance** – Being able to “sell” the final project to its final proposed users.
8. **Monitoring and Feedback** – On time provision of complete control information at each stage in the execution process.
9. **Communication** - The delivery of a suitable network and required data to all key players in the project application.
10. **Troubleshooting** - Ability to deal with unforeseen crises and deviations from plan (Pinto & Prescott, 1987).

More recently, (Anderson, Birchall, Jessen, & Money, 2006) proposed a framework that includes all aspects from the earlier literature that covers both hard and soft issues, this framework will form the basis of the definition of PM success factors.

In 2008, Bannerman, proposed a multilevel project success framework that provides practical utility for determining project success. The proposed Five Levels of Project Success allows success to be determined and also periodically re-determined as benefits accumulate from the project over time.

The generic criteria used in the framework is typically applicable to most projects from most disciplines. Level 1 - success criterion looks at Process Success and is described as discipline-specific technical and managerial processes, methods, tools, and techniques that are used to achieve the project objectives. Determination of success at this level reflects on the suitability of the processes used, their association with the project's purpose, and their incorporation and effectiveness in adding to the project outcomes. Level 2 - examines Project Management success as a criterion for success. The classic criterion of project success, determined upon completion against significant project design parameters such as the project schedule, budget as well as performance expectations such as completing all planned stages and activities. Level 3 – Product Success - considers the success of the main deliverables from the project. While this will vary with the project discipline and the specific project, it is also inclusive of measures relating to the deliverables as well as client user satisfaction. Level 4 – Business success – At this level, success is measured as the growth of positive net benefits to the organization from the project. Level 5 – Strategic success, looks at the organizational benefits from various external stakeholders as opposed to company insiders and at this level originates from net improvements in strategic gain (Bannerman, 2008).

The distinction between project management success and project success made when defining success is obvious in to diverging lines which relates success to performance mainly in terms of time, cost, and quality and the other line is in how different stakeholders perceive project success. Success factors enable the achievement of success, while success criteria are used to measure success. Moreover the discernment of project success can differ during the project life cycle. Hence, the criteria for measuring success varies during the different phases of a project's life cycle (Macheridis, 2022).

De Wit (1988) was the first one who suggested the distinction between project management success and project success. Since then the perception of the term success has changed significantly together with the complexity, uncertainty and demanding nature of projects. An examination of the literature on project management success reveals that due to a project's nature,

perception and objectives, critical factors change accordingly. As such success factors are usually expressed as general factors including the “iron triangle” or very precise factors relevant only to a specific project or organization (Abylova & Salykova, 2019).

2.1.2 Creativity

The notion of creativity spans a host of domains from science to literature and elsewhere and has a multitude of definitions (Kurtzberg & Amabile, 2001). In the seminal work of (Amabile, 1983) on creativity, the author suggested that creativity be viewed collectively as a process rather than merely focusing on the personality traits of creative individuals. Creativity has been viewed as an ability to discover new problems; as motivation; and it has also been described as novel and useful. There is a general agreement over the course of the literary debates that creativity involves the production of novel and useful ideas and products. Usefulness refers to the suitability of an idea in solving the considered problem while novelty refers to the production of something new and the originality. There are two sets of processes that are involved in creative work: (a) activities that lead to idea generation (ideation) and (b) activities that are required to implement those ideas (implementation). Identification of an unresolved problem (conceptualization) needs creativity and could be considered a creative task in itself (Walia, 2019). Walia, in 2019, identified four main elements of creativity: Element One: Creativity is an act – referring to creativity as a human act giving rise to something new, the creation might be a physical object or even a mental construct. Element Two: Creativity is a production and not a reproduction – This refers to the human mind's ability to generate new images, the interplay between past experience and knowledge (reproduction), and imagination are needed to create. When new experiences interact with prevailing knowledge and experiences, productive activity ensues to create new images for the future. Element Three: Creativity acknowledges a disequilibrium- The process of creation encompasses constant alternation between equilibrium and disequilibrium and the acknowledgement of a certain disequilibrium would subsequently lead to a need to be creative. Element Four: Creativity is about sensitivity in perceiving a problem- sensitivity interacts with

positive experiences in the environment to encourage positive outcomes, such as creativity, hence providing a cognitive basis for the role of sensitivity in creative cognition by means of the mechanisms of automatic attention. For the purposes of this study, creativity will be looked at in terms of teams or at a group-level.

Creativity as a skill has been well researched by creativity researchers as a personality dimension. Measures of creative performance on an individual level include domains such as extensive interests, a desirability for complexity, instinct, aesthetic sensitivity, an open-mindedness for ambiguity, and self-confidence. The literature is not clear in terms of what a group's creative potential would be however group potential cannot be independent of individual skills. Research shows that there are both possible benefits and potential detriments to creative work on the team level. The positives are that there are an increase in novel ideas from teams based on members of the team, a higher level of combined skills and ideas from one member could inspire the rest of the team. However, during group brainstorming disadvantages such as social loafing, production blocking, and evaluation anxiety occur (Kurtzberg & Amabile, 2001). Another enhancer of team creativity is prior experience, however research shows that direct experience as opposed to learning vicariously is more beneficial for team creativity (Gino, Argote, Miron-Spektor, & Todorova, 2010).

