

# Applying Project and Programme Management Principles to The Manufacturing Competitiveness Enhancement Programme

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## ABSTRACT

The Manufacturing Competitiveness Enhancement Programme (MCEP) scheme was specifically designed and developed in order to incentivise industry with various components, ranging from capital investment, green technology, and enterprise level of competitiveness. During the tenure of the incentive programme, there were challenges pertaining to over-commitment, poor turnaround times, and poor customer service management and customer relations management leading to poor project and programme management. These challenges resulted into long turnaround times and over-commitment. There was a lack of a logical relationship between the scheduling and budgetary and scoping analysis, thereby impacting adversely on the industrialists and the economy at large. The study was conducted on how the application of project and programme management could ameliorate the challenges incurred by the scheme. Based on the outcome of the study, there was a general agreement that there was a dearth of project and programme management in the MCEP, and its implementation which would ultimately resolve the inefficiencies in the programme. The study concluded that it is important to designed and developed a programme in order to incentivise the manufacturing industry in South Africa, the core objective of which is to embrace competitiveness enhancement, global competitiveness and export-driven economy, as well as to protect industry during turbulent and volatile economic conditions.

## Keywords

Manufacturing, Industrialisation, Project Management, Programme Management, Industrial Development.

## 1. Introduction

The Manufacturing Competitiveness Enhancement Programme (MCEP) is an incentive scheme managed within the Department of Trade and Industry (DTI), and was developed in response to the government's National Development Plan (NDP) and Industrial Policy Action Plan (IPAP). This scheme was specifically designed and developed in order to incentivise industry with various components, ranging from capital investment, green technology, and enterprise level of competitiveness.

The purpose of the MCEP is to raise confidence to invest in a period where there is short- and medium-term uncertainty and turbulence in the South African economy. The MCEP will significantly strengthen a range of sector-specific and transversal interventions, which include employment creation and industrial financing packages to distressed companies via Development Finance Institutions (DFI), (DTI, 2015;2016: **Online**).

The IPAP forms a key pillar of the New Growth Path (NGP) which was launched by the Minister of Economic Development in November 2010. Government's National Development Plan Vision 2030 seeks to ensure that critical steps in support of restructuring the economy are secured, to add a more value-adding and labour-intensive growth path, Van Ransburg,(2016).

To support value adding and labour-intensive growth, manufacturing plays a critical role in driving income growth and employment, with substantial direct employment potential. Manufacturing is also the core production sector that can raise incomes and increase the level and sustainability of employment growth in consumption-driven services sectors (DTI, 2013:**Online**).

To implement the IPAP, various incentive schemes have been developed within the DTI. These schemes, which were developed to create the desired economic outcomes, include, among others, the Critical Infrastructure Programme (CIP), the Manufacturing Competitiveness Enhancement Programme (MCEP), Special Economic Zones (SEZ) and the Industrial Development Zones (IDZ). Considering the MCEP, in particular, it would be expected that it would be accompanied by a measuring tool to monitor and evaluate its impact and significance on the expected outcomes and/or set objectives of the IPAP.

## 2. Methodology

Quantitative research was applied, entailing a collection and analysis of numeric data and further applying statistical tests. In relation to the research on the MCEP programme, a designed questionnaire interrogated the relevance of applying project and programme principles for efficiency and effectiveness.

The questionnaire developed which comprised closed-ended questions, whereby the outcomes or findings reflected in the form of statistical data. Furthermore, the study highlighted an experimental case perspective focusing on the operational challenges within the incentive programme, and, in the final analysis, reflecting on the illustrative case perspective, and providing innovative, continuous improvement practices and project and programme methodologies, in order to avert the recurring operational challenges within the MCEP programme and future incentives.

