

# Does quality management matter for productivity and profitability in manufacturing?

## Evidence from Zambia



### In brief

- Competition and a deteriorating business environment have driven the adoption of quality management practices by Zambian manufacturing companies seeking to remain viable.
- In this project, researchers investigated whether quality management practices could help enhance the productivity and profitability of the Zambian manufacturing industry.
- Results from a sample of 200 firms show that quality management practices positively impact the productivity and profitability of manufacturing firms in Zambia.
- The evidence also suggests that implementing more quality management practices will lead to higher productivity and ultimately, higher levels of profitability.
- Given limited resources, Zambian manufacturing firms should focus on quality management practices that make the most impact: benchmarking, focusing on people management, and obtaining top leadership commitment.

This project was funded by IGC Zambia.

## Research aims

Economists have long puzzled over astounding differences in productivity across firms and countries. For example, GDP per capita in the Netherlands is about 20 times that of Zambia. Beyond higher endowments of capital, a natural explanation for those productivity differences lies in variations in management practices.

Given competitive pressures and a deteriorating business environment, many manufacturing companies in Zambia have been forced to continuously seek ways to innovate and improve quality for them to remain viable. One of the ways has been the adoption of quality management practices.

In this research project, we set out to investigate whether quality management practices could help enhance the productivity and profitability of the Zambian manufacturing industry.

The main question explored was how quality management practices affect productivity and profitability in the Zambian manufacturing industry. The underlying motivation was to enhance both the managerial and policymaker understanding of the relationship between quality management practices, productivity, and profitability and thus inform public policy design and practices for leveraging the international competitiveness of the Zambian manufacturing industry.

Specifically, the research project sought to answer the following questions

- How do quality management practices affect productivity in manufacturing firms in Zambia?
- How do quality management practices affect profitability in manufacturing firms in Zambia?
- To what extent is productivity a mediating factor between quality management practices and profitability in Zambian manufacturing firms?

In summary, we found that quality management practices lead to significant improvements in productivity and profitability, suggesting that heightened adoption and implementation of quality management practices is a key factor that can spur the growth of the manufacturing industry in a country like Zambia. By implication, the results also suggest that bad management practices remain a key factor holding back the growth of the sector.

## Summary of project

In this IGC-funded project, we undertook a survey of 200 manufacturing firms based in Lusaka and the Copperbelt provinces in Zambia. The project involved giving these firms a self-administered questionnaire measuring firm management's (i.e., senior quality managers or production managers) perceptions of quality management practices and level of productivity and profitability.

Once the data was collected we used statistical techniques to analyse the relationship between quality management practices, productivity, and profitability. The statistical techniques were principal components analysis, correlation, and multiple regression and mediation analyses. In doing so, relationships between quality management practices, productivity, and profitability were assessed and described.

The evidence suggests that benchmarking, customer focus, people management, process management, and leadership appear to be of primary importance and exhibit significant impact on productivity. Benchmarking, people management, and leadership further exhibit significant impact on profitability (Table 1). In addition, the findings also suggest that productivity mediates the link between quality management and profitability.

**Table 1: Correlations between quality management practices, productivity and profitability**

	Quality Management Practices	Productivity	Profitability
1	Benchmarking	0.274**	0.371**
2	Customer Focus	0.293**	0.055
3	People Management	0.266**	0.177**
4	Process Management	0.208**	0.095
5	Leadership	0.307**	0.189**
6	Strategic Planning	0.024	0.011
7	Knowledge of Customer Needs	.105	.091
8	Information and Analysis	-0.009	0.035

\*\* Correlation is significant  $P \leq 0.01$ ; 2. All t-tests are one-tailed.

Findings of the study provide a striking demonstration of the importance of quality management practices for the manufacturing industry in Zambia in enhancing its productivity and profitability and in strengthening the international competitiveness of Zambian manufacturing.

This raises the obvious question: why are these quality management practices not being adopted by all manufacturing firms in Zambia? One important factor was cost constraints. Many of the shortfalls with management practices in industry could be addressed through widespread basic quality management systems training but the costs of such training are a limiting factor. Another factor was informational constraints. Many manufacturing firms may not be aware that the

costs of quality management are more than offset by the productivity, customer loyalty, and sales effects that are profit-enhancing.

Broadly, the evidence is of particular interest to practicing managers as it suggests what factors should be emphasised to stimulate the adoption of quality management concepts with limited resources.

Within the constraint of limited resources, the evidence suggests that manufacturing companies in Zambia should, as a matter of priority, emphasise:

- Greater attention to the quality management aspects of the manufacturing process;
- Greater degree of top leadership commitment for quality programmes such as process management, benchmarking, and customer focus, and;
- People management, which is important in preparing an organisation for a change, in accomplishing the change itself, and institutionalising it as a permanent part of the organisation.

## Policy Implications

The findings of the study also bear some policy implications. These are as follows:

- **Quality management and productivity improvement can lead to sustainable job creation.** The productivity-enhancing role of quality management practices that this study establishes resonates with the government's goal of promoting productive employment in Zambia. In this regard, the government can leverage its job creation strategy anchored on quality management and factor productivity improvements.
- **Enterprise support needed to achieve improved performance through quality management.** The evidence that this study provides suggests that the costs of quality management are more than offset by the productivity, customer loyalty, and sales effects that are ultimately profit-enhancing. However, the immediate costs need to be offset by official enterprise support through appropriate tax incentives that can encourage manufacturing firms to invest in quality management systems.
- **Basic quality management training would improve productivity.** Many of the shortfalls with quality management practices in Zambian manufacturing could be addressed through more widespread basic quality management training; for example, industry, government, and university provision of three-month quality management training courses.

- **Strategic government partnership with key players in the industry is necessary for accelerated quality management system uptake and practice.** Achieving productivity-driven growth through the application of quality management practices requires that government engages with key players in the industry, such as the Zambia Association of Manufacturers, to make the profitability of quality management well known to its membership.
- **Institutional framework for coordination is needed.** An institutional framework (e.g., a National Productivity Institute) for coordinating quality management and productivity improvements at the country-level may be helpful to catalyse broader interest in quality management.

## Further Reading

Koyi, G., Nyamazana, M. and Funjika, P. (2016). Management Quality, Productivity and Profitability in Manufacturing Firms in Zambia (Unpublished). IGC: Lusaka.