Original Article

Network Linkages and Performance of Exporting Micro and Small Enterprises in Dar es Salaam, Tanzania: Perspectives in the Handicraft Industry

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Abstract

This study examines the influence of network linkage on the performance of handicrafts-exporting micro and small enterprises (MSEs) in Tanzania. Quantitative and qualitative techniques were used to analyse data collected from 171 owner-managers of sampled exporting handicrafts MSEs in Dar es Salaam. The study used paired sample *t*-test to investigate the existence of significant differences between the two sets of data (before and after networking) from independent variables. The findings indicated a significant relationship between network linkages and MSEs' performance. The study recommends MSEs to invest in business networks which facilitate their access to market information, materials and ancillary support services. It is anticipated that the findings of this study will serve as a frame of reference for future research studies in business networking, entrepreneurship development and export trade.

Keywords

Network linkages, performance, handicraft-exporting micro and small enterprises, Dar es Salaam, Tanzania

Introduction

Network linkages are increasingly becoming important in business worldwide. Network linkages refers to professional or business networking in which people use their personal contacts for business-related goals (Roy, 2010). In an ideal situation, business network linkages emanate from social networks (Mangasini & Gabagambi, 2016). Networking is an important tool for exporting micro, small and medium enterprises (MSMEs), as it creates chances and opportunity for the internationalization process and facilitates their process of entering foreign markets (Hilmersson & Jansson, 2011). It also enhances

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a firm's access to markets, sales growth, chance to survive in a dynamic environment (Watson, 2007), innovation (Lavie, 2007), new product development (Gronum et al., 2012) and international performance (Kenny & Fahy, 2011). Thus, firms operating closer to the centre of business networks are more likely to perform well (Ayako et al., 2014). Network linkages adopted in this study include networks with foreign market distributors, networks with local and foreign business associations and networks with ancillary support firms (i.e., branding and packaging). It is anticipated that network linkages will provide handicrafts-exporting small and medium enterprises (MSEs) with stable sources of accurate information necessary for enhanced performance in export markets.

The progress in defining, conceptualizing and categorizing the performance of exporting MSEs has been marked by several contributors (Khamwon, 2012). Papadopoulos and Martín (2010) view it as the outcome of their activities in export markets. It is the extent to which a firm achieves its objectives when exporting to a foreign market (Navarro et al., 2010). Enterprise performance and networks in both the start-up stage and the growth stage of the firm have a strong relationship. There is a significant relationship between network linkages and the performance of enterprises (Ayako et al., 2014; Tajvidi & Karami, 2014; Broad, 2012). Network linkages are hereby considered important for enterprise performance as they help exporting MSEs to access vital information on foreign markets that is not easily accessible (Yahya & Mutarubukwa, 2015). They have a positive impact on MSMEs' performance and increase legitimacy, which in turn influences access to external finance and successful tapping of resources in an external environment (Olawale & Gware, 2010). Studies by Kariuki and Iravo (2015), Tajvidi and Iravo (2015), Tendai (2013) and Broad (2012) reveal a significant relationship between network linkages and the performance of enterprises. However, there is a seeming neglect of research about local and specific industries like the handicrafts MSEs that are vital to the socio-economic development of developing countries like Tanzania. There is also lack of viable network strategies which seek to identify and serve the specific and unmet needs of MSEs' operators by network providers. Thus, it is obvious that there is a deficiency in local studies on this observable fact, and based on this background, this study intends to fill theses pertinent gaps in the literature by studying the selected variables of the study. The current study attempts to add value to the existing literature by providing empirical evidence on the contribution of networks on the performance of handicrafts-exporting MSEs in Tanzania to fill the existing contextual and conceptual gaps.

The handicrafts industry is one of the many productive sub-sectors which contribute extensively to economic growth in developing countries (Yadav & Mahara, 2019). In Tanzania, the handicrafts sub-sector is mainly dominated by MSEs that face a variety of challenges which slow down their performance in export trade (Kazungu et al., 2018). The major challenges include stiff competition majorly from traders from other countries with better marketing strategies, chains of distribution, advanced technology and export incentives from their governments. Most local handicraft traders operates in small scale and are constrained with marketing support services (Anderson, 2011), entrepreneurship training, technical support services and business capabilities (Rutashobya & Jaensson, 2004 as cited in Makyao, 2013). They are also inhibited by inadequate professional and business development training programmes, networks linkages and awareness of fair trade practices, low level of equipment application and production capacity and quality and standards issues (Ipsos Synovate, 2012). Other inhibitors are lack of vibrant national exporters' association(s), insufficient market information, inadequate support for marketing, absence of a national handicrafts sector development strategy and inadequate organized handicrafts exhibitions (URT, 2010; Walonzi, 2014). As a result, most handcrafts MSEs are ending up with low-quality products that do not meet international quality standards and find it difficult to market them, thus restraining their export performance.