## 3. Data Collection

Questionnaires served as the data collection methodology, as it fell within the broader definition of 'survey research' or 'descriptive research'. Remenyi *et al.* (2002:290) define the concept of 'survey' as *"the collection of a large quantity of evidence usually numeric, or evidence that will be converted to numbers, normally by means of a questionnaire"*. A questionnaire consists of a list of questions compiled in order to elicit reliable responses from a chosen sample, with the aim to determine what the participants do, think or feel. In this regard 19 questionnaires were distributed to 19 participants employed under the Manufacturing Competitiveness Enhancement Programme. All statistical analysis, including data analysis, compiling of tables, bar charts, percentages and correlation tables, were compiled by an external specialist using Statistical Packaging for Social Sciences (SPSS). The number of 19 questionnaires issued to the participants were returned and completed in full. This is in line with the guideline recommending that for a population less than fifty ( $N < 50$ ) there is little point in sampling, the whole population should be taken into account, (Collis & Hussey, 2003).

## 4. Research Findings and Recommendations

The data analysis and interpretation of the study conducted among these 19 respondents, all working at the DTI, but, more specifically, involved in the design, development and operation of the MCEP incentive programme. The questionnaire was designed and structured based on the following four investigative questions. Nineteen questionnaires issued to the participants were returned and completed in full. The questionnaire was designed and structured based on the following four investigative questions and the table below provides an overall overview of the descriptive data resulting from the investigative questions.

		PPMP	PPMME	ESMA	ESCA
<b>N</b>	<b>Valid</b>	19	19	19	19
	<b>Missing</b>	0	0	0	0
<b>Mean</b>		2.9474	2.5789	2.5789	2.8421
<b>Std. Deviation</b>		.40465	.69248	.76853	.76472
<b>Skewness</b>		-.498	.808	-.705	-.547
<b>Std. Error of Skewness</b>		.524	.524	.524	.524
<b>Range</b>		2.00	2.00	3.00	3.00
<b>Minimum</b>		2.00	2.00	1.00	1.00
<b>Maximum</b>		4.00	4.00	4.00	4.00

#### 4.1 Findings on Project and Programme Management Principles

The distribution of the data was evenly distributed along the mean, as shown in fig 1. The respondents clearly indicated the importance of applying project and programme management principles when implementing the MCEP. This includes the application of project constraints (schedule, budgetary, quality and scoping analysis, as well as beneficial change), (Burke,2013;2018). It is critical that this total package is applied, as, currently, the logical relationship between the project constraints in the incentive programme is poor, mainly due to the design that is open-ended. In order for the logical relationship between the scope (volume of applications and claims), schedule analysis and budgetary analysis to be realised, it is imperative that a call for application with a start and close date be adopted, as it would resolve the backlog and over-commitment challenges. Furthermore, the MCEP incentive programme should become more pro-active, in terms of performing benefits realisation management or tracking in-house, to measure the impact analysis of the incentive programme on the South African economy and industry at large.

