The Challenge of Upgrading in African Industries: Socio-Spatial Factors and the Urban Environment in Mwanza, Tanzania

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Summary. — This paper examines the challenges facing small-scale furniture makers in the city of Mwanza, Tanzania, assesses the prospects for these firms to upgrade their manufacturing activities, and evaluates the degree to which clustering activities are influencing the prospects for upgrading. Through in-depth observations of firms and interviews with business owners, data on the demographic characteristics, networking strategies, market orientations, and the physical location and situational attributes of furniture making firms are analyzed in relation to their performance and innovation levels. The data and analyses reveal several significant findings regarding the performance of manufacturers in Tanzania, the value (or limited utility) of clusters, the ways in which Mwanza’s markets, institutions, and spatial characteristics influence clustering activities and the marketing strategies of firms, and about how upgrading in Tanzania’s manufacturing sector might be better supported by state and municipal governments.

Key words — upgrading, industry, clusters, furniture, Sub-Saharan Africa, Tanzania

1. INTRODUCTION

Manufacturing industries in Africa today are challenged to grow and innovate in contexts lacking many of the basic institutional, infrastructural, technological, and financial capabilities necessary for a more efficient, equitable, and prosperous integration into the global economy. While economic liberalization programs have benefited some primary product sectors (e.g., minerals, agriculture), imported consumer goods have crowded out many local firms, and anticipated improvements in the productivity of manufacturing enterprises have failed to materialize (Adenkinju, Soderling, Soludo, & Varoudakis, 2002; Carmody & Taylor, 2003; Cramer, 1999; Harding, Söderbom, & Teal, 2002; Pack, 1993). In many countries (e.g., Tanzania, Ghana), once state-controlled or import protected manufacturing industries have collapsed in response to liberalization and privatization initiatives while the number of micro-enterprises in the informal sector has increased dramatically (Daniels, 2005; Owusu, 2001; Porter, 1990; Wuyts, 2001). From a macroeconomic perspective, the magnitude and increasing significance of the small-scale manufacturing sector raises serious questions about if and how economic liberalization programs might facilitate innovation and growth in domestic industries and enable African firms to become integrated into the global markets (Gibbon & Ponte, 2005).

Recent studies have examined how enterprises in developing regions might effectively upgrade their products, processes, and functions in response to the expectations embedded in value chains for consumer goods (Brautigam, 1997; Coe, Hess, Yeung, Dicken, & Henderson, 2004; Gibbon & Ponte, 2005; Sáinz, 2003). Upgrading is fundamentally about innovation

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and is derived through the mobilization of economic, social, institutional, and geographic resources or capabilities at the urban, regional, or national scale. Economically, upgrading requires that foreign firms have cost-effective access to domestic markets and that local levels of productivity are favorable vis-à-vis competing countries, cities, or regions (Wood, 2001). Socially, firms need to develop reliable business networks locally and find ways to build trusting ties with regional markets, lead firms, and the global economy (Bathe, Malmberg, & Maskell, 2004; Sáinz, 2003). Institutionally, upgrading is facilitated when financial and political institutions function effectively and transparently and reduce the transaction costs associated with doing business (Cramer, 1999; Humphrey & Schmitz, 2002; Kaplinsky, Memdovic, Morris, & Readman, 2003). Geographically, upgrading is fostered through physical accessibility and connectivity to the global marketplace and by evolutionary development processes that embed technological capabilities and specializations within particular places and regions (Coe et al., 2004; Sturgeon, 2003). When considered in relation to Sub-Saharan Africa, upgrading presents a particularly challenging task as firms and industries must overcome significant financial, organizational, technological, and infrastructural limitations in order to meet the demands of the global markets (Gibbon & Ponte, 2005).

For small enterprises and cities in Sub-Saharan Africa, clusters or agglomerations may offer one means for overcoming some of these challenges and for creating more innovative and globally integrated industrial sectors (Giuliani, Pietrobelli, & Rabellotti, 2005; Humphrey & Schmitz, 2000, 2002; McCormick, 1999). Ideally, clustering creates external economies and collective efficiencies that increase the competitiveness, flexibility, and responsiveness of an industrial sector while providing opportunities for small firms to increase their production and technological capabilities (Bell & Albu, 1999; Schmitz & Nadvi, 1999; Scott, 2002; van Dijk & Sverrisson, 2003). Moreover, clustering can enable small firms to take on manageable levels of risk, gradually expand their market reach, and grow incrementally through relationships with buyers who demand greater quality and product consistency (Nadvi, 1999; Schmitz & Nadvi, 1999; van Dijk & Sverrisson, 2003). Despite the positive assessments of the potential for clusters, recent studies have shown that innovative and profitable firms often do not participate in them and benefit more by developing and sustaining narrow but strategic ties with key buyers or customers (Giuliani et al., 2005; Izushi, 1997; Kristiansen & Mbwambo, 2003; Scott, 2006). As such, important questions remain about where and why industrial clusters are emerging in the Global South, if and how such activities are contributing to innovation and improved performance, and about the influence of the state on their formation, survival, and success.

This paper examines the challenges facing small-scale furniture makers in the city of Mwanza, Tanzania, assesses the prospects for these firms to upgrade their manufacturing activities, and evaluates the degree to which clustering activities are influencing the prospects for upgrading. Through in-depth observations of firms and interviews with business owners, data on the demographic characteristics, networking strategies, market orientations, and the physical location and situational attributes of furniture-making firms are analyzed in relation to their performance and innovation levels. In addition to examining the trade-offs and rewards associated with behavior within enterprises, the study broadly assesses how firms' marketing strategies, production systems, and location selections are influenced by a wider market, institutional, and spatial characteristics in Mwanza; conceptualized here as an urban environment that “selects” for particular kinds of firms, technologies, locations, and networking strategies. In doing so, this study confronts three central questions: (a) To what degree are firms in Mwanza developing the business strategies, innovations, skills, and networks that might facilitate upgrading into global value chains in the furniture industry? (b) Are firms creating and exploiting clusters as a means for upgrading and performance improvements? and (c) How are Mwanza's municipal government and Tanzania’s economic liberalization policies influencing the activities of firms and what kinds of policy changes might improve performance and enhance capabilities in the furniture industry?