H1: To investigate if creativity is a determinant of project success

3. Research Methodology

The research will adopt a quantitative approach. This method is suitable because the study is looking to deduce/test specific hypotheses. The study sought to study an evident variety of project teams.

The role of creativity in PM success was measured using an online survey. This type of methodological approach was appropriate because online surveys are cost effective and have gained popularity in recent years as opposed to print

based options or other qualitative options. In addition an online survey also allowed for access to a wider research population. An online survey was also less time consuming for participants and the researcher (myself). Project teams across broad industries were surveyed. Approximately 200 research participants will be surveyed.

Data was collected and analysed using correlation, regression and structural equation modelling.

Limitations

- Changes in the sample population could not be observed overtime
- There are various determinants of project success, the study looked at a select few only
- Only a select sample was chosen within the RSA and the study was not done on an international level nor did it cover the entire geographical area of SA

Validation Criteria – Validity and Reliability

Validity was tested using various overall models. Reliability was tested by using formal relationship techniques however it was tested using test retest reliability from previous scales as well. Joppe (2000) defines reliability as “...The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable. (p. 1)” (Golafshani, 2003).

3.1 Ethics

Ethical clearance was sort from WBS before any data collection was done. Informed consent was sort by all participants in the study, in addition the privacy of all participants was be maintained. Neither the participants nor the researcher was exposed to any potential physical, psychological or social risks or harm. No data was collected regarding participants' gender, race, or ethnic group, age range, income, handicap, illness or any similar classification. Participants were

not incentivised to participate. Figure two below categorises, defines and highlights the probability of unintended consequences and also outlines the researcher's obligations. This was the method used to mitigate the issue of unintended consequences (Stacey & Stacey, 2012).

Categorisation	Definition	Probability	Researchers' obligations
Unaddressed	Consequences are known to the researchers but are not examined because of the predefined scope.	High	Public disclosure and engagement with stakeholders to achieve consensus on research scope and objectives.
Unintended	Consequences are known to the researchers, but with low enough probabilities that associated risks can be ignored.	Low	Include in the scope of the research measures to avoid negative consequences, despite the very low probability.
Unexpected	Consequences are known to the researchers, but with no anticipated risk because of zero probability of occurrence.	Zero	Disclosure and consultation within the professional and academic community to corroborate zero probability of occurrence.
Unforeseen	Consequences are unknown to the researchers, but could reasonably have been foreseen if researchers had applied their minds.	Unknown	Apply their minds to possible negative consequences, and their associated probabilities and impacts.
Unforeseeable	Consequences could not have been reasonably identified by researchers.	Undefined	Remain open-minded to possible negative consequences, and seek input on these, no matter which stakeholder(s) recognise(s) the risks.

* Stacey & Stacey (2012)

Figure 1

4. Presentation of Results

4.1 Introduction

This section presents the results and interpretations of the findings of the study with regards to the overall aim of the study which was to investigate the role of creativity on project management success. The purpose of the study was to understand the determinants of project management success. The section begins by presenting the descriptive statistics of the variables used in the study using the mean score and standard deviation. This is followed by an analysis on the quantitative measures regarding creativity. The subsequent section of the chapter looks specifically at the correlations successful team performance which can be achieved when members of a project share knowledge with other team

members encouraged by the difficulties they face in projects which leads to project success and regression analysis between creativity and project success.

4.2 Descriptive statistics on mean score and standard deviations

The descriptive statistics for each table are based on all the cases with valid data in the specified range(s) for all questions in each table. The five-point Likert scale used in this research generates a mean score of 3 using these ranks Strongly Disagree: 1 ; Disagree:2; Not Sure:3; Agree:4 and Strongly agree:5. The mean scores above 3 are regarded as positive and any score below 3 are regarded as negative. Table 4.1 displays the mean scores pertaining to the questions related to research questions defined for this research in investigating the role of creativity in project management (PM) success.

Descriptive Statistics			
	N	Mean	Std. Deviation
The project was completed according to the specification	103	4.17	1.124
The supplier was satisfied	103	4.05	1.132
The project met the clients requirements	103	4.07	1.012
The project was finished on time	103	4.19	.852
The project was finished within budget	103	4.33	.912

The project motivated for future projects	102	3.73	1.170
The project met planned quality standards	103	3.98	.874
I feel that I am good at generating novel ideas	101	3.86	.825
I have confidence in my ability to solve problems creatively	103	4.15	.974
I have a knack for further developing the ideas of others	103	3.85	.797
I am good at finding creative ways to solve problems	100	4.16	.907
I have the talent and skills to do well in my work	102	4.29	.739
I feel comfortable trying out new ideas	100	4.13	.747
I have opportunities to use my creative skills and abilities at work	102	3.98	.901
I am invited to submit ideas for	101	3.93	1.042

improvements in the workplace			
I have the freedom to decide how my job tasks get done	103	3.66	1.090
My creative abilities are used to my full potential at work	103	3.83	1.079

Table 4.1: Descriptive Statistics with mean score and standard deviations

Table 4.1 shows that all variables measuring the project success have a mean high score which is above 3 and participants strongly agree that the project was finished within the budget (mean=4.33 and sd=0.912) and 'The project was finished on time' (mean=4.19 and sd=0.52). We also report the mean score of 'The project was completed according to the specification' which is (mean=4.17 and sd=1.124). Lipovetsky, et al (1997) who analysed defence projects, concluded that the success dimensions meeting design goals and benefit to the customer are the most important ones to all stakeholders in the projects. The variables measuring creativity had a mean score of above 3 participants also agree that they have talent and skills to do their work (mean =4.29 and sd=0.739), they have freedom to decide how job tasks get done (mean=3.83 and sd=1.079) and feel comfortable trying out new ideas (mean=4.13 and sd=0.747).