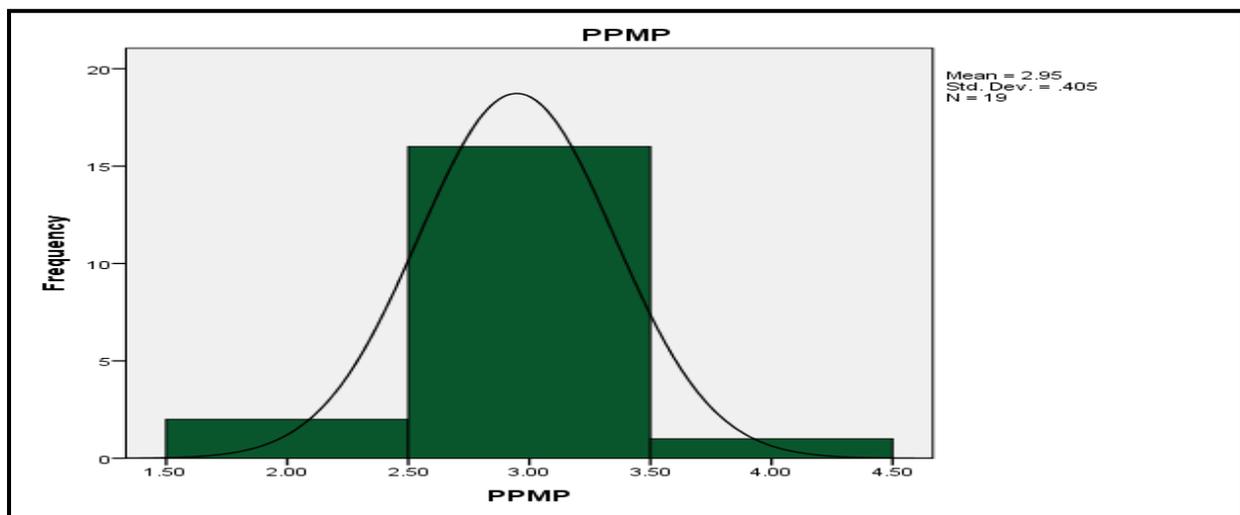


Figure 1: Histogram for PPMP. (Source: Own).

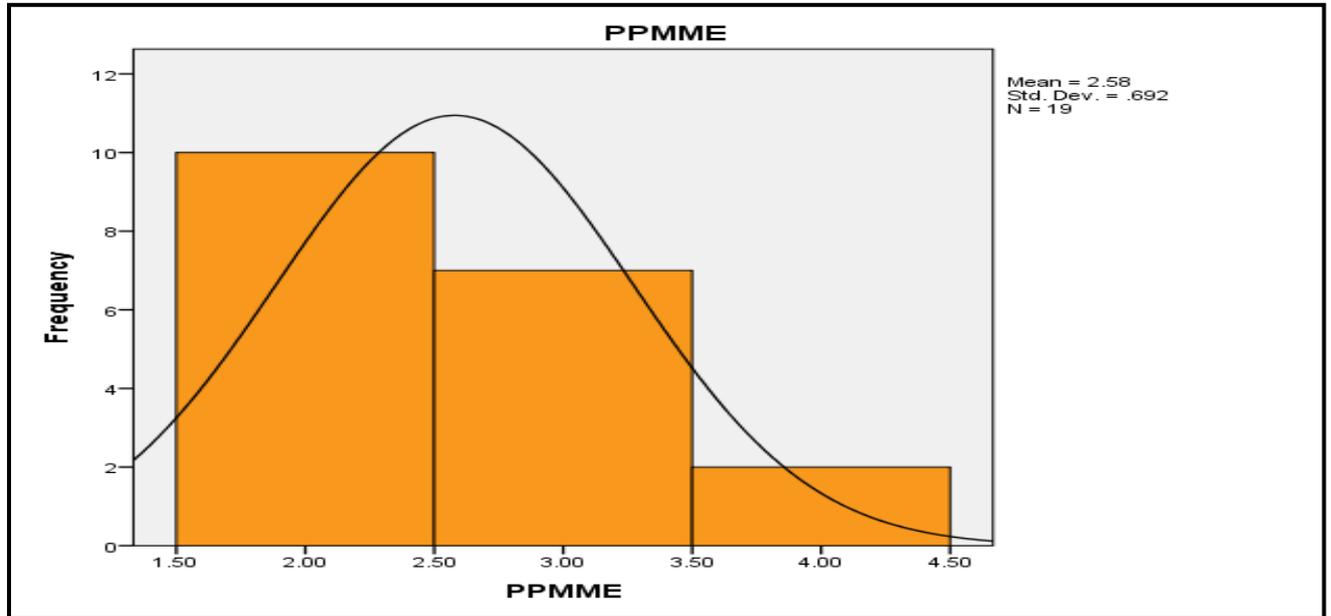
Based on the findings from the research, in relation to the investigative question, the following is recommended:

- The DTI should implement a programme office specifically for the industrial and economic development programmes.
- A project and programme management culture should be adopted. This should be reflected in terms of the incorporation and integration of project management tools and techniques, methodology and principles into the operational and structural plans of the MCEP incentive programme, (Steyn & Van Dyk 2014).