Given these challenges, a number of initiatives have been made by the government and other stakeholders to promote exports from this industry. These include: promoting export opportunities available in foreign countries, which is done by embassies, export markets like African Growth and Opportunity Act (AGOA) in the USA, Everything But Arms (EBA) of the European Union (EU), the East Africa Community (EAC) and the Southern African Development Community (SADC) (WTO, 2012). Initiation of the Tanzania Trade Development Authority (TANTRADE) to oversee the implementation of the National Trade Export Strategy (NTES), organize trainings for MSMEs on internal and external markets, trade fairs, market research and provision of information to potential exporters (Mpunga, 2016).

Despite all these initiatives, handicrafts-exporting MSEs have to rely on network relationships to overcome isolation and their size disadvantages, so as to perform well in the global market. The typologies of networks commonly used by Tanzanian handicrafts MSEs, according to Rutashobya and Jaensson (2004), as cited in Makyao (2013), are: networks with friends, customers and close family ties; networks with independent distributors in foreign markets, cluster members, local and foreign associations; and networks with suppliers of raw materials. These typologies of networking have a positive impact on the MSEs' performance (Olawale & Gware, 2010). This study thus examined the relationship between network linkages—for example, networks with foreign market distributors, local and foreign associations and ancillary support firms (i.e., branding, packaging and research and development [R&D])—and performance of handicrafts-exporting MSEs. This study adopted the multidimensional approach of export performance by using multi-item measures. The approach is more reliable, with less measurement errors than single-item measures, and provides a better picture of performance (Khamwon, 2012; Sousa et al., 2008). The study took on the conceptualization by Gilaninia (2013), Hammami and Zghal (2016) and Khamwon (2012), where two economic indicators (profitability in the export and export sales growth) and two strategic indicators (number of foreign markets served and customer base) were used to determine the performance of exporting handicrafts MSEs from Tanzania.

Review of Literature

The subject matter of network linkages and venture performance is widely covered in the literature to give insights on improved practices in the global business environment. Various scholars have studied the usefulness of networking on enterprise performance. Their idea is based on the relevance of networks ranging from information and opportunity-seeking, access to resources and legitimacy, among others. Tendai (2013) adopted a qualitative approach to investigate the relationship between small business performance and the use of networks in the start-up and growth stages of the firm life cycle in the Netherlands. The study found a relationship between performance and entrepreneurial networks in both the start-up stage and the growth stage of the firm. SMEs which are closer to the centre of business networks are more likely to perform well. The reviewed study revealed a significant relationship between networking and the performance of enterprises, which was also observed by Ayako et al. (2014), Tajvidi and Karami (2014) and Broad (2012).

A study by Kariuki and Iravo (2015) used a case study research design and purposive sampling to explore the perceived role of business networking on the performance of women-owned enterprises in Kenya. The findings indicated that business networks play a very great role in the performance of enterprises. The study further indicated the significant relationships between the structure of networks, relations in networks and performance of women-owned enterprises. The structure of business networks and the different relations were significant factors affecting firm performance. This observation was also

of key interest in the current study, as it is focused on the relationship between network linkages and the performance of handicrafts-exporting MSEs in Tanzania. This is a very good case for the role of networking in the performance of enterprises, as it was done in a context similar to the Tanzanian business environment.

Theoretical Framework

This article is informed by the relational-based theory (RBT), which has been frequently used in studying networking and MSEs' performance (Olawale & Gware, 2010). RBT is the relational paradigm described by Francis and Collins-Dodd in 2000. RBT looks at the network of business interactions and views enterprise export performance as a development of relationships with overseas buyers. The RBT paradigms examine the applicability of export orientation and export entry strategy. Exporting MSEs, in this theory, are considered to be firms' tactical response to the relationship between the internal and external factors. Such networks account for differences between enterprises in terms of their likelihood to upgrade and succeed in a particular country (Loewe et al., 2013). Networking has a positive impact on MSMEs' performance, as it influences their access to finance and resources in an external environment (Olawale & Gware, 2010). It also helps exporting MSEs to access vital information on foreign markets that is not easily accessible (Yahya & Mutarubukwa, 2015).

Handicrafts-exporting MSEs therefore must effectively use network linkages to overcome isolation and their size disadvantages, in order to perform well in the global market. The typologies of networks commonly used by the Tanzanian handicrafts MSEs are networks with friends, customers and close family ties; independent foreign distributors, cluster members and local and foreign associations; and suppliers of raw materials (Rutashobya & Jaensson 2004 in Makyao, 2013). These typologies of networking have a positive impact on the performance of MSEs (Olawale & Gware, 2010). This article used RBT to establish a causal relationship between handicrafts-exporting MSEs with access to network linkages (e.g., networks with foreign market distributors, local and foreign associations and ancillary support firms [i.e., branding and packaging]) and their performance. Network linkages are therefore considered to be directly and positively associated with the performance of handicrafts-exporting MSEs. Based on this premise, it is hypothesized that there is a positive significant performance difference between pre- and post-network linkages among handicrafts-exporting MSEs in Tanzania.