The data and analyses reveal several significant findings regarding the current state of firms and industries in Tanzania, the ways in which local markets, institutions, and locations influence them, and about how endogenous industrial development might be better supported by state and municipal government institutions. First, firms able to develop local business networks and extra-local ties appear to have more innovative, creative, and flexible
production systems. Second, Mwanza’s high rate of urbanization and lack of formal sector employment opportunities has greatly increased the size of the urban informal sector and, in effect, created a hypercompetitive environment for furniture makers; one which favors low-price and low-quality over higher-value products and more innovative and flexible production systems. Third, the municipal government’s desire to move industrial activities away from the Central Business District (CBD) has had significant consequences in terms of the ability of small-scale furniture makers to access desired markets and invest in capital improvements at their production sites. The influences of Tanzania’s economic liberalization policies, particularly the decentralization of fiscal authority, are apparent here as city officials have aggressively sought to move industrial activities away from the CBD with the hope of attracting outside investments that might generate significant tax revenues. Fourth, clustered firms that maintain a high degree of physical accessibility–visibility are less innovative, less oriented toward customer needs, and have significantly fewer business ties and external links than those firms that are more isolated. Thus there is a significant contrast between physical openness and social connectivity, and clustering is observed to be most important as a survival strategy favored by firms new to Mwanza or those yet to establish relationships to a reliable customer base.

The remainder of the paper is organized into seven sections. In Section 2, the literature on industrial development in Africa is briefly reviewed with emphasis on the prospects for upgrading in manufacturing activities, the significance and role of clusters, and the general challenges specific to urban industries in Africa. Section 3 describes the general characteristics of the global furniture industry and those of manufacturers in Mwanza, Tanzania. Section 4 reviews the field research methodology and explains how scores for and analyses of the study’s variables were developed and conducted. Section 5 presents findings linking performance and innovation levels to the social, production, marketing, and demographic characteristics of firms. Section 6 focuses on the role of marketing strategies and spatial organization and evaluates the links between market orientation, location, and co-location of firms and their networking strategies, performance levels, and innovation scores. Section 7 assesses how the socio-spatial dynamics of Mwanza’s furniture industry are influenced by the city’s market, institutional, and spatial environment. Section 8 presents policy recommendations and concluding remarks about the study’s broader significance within and beyond Tanzania.

2. INDUSTRIAL DEVELOPMENT IN SUB-SAHARAN AFRICA’S CITIES

Sub-Saharan Africa’s struggles with industrial development are well documented since liberalization programs began in the 1980s (Adenikinju et al., 2002; Brautigam, 1994, 1997; Killick, 1995; Lall, 1992; Lall & Pietrobelli, 2002; Mytelka, 1989; Pack, 1993; Pedersen & McCormick, 1999). Most explanations for the region’s poor performance emphasize the inadequacy of financial and political institutions, the weak economic environments available to firms, and/or the lack of physical infrastructure, technological capabilities, or human capital. Throughout the literature there is also widespread recognition that Africa’s industrialization is largely dependent on the ability of domestic manufacturers to compete against imported consumer goods and on the quality of the links firms establish to sources of foreign capital and buyers in global value chains (Asiedu, 2002; Gibbon & Ponte, 2005).

BROADLY STATED, THE CHALLENGE FACING AFRICAN INDUSTRIES IS TOWFOLD. FIRST, INDUSTRIAL DEVELOPMENT IS UNLIKELY TO OCCUR UNLESS STATES CREATE THE RIGHT KINDS OF INSTITUTIONAL SETTINGS (E.G., LEGAL SYSTEMS, FINANCIAL SYSTEMS), PROVIDE BASIC INFRASTRUCTURE, AND SUPPORT THE DEVELOPMENT OF HUMAN CAPITAL THROUGH EDUCATION AND TRAINING PROGRAMS (Asiedu, 2002; Cotton & Ramachandran, 2003; Emery, 2003). SECOND, AFRICAN FIRMS AND INDUSTRIES MUST BE WILLING AND ABLE TO UPGRADE THEIR PRODUCTION SYSTEMS SUCH THAT THEY MEET BOTH THE EXPECTATIONS OF THE GLOBAL MARKETS AND THOSE OF DOMESTIC CONSUMERS INCREASINGLY EXPOSED TO IMPORTED GOODS (Cramer, 1999; Gibbon & Ponte, 2005). While the literature has generally focused on the first concern, the need for progressive institutional and structural change, the latter issue, that of the development of firm-specific or industry-specific capabilities, has received less attention perhaps under the (implicit) assumption that creating the right institutional environments is a necessary first step. While institutional and structural changes surely are important, they alone cannot...
be expected to foster competitiveness, innovation, and global market integration in the African industry.

Upgrading is vital for African manufacturers if they are to reduce the attractiveness of imported goods in domestic markets and build profitable and sustainable ties with global markets (Gibbon & Ponte, 2005; Humphrey & Schmitz, 2002). It occurs when businesspeople and firms develop the skills, products, production systems, and distribution networks necessary to create the assets (e.g., external economies) that make them competitive in the global economy (Helmsing, 2001; Sáinz, 2003).

Upgrading can take several forms: (1) increases in process efficiency and productivity; (2) product changes and quality improvements; (3) a firm’s functional integration of related activities (e.g., sawmill operations in a furniture making firm); or (4) the development of inter-sectoral relationships that diversify the firm’s portfolio (Humphrey & Schmitz, 2002). In terms of process, firms can upgrade autonomously (e.g., by identifying profitable product niches), cooperatively (e.g., through the external economies associated with inter-firm networks and clusters), or interdependently through the development of relationships with lead firms or suppliers in domestic or global value chains (Sáinz, 2003).

In Africa, the challenge is to increase industrial specializations, flexibility, and the value of production activities through strategic and cost-effective investments in the social, technological, and organizational capabilities of firms and industries (Lall, 1995; Pack, 1993). Without such investments, and recognition by the state and donors that such changes must be made incrementally, African industries may simply compete in a “race to the bottom” based on low-skill and low-quality production systems, arms-length relationships to suppliers and buyers in value chains, and competitiveness achieved solely through low wages and a weak regulatory environment (Gibbon & Ponte, 2005). Challenges or needs can be identified at a variety of scales—the global, the national, the local, and within firms—but the processes through which firms and industries might upgrade must ultimately be understood in relation to the contexts where day-to-day production and competition occur. In particular, there is a need to better understand how the socio-economic, political, and spatial characteristics of African cities influence the competitiveness of the firms and industries situated in them.