#### 4.2 Findings On Project And Programme Management Methodology Enhancement

The data was distributed to the left of the mean as shown in fig 2 below. The respondents were of the view that the application of the Balanced Scorecard Programme Management (BSPM) strategy was relevant when measuring the success of the MCEP incentive programme – more so, when factoring in the financial, customer value, internal business, learning and growth sub-components, Steyn (2009&2010). The absence of the BDPM strategy is impacting adversely, in terms of providing impact analysis of the programme, during the project life cycle and operational life cycle. Critical factors that need to be considered during the project and operational life

cycle, such as resource accountability, continuous improvement and innovation, are discarded. It is disturbing for a programme of this magnitude involving a disbursement of funds for the country's industrialisation and growth path, not to have a rich project culture embedded in project and programme management methodologies.



**Figure 2:** Histogram for PPMME. (Source: Own).

Based on the findings from the research in relation to the investigative question, the following is recommended:

- The DTI should implement a programme office specifically for the industrial and economic development programmes.
- A project and programme management culture should be adopted. This should be reflected in terms of the incorporation and integration of project management tools and techniques, methodology and principles in the operations and structure of the incentive programmes.
- The Department should adopt a policy emphasising staff enrolment in various project and programme management courses. This ranges from short- to long-term programmes with a duration period of six months to a year, as well as certification programmes. Further education and training in the field should also be emphasised, such as Advanced Diploma, Postgraduate Diploma, Masters and post-Doctoral programmes.

#### 4.3 Findings on Endeavour Success Matrix Application

The data was distributed to the right of the mean, as shown in fig 3 below which is a clear indication that the respondents noticed the enhancement created by the tool when measuring project performance during the project life cycle, and, furthermore, measuring performance during the operational life cycle – more so in terms of determining beneficial change, which is the core purpose that every project or programme should achieve, Deacon (2011). It is a clear indication that the Endeavour Success Matrix would be a credible tool when adopted by the MCEP incentive programme and future incentives, as it provides reliable and credible measurement at a project/programme operational and programme life cycle. At present, the MCEP incentive programme does not have such a tool in place. It is therefore vital that in order for a rich project culture to be developed, as well as for programmes/projects to fulfil their purpose, a concrete beneficial change model be developed to measure the extent or impact which the industrial and economic development programmes have had on South Africa's economy, in terms of employment creation, growth, gross domestic product, export-driven economy and other related economic variables. The outcome from the investigative question clearly responds to the research question enquiring on how to best manage, monitor, measure and appraise the MCEP incentive programme.