4.3: Variables measuring Creativity and Project Success

This section looks at the participants' response for measuring project success.

4.3.1: The project was completed according to the specification

In figure 4.1, at least 87% of the respondents agree that the project was completed to the specification given by the client at least 14 % disagree. Higher response in support of this statement could be attributed to the fact that clients

make specific requirements which are then followed by the project management team.

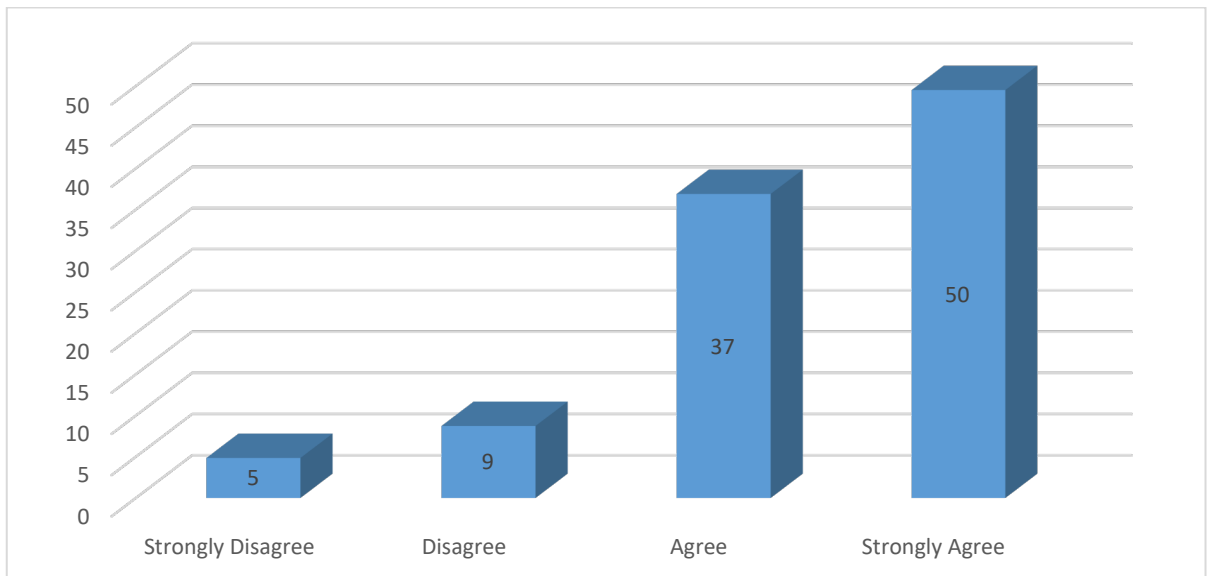


Fig 4.1: The project was completed according to the specification

4.3.2: The project met the client's requirements

Figure 4.2 portrays the view of respondents on whether the project met client's requirements. A convincing 86% of the respondents agree that the projects often meet client's requirements. However at least 13% of the participants disagree with the statement.