Further complicating these challenges, as well as our ability to generate knowledge about industrial change in Africa, is the size and scope of the informal economy. While developments in formal industries have been somewhat disappointing, Africa’s informal sector has become an increasingly important provider of economic goods and services (Bagachwa, 1993; Dawson, 1993; Daniels, 2005; Mead & Morrison, 1996; Owusu, 2001; Wuyts, 2001). Key products and services provided by informally owned and operated firms include: metalworking, water provision, tailoring, food services, auto repair, domestic help, general hawking and vending, furniture making and carpentry, and shoe repair. Despite their recent upsurge, most informal enterprises face significant limitations on their abilities to upgrade. Although many of the entrepreneurs managing them are venturesome and innovative, their firms are often limited by a lack of managerial skills, limited access to finance, poor infrastructure and transport, and, in some areas, continual harassment from police and local officials (Lall, 1992; Fafchamps, 1994; Murphy, 2002; Tripp, 1997). Recent research has shown why informality can be a logical and rational choice for entrepreneurs, how and why place, physical space, and location are crucial considerations for small firms, and how investment decisions, creativity, and productivity are influenced by the material and socio-cultural contexts where informal enterprises are situated (Daniels, 2005; Maloney, 2004; Murphy, 2006; Shaw & Pandit, 2001; Yankson, 2000). Despite the obstacles, there is tremendous potential for informal sector manufacturers and the social and spatial dimensions of their activities can tell us much about how urban economies function in the Global South.

(a) Industrial clusters and the prospects for upgrading in small firms

Recent debates on upgrading and industrial development in the Global South have emphasized the importance of inter-firm networks, extra-local relationships, and industrial clusters as means and resources through which competitive advantages might be garnered (Giuliani et al., 2005; Morosini, 2004; Nadvi, 1999; Schmitz & Nadvi, 1999; Scott, 2002, 2006; van Dijk & Sverrisson, 2003). Dense local networks of firms, ones that exhibit a high degree of generalized trust (i.e., trust that is based more on goodwill), can help generate a “buzz” of ideas while ties to international markets or outside
information sources can serve as valuable “pipelines” for new innovations and business opportunities (Bathelt et al., 2004). Innovation-inducing networks can be more effective when firms in specific industries are clustered such that collective efficiencies and external economies from labor sharing, tool sharing, concentrated market access, collectivized input acquisition, and information flows can be captured and realized in higher productivity and greater flexibility (Helmsing, 2001; Scott, 2002; van Dijk & Sverrisson, 2003). Clusters may be particularly advantageous for small firms as collectivized costs and resources can reduce the risks associated with the growth and development of an enterprise (Nadvi, 1999; Schmitz & Nadvi, 1999). Beyond their local benefits, the externalities associated with clusters can enable firms to upgrade their activities more effectively within global value chains (Giuliani et al., 2005; Humphrey & Schmitz, 2000, 2002). However, the ability to do so depends significantly on the governance characteristics of an industry’s value chain and, in particular, on the willingness of lead firms and suppliers to facilitate upgrading through investments, training, and/or market information diffusion. Thus a key concern is the degree to which clustered firms can develop ties to customers (i.e., buyers) who demand high-quality products and who are willing to commit to long-term relationships.

In African cities, however, industrial clusters remain poorly developed and unsupported by most states. Where clusters have emerged, they have benefited primarily local markets, been organized by informal sector firms, exploited only pecuniary and labor pooling advantages, and have not exhibited what Bell and Albu (1999) term the “knowledge-changing” capabilities needed to facilitate a shift to higher-value and/or more globally desirable products (Kristiansen & Mbwambo, 2003; McCormick, 1999; van Dijk & Sverrisson, 2003). If African clusters are to facilitate such a shift, it will be necessary for the firms in them to achieve greater specialization and a more refined division of labor; one that creates unique and desirable competitive assets when compared to other developing regions.

(b) African cities as industrial selection environments

Beyond firm and industry-specific concerns about the prospects for upgrading, it is critical to understand how the characteristics of cities/regions influence the development of technological and industrial capabilities. Cities are, in essence, urban “selection environments” for economic and industrial activities shaped by their particular market, institutional, and spatial elements (Dosi & Nelson, 1994; Lambooy, 2002; Nelson & Winter, 1982). Market elements reflect the expectations of consumers, the costs and availability of inputs or raw materials, and the general competitiveness of an industry. Institutional elements are the political and social structures (e.g., norms, conventions, rules, and routines), networks, and community or regional value systems that influence economic practices. Spatial elements or the spatial organization of an urban/regional economy, can also play a significant role in upgrading and in the performance of industries. Emphasis here is on the role of spatial proximity (e.g., agglomeration), connectivity, and accessibility for exchange relations and knowledge spillovers and on the ways in which the distribution of urban infrastructure influences firms and markets. Municipal officials and leaders must be able and willing to critically examine the elements of their urban selection environments, assess the qualities of the industries being selected for by these elements, and determine how the existing knowledge and capabilities embedded in firms and industrial relations might be transformed to facilitate long-term growth, innovation, and job creation.

From a regional development and international trade perspective, the interaction between urban selection environments and the global economy is an important factor influencing the prospects for growth and innovation. Within regions, market, institutional, and spatial elements should nurture conditions favorable to growth in output such that employment and wage levels can rise through the productivity gains accompanying reduced transaction costs, agglomerations, and/or scale economies (Martin & Sunley, 1998; Rowthorn, 1979; Verdoon, 1980). When such gains are coupled with location-specific externalities and technology spillovers that help foster and promote innovation, a process of cumulative causation can ensue whereby increasing concentrations of specialized knowledge and factor endowments give the region or city a competitive advantage in the global economy (Krugman, 1991; Martin & Sunley, 1996; Porter, 1990). Dynamic and long-term processes of innovation and upgrading can result
provided policymakers, entrepreneurs, and consumers overcome two fundamental challenges. First, there is a need to help create the right kinds of conditions (e.g., levels of human capital, trade links, and demanding local consumers) to set the process in motion. Second, there is the challenge of preventing the region from becoming excessively “locked-in” to a development trajectory that may limit economic development possibilities in the future (Grabher, 1993; Martin & Sunley, 1998). In considering the latter issue, it is vital that urban and regional selection environments not only enable firms to create value for the marketplace in the short run, but also provide, in the long-run, the institutions and mechanisms necessary to capture and enhance value within the region through increased investments and returns on human and social capital (Coe et al., 2004).

In Sub-Saharan Africa, urban environments have generally not been conducive to growth, innovation, or upgrading in industries and rapid population growth, poor infrastructure, and widespread inequality have created immense challenges for entrepreneurs and residents (Hansen & Vaa, 2004; Pedersen & McCormick, 1999; Tostensen, Tvedten, & Vaa, 2001). While resource limitations are clearly part of the challenge, municipal governments have by and large failed to develop effective institutional mechanisms and economic programs to promote sustained growth and urban development (Simone, 2001; Tostensen et al., 2001; Wekwete, 1997). As a result, industrial growth has slowed or declined as export-oriented liberalization has shifted resources and foreign direct investment toward rural primary-sector activities (e.g., mining, agriculture) where global comparative advantages may be greatest in the short run (Briggs & Yeboah, 2001; Carmody & Taylor, 2003; Riddell, 1997). In most countries, manufacturing value added has been stagnant, desired increases in foreign direct investment have not materialized, and imports have effectively crowded domestic producers out of local markets for many wage or consumer goods (Briggs & Yeboah, 2001; Wuyts, 2001). Moreover, informal sector activities have boomed in response to these conditions and self-employment has become a de facto survival strategy for many urban residents (Daniels, 2005; Hansen & Vaa, 2004; Tostensen et al., 2001).