Objective and Rationale of the Study

Despite their important contribution to the country's economy, Tanzanian handicrafts exporters (which are in the manufacturing sub-sector) are lagging behind; they contribute to only 8 per cent of exports and GDP (SIDO, 2014). As a result, most handcrafts MSEs end up with low-quality products that do not meet international quality standards and are difficult to market, thus restraining their performance in export markets. This puts handcrafts MSEs in a severe operational-distressed position. Such restrained MSEs, if left with no network, more often than not will steadily underperform in the foreign markets. Studies (i.e., Kumburu, 2016; Gronum, 2015; Ayako et al., 2014; Surin & Wahab, 2013) have shown that MSEs with no access to networks linkages are more likely to underperform. This underperformance is a serious matter that involves a serious waste of profitability, manufactured exports, human resources, GDP and government revenues. This therefore forms the basis for an in-depth examination of the relationship

between network linkages and performance of handicrafts-exporting MSEs, taking handicrafts operators in Dar es Salaam as a case in point. The objective of this study is to examine the influence of network linkages on the performance of handicrafts-exporting MSEs in Tanzania.

Methodology

This study was carried out through a descriptive survey design. The sampled population consisted of 171 owner-managers of handicrafts-exporting MSEs in Dar es Salaam, Tanzania. Dar es Salaam is the largest city in Tanzania, with more than 15 informal handicrafts markets in Kariakoo, Mwenge Handicraft Centre, *Nyumba ya Sanaa* (House of Art), the *Kijiji cha makumbusho* (Village Museum) among others. These markets form the strata of interest in this study. It is also one of the most visited tourist destinations in the country; it attracts many local entrepreneurs and immigrants who engage in the handicrafts trade (Walonzi, 2014). The sampling frame for this study consisted of the list of all exporting handcrafts MSEs accessing Business Development Services (BDS) from the Small Industries Development Organisation (SIDO) in Dar es Salaam, Tanzania.

The study adopted purposive sampling and proportionate stratified sampling techniques. Handcrafts MSEs that have been operating for at least 5 years were purposively sampled under the assumption that being in business for 5 years is adequate for assessing business performance. A proportionate stratified sampling technique was then used to select the sample for the study where each stratum was properly represented. The study used a structured questionnaire, and a review of empirical and theoretical literature was done by perusing and reviewing books, published government reports, policy documents, baseline survey reports, research reports, research articles, trade associations' reports and records on handcrafts MSEs' access to network and sector-wise export trends.

To ensure reliability of the research instrument, a pilot study was carried out on 14 handicrafts-exporting MSEs in Arusha, Tanzania. This was followed by the use of Cronbach's alpha to test the reliability of the internal consistency of the study variables in the questionnaire. Cronbach's alpha has the most utility for multi-item scales at the interval level of measurement, requires only a single administration and provides a unique, quantitative estimate of the internal consistency of a scale (Sekaran, 2010; Cooper & Schindler, 2011). Table 1 indicates that the performance of handicrafts-exporting MSEs and network linkages had the alpha coefficients of 0.846 and 0.915, respectively, which exceed 0.7 (Burns & Burns, 2012); thus, the questionnaire was reliable. This study used both qualitative and quantitative data analysis techniques. Factor analysis established the appropriateness of the variable constructs. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were conducted to check the existence of adequate correlation between the individual items in each section of the questionnaire, and thus provided justification for further inferential statistical analysis.

Table 1. Reliability Test of Constructs.

Variable	Reliability Cronbach's Alpha	Number of Items	Comment
Performance of handicrafts exporting MSEs	0.846	4	Highly accepted
Network linkages	0.915	12	Highly accepted

Source: The author.

Paired Sample t-Test

A paired sample *t*-test was used to determine if there were changes in performance of handicrafts-exporting MSEs, through which the number of networks established was also determined. The number of networks was determined to find out whether the difference in the means is large enough to be practically meaningful. An effect size *d* = 0.3 means a small effect, while *d* = 0.5 and *d* = 0.8 refer to medium size and large size, respectively. The paired sample *t*-test was computed from:

$$t = d/\sqrt{s^2/n} \tag{1}$$

where *d* is the mean difference; S^2 is the sample variance; *n* is the sample size; and *t* is the paired sample *t*-test. The time period considered was the period between when the first network service was obtained and the time the study was conducted. Since the study measures the effect of network services on the performance of handicrafts-exporting MSEs over time for the same participants, a paired sample *t*-test was identified as appropriate.

Analysis

Profile of Handicrafts Operators in Tanzania: The study looked at key business information like education, business experience and handicrafts' marketing model (type and source of products, export mode and destination).