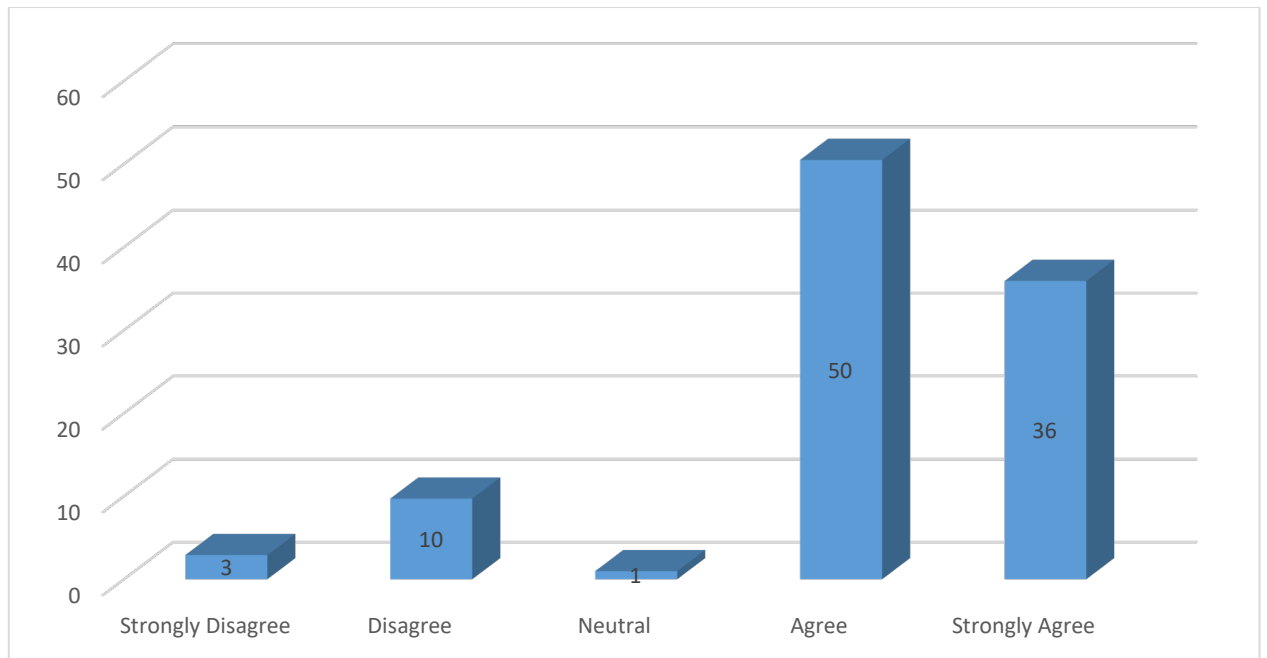


Fig 4.2: The project met the client's requirements

4.3.3: The supplier was satisfied

Figure 4.3 reveals that 48% respondents agree to the statement that the supplier was satisfied whilst 39 % strongly agree. At least 24% disagree and this could be the same individuals who had indicated that the project did not met the client's requirements and was not completed according to the specification. Shenhar et al (1997) note of the three traditional dimensions of project efficiency: time, budget and scope, scope has the largest role, as it also has an impact on the customer and their satisfaction. There are other examples where the initial project objectives were met, but the client was quite unhappy with the results." Thomas et al (2008 :p106).

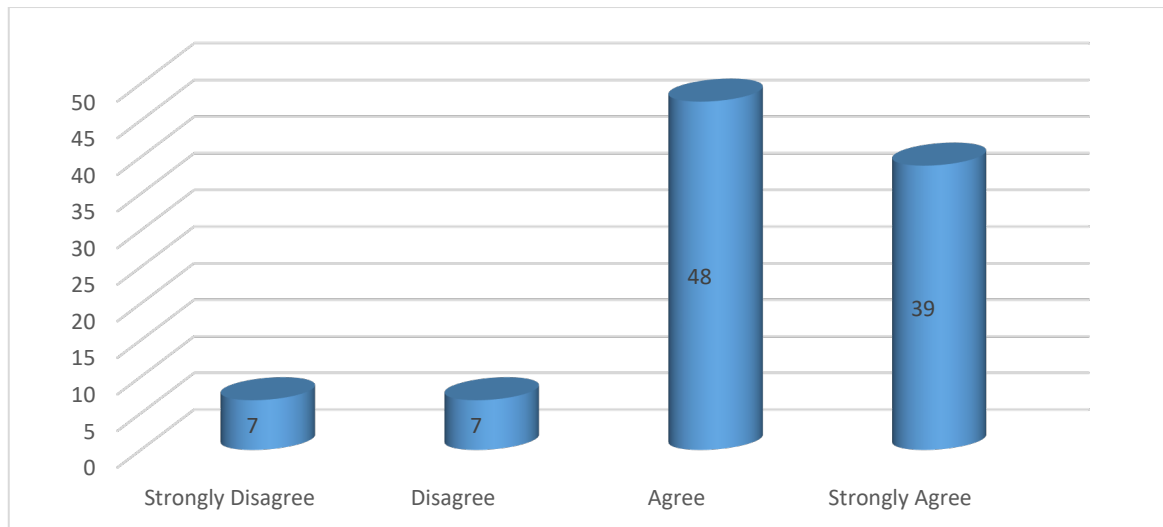


Fig 4.3: The supplier was satisfied

4.3.4: The project was finished on time

Figure 4.4 depicts the opinions of the respondents regarding the fact that the project was finished on time. A majority of 52 % agree and 38% strongly agree to the statement in comparison to 8% who disagreed. Successful project execution includes completion on time, within budget, meeting quality requirements, meeting design requirements, and meeting stakeholders' satisfaction (Chou & Yang, 2012). Cooke-Davies (2002) differentiates between project management success, where the project is well managed to finish the desired scope within time and cost, and project success, where the project achieves its business objectives. Late completion of a project has a negative influence on how the customer perceives performance levels and on how the customer rates management during the project (Williams et al., 2015).

