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The Relationship Between Innovation, Business Performance and Employee Poverty Reduction

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ABSTRACT

This research aimed at investigating the relationship between innovation, business performance and employee poverty reduction in Tanzania. Specifically, the study is investigating SMEs' employees' income in relation to overall company generated revenue; innovative practices of SMEs and their links with business performance; whether SME innovation is positively related with employee poverty reduction; and whether this relationship can be explained by the relationship between innovation and business performance. Also, the study is investigating on whether effective human resources management, company leadership and organizational culture can explain the link between innovation and business performance and between business performance and employee poverty reduction.

The findings of this study are expected to contribute to the poverty reduction efforts of Tanzania. While the relevance of the private sector to the poverty reduction efforts of the government is recognized, how to develop the sector, in particular the SME sector, so that it makes an important and effective contribution requires further research.

The role of innovation in SMEs is not yet adequately realized as an important factor in ensuring that the SME sector is strong and effective and makes substantial contribution to reducing the poverty of Tanzanians. Furthermore, related to this is the need to raise attention to the role of effective human resources management, leadership and organization culture in the whole equation of linking innovation to employee poverty reduction.

This progress research provides some tentative data – based on the three out of the four cities/towns already surveyed.

1. INTRODUCTION

1.1 Role of SMEs in Poverty Alleviation

The main development challenge for Tanzania is in the broadest sense, to improve the quality of life of her people by freeing them from the bondage of poverty including reduction of poverty amongst employees. Generally, improved quality and standards for employees and their respective families call for higher incomes which depend among other things on improved business performance.

It is argued that current efforts to improve the living standards of employed Tanzanians and their families have had limited success due an inadequate

entrepreneurial and innovative culture to complement and sustain such initiatives (Kundi and Toba, 1996). This research sought to explore the relationship between innovation, business performance and employee poverty alleviation.

A significant and sustainable way to contribute to employee poverty reduction is through strengthening the Small & Medium enterprises (SMEs) sector, which is the second employer to agriculture. According to Mshange (1993) and Kundi et al (1993) small and medium industries are capable of adding value to economic outputs and reduction of income disparities in society. SME-level measures for promoting and enhancing the competitive economic development of Tanzania are therefore now important more than ever before.

The role of innovation in business performance in Tanzanian SMEs has been acknowledged by many researchers (Komba, 1984; Mahemba, 2003). However, the sector is saddled with diverse constraints which include inappropriate technologies, inadequate financial support, inadequate response to marketing opportunities, low investment in R&D and inadequate innovation practices. These constraints are considered to be a major cause of poor performance of the sector (Wangwe, 1998; Goedhuys, 2005; BOT, 2005; URT, 2007). They likely result into poor business performance and hence contribute to increased poverty amongst SME employees and their families.

1.2 The Research Problem

Although, there is a widespread interest in innovation practices in the SME sector, the current understanding of the contribution of SME-level innovation to poverty reduction is quite limited. A preliminary review of national studies on innovation revealed that there have not been direct studies on the relationship between innovation and poverty in the SME sector. However, there has been indirect studies which were on the impact of technology on poverty alleviation (Mutagwaba et al., 1996) and poverty and technology: diffusion of innovation, rural women and entrepreneurship (Diyamett et al., 2002). Thus the existing research literature on poverty reduction in Tanzania has very little empirical evidence on the contribution of both improved innovation and subsequent business performance on employee poverty reduction in small and medium enterprises.

1.3 Research Objectives

The aim of the study was to investigate the relationship between innovation, business performance and employee poverty reduction. It is high time that a formal and systematic study was conducted on how the small and medium scale enterprises contribute towards employee poverty reduction through innovation and subsequent improvements in business performance.

The specific objectives of the study were:

- To study the innovative practices of SMEs and their links with business performance.
- To analyze whether SME innovation was positively related with employee poverty reduction
- To study whether effective human resources management, company leadership and organizational culture could explain the link between innovation and business performance and business performance and employee poverty reduction.

2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 *Innovation*

Innovations are product(s) and process(es) that are both new or substantially improved to the market and new or substantially improved to the firm. Innovation embodies both technological and managerial aspects (Vracking, 1990; Tang, 1998). Integration of technological resources; management of accumulated knowledge and experience of the existing as well as emerging technologies; and management of human resources through leadership, team-building and productive operations account for an enterprise's innovation capacity (Vracking, 1990). Furthermore, technology has to be effectively integrated with the organizational context areas including structure and culture rather than treating technology in isolation (Tidd et al., 1997; Christiansen, 2000; Chungu and Kundi, 1997).