Education of Owner–Managers: The findings in Table 2 reveal that 1.8 per cent of the respondents were illiterate, 19.9 per cent had primary education, 26.3 per cent had secondary education, 29.2 per cent had tertiary education and 22.8 per cent possess university education. It is very important to look at entrepreneurs' levels of academic qualifications as they influence the impartation of both managerial and entrepreneurial skills of most entrepreneurs (Ngugi, 2012). The performance of handicrafts-exporting MSEs, therefore, can be attributed to entrepreneurs' level of education, as it was observed that 78.3 per cent of the entrepreneurs in the industry have above basic education, which is primary-school level in the Tanzanian context. This supports Xiaowei and Zhang (2010), who found that owner education level had a positive effect on firm performance.

Table 2. Respondents' Profile

	Category	Frequency (*N* = 171)	Percentage
	18–25	14	8.2
	26–35	50	29.2
Age bracket	36–45	53	31.0
	46–55	44	25.7
	0ver 56	10	5.8
Experience (years)	Experience in Handicrafts Operations	Export Experience in Handicrafts	Total
1–5 years	29 (16.9%)	44 (25.7%)	73 (21.4%)
6–10 years	89 (52.1%)	81 (47.4%)	170 (49.7%)
More than 10 years	53 (31.0%)	46 (26.9%)	99 (28.9%)
Total	171 (100%)	171 (100%)	342 (100%)
Pearson chi-square=95.249[a]; df = 4; p = 0.000			

Source: The author.

Note: [a]is significant at p< 0.05.

Table 3. Export Destination for Handicraft Products

| Export Destination	Responses		Percentage of Cases
	N	Percentage	
Africa	151	37.4	88.3
Asia	60	14.9	35.1
Europe	65	16.1	38.0
Middle East	50	12.4	29.2
USA	73	18.1	42.7
Others	5	1.2%	2.9
Total	**404**	**100.0**	**236.3**

Source: The author.

Note: The total frequency and percent, respectively, do not add to 171 and 100 exactly, due to multiple responses.

Business Experience: Table 2 shows that 52.1 per cent of MSEs had been in operation for a period ranging between 6 and 10 years, followed by 31 per cent with firm age above 10 years. In terms of export experience, 47.4 per cent have been exporting for between 6 and 10 years and another 26.9 per cent had export experience of more than 10 years. These findings corroborate Rutashobya and Jaensson (2004), who revealed that a large number of the firms in the handicrafts industry have less than 10 years of export experience. Furthermore, a study by Kumburu (2016) suggests that the length of time in operation is significantly associated with business performance, as it is linked with availability of the market for selling its products.

Handicrafts Marketing Model: The study established the marketing model used in this industry. It was discovered that the main products that are exported are: baskets, batik, bone jewellery, bowls, candles, carvings, doorstoppers, ebony wood, greeting cards, jewels and kikoys. Others were letter openers, leather goods (sandals, staff shoes, schools shoes, boots, belts, wallets, coats, folders), local musical instruments, Maasai dresses, salad-serving spoons, beads (*shanga*), *tingatinga* paintings, traditional decorations, wall plates, wood carvings and clothes, among others. This portrays that there is a wide range of products from the Tanzanian handicrafts exporters, which increases their competitiveness in the global market. Figure 1 indicates that most of the handicrafts that are exported (75.4%) are made by the operators, followed by those bought from the artisans (9.9%), those bought from the cooperatives (8.8%) and those bought from buying agents (5.8%).

As for export destination, the findings in Table 3 establish that 88.3 per cent of the products are exported to African countries like Kenya, Uganda and Rwanda, followed by 42.7 per cent to the USA, 38.0 per cent to European countries, 35.1 per cent to Asia and 29.2 per cent to the Middle East. This illustrates that handicrafts-exporting operators from Tanzania make effective use of the trade relations through regional economic integrations like the EAC and SADC by selling more of their products to their neighbouring African countries. It is also noted that Europe and the USA offer great opportunities for the development of the Tanzanian handicrafts industry through such duty-free and well-paying export market arrangements as EU's EBA and the US AGOA (Plunkett, 2008).