While the challenges are daunting, novel institutional reforms and innovative planning initiatives are essential if more flexible and innovative industries are to emerge from within the selection environments of African cities. Small enterprises—informal and formal—offer an important avenue through which urban growth and development might be facilitated yet one that is relatively overlooked when compared with the desire to dramatically increase the numbers of larger-scale and more capital-intensive types of firms and industries (Daniels, 2005; Maloney, 2004; Mead & Morrison, 1996; Pedersen & McCormick, 1999). This study assesses the prospects for a small-scale manufacturing industry in Mwanza, Tanzania by examining the social characteristics, marketing strategies, locations of firms, and the relationships between these and the market, institutional, and spatial characteristics of the urban environment. The goal is not to determine if Mwanza’s furniture makers are ready to go global (they clearly are not) but to evaluate their existing capabilities and challenges and to demonstrate how Mwanza constitutes a particular kind of “selection environment” for such skills, production systems, and problems. In doing so, the study shows how the urban environment influences the technological capabilities and production strategies of firms and how it might be modified such that manufacturers are able to develop more of the competencies associated with global furniture markets.

3. THE GLOBAL FURNITURE INDUSTRY AND MANUFACTURERS IN MWANZA, TANZANIA

The global furniture industry has grown significantly in recent years and by the year 2000 was the largest “low-tech” sector in merchandise trade (Kaplinsky, Morris, & Readman, 2002; Kaplinsky et al., 2003). Of the top 25 net exporting countries in 2004, five are industrialized (Italy, Denmark, Canada, Portugal, and Sweden), 10 are developing or non-European emerging economies (China, Mexico, Indonesia, Malaysia, Brazil, South Africa, Turkey, Philippines, Pakistan, and India), and 10 are European transitional economies (Poland, Czech Republic, Romania, Slovenia, Hungary, Lithuania, Slovakia, Estonia, Belarus, and Bulgaria). During 2000–04, net export growth rates were positive for most of these countries and rose most dramatically in Turkey, Pakistan, Portugal, India, and Bulgaria. All told, furniture is a truly global and dynamic industrial sector, one that has provided particularly
substantial trade benefits for newly industrializing or emerging economies (Scott, 2006).

Despite the broad trends, furniture manufacturers in developing regions face significant challenges in their quests to upgrade production systems in order to attract international buyers and tap into international markets. The South Africa case has been particularly well documented and demonstrates that price competitiveness alone is insufficient to achieve sustained upgrading (Kaplinsky & Manning, 1998; Kaplinsky et al., 2002, 2003; Moodley, 2002). Although South African firms have managed to nearly meet global expectations for price, their low quality levels and limited logistical accessibility has limited their prospects for upgrading. Moreover, there has been a concentration of market power and a decline in the real unit price of South African furniture exports despite there being a general growth in the volume of sales (Kaplinsky & Manning, 1998; Kaplinsky et al., 2002).

In extending the lessons of South Africa’s furniture manufacturers to Tanzania, the material and socioeconomic challenges to value chain integration appear extremely daunting. Manufacturing value-added in Tanzania, as a percentage of GDP, declined from 8.1% in 1980 to 7.0% in 2003 and the manufacturing sector’s share of exports declined from 27.6% in 1992 to 16.6% in 2000 (Harding et al., 2002; Lall & Pietrobelli, 2002; World Bank, 2006). Particularly problematic have been the manufacturing sector’s low rates of labor productivity, low levels of capacity utilization, prohibitive costs of finance, problems associated with energy reliability, property rights, and infrastructure, and high transaction costs, particularly with regard to accessing export markets (Harding et al., 2002; World Bank, 2005). As such, only 6% of manufacturing firms exported outside of Africa (mainly in food products, textiles, beverages, and wood products) and these were primarily very large firms by

Figure 1. The United Republic of Tanzania showing regional divisions and capitals.
Tanzanian standards (Harding et al., 2002; World Bank, 2005). Moreover, 80% of local firms face more than five competitors in their primary markets and many survive through diversification into other income generating activities, not by flexible specialization (Harding et al., 2002; Trulsson, 1997). Larger-scale firms have responded to economic liberalization by downsizing, employing temporary labor, or simply closing the factory doors (Harding, 2003). Not surprisingly, foreign direct investment (FDI) has not been common in Tanzania’s manufacturing sector and the main international influence on markets, firms, and industries has come in the form of a marked increase in the availability of cheap imported consumer goods (Harding, 2003; Wuyts, 2001).

Mwanza is Tanzania’s second largest city, a vibrant trading center, and the capital of one of East Africa’s most rapidly growing regions (see Figure 1 for a map of Tanzania). The city’s metropolitan area has approximately one-half million people and an annual population growth rate of 3.2% (United Republic of Tanzania, 2002). Since economic liberalization began in the 1980s, foreign investment in Mwanza has increased significantly, particularly in extractive industries such as fishing and mining. However, increasing foreign investment has not translated into significant gains in formal-sector employment and the city’s manufacturing sector remains small in scale and oriented primarily to local markets. Despite the poor performance, the city, region, and country offer an excellent case study through which we can better understand the consequences of export-led liberalization for the development of value-added manufacturing in Africa, particularly in places where liberalization has fostered rapid growth in primary-sector activities.

In Mwanza, most furniture manufacturers are small in scale, have few regular employees, rely significantly on hand tools, and operate out of work areas exposed to the elements. Although there are several larger-scale operations that are formally registered, most are informally organized as microenterprises unregulated by the state tax authorities. Although the material limitations facing them are significant, small-scale manufacturers can be quite creative in developing furniture designs and in being able to reproduce styles observed in foreign furniture catalogs or at local retailers (Murphy, 2003, 2006). Moreover, there is a good deal of social capital in the industry as many producers utilize dense and extensive business networks to acquire raw materials, learn about new products and production processes, and track market trends (Murphy, 2002).