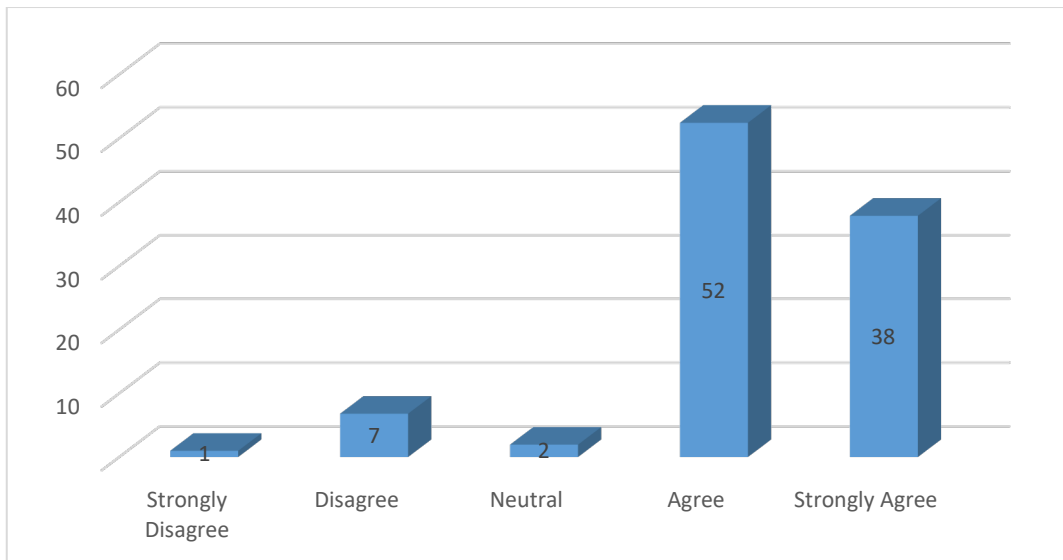


Fig 4.4: The project was finished on time

4.3.5: The project was finished within budget

Figure 4.5 illustrates that 90% of respondents strongly agree and agree that the project was finished within budget in comparison to 9% who disagree with the statement.

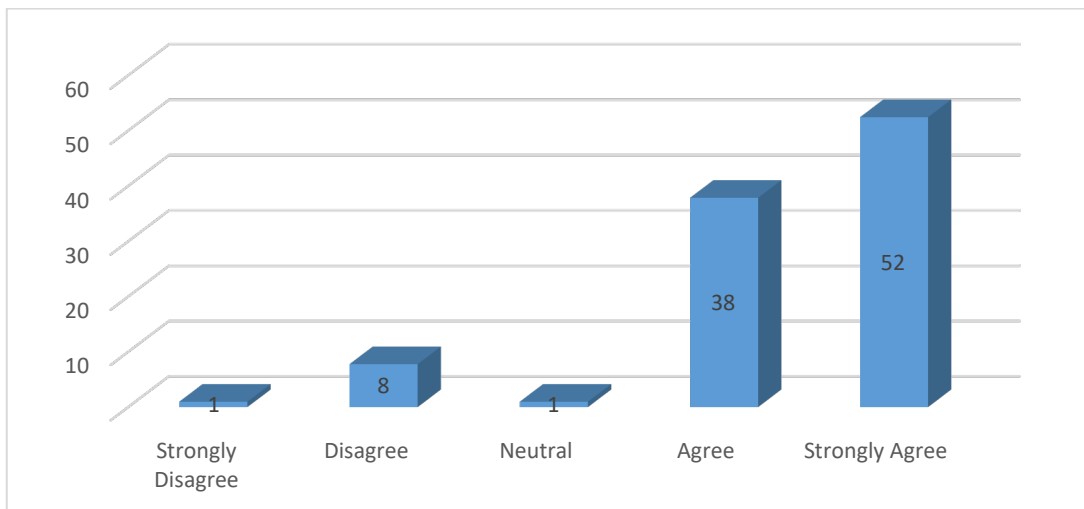


Fig 4.5: The project was finished within budget

4.3.6: I feel that I am good at generating novel ideas

This question deals with the fact whether the respondent feel good at generating novel ideas. Figure 4.6 indicates that 68% of the respondents agree with this statement whilst 13 % disagree and 3% are neutral. According to Andriopoulos (2001), theories on creativity started by considering it exclusively as an individual, personal characteristic, but, as decades passed, more aspects of it emerged, now adding team creativity and organizational creativity to the spectrum of research (Andriopoulos, 2011). In another research Carmeli, Palmon & Ziv (2010) highlighted that competitive advantages of organizations depend on creative team members who gives novel ideas for the projects, when project manager share information with employees they become more creative and come up with more innovative ideas and solve problems.