For export modes, the study established that 53.8 per cent of the handicrafts are exported indirectly (e.g., piggybacking) through agents, and 24.6 per cent are taken by the handicrafts operators directly to customers, or through friends, relatives, and other customers in the foreign markets, while 21.6 per cent are exported by both ways. It is therefore clear that handicrafts-exporting MSEs were exporting either
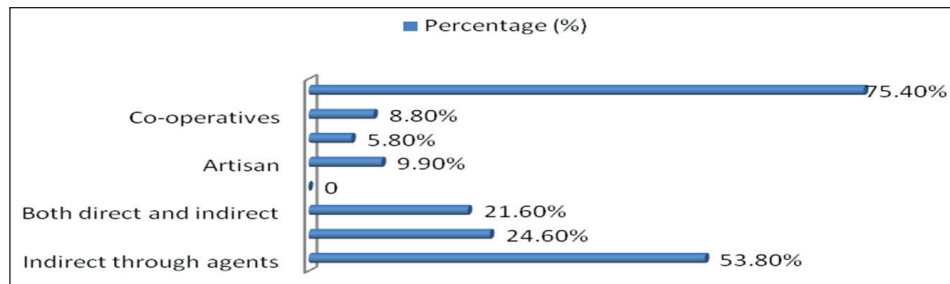
Figure 1. Source and Export Modes of Handicrafts
Source: The author.

indirectly or directly, with the former dominating the mode of exporting. This domination is attributed to the fact that most handicrafts operators are operating on a small scale with less capital, which constrains their ability to export directly to foreign countries. As a result of the use of such agents and foreign distributors, according to Mukami (2012), handicrafts traders never fully benefitted from the profits accrued from their exports, as they shared with the agents who at times benefitted the most as they could negotiate better prices than the prevailing market prices with the clients.

Network Linkages and Performance of Handicrafts-exporting MSEs: Factor analysis was conducted using the principal components method (PCM). The extraction of the factors followed the Kaiser criterion where an eigenvalue of 1 or more indicates a unique factor. Table 4 shows that network linkages had 12 factor loadings greater than 0.7, which were all accepted for analysis, and a KMO statistic of 0.841, which is significantly greater than the critical level of significance (0.5) of the test (Field, 2013). The Bartlett's test of sphericity was also highly significant (chi-square = 1777.465, with 66 degrees of freedom, at $p < 0.05$). This gave an excellent justification for further inferential statistical analysis to be done. The performance of handicrafts-exporting MSEs had four (4) factor loadings greater than 0.7 and were all accepted for further statistical analysis, as shown in Table 5. Findings also show a KMO statistic of 0.721, which is significantly high (>0.5) (Field, 2013). The Bartlett's test of sphericity was also highly significant (chi-square = 278.391, with 6 degrees of freedom, at $p < 0.05$). The KMO and Bartlett's test results gave an excellent justification for further inferential analysis to be done.

Table 4. Factor Loading for Network Linkages

Sub-variable	Factor Loadings	Factor Communalities
We are labelling our handicraft products for exports	0.922	.732
We have been equipped with branding strategies	0.910	.874
We use packaging strategies for our handicraft products	0.878	.794
We have received adequate training on product quality enhancement	0.793	.744
Handicrafts associations have facilitated us with information on input supply	0.908	.836
We have well-established ties with handicrafts associations	0.869	.867
Handicrafts associations assist us with foreign market price information	0.824	.828

(Table 4 Continued)

(Table 4 Continued)

| Sub-variable	Factor Loadings	Factor Communalities
Handicrafts associations have facilitated us with different modes of export	0.719	.719
Our firm has well-established ties with foreign distributors	0.908	.862
We are networking with foreign market distributors	0.803	.877
Networking with distributors helps us in foreign market promotion	0.755	.833
Foreign market distributors expanded our overseas distribution networks	0.704	.732
KMO Sampling Adequacy and Bartlett's Sphericity Tests for Network Linkages	**Coefficient**	
Kaiser–Meyer–Olkin measure	0.841	
Bartlett's chi-square	1777.465	
Bartlett's df	66	
Bartlett's sig.	0.000	

Source: The author.

Table 5. Factor Loading for Performance of Handicrafts Exporting MSEs

Sub-variable	Factor Loadings	Factor Communalities
Export sales growth	0.796	.675
Firm profit growth	0.870	.786
Number of customers served	0.796	.600
Number of foreign markets served	0.776	.596
KMO Sampling Adequacy and Bartlett's Sphericity Tests	**Coefficient**	
Kaiser–Meyer–Olkin measure	0.721	
Bartlett's chi-square	278.391	
Bartlett's df	6	
Bartlett's sig.	0.000	

Source: The author.