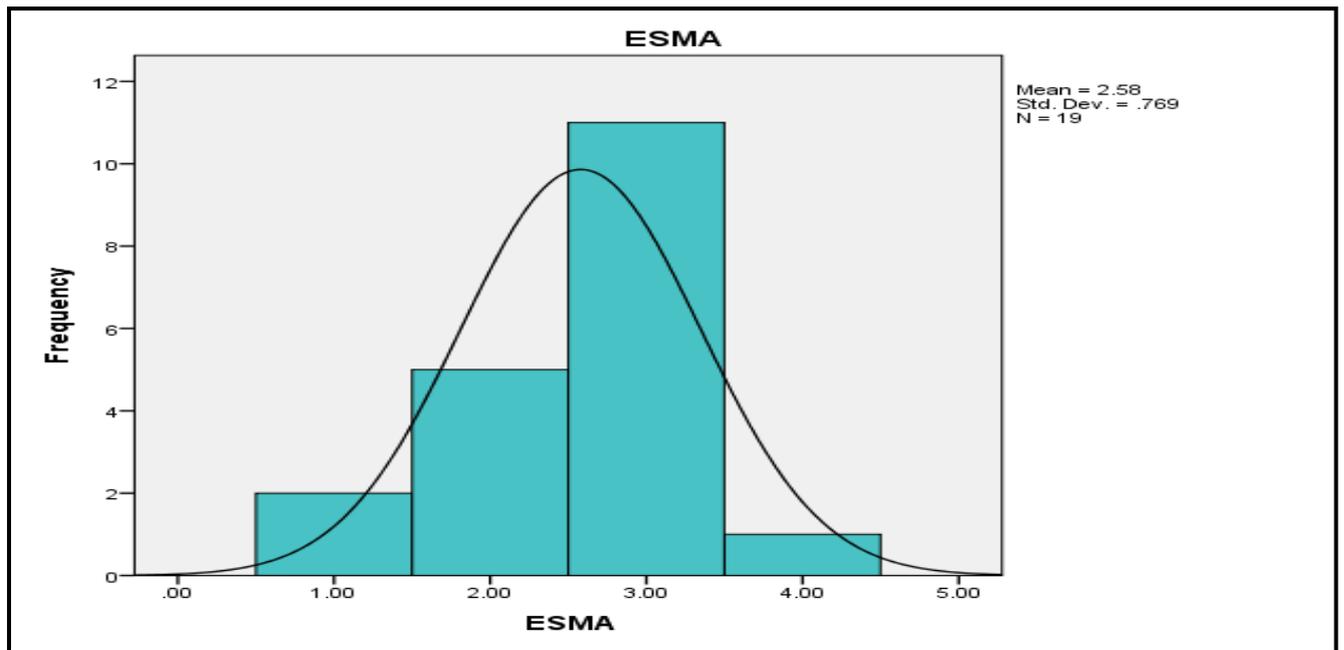


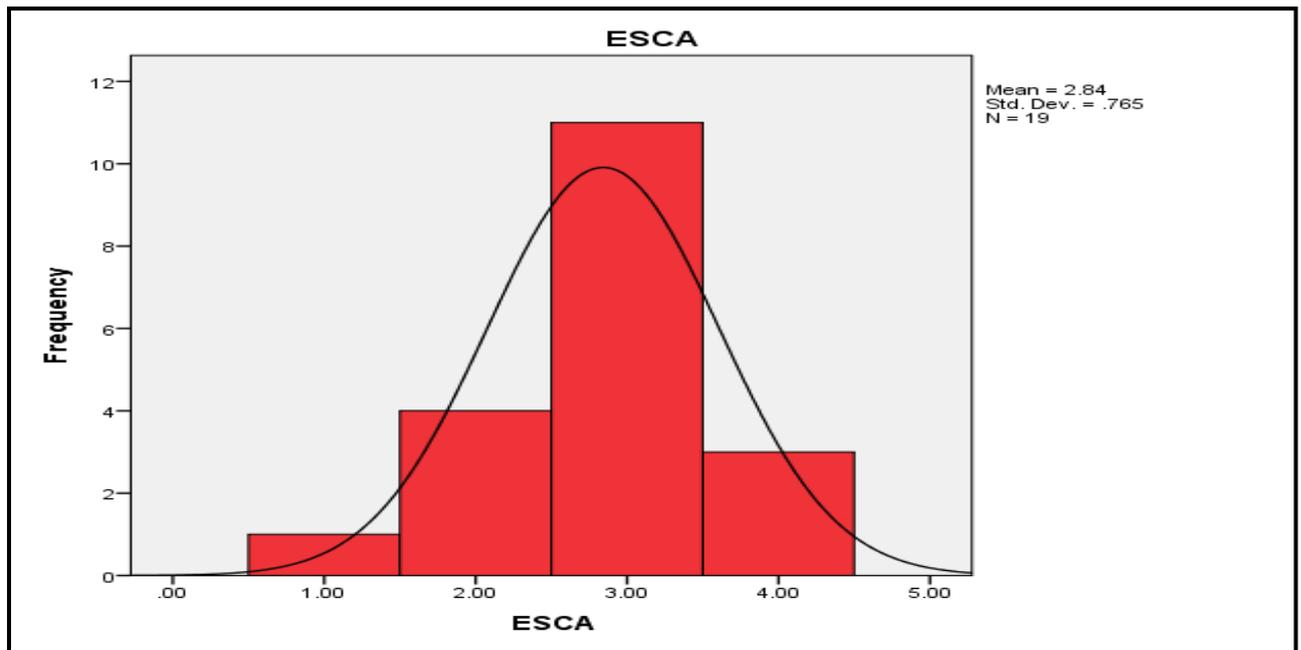
Figure 3: Histogram for ESMA. (Source: Own).