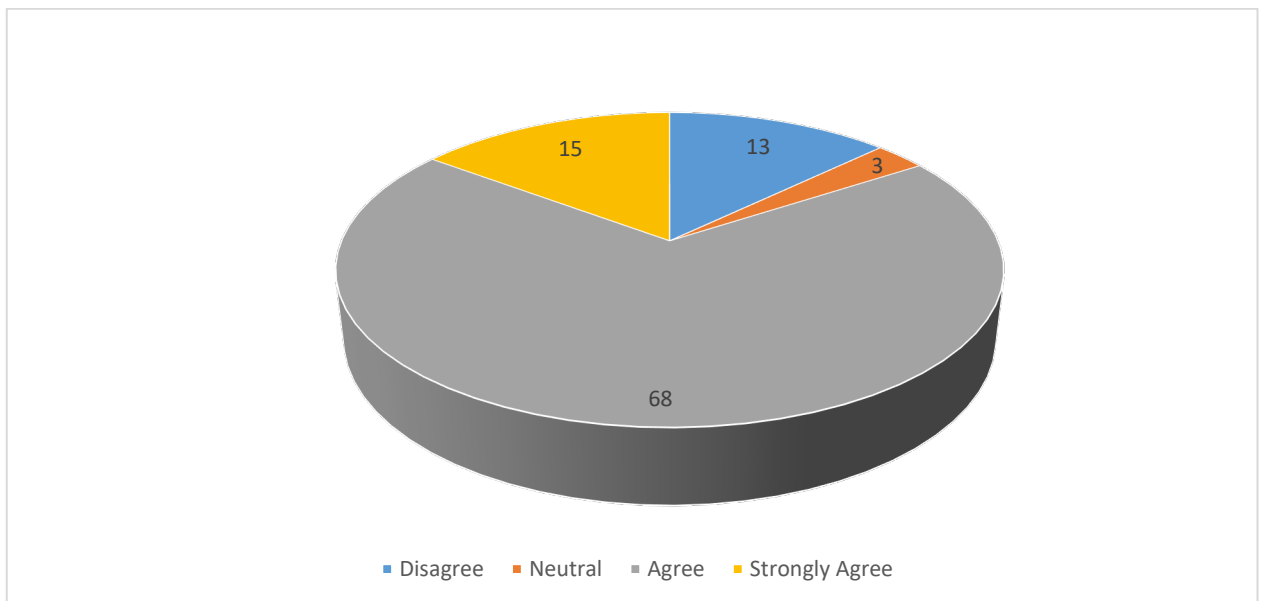


Fig 4.6: I feel that I am good at generating novel ideas

4.3.7: I have confidence in my ability to solve problems creatively

Figure 4.7 reveals that 88% respondents have confidence in their ability to solve problems creatively while 7% disagree and 3% strongly disagree.

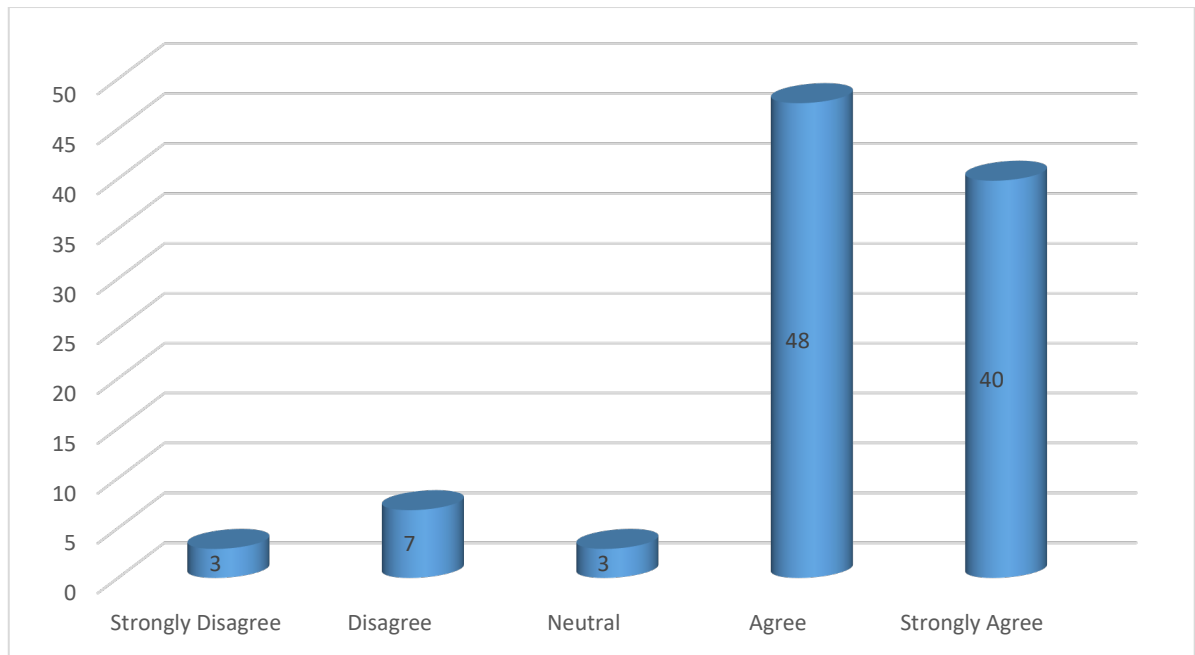


Fig 4.7: I have confidence in my ability to solve problems creatively

4.3.8: I have the talent and skills to do well in my work

Figure 4.8 depicts the views of the respondents on the issue of talent and skills to do well in their work when working a project. More than two-thirds (92%) of the police participants believe they have the talent to do well in their work as compared to the 7% which disagree. Carvalho et al. (2015) noted that implementing a project successfully necessitates more effort put into the soft side and combining both soft and hard skills to deal with the various stakeholders within the organization. The project team's capability, knowledge, and skill can contribute to the project success in the construction industry, while other studies have stated that problem-solving, commitment, teamwork, and decision-making are critical Chen ET al.2012.