4. METHODOLOGY

The data and analyses presented here were generated through detailed observations and in-depth interviews with twenty-nine (29) owners/operators of furniture manufacturing firms in Mwanza from October 1999 to April 2000. Most of these firms were small enterprises and only five could be considered formal as evidenced by their tax status, capital investments, and/or size of the operation. Of these five firms, two focused solely on furniture production while three had diversified into wood supplying and milling activities. The remaining small firms (n = 24) can be characterized as informal, petty from the municipality’s licensing perspective, labor intensive, and unable to separate production from marketing activities (i.e., furniture is sold at the workshop).

While furniture and woodworking activities can be found scattered throughout many neighborhoods in Mwanza, they are primarily concentrated in the three areas sampled, Nyamagana/Pamba, Isamilo/Mirongo, and Nya-kato/Igoma (see Figure 2). Thirteen (13) firms were located in the Nyamagana and Pamba wards within or directly adjacent to Mwanza’s central business district (CBD) and main marketplace. Ten (10) were based in largely residential areas, Isamilo and Mirongo, situated in the immediate periphery of the CBD. Six (6) firms were sampled in peri-urban areas, one in Nyakato and five in Igoma, a small trading center on Mwanza’s eastern edge. The sample was constructed through direct contacts made with woodworking and furniture-making businesspeople during walks throughout the city and through information provided by key informants familiar with the manufacturing activities in Mwanza. Manufacturing workshops were identified during these walks—along street fronts, in back alleys, or adjacent to markets—and their owners/operators were asked if they would be willing to be interviewed. Almost all of the businesspeople approached agreed to be interviewed and most interviews were conducted over the course of three meetings which typically lasted, in total, more than three hours.
Although this sampling methodology was time consuming, it resulted in the successful recruitment of 29 firms; a sample believed to be representative of Mwanza’s population of furniture manufacturers.

Each of the twenty-nine (29) respondents or firm representatives were interviewed at length, typically at their workshop and in Kiswahili, with questions organized into seven areas of inquiry: (1) general information and background; (2) norms and routines for doing business; (3) business performance; (4) innovations; (5) questions on the role and significance of social relations for business; (6) factors influencing the success of the enterprise; and (7) networking practices. In addition to scripted interviews, extensive field observations were made documenting the locations, physical layout, and spatial dimensions of the manufacturing site.

Interview responses and field observations were converted into text-file format for analysis using a qualitative data analysis (QDA) software package (QSR NUDIST® N6). The QDA software facilitated the data coding and scoring process in relation to five categories of variables: (1) performance and innovation; (2) market orientation and the flexibility of operation; (3) relational characteristics of the firm; (4) demographic information; and (5) location, physical situation, and fixed investments. By using a thematic coding procedure (see Boyatzis, 1998), where themes and protocols for coding each category of variable were defined a priori while specific codes or keywords were identified during the coding process, it was possible to reduce the quantity of information to be interpreted but in a more data-driven (not survey driven) and context-specific fashion.

Figure 2. Map of Mwanza city showing central wards and roads. Study participants were located in Nyamagana & Pamba ward (n = 13), Mirongo & Isamilo wards (n = 10), Nyakato ward (n = 1), and Igoma ward (n = 5) (from Murphy, 2006).
Moreover, thematic coding, provided the researcher remains focused, rigorous, and consistent throughout the analysis, allows for the conversion of qualitative data into quantitative scores that are useful in statistical analyses. The major drawbacks of this methodology lie in the limitations on its external validity (i.e., the ability to rigorously compare these data to other data sets from different times and places) and in the fact that despite its context specificity (i.e., in terms of language, phrasing, etc.), thematic coding, in effect, decontextualizes segments of data from the wider narratives in which they are situated and then “re-sorts” these in relation to the themes and theoretical questions of interest to the researcher (Coffey & Atkinson, 1996). As such, researcher subjectivities may be excessively “projected” onto the data thus biasing the results and limiting their wider significance (Boyatzis, 1998). Despite the limitations, thematic coding offers a flexible and iterative method for labeling and retrieving data; one that allows researchers to analyze “a wide variety of types of information in a systematic manner that increases their accuracy and sensitivity in understanding and interpreting observations about people, events, situations, and organizations” (Boyatzis, 1998, p. 104; Miles & Huberman, 1994).

Table 1 summarizes the measures and scoring techniques for the study’s variables. Performance scores were developed based on respondents’ references to recent (past five years) successes and failures regarding production output and capacity, sales volume, number of employees, markets sold to, product diversity, size of shop and quality of location, profitability, and technological changes. Innovation scores are based on both independently driven changes in production systems and products (creative innovations) and changes in the capacity of the enterprise to respond to market fluctuations or other external factors (responsive innovations). A distinction between these types of innovations follows prior work by the author (see Murphy, 2002) and is made in order to distinguish between factors influencing creativity and those that are more significant for the survival of an enterprise. A total innovation score is simply the sum of the creative and responsive innovation scores.

Market orientation and flexibility variables measure the degree to which the firm relies on customer oriented versus generic market production. Customer oriented firms are those that rely almost exclusively on custom orders placed by clients and who rarely, if at all, produce furniture without a customer being identified a priori. Being dependent on and responsive to the needs of customers was measured in three ways: (a) whether or not the firm relies primarily on custom orders for business; (b) the number or range of different types of customers the respondent identified; and (c) whether or not the businessperson identified quality distinctions as a useful strategy for marketing furniture to specific clients.

Relational or networking characteristics are measures of the social dimensions of furniture making enterprises and were assessed through five variables: supplier relationships, worker relationships, competitor relationships, network dependence, and external links. Supplier, worker, and competitor relationships were simply measured as the number of suppliers or workers that respondents estimated they knew. Suppliers represent mainly wood and other input supplying firms (e.g., glue, varnish, nails, etc.). Worker relationships include both full-time or regular workers as well as the temporary workers employed as needed in relation to specific projects. Competitors are other furniture makers in Mwanza who the respondent knows and has had personal communication with on a regular basis. Network dependence scores measure the density of the respondent’s business networks—both in terms of sheer numbers and the diversity of functions the relationships serve. Lastly, the external link score measures the geographic extensiveness of a businessperson’s networks and is determined by the diversity of relationships he/she has to different domestic and international regions.