Descriptive Analysis of Network linkages: The study identified the major sources of network linkage among the handicrafts-exporting MSEs in Tanzania. As shown in Figure 2, more of the MSEs (46%) were networked through government agencies, followed by trade associations (41%). Government agencies such as SIDO and Vocational Education with Training Authority (VETA) were found to be very helpful in networking handicrafts MSEs. TanCraft, Tanzania Women Chamber of Commerce (TWCC), Union of Tanzanian Art and Craft Artisans (UTACA), the Artisans Enterprises Network (AEN) and Fair Trade Federation (FTF) were also found to be helpful trade associations among the handicrafts operators in Tanzania.
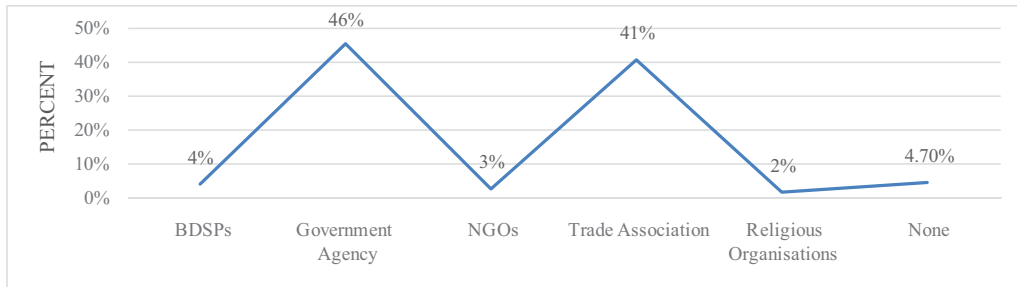
Figure 2. Sources of Network Linkages
Source: The author.

To establish the influence of network linkages on the performance of handicrafts-exporting MSEs, the study established a mean score index. In this index, means greater than 1 and less than 1.5 implied that network linkages influenced the performance of handicrafts-exporting MSEs to no extent. Means greater than 1.5 and less than 2.5 implied that network linkages influenced the performance of handicrafts-exporting MSEs to a little extent. Means greater than 2.5 and less than 3.5 implied that network linkages influenced the performance of handicrafts-exporting MSEs to a moderate extent. Means greater than 3.5 and less than 4.5 implied that network linkages influenced the performance of handicrafts-exporting MSEs to a greater extent. Means greater than 4.5 implied that network linkages influenced the performance of handicrafts-exporting MSEs to a very great extent. Table 6 shows that the mean score for the 12 sub-constructs of network linkages was 3.950292, which indicates that a majority of the respondents agreed to a greater extent that network linkages was a key driver of performance of handicrafts-exporting MSEs.

Table 6. Descriptive Analysis of Network Linkages

Statements on Network Linkages	Percentages (%)					Likert Mean	Std. Deviation
	SD	D	N	A	SA		
We have been networking with foreign market distributors over the past 5 years of handicrafts exporting	2.3	12.9	5.8	64.3	14.6	3.7602	.93673
Our firm has well-established ties with foreign distributors	2.3	9.9	9.9	56.1	21.6	3.8480	.95192
Networking with foreign market distributors helps us in foreign market promotion	0.6	11.1	3.5	62.6	22.2	3.9474	.86950
Foreign market distributors expanded our overseas distribution networks	1.2	11.1	5.8	61.4	20.5	3.8889	.89735
Our firm has well-established ties with local and foreign handicrafts associations	7.0	3.5	5.8	55.0	28.7	3.9474	1.05865
Local and foreign handicrafts associations have facilitated us with information on input supply	6.4	5.3	7.6	52.0	28.7	3.9123	1.07289

(Table 6 Continued)

(Table 6 Continued)

Statements on Network Linkages	Percentages (%)					Likert Mean	Std. Deviation
	SD	D	N	A	SA		
Local and foreign handicrafts associations assist us with access to foreign market price information	1.2	9.4%	5.3	55.0	29.2	4.0175	.91055
Local and foreign handicraft associations have facilitated us with different modes of handicrafts export	0.6	10.5	12.3	42.7	33.9	3.9883	.97007
We have been equipped with branding strategies	3.5	9.9	8.8	45.6	32.2	3.9298	1.06040
We are labelling our handicraft products for exports	2.9	9.4	8.8	40.4	38.6	4.0234	1.05693
We use packaging strategies for our handicraft products	2.3	11.1	2.3	45.0	39.2	4.0760	1.03473
We have been facilitated with product quality strategies	2.3	7.6	2.9	55.6	31.6	4.0643	.92765
Average	**2.72**	**9.31**	**6.57**	**52.98**	**28.41**	**3.9504**	**0.9789**

Source: The author.

Notes: SD = Strongly disagree; D = disagree; N = neutral; A = agree; SA= strongly agree.

For standard deviations, a value greater than one (1) indicates higher variation, while a standard deviation of less than one (1) indicates less variation. In Table 6, an average of 0.978948 for all statements on network linkages indicates less variation for responses on network linkages. The study findings thus reveal that the majority of handicrafts-exporting MSEs in Tanzania do enjoy the provision of network linkages offered by the government and other stakeholders like the private business development services providers (BDSPs), trade associations and non-governmental organizations (NGOs). Thus, handicrafts-exporting MSEs that access network linkages, in the form of networks with foreign market distributors, local and foreign business associations and ancillary support firms, will enhance their performance.