Improving the firm's innovation capacity is dependent upon various factors, among which continuous supply of innovation resources and accumulation of innovation knowledge are crucial (Szeto, 2000). In managing innovation, the role of management is mainly to create innovative contexts in the organization (Hauser, 1998).

2.2 *R&D and innovation*

R&D plays an integral role in innovation since it functions as the technological gate-keeper and /or selector in the company (Jankowski, 1998). Studies indicate a significant relationship between innovation and R&D activities (Baldwin and Johnson, 1996; Koen and Kohli, 1998). Innovative enterprises are often characterized by excellent R&D activities and /or operations (Harryson, 1997). The role of R&D in determining innovation performance is not confined to manufacturing only but also applies equally to the service industry (Chiaromonte, 2002).

Importantly, R&D can be deployed by a firm to drive many strategic paths. According to Lowe (1995), these strategic paths include offensive strategies intended to pursue competitive advantage, improve market shares, or open up new markets. Each of these strategies is strongly associated with innovation.

2.3 Human resource factors of innovation management

Effective management of human factors underlines the use of innovation for sustained organizational success. Efforts should thus be directed towards managing human resources for innovation by creating as well as maintaining an environment that supports innovation so that employees are not only motivated to innovate but also have opportunities to innovate (Claver et al., 1998) .

2.4 Role of leadership in innovation

Leadership commitment to innovation is a key element for management of innovation (Cooper, 1993; Cooper, 1988). Leadership is even highly important when innovation is concerned with radical change as it requires heightened levels of learning and change, often characterized by disruptive, risky as well as high costs (Niehoff and Enz, 1990). Leaders own or control resources and power.

Heygate (1996) argues that far-sighted leaders make the difference by making an aggressive exploitation of new technologies. Additionally, effective leadership has a crucial role in shaping an organization's culture to nurture and dynamise innovation (Martensen, 1998; Jassawalla and Sashittal, 2002).

2.5 Organisational Culture and Innovation

Culture is a major determinant in innovation performance (Herbig and Dunphy, 1998). Key practices that are effective in building an innovative culture are empowerment and involvement (Amabile and Grykiewicz, 1989; Spreitzer, 1995). Empowerment makes people feel they possess a certain degree of autonomy, feel less constrained by technical or rule-bound aspects and self-efficaciousness in enacting their work and in combination these features enable people to be innovative (Spreitzer, 1995). Research has shown empowerment to be positively related to innovative behaviours (Spreitzer, 1995). This point is further strengthened by findings that show that empowerment is closely associated with the concept of decentralization or organic structure, which is deemed to be one of the most important predictors of innovation (Malone, 1997; Reigle, 2001). Similarly, employee involvement is also held as the antecedent of organizational innovation (Prather and Turrell, 2002).

2.6 Business Performance

Business performance is conceived in this study largely in terms of the profitability, sales growth and market share. Quite a number of research studies have linked innovation both in terms of process and product innovation to business performance.

The relationship between business performance and employee poverty is moderated by important conditions (such as the extent of employee empowerment and participation as well as nature of policies on incentives) which have also been investigated as part of the study. Studies indicate that where employee involvement is strong, there is likely to be greater equity in distributing rewards and benefits (Projogo, 2002). Furthermore, a strong employee involvement culture leads to greater worker-influence on company pay decisions (Nightingale,1982).

2.7 Employee Poverty

Poverty has been defined differently by different scholars. The differences revolve mainly around differences of academic fields or perspectives, from which poverty is approached (Kundi and Toba, 1996). According to Mbughuni (1994), one may orient towards global, continental, national, regional, enterprise or individual perspective.

Poverty has various manifestations, including lack of income and productive resources sufficient to ensure sustainable livelihoods; hunger and malnutrition; ill health; limited or lack of access to education and other basic services; increased morbidity and mortality from illness; homelessness and inadequate housing; unsafe environments; social discrimination and exclusion (Semboja , 1994). It is also characterised by lack of participation in decision making and in civic, social and cultural life (World Bank, 2005).

Poverty is a multi-dimensional concept that can be measured in absolute or relative terms. Absolute poverty refers to the position of an individual or household in relation to a poverty line whose real value is fixed over time. It is captured in the income related definition. On the other hand, relative poverty refers to the position of an individual or household compared with the average income in the country such as a poverty line set at one-half of the mean of income (Semboja, 1994). Furthermore, poverty is not just measured by income and consumption only, but also health, life expectancy, access to clean water, one's position in society amongst the central dimensions of welfare (UNDP, 2005).