Location, physical situation, and fixed investment attributes of firms were measured through three variables: distance from Mwanza’s CBD, physical accessibility–visibility of the firm, and fixed investment scores. The distance score is a measure of the relative distance between the central business district in Mwanza and the firm’s location. Firms in Igoma (see Figure 2) scored high (3) in terms of distance from the CBD while firms in Pamba ward had low scores (0 or 1). Accessibility–visibility scores measure how publicly exposed the furniture maker’s workshop is as evidenced by the ability of outsiders to walk unimpeded into the production area and by the volume of foot and/or vehicle traffic along the road where the firm was located. Fixed investment scores are a measure of the capital intensity and fixity of the respon-
<table>
<thead>
<tr>
<th>Variable</th>
<th>Method of coding and score calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative innovations</td>
<td>Derived from respondents’ references to independent changes in their firms’ products, technologies, or methods of production, driven most significantly by the independent actions of the respondent and realized through the internal operation of the firm (e.g., productivity improvements, new product development, or independent machinery acquisition). The creative innovation score is the total number of creative innovations referred to by each respondent.</td>
</tr>
<tr>
<td>Responsive innovations</td>
<td>Derived from respondents’ references to changes in their firms’ products, technologies, or methods of production driven most significantly by unavoidable short-run changes in the business climate, by imitation of others’ work, or when external assistance was received (e.g., from a non-governmental organization or family channels). The responsive innovation score is the total number of responsive innovations referred to by each respondent.</td>
</tr>
<tr>
<td>Total innovations</td>
<td>The sum of the creative and responsive innovation scores for each respondent</td>
</tr>
<tr>
<td>Performance score</td>
<td>Based on the respondent’s stated successes (improvements) and/or failures (problems) with regard to output and capacity; size/quality of the workshop; sales volume; profitability; number of employees; technological changes; markets accessed; or product diversity. The score is calculated as the difference between the number of references to business successes (divided by the median for the sample) and the number of references to business failures (divided by the median for the sample).</td>
</tr>
<tr>
<td>Supplier relationships</td>
<td>Number of input suppliers respondents stated that they knew of or had regular business dealings with</td>
</tr>
<tr>
<td>Worker relationships</td>
<td>Number of workers, full-time (permanent) and temporary, respondents stated they had regular relationships with</td>
</tr>
<tr>
<td>Competitor relationships</td>
<td>Number of local competitors respondents stated that had regular or periodic communication with</td>
</tr>
<tr>
<td>Network dependence score</td>
<td>Based on references that respondents made to relationships or social connections important for business. Relationships were first subdivided into four activity categories based on their primary purpose: (1) relationships for marketing, (2) relationships for inputs, (3) relationships with competitors, and (4) relationships with institutions such as the state, NGOs, etc. Network dependence scores are based on an activity range score and a total business connection score. Activity range scores are the number of activity categories the businessperson regularly used social relations for divided by the total number of categories (4). An activity-specific business connection score was then calculated as the number of distinct relationships the respondent maintained within an activity category divided by the median number of connections (in that category) for the sample. The total connection score for each respondent is the average of the four activity-specific business connection scores. Network dependence scores are the product of a total connection score and the activity range score.</td>
</tr>
<tr>
<td>External link score</td>
<td>Based on references made to business relationship(s) to people from outside the Mwanza region. External links were categorized by location: Other Tanzanian Lake Victoria regions, other Tanzania, East Africa, Africa, Europe, Asia/Middle East, and North America and others. External link scores are the product of a total external connection score an external link range score. The total external connection score is the total number of distinct external relationships each respondent maintained divided by the median number maintained for the sample as a whole. The external link range score is the number of different regions to which the respondent has at least one connection divided by the total number of categories possible (seven). The external link score is the product of the total external connection score and the external link range score.</td>
</tr>
<tr>
<td>Customer driven demand</td>
<td>Score of one assigned to firms whose owners indicated that their primary business is generated from custom orders, not through generic market production. Zero score for all others</td>
</tr>
</tbody>
</table>
dent’s manufacturing operation as evidenced by multiple work benches, permanent structures, machinery, and/or a separate structure for office work and business meetings.

Table 2 summarizes the descriptive statistics for the variables and analyses of them were conducted in three stages. First, correlation coefficients (r-values) were computed to assess the relationships between performance and innovation scores and the social, marketing, spatial, and demographic variables. The significance of these values was tested using a simple correlation procedure and P-values. Calculated associations do not provide causal explanations but instead reflect general relationships between the variables that can be useful in assessing the strategies of and challenges facing manufacturers.

Second, a principle components procedure was used to assess the degree to which the study’s variables are interacting or covarying. Components were extracted using the SPSS® statistical software package and those having eigenvalues greater than 1.0 were then rotated using a varimax procedure. Five components were isolated and account for about 74% of the total variance. An analysis of the factor loadings in these components yielded some general conclusions about what groupings of variables are linked to particular marketing activities, innovation and performance levels, and location strategies.

Third, focus shifted to determining if there were significant differences in the performance, innovation, relational, and demographic characteristics of enterprises based on their market orientations, locations, and if they were clustered with other firms. Firms were divided into three sets of two groups based on: (a) whether or not they focused exclusively on customer needs or chose to produce for the mass (generic) market; (b) whether or not they were located in a central market area; and (c) whether or not they were clustered together with competitor firms and had a high degree of physical accessibility and visibility. 7 Customer oriented firms are those who rely exclusively or primarily on custom orders before they will manufacture anything. Central market firms are those situated

<table>
<thead>
<tr>
<th>Variable</th>
<th>Method of coding and score calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer range</td>
<td>Number of distinct types of customers (e.g., low-end, high-end, or expatriate) that the respondents referenced</td>
</tr>
<tr>
<td>Quality distinctions</td>
<td>Score of one assigned to respondents making quality distinctions in the production/marketing of furniture. Zero score for all others</td>
</tr>
<tr>
<td>Fixed investment score</td>
<td>One point awarded for each of the following: (a) having more than one work bench; (b) owning or leasing a permanent structure for storage or production; (c) having one operating machine; (d) having more than one operating machine; and (e) having a separate structure that serves as an office or meeting place</td>
</tr>
<tr>
<td>Accessibility–visibility score</td>
<td>Firms are ranked as having a high (3), medium (2), or low (1) degree of accessibility based on the ease to which the general public can access the work area and a high (3), medium (2), or low (1) degree of visibility based on the traffic volume along the street where they are situated. Accessibility–visibility scores are the combined total of these two rankings and range from 2–6</td>
</tr>
<tr>
<td>Distance from CBD</td>
<td>The relative distance from the firm to the central business district (CBD) of Mwanza (see Figure 2). Firms located on the two main streets comprising the heart of the CBD scored a zero (0); firms located just off these streets but in an industrial area scored a one (1); firms located on residential streets near the CBD scored a two (2); firms in Nyakato/Igoma scored a three (3)</td>
</tr>
<tr>
<td>Age, years of formal education, and years in business</td>
<td>These variables indicate (a) the (average) age of the respondent(s) responsible for day-to-day operations; (b) the (average) number of years of formal education of those responsible for day-to-day operations; and (c) the number of years the firm has been in business</td>
</tr>
</tbody>
</table>
in either the heart of Mwanza’s CBD (the 13 Nyamagana/Pamba firms) or in the bustling peri-urban market of Igoma (5 firms). Clustered firms, following van Dijk and Sverrisson’s (2003) description of location-type clusters, are those situated adjacent to other furniture manufacturers and having workshops or production activities highly visible and accessible to the competition and the general public. Differences in production strategies, performance, and innovation levels between the groupings were then assessed through tests of the difference in the means for each variable ($t$-tests). The results for all of these analyses are presented below followed by discussion of their broader implications.