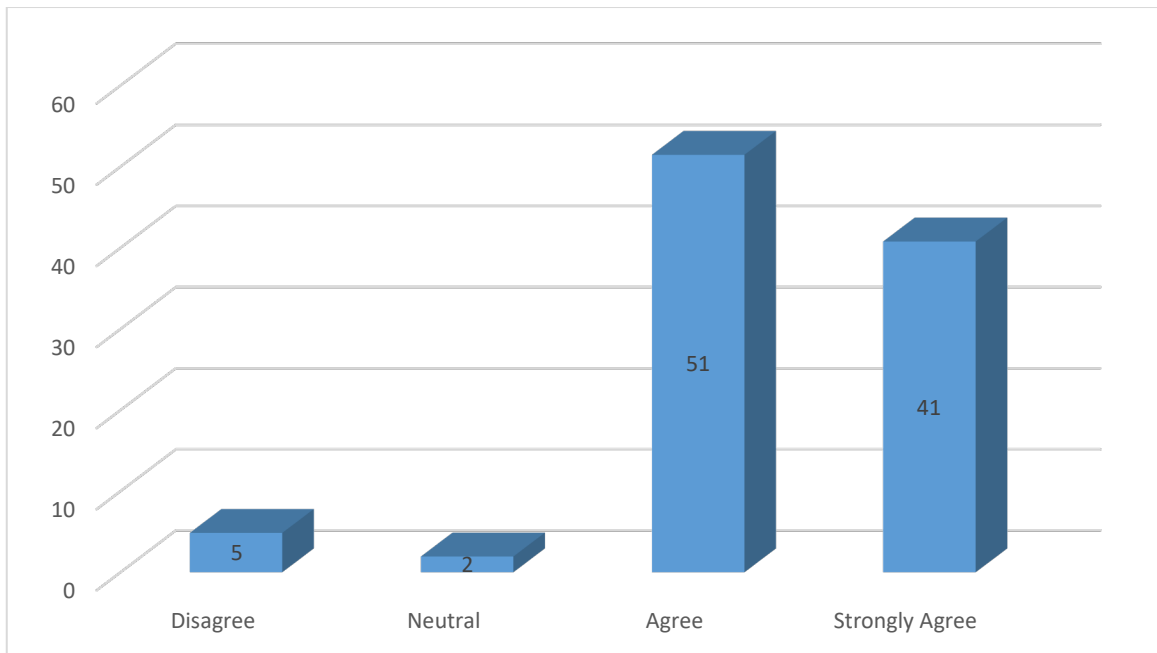


Fig 4.8: I have the talent and skills to do well in my work

4.3.9: I have the freedom to decide how my job tasks get done

Figure 4.9 shows that at least 70% of the respondents agree that they freedom to decide how the job tasks get done, and only 18 % disagree to this statement

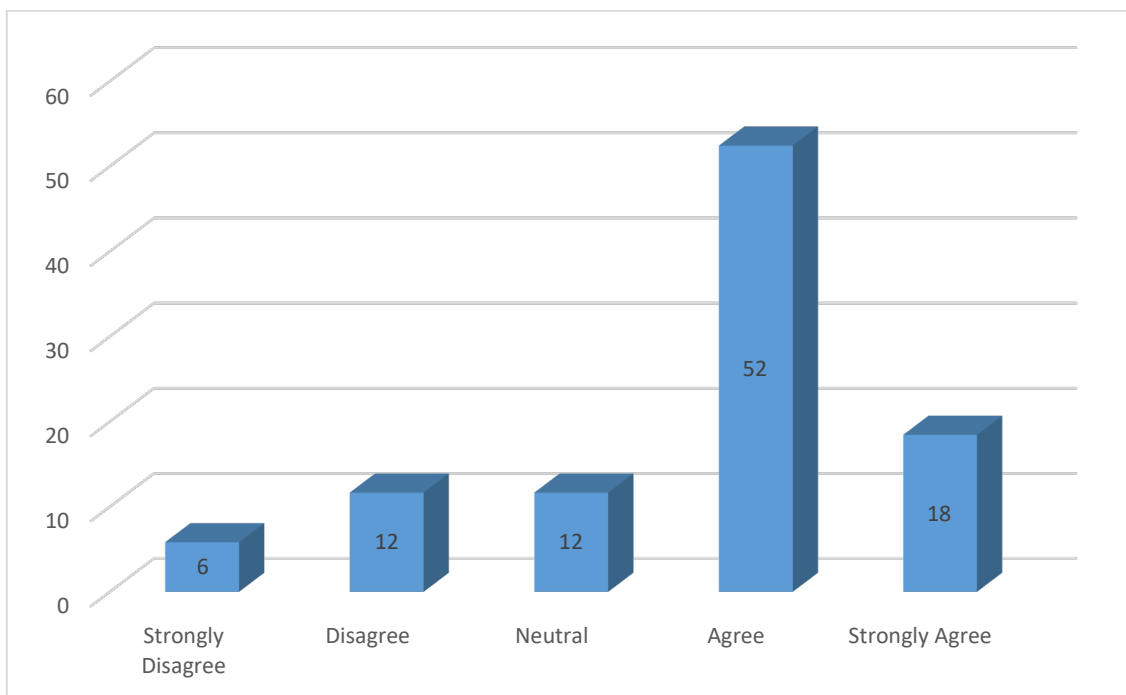


Fig 4.9: I have the freedom to decide how my job tasks get done

4.3.10: My creative abilities are used to my full potential at work

Figure 4.10 demonstrates that 86% respondents agree that their creative abilities are being used to their full potential at work, while 18% disagree and 7% are neutral. Creativity can be a positive force in organizations that allows them to progress in the ever-changing marketplace (Woodman, Sawyer, & Griffin, 1993)