3. RESEARCH METHODOLOGY

3.1 Population

The population of interest in this study is the Small and Medium Enterprises (SMEs) in Tanzania. The SMEs sector is operationally defined as comprising of formally licensed companies employing between 10 and 200 employees and producing tangible products.

3.2 Sample and Unit of Analysis

A total of about 90 companies will ultimately be involved in order to have an adequate sample size for statistical analysis. The study involves SMEs in Dar es Salaam, Mbeya, Mwanza and Arusha.

Since the unit of analysis is company-level, data is being sought for at that level using structured questionnaires and forms designed to measure all the variables of interest.

Within each of the selected firms, a stratified random sample of 20 respondents is selected, aimed at minimizing respondents' biasness by equalizing the number of respondents drawn from upper, middle, and lower hierarchical levels together with random selection of respondents within each of the three hierarchical levels. The upper hierarchical level includes the chief executive officer and all his/her immediate managerial subordinates; the middle hierarchical levels include all other managerial and supervisory personnel; and the lower hierarchical level includes all company employees who do not have subordinates. In case of companies where the number of respondents at a level is less than that required for sampling, all company employees at that levels will be selected.

Great care is being taken to point out to the respondents that their participation in the study is voluntary and that the information would be held in confidence.

3.2.1 Measurements of study variables

The variables and their operational definitions are shown in Table 1.

Table 1 Study Variables

	Variables
Innovation	(a) Product Newness (b) Product Development Speed (c) Technological competitiveness. (d) Early Technology Adaptation
Leadership	(e) Leadership Vision (f) Leadership Change
Human resource management	(a) HR Development (b) HR Versatility (c) Work Environment
Employee participation and empowerment	(a) Wage and benefit (b) Disposition of profits (c) Choice of products and markets (d) Investments
Technology	(a) Techno-Monitoring (b) Techno-Search (c) Techno-Acquisition (d) Ways of Techno-Implementation

	Variables
R&D	(a) R&D Communication (b) R&D Activity Intensity (c) R&D Return (d) R&D's Perceived Major Role
Company Business Performance	(a) Profitability (b) Market share (c) Sales growth
Employee poverty reduction	(a) Employee salary (b) Salary increments

3.2.2 Pilot Testing and Translation of the Instruments

The English version of the research instrument was translated into Swahili. The Swahili version was then be re-translated into English by an independent person to see whether it is still equivalent to the original version. Then both the English and Swahili versions were pilot tested using a sample of 10 SMEs in Dar es Salaam. The pilot study examined the adequacy and relevance of the data collection instrument, established ways of collecting the required data more efficiently and effectively, and indicated the nature of training required by the research assistants.

4. TENTATIVE RESEARCH RESULTS

4.1 General Findings

4.1.1 Industry Categor

The analysis of the surveyed Small and Medium enterprises indicated that 26% of the surveyed enterprises were engaged in food products; 20.8 % chemical products; 19.5 % in metal products ; 6.5 % on textiles and wood ; 2.6% on paper products, and 1.3 % on both beverages , 1.3 % plastics and 15.6% others (Table 1). The smallest portion of the sample was 1.3 % on beverages and plastics respectively.

Table 1 Industry categories

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Textiles	5	6.5	6.5	6.5
	Paper Products	2	2.6	2.6	9.1
	Food	20	26.0	26.0	35.1
	Chemical	16	20.8	20.8	55.8
	Beverages	1	1.3	1.3	57.1
	Metal	15	19.5	19.5	76.6
	Wood	5	6.5	6.5	83.1
	Plastics	1	1.3	1.3	84.4
	Others	12	15.6	15.6	100.0
	Total	77	100.0	100.0	

4.1.2 Business experience

The age of an enterprise was used to identify the business experience of that firm. The age of enterprise was used to cluster the sample in four groups based on the number of years since establishment as detailed in Table 2.

Table 2 Business Experience and Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1.3	1.3	1.3
1 – 5 yrs	38	49.4	49.4	50.6
6 – 10 yrs	24	31.2	31.2	81.8
11–15 yrs	6	7.8	7.8	89.6
>16 yrs	8	10.4	10.4	100.0
Total	77	100.0	100.0	

4.1.3 Legal structure and ownership

In Tanzania, business can be done in any one of the following legal forms and ownerships: sole proprietorship, partnership, incorporated company and public company (BRELA, 2006). Findings from analysis of surveyed enterprises showed that a large proportion was sole proprietorship representing about 71.4 % followed by 26 % and 1.3 % by incorporated companies and partnerships, respectively (Table 3). This indicates that there are very few incorporated small and medium enterprises in manufacturing sector.