5. SOCIO-SPATIAL INFLUENCES ON PERFORMANCE AND INNOVATION

Table 3 summarizes the relationships between the study’s variables and performance and innovation levels in firms. Performance levels in firms are not significantly associated with most of the study’s variables with the exception of creative and total innovations (positive associations) and supplier relationships (a strongly negative association). While the relationships between innovation and performance are not surprising, the association between increasing supplier relationships and poor performance is interesting and may reflect the strategy of cash strapped manufacturers to develop ties with multiple suppliers who can provide inputs on credit and enable production to continue despite cash-flow limitations. In other words, the association observed here may come from those firms that are “strung out” on credit and are struggling to keep their businesses afloat.

The results with regard to innovation are more definitive and revealing, particularly in relation to the responsive innovation and total innovation scores. Creative innovations were positively and significantly associated with higher performance levels, fixed investment scores, and worker relationships. Responsive innovations were positively associated with: (a) supplier relationships; (b) network dependence scores; (c) external link scores; (d) customer driven demand; (e) quality distinctions; (f) age of the owners/operators; and (g) years in business. The only significantly negative association was observed between responsive innovations and the firm’s distance from Mwanza’s central business district (CBD). As for total innovation scores, these were positively associated with: (a) performance; (b) worker relationships; (c) network dependence scores; (d) external links; (e) customer driven demand; (f) customer range; (g) quality distinctions; (h) fixed investment scores; (i) age of the owners/operators; and (j) years in business. As was the case with responsive innovations, total innovation scores were also negatively and significantly associated with the firm’s distance from the CBD.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative innovations</td>
<td>2</td>
<td>0</td>
<td>7</td>
<td>1.773</td>
</tr>
<tr>
<td>Responsive innovations</td>
<td>1.55</td>
<td>0</td>
<td>5</td>
<td>1.152</td>
</tr>
<tr>
<td>Performance scores</td>
<td>0.426</td>
<td>-1</td>
<td>3</td>
<td>0.8724</td>
</tr>
<tr>
<td>Total innovations</td>
<td>3.55</td>
<td>0</td>
<td>9</td>
<td>2.131</td>
</tr>
<tr>
<td>Supplier relationships</td>
<td>7.07</td>
<td>3</td>
<td>25</td>
<td>5.451</td>
</tr>
<tr>
<td>Worker relationships</td>
<td>5.78</td>
<td>0</td>
<td>22</td>
<td>4.517</td>
</tr>
<tr>
<td>Competitor relationships</td>
<td>8.897</td>
<td>0</td>
<td>30</td>
<td>7.099</td>
</tr>
<tr>
<td>Network dependence score</td>
<td>0.635</td>
<td>0.167</td>
<td>1.333</td>
<td>0.264</td>
</tr>
<tr>
<td>External link score</td>
<td>0.482</td>
<td>0</td>
<td>1.929</td>
<td>0.52</td>
</tr>
<tr>
<td>Customer range</td>
<td>1.86</td>
<td>1</td>
<td>5</td>
<td>1.026</td>
</tr>
<tr>
<td>Fixed investment score</td>
<td>2.34</td>
<td>1</td>
<td>5</td>
<td>1.396</td>
</tr>
<tr>
<td>Accessibility–visibility score</td>
<td>4.55</td>
<td>2</td>
<td>6</td>
<td>1.298</td>
</tr>
<tr>
<td>Distance from CBD</td>
<td>1.45</td>
<td>0</td>
<td>3</td>
<td>1.152</td>
</tr>
<tr>
<td>Age of owners/operators</td>
<td>33.696</td>
<td>21</td>
<td>60</td>
<td>8.714</td>
</tr>
<tr>
<td>Years of formal education</td>
<td>8.5</td>
<td>7</td>
<td>12</td>
<td>1.982</td>
</tr>
<tr>
<td>Years in business</td>
<td>9.287</td>
<td>0.3</td>
<td>23</td>
<td>6.038</td>
</tr>
</tbody>
</table>

a Descriptive statistics for the Boolean variables (i.e., having 0 or 1 values) “customer-driven demand” and “quality distinctions” are not included in the above table.
In interpreting these findings, five key trends or characteristics emerge. First, the ability to make fixed investments in the production site and the ability to employ more workers (temporary or otherwise) appear to be common rewards for being more innovative and are likely associated with an increasing scale of production. Second, firms that take a more customer-oriented approach to manufacturing (i.e., those relying primarily on custom orders, identifying a range of customer types, and/or who are conscious of quality distinctions) appear to be more innovative; particularly in terms of their responsiveness to external factors in the marketplace. Third, more innovative firms are those that have a greater reliance on networks and which have developed links to firms and clients outside of Mwanza. Fourth, age and years in business, not education, seem to play a significant and positive role in innovation, particularly in terms of a firm’s responsiveness and the degree to which networks are established within the community. Fifth, a firm’s location in relation to the CBD appears to be significant in terms of its influence on the ability of the firm to access and respond to changes in input and product markets.

(a) Multivariate analysis of the study variables

To assess how the variables covary or interrelate to one another, a principle components analysis was performed. Table 4 summarizes the results, and the interpretation that follows focuses only on those variables with high factor loadings (greater than 0.600) within each principle component that was isolated and rotated. Component 1 reveals strong covariation between creative innovations, worker relationships, customer range, and fixed investments. In interpreting this finding, the component demonstrates, like the correlations above, the relationships between spatial fixity—as manifest in the ability to invest capital, scale up production (i.e., employ more labor), and develop diverse ties to customers—and the creative capacity of the firm. In essence, component 1 reflects the relationship between the sophistication of the operation and the innovative capabilities of the business owner. Interestingly, however, performance does not strongly covary with these variables. In contrast to the factors associated with creativity, component 2 reveals some of the influences on the responsiveness of firms. In short, the component demonstrates...
the importance of experience (i.e., age and years in business) and a central location for responsive innovation in firms. Component 3 isolates the relationships between the social characteristics of firms—network dependence and external links—as significant and separate factors influencing the outcomes of other variables. Most significantly, as the bivariate correlations above demonstrated, the relational characteristics of firms appear to play an important and independent role in innovation and location-selection strategies. Component 4 has a positive high factor loading for performance and a strongly negative loading for the number of supplier relationships that a businessperson maintains. As noted above, this covariation tells us little beyond the finding that having extensive supplier relationships may reflect a situation where the firm is having cashflow problems. Lastly, component 5, with high, but contrasting, loadings on accessibility–visibility and years of formal education has an uncertain significance although it does reflect the relative lack of strong correlations between these variables and the others.