Typologies of Networks Used by Handicrafts-exporting MSEs: The study also identified the typologies of networks that handicrafts-exporting MSEs are using. The findings revealed that there are five main typologies of networks frequently used by the handicrafts-exporting MSEs in Tanzania. These include: (a) networks with friends, customers and close family ties; (b) networks with local producers; (c) networks with foreign distributors; (d) networks with cluster members and local and foreign handicrafts associations; and (e) networks with ancillary support firms. These findings differ from Rutashobya and Jaensson (2004), who revealed that a large number of firms in the handicrafts industry have only four network linkages with the exclusion of networks with ancillary support firms as identified in this study.

Performance of Handicrafts-exporting MSEs: The study sought to determine the performance of handicrafts-exporting MSEs in Tanzania. This was measured by using a 5-point Likert scale with four constructs which asked respondents to state how the performance of handicrafts-exporting MSEs have been increasing over the past 5 years of handicraft exports in terms of: (a) export sales growth; (b) firm profit growth; (c) number of customers served; and (d) foreign markets served. The findings in Table 7 indicate that 97.9 per cent of the respondents agreed that their performance had increased in terms of export sales growth and firm profit growth. All sampled respondents agreed that the number of customers

served had been increasing over the past 5 years of export operations, and 96.5 per cent reported an increase in the number of foreign markets served. The findings in Table 7 further indicate an average of 3.4108 for all statements on the performance of handicrafts-exporting MSEs was obtained. This shows that the overall performance of handicrafts-exporting MSEs is improving to a moderate extent. Likewise, a standard deviation with an average of 0.8006 for all statements on performance was obtained. This indicates that there is no consensus on the responses obtained. The overall performance of handicrafts exporting MSEs in Tanzania is increasing in terms of sales revenues, profits and number of employees.

Paired Sample Test: To determine the influence of network linkages on the performance of exporting handicrafts MSEs in Tanzania, a paired sample *t*-test was conducted. The paired sample *t*-test was adopted in this study as it is considered to be more powerful than two-sample *t*-tests when samples from each population are correlated and the differences between the two pair-wise populations are normally distributed (Zar, 1996), which is the case with the current study where plots are paired. Groups evaluated in this study included networks with: (a) foreign market distributors; (b) local and foreign business associations; (c) raw materials suppliers; and (d) ancillary support firms.

The paired sample *t*-test was also used by Gakure et al. (2015) in their study on the effects of product technology on the performance of manufacturing SMEs in Nigeria. The study investigated the existence of any significant differences between the two sets of data (before and after adoption) from independent variables, namely innovative process, advanced material selection, advanced packaging technique and product design. Mahgoub and Alsoud (2015) too used the paired sample *t*-test in their study on the impact of handicrafts on the promotion of cultural and economic development for students of art education in higher education through handicrafts based on local customs and traditions in the Republic of the Sudan. Also, Seno-Alday (2011) used the paired sample *t*-test on a sample of the Fortune Global 500 firms over a 5-year period from 2005 to 2009 to examine the relationship between internationalization and firm performance.

The findings in Table 8 show that all the four pairs of the variable constructs were significant ($p <$ 0.001) at 0.001 level of significance and had positive correlations, which allowed for paired samples' descriptive statistics and paired sample test to be done. Also, the study findings in Table 9 indicate that the arithmetic mean ranged between 1.3626, with a standard deviation of 1.58953, and 6.3743, with a standard deviation of 7.06859. Tables 8 and 9 show that there is a significant difference between business performance before and after the implementation of network programmes through the potential values, which amounted to 0.000. These potential values in all the pairs (1 to 4) are significant (i.e. $p < 0.05$). Likely, the arithmetic mean values after applying the network programmes are greater than their corresponding arithmetic mean values before implementing the network programmes for all the four pairs.

Table 7. Descriptive Analysis of Performance of Handicrafts Exporting MSEs

Item	Percentages (%)					Likert Mean	Std. Deviation
	NA	SE	ME	LE	VLE		
Export sales growth	2.9	4.7	59.1	28.7	2.3	3.2749	0.75179
Firm profit growth	2.9	3.5	50.3	38.0	5.3	3.3918	0.76983
Customers served	0.0	9.4	35.1	49.7	5.8	3.5205	0.74628
Foreign markets served	3.5	11.1	31.0	45.0	9.4	3.4561	0.93438
Average	**2.33**	**7.18**	**43.88**	**40.35**	**5.7**	**3.4108**	**0.8006**

Source: The author.

Note: NA = Not at all; SE = small extent; ME = moderate extent; LA = large extent; VLE = very large extent.

A thorough analysis of the findings revealed that before the implementation of the network programmes, handicrafts-exporting MSEs were not able to access foreign market distributors, local and foreign business associations, raw materials suppliers and ancillary support firms, which are vital to their business operations both in local and foreign markets. Results in Table 10 thus confirm a significant difference between performance of exporting handicrafts MSEs before and after the implementation of the network programmes. This substantiates that the execution of such network programmes could positively influence handicrafts MSEs' performance through a reliable access to foreign market distributors, local and foreign business associations, raw materials suppliers and ancillary support firms.