Table 3 Legal Structure and Ownership

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1.3	1.3	1.3
Sole Proprietor	55	71.4	71.4	72.7
Partnership	20	26.0	26.0	98.7
Incorporated company	1	1.3	1.3	100.0
Total	77	100.0	100.0	

4.2 Findings Specific to the Research Objectives

4.2.1 Innovation and Management Practices

The innovation in SMEs is related to best management practices. The results of correlation analysis between innovation and management practices variables (See Table 4) generally support the role best management practices in supporting innovation. There is close link between product newness, product development and management practices such as leadership vision, leadership change, HR development, intellectual assets, team work and information sharing. On other hand, the results indicate that, the relationship between management practices and technology competitiveness is weak. This may be due to lack of knowledge and competence in technology management amongst SMEs.

These findings suggest that best management practices should be given emphasis by SMEs managers and owners in their efforts to improve innovation and subsequent

companies' business performance. Further, policies and incentives that can be of assistance to the SMEs so as to enhance and improve management practices should be pursued. Discussions with managers of SMEs indicated that interventions to address the management practices problems are within and outside the control of the SMEs.

Table 4 Relationship between innovation and management practices

		Product Newness	Product Development Speed	Technological Competitiveness	Early Technology Adaption
Leadership Vision	Pearson Correlation	.346(**)	.298(**)	.185	.070
	Sig. (2-tailed)	.002	.010	.112	.551
	N	75	75	75	74
Leadership Change	Pearson Correlation	.905(**)	.429(**)	.130	-.077
	Sig. (2-tailed)	.000	.000	.266	.513
	N	75	75	75	74
HR Development	Pearson Correlation	.415(**)	.410(**)	-.018	.072
	Sig. (2-tailed)	.000	.000	.878	.543
	N	75	75	75	74
HR Versality	Pearson Correlation	.257(*)	.689(**)	.050	.114
	Sig. (2-tailed)	.026	.000	.668	.333
	N	75	75	75	74
Work Environment	Pearson Correlation	.168	.363(**)	-.098	-.202
	Sig. (2-tailed)	.150	.001	.402	.084
	N	75	75	75	74
Intellectual Assets	Pearson Correlation	.061	.346(**)	.138	.111
	Sig. (2-tailed)	.606	.002	.238	.346
	N	75	75	75	74
Information Sharing	Pearson Correlation	.269(*)	.442(**)	.172	.013
	Sig. (2-tailed)	.021	.000	.143	.915
	N	74	74	74	73
Innovation Support	Pearson Correlation	.139	.393(**)	.071	.034
	Sig. (2-tailed)	.236	.000	.544	.777
	N	75	75	75	74
Team Working	Pearson Correlation	.239(*)	.242(*)	.050	-.100
	Sig. (2-tailed)	.039	.036	.669	.394
	N	75	75	75	74
Idea Creativity	Pearson Correlation	.202	.183	.188	.005
	Sig. (2-tailed)	.083	.116	.106	.965
	N	75	75	75	74
Creativity Stimulation	Pearson Correlation	.100	.253(*)	.191	-.122
	Sig. (2-tailed)	.393	.029	.101	.301
	N	75	75	75	74

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

4.2.2 Innovation and Technology practices

High innovation levels are found in SMEs whose best technology management practices systems are well developed (see Table 5 which contains the results of correlation analysis involving the index of innovation and technology practices). The positive relationship between innovation and technology practices in SMEs is supported by the data, indicating that businesses with effective technology practices are more able to innovate their products and processes. The relationship is statistically significant between the indices of product development speed and technology monitoring ($r = 0.252$, $p = 0.030$) and technology search ($r = 0.275$, $p = 0.018$).

The observed results suggest that there is a need to promote the best technology practices in SMEs as a strategy enhancing innovative and high speed product development.

Table 5 Correlation between innovation and technology practices

		Technology Monitoring	Technology Search	Technology Acquisition
Product Newness	Pearson Correlation	.166	.139	.046
	Sig. (2-tailed)	.157	.237	.698
	N	74	74	74
Product Development Speed	Pearson Correlation	.252(*)	.275(*)	.109
	Sig. (2-tailed)	.030	.018	.353
	N	74	74	74
Technological Competitiveness	Pearson Correlation	.063	.009	.053
	Sig. (2-tailed)	.594	.938	.654
	N	75	75	75
Early Technology Adaption	Pearson Correlation	.161	.158	.052
	Sig. (2-tailed)	.167	.175	.660
	N	75	75	75

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

4.2.3 Innovation and R& D practices

The research results indicate that innovation is highly positively related with high R & D practices. This is supported by the data as can be seen in Table 6. There is a significant positive correlation between product development speed and Active R&D ($r = 0.364$, $p = 0.01$) and R&D returns ($r = 0.273$, $p = 0.05$) respectively.