Based on the findings from the research, in relation to the investigative question, the following is recommended: The DTI should implement a programme office specifically for the industrial and economic development programmes.

- A project and programme management culture should be adopted. This should be reflected in terms of the incorporation and integration of project management tools and techniques, methodology and principles into the operations and structure of the incentive programmes.
- The Department should adopt a policy emphasising staff enrolment in the various project and programme management courses, ranging from short- to long-term programmes with a duration period of six months to a year, as well as certification programmes. Further education and training in the field should also be emphasised, such as Advanced Diploma, Postgraduate Diploma, Masters and post-Doctoral programmes.

#### 4.4 Findings on Economics of Social Cost Benefit Analysis

The data distribution was inclined to the right of the mean as shown by Figure 4 below, which entails that the respondents generally felt that the adoption of this model would be an enabler for benefits realisation management to be determined. In terms of how the incentive contributed towards meeting the objective of the IPAP, a labour absorbing economy is needed, via manufacturing and industrialisation, an export-driven economy, global competitiveness, critical skills development in line with the demands of the economy, growth and development, increase of black supplier development within industry and productivity value chain, black economic empowerment, improvement in the manufacturing performance index, gross national product and gross domestic product, and many more economic indicators relevant to determining economic impact analysis, Souder (1984).



**Figure 4:** Histogram for ESCA. (Source: Own).

Based on the findings from the research, in relation to the investigative question, the following is recommended:

- In-house programmes should be developed to draw the linkages between the role of project and programme management and industrial and economic development. Furthermore, the DTI scenario, together with the related economic and industrial incentive programmes, should be factored in.

## 5. Conclusion

In light of the research question of the study, which enquired how the MCEP programme can be successfully managed, measured, monitored and appraised, the findings of the research ascertained that project and programme management principles, along with methodologies, in collaboration with economic theories and practices, monitoring and evaluation systems be adopted by the programme and future incentive programmes. This will provide an efficient and effective MCEP incentive programme, thereby ameliorating the backlog, over-commitment, and project constraint synchronisation challenges, and, furthermore, be an enabler of improved benefits realisation management and economic impact analysis.

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## Biographies

**Thakaramahlaha Lehohla** holds a Master's Degree, Post-Graduate Diploma, Advanced Diploma and Advanced Certificate in Project & Programme Management all obtained from Cranefield College of Project & Programme Management. Furthermore, holds a Bachelor of Commerce from the University of Pretoria. The Master's degree dissertation was based on the environment within the Manufacturing Competitiveness Enhancement Programme; which was a flagship programme at the Department of Trade and Industry meant to protect and develop industrialisation during turbulent economic period, as well as advance global competitiveness, skills development, export promotion and employment in the manufacturing industry. The topic of dissertation was "Applying Project and Programme Management Principles to the Manufacturing Competitiveness Enhancement Programme. The researcher has been employed by the department for the past six years, serving as a deputy director. Currently he is in pursuit for a Ph.D , enrolled with the School of Engineering and Built Environment, under the faculty of Quality and Operations Management. The researcher's topic for thesis is "Developing Project, Programme and Operations Management Methodologies for Sustainable Industrialisation In South Africa". His interests include Industrial and Economic development research, with focus of integrating the project and operations management body of knowledge.

**Pule Kholopane** holds Master's Degree in Industrial Engineering and Operations Management and several Diplomas from different institutions i.e. Economics (Turin; Italy), Production Management (PMI), Communications (Wits), Industrial Relations (Wits) and Management (Wits). He obtained his PhD degree in Engineering Management from the University of Johannesburg. Prof. Kholopane was a part-time lecturer at the Production Management Institute (PMI) and later joined the Vaal University of Technology as Head of Department and Senior Lecturer in the department of Industrial Engineering and Operations Management before joining the University of Johannesburg as a Senior Lecturer. He is a supervisor and coordinator of the M. Tech Quality and Operations Management program at the Institute and is currently the Head of the Department (HOD) and Associate Professor in Quality and Operations Management.