The hypothesis tested was *There is a positive significant performance difference between the pre– and post–network linkages among the exporting handicraft MSEs in Tanzania* (H_A). Findings in Table 10 reveal a significant ($p < 0.05$) relationship between network linkages and performance of exporting handicrafts MSEs. Therefore, H_A was accepted, and it was concluded that access to network programmes could positively influence the performance of exporting handicrafts MSEs in Tanzania. These findings corroborate those of Cisi et al. (2016), Kumburu (2016), Surin and Wahab (2013) and Gronum (2015), who observed a positive and significant link between networking and SMEs' performances.

Table 8. Paired Sample Correlations

Pair	Variable	N	Correlation	Sig.
Pair 1	Foreign markets distributors before – foreign markets distributors after	171	0.521*	0.000
Pair 2	Business associations before – business associations after	171	0.215*	0.000
Pair 3	Raw materials suppliers before – raw materials suppliers after	171	0.299*	0.000
Pair 4	Ancillary support firms before – ancillary support firms after	171	0.404*	0.000

Source: The author.

Note: *Correlation is significant at the 0.001 level (two-tailed).

Table 9. Paired Samples' Descriptive Statistics

Variable (before and after networking)	N	Mean	Std. Deviation	Std. Error Mean
Number of foreign market distributors before	171	1.3860	1.34279	0.10269
Number of foreign market distributors after	171	4.1754	2.57446	0.19687
Number of local and foreign business associations before	171	1.4094	1.14621	0.08765
Number of local and foreign business associations after	171	6.3743	7.06859	0.54055
Number of raw materials suppliers before	171	1.5322	1.29835	0.09929
Number of raw materials suppliers after	171	5.4327	3.38507	0.25886
Number of ancillary support firms before	171	1.3626	1.58953	0.12155
Number of ancillary support firms after	171	5.936	4.4034	0.3367
Valid N (listwise)	171			

Source: The author.

Table 10. Paired Sample Test

Variable	Paired Differences					t	df	Sig. (two-tailed)	Decision
	Mean	Std. Deviation	Std. Error Mean	95 Per Cent Confidence Interval of the Difference					
				Lower	Upper				
Pair 1 Foreign market distributors before – foreign market distributors after	-2.78947	2.19682	0.16799	-3.12110	-2.45785	-16.605	170	0.000	Accept H_A
Pair 2 Business associations before – business associations after	-4.96491	6.91281	0.52864	-6.00845	-3.92138	-9.392	170	0.000	Accept H_A
Pair 3 Raw materials suppliers before – raw materials suppliers after	-3.90058	3.24247	0.24796	-4.39006	-3.41111	-15.731	170	0.000	Accept H_A
Pair 4 Ancillary support firms before – ancillary support firms after	-4.57310	4.03210	0.30834	-5.18177	-3.96443	-14.831	170	0.000	Accept H_A

Source: The author.

Theoretical Implications of the Findings

RBT was used in this study to anchor MSEs' need for network linkages in pursuit of their performance in export markets. RBT is relevant in explaining the need for networking among MSEs and other actors in the handicrafts industry in achieving excellent performance in export markets. The findings were that owner-managers especially need to set networks with independent distributors in foreign markets, cluster members, trade associations, ancillary support firms and suppliers of raw materials. The findings offer an important theoretical explanation, that is, to perform well in the foreign market, handicrafts-exporting MSEs have to rely on well-established networks and relationships to overcome isolation and their size disadvantages. Due to the influence of network linkages, it is important for the government, policymakers and trade associations to understand how to develop and nurture potential networks among entrepreneurs. This scenario validates the need for RBT.

Conclusion

The descriptive findings reveal the mean score for the 12 sub-constructs of network linkages was 3.950292, which indicates that a majority of the respondents agreed to a greater extent that network linkages was a key driver of firm performance. The paired sampled *t*-test results showed that network linkages was statistically associated with performance ($p < 0.05$). This implies that firms that are networked have higher chances of having higher firm performance, as compared to those without or with low network linkages. Hypothesis testing revealed that network linkages has a statistically significant relationship with firm performance. The study therefore concludes that network linkages has a significant effect on the performance of handicrafts-exporting MSEs. Firms that have well-established ties with foreign market distributors, handicrafts associations and ancillary support firms can achieve superior performance in export trade.

Recommendations

MSEs should also invest in business networks which facilitate their access to local and foreign market information, access to materials and ancillary support services. It is also recommended that MSEs' owner-managers should establish network ties among themselves and through trade associations. Through their trade associations, they should work closely with the government and come up with a policy on MSEs' capacity building, networking and knowledge and skills sharing among the entrepreneurs. MSEs are also recommended to exploit their strong ties with the market to increase performance.

Acknowledgement

Declaration of Conflicting Interests

Funding

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