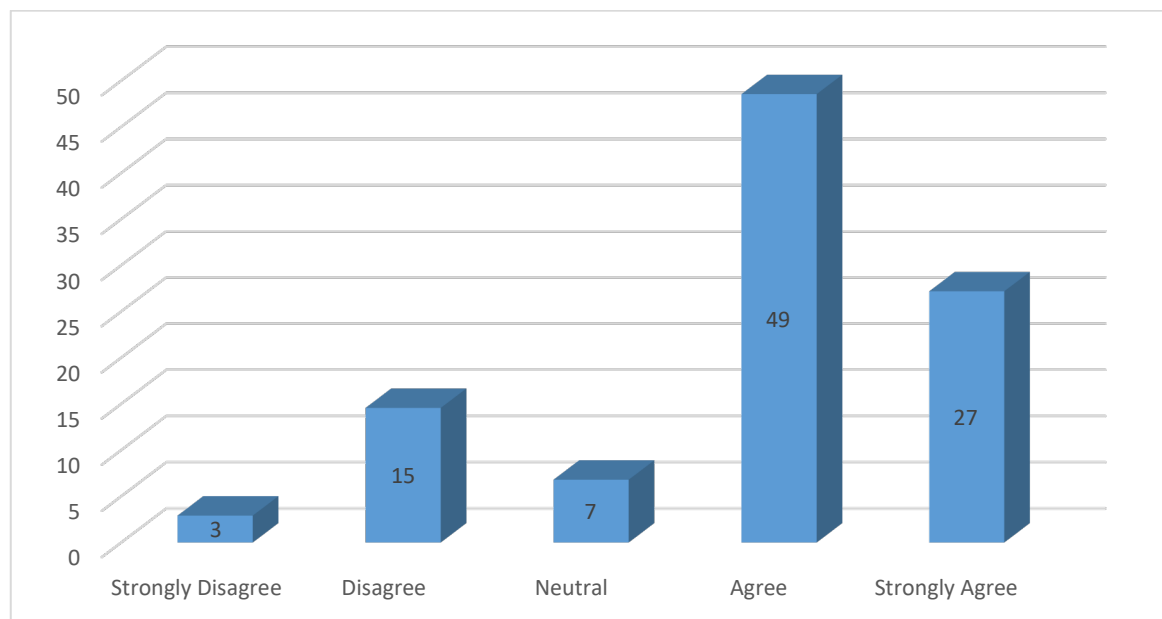


Fig 4.10: My creative abilities are used to my full potential at work:

4.4 Correlation Analysis between Creativity and Project Success

A Pearson product-moment correlation coefficient (r) test was conducted to determine the degree of relationship between the variables and determine if there was a linear relationship between the variables (Green & Salkind, 2011). As cited in Wong and Hiew (2005), the correlation coefficient value (r) range from 0.10 to 0.29 is considered weak, from 0.30 to 0.49 is considered medium and from 0.50 to 1.0 is considered strong. The Pearson Correlation between the independent variable Creativity and the dependent variable Project Success is highly positive and significant ($r=0.793$, $p<0.000$). Hope (2013) defined project success as more

focused on business objectives, meeting customer satisfaction, and sustainability. Firm's competitive edge is mainly dependent on the creative employees who can provide novel and useful ideas that are very important for the development of advanced technological products (Carmeli, Palmon, & Ziv 2013).

Correlations			
		Project Success	Creativity
Project Success	Pearson Correlation	1	.793**
	Sig. (2-tailed)		.000
	N	103	103
Creativity	Pearson Correlation	.793**	1
	Sig. (2-tailed)	.000	
	N	103	103
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 4.2: Correlation Table of Creativity and Project Success

4.5: Test of Hypotheses

H1: To investigate if creativity is a determinant of project success

The One-Way ANOVA has an R Square of 0.629 and the corresponding two-tailed p-value <0.000, we reject the null hypothesis at 5% level and conclude that there is a statistical evidence that the influence of Creativity on Project Success is significantly different.

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.410	.285		1.440	.153
	Creativity	.920	.070	.793	13.072	.000
a. Dependent Variable: Project Success						

Table 4.3: Regression Analysis of Creativity and Project Success

The output of the regression analysis indicates that Creativity is significant with a $p < 0.000$ and positive coefficient of 0.920 with standard error of 0.070 suggesting that Creativity has a stronger positive impact on Project Success. These findings show that a team which is given the space to innovate and share knowledge and communicate highly contribute to completion of the project in time and customer satisfaction. Knowledge sharing is considerably linked with the degree of attainment of outsourcing benefits, the ability of the service receiver to absorb the desirable knowledge has a significant direct effect on the benefit achievement (Lee, 2000). Better working relationship with subordinates are important for projects (Park & Lee 2013).

4.6 Conclusion

The purpose of the study was to investigate the relationship between creativity and project management success. The results of the Pearson correlation between Creativity and Project Management Success is highly correlated and significant. The findings of the regression analysis indicated that the independent variable creativity had a stronger positive impact on project success. An

environment where there is collaboration amongst the team working in a project with the rights skills and talent creates creativity and contributes to the success of the project. The capability of team members to engage communication, empower and achieve goals to promote communication within the project, build their own capabilities by participating in education, utilize appropriate knowledge or skills to create best practices, maintain a clear information channels for the project is important. Project success is achieved when team members share knowledge and difficulties they face in a project.

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