Table 5 Link between Innovation and R&D practices

		R&D Communication	Active R&D	R&D Return	R&D Play Major Role
Product Newness	Pearson Correlation	.130	.191	.084	-.048
	Sig. (2-tailed)	.268	.100	.476	.681
	N	75	75	75	75
Product Development Speed	Pearson Correlation	.182	.364(**)	.273(*)	.018
	Sig. (2-tailed)	.119	.001	.018	.879
	N	75	75	75	75
Technological Competitiveness	Pearson Correlation	.004	.215	.092	-.180
	Sig. (2-tailed)	.973	.063	.433	.123
	N	75	75	75	75
Early Technology Adaption	Pearson Correlation	-.133	-.184	-.019	.027
	Sig. (2-tailed)	.259	.117	.875	.820
	N	74	74	74	74

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

4.2.4 Innovation and business performance

The relationship between innovation and business performance is shown in Table 7. There is close link between product newness and profitability ($r = 0.336$, $p = 0.003$) , between product development and profitability ($r = 0.887$, $p = 0.01$) and between technological competitiveness and sales growth ($r = 0.249$, $p = 0.03$).

Table 7 Innovation and business performance

		Profitability	Innov_Bus Sales Growth	Innov_based Business Marketshare
Product Newness	Pearson Correlation	.336(**)	.158	.159
	Sig. (2-tailed)	.003	.177	.172
	N	75	75	75
Product Development Speed	Pearson Correlation	.887(**)	.258(*)	-.003
	Sig. (2-tailed)	.000	.025	.981
	N	75	75	75
Technological Competitiveness	Pearson Correlation	.175	.249(*)	-.002
	Sig. (2-tailed)	.134	.030	.984
	N	75	76	76
Early Technology Adaption	Pearson Correlation	.139	.062	.084
	Sig. (2-tailed)	.239	.595	.473
	N	74	75	75

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

4.2.5 Business Performance and employee income

The relationship between business performance and employee income is shown in Table 8. There is close link between profitability and average increment of employees ($r = 0.310$, $p = 0.01$). These results suggest that as SMEs business performance in terms of profitability improves, chances for employee salary increment increase as well.

Table 8 Business Performance and employee income

		Average increment of employee income	Average minimum monthly salary
Profitability	Pearson Correlation	.310(**)	.044
	Sig. (2-tailed)	.007	.710
	N	75	75
Innov_Bus Sales Growth	Pearson Correlation	-.171	.048
	Sig. (2-tailed)	.139	.681
	N	76	76
Innov_based Business Marketshare	Pearson Correlation	-.065	.080
	Sig. (2-tailed)	.578	.490
	N	76	76

** Correlation is significant at the 0.01 level (2-tailed).

4.2.6 Business Performance and Employee Participation

The relationship between business performance and employee participation is shown in Table 9. The results show that close link between sales growth and involvement of employee in policy, products and market choice ($r = 0.594$, $p = 0.01$). This implies that, there is close correlation between business performance and employee participation.

Table 9: Business Performance and Employee Participation

		Employee Involvement_Policy_Profits Disposition	Employee Involvement-Policy_Products, Market Choice	Employee Involvement - Policy_ Investments	Employee Involvement - Change Managemet
Profitability	Pearson Correlation	.028	.167	-.017	-.087
	Sig. (2-tailed)	.815	.151	.885	.459
	N	75	75	75	75
Innov_Bus Sales Growth	Pearson Correlation	-.062	.594(**)	.136	.010
	Sig. (2-tailed)	.597	.000	.241	.935
	N	76	76	76	76
Innov_based Business Marketshare	Pearson Correlation	-.085	.604(**)	.339(**)	.062
	Sig. (2-tailed)	.468	.000	.003	.592
	N	76	76	76	76

** Correlation is significant at the 0.01 level (2-tailed).

5. CONCLUDING REMARKS

The tentative results obtained so far support the need to promote innovation in SMEs so as to improve their performance and ultimately help reduce employee income poverty. The data shows statistically significant relationship between innovative practices and business performance and between business performance and employee salary increments.

In-depth analysis and interpretation of these results will be done once the second of round of data collection is completed.

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