Taken together, the analysis of the five components reveals several covarying factors that have a significant bearing on the activities, performance, or strategies of firms in Mwanza while raising some questions about what precisely drives performance outcomes for furniture makers. In the first case, the factors or groups of variables influencing the activities of firms, three sets of relationships are apparent. First, the scale of an operation and its spatial fixity are associated with customer-oriented firms, and creative production and marketing strategies. Second, responsiveness in firms comes with experience and/or a central location in relation to Mwanza's CBD. However, caution should be taken in interpreting these findings as older firms are more likely to be situated near the center of the city while newer firms have been pushed into peri-urban areas in response to population growth and new market opportunities in areas like Nyakato/Igoma. Third, it is apparent that social relations have a significant influence on the activities of firms, and those businesspeople that network extensively locally are more likely to have ties to people and firms outside of Mwanza. This finding echoes earlier research (Murphy, 2002) that demonstrated the importance and significance of networks and trust for innovation in Mwanza’s manufacturing sector.

Table 4. Principle component analysis of the study variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Component 1</th>
<th>Component 2</th>
<th>Component 3</th>
<th>Component 4</th>
<th>Component 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(18.841% of variance)</td>
<td>(15.792% of variance)</td>
<td>(14.037% of variance)</td>
<td>(13.511% of variance)</td>
<td>(11.791% of variance)</td>
</tr>
<tr>
<td>Creative innovations</td>
<td>0.78</td>
<td>0.126</td>
<td>−0.058</td>
<td>−0.324</td>
<td>0.178</td>
</tr>
<tr>
<td>Responsive innovations</td>
<td>−0.015</td>
<td>0.724</td>
<td>0.437</td>
<td>0.187</td>
<td>0.012</td>
</tr>
<tr>
<td>Performance score</td>
<td>0.261</td>
<td>−0.008</td>
<td>0.101</td>
<td>−0.837</td>
<td>−0.14</td>
</tr>
<tr>
<td>Supplier relationships</td>
<td>0.08</td>
<td>0.153</td>
<td>−0.077</td>
<td>0.858</td>
<td>0.04</td>
</tr>
<tr>
<td>Worker relationships</td>
<td>0.876</td>
<td>−0.107</td>
<td>0.267</td>
<td>0.033</td>
<td>−0.152</td>
</tr>
<tr>
<td>Competitor relationships</td>
<td>−0.373</td>
<td>0.468</td>
<td>−0.355</td>
<td>0.194</td>
<td>−0.057</td>
</tr>
<tr>
<td>Network dependence score</td>
<td>0.182</td>
<td>0.183</td>
<td>0.777</td>
<td>−0.086</td>
<td>0.242</td>
</tr>
<tr>
<td>External link score</td>
<td>0.259</td>
<td>0.042</td>
<td>0.877</td>
<td>−0.109</td>
<td>0.017</td>
</tr>
<tr>
<td>Customer range</td>
<td>0.716</td>
<td>0.101</td>
<td>0.344</td>
<td>0.225</td>
<td>0.248</td>
</tr>
<tr>
<td>Fixed investment score</td>
<td>0.638</td>
<td>0.229</td>
<td>0.196</td>
<td>−0.086</td>
<td>0.332</td>
</tr>
<tr>
<td>Accessibility–visibility score</td>
<td>−0.054</td>
<td>−0.046</td>
<td>−0.285</td>
<td>−0.186</td>
<td>−0.753</td>
</tr>
<tr>
<td>Distance from CBD</td>
<td>0</td>
<td>−0.695</td>
<td>0.19</td>
<td>0.287</td>
<td>−0.226</td>
</tr>
<tr>
<td>Age of owners/operators</td>
<td>0.161</td>
<td>0.737</td>
<td>0.214</td>
<td>0.112</td>
<td>0.016</td>
</tr>
<tr>
<td>Years of formal education</td>
<td>0.186</td>
<td>−0.005</td>
<td>−0.025</td>
<td>−0.017</td>
<td>0.881</td>
</tr>
<tr>
<td>Years in business</td>
<td>0.392</td>
<td>0.669</td>
<td>0.061</td>
<td>0.451</td>
<td>−0.251</td>
</tr>
</tbody>
</table>

a Principle component analysis was conducted using the SPSS software package. Following extraction, the components were rotated using the varimax method with Kaiser normalization. The variance explained and the factor loadings presented are those for the rotated components having initial eigenvalues (from the PC extraction) greater than 1.0. The total variance explained by these components is 73.973%.
b The variables “total innovations”, “customer driven demand”, and “quality distinctions” were excluded from the principle components analysis because they are either summations of other variables (total innovations) or because they are Boolean in nature (customer driven demand and quality distinctions).
While these factors—scale/fixity, experience, and social skills—play a significant role in influencing innovation among firms, performance remains somewhat independent of the other variables. The reasons for this are uncertain and the factors determining performance appear to be more complex and contingent than those influencing innovation. As such, beyond noting the bivariate relationship between creative and total innovations and performance, this study can make few definitive claims about why some manufacturers perform better than others in Mwanza’s hypercompetitive furniture markets. Instead, the results raise questions about the degree to which initiatives focused on performance enhancement within small-scale enterprises can really succeed given the economic, infrastructural, and institutional environment available in Tanzanian cities.

6. THE INFLUENCE OF MARKET ORIENTATION, LOCATION CHOICE, AND CLUSTERING

To assess the relationship between market orientation and the other variables, respondents were divided into two groups; those that emphasize generic production for the mass consumer market for furniture \( (n = 21) \) and those that focus primarily on custom designed products for an established clientele \( (n = 8) \). Table 5 summarizes the differences in means between the two groups of respondents and further demonstrates how marketing strategies are associated with innovation levels, demographic characteristics, and social behavior. In sum, customer oriented firms scored significantly higher in responsive and total innovations, external links, network dependence, age, years in business, and, not surprisingly, customer range scores and quality distinctions.

In interpreting these findings, a number of stylized observations are worth making. Firms emphasizing a generic market manufacturing strategy perform variably well and rely primarily on imitation, a form of responsive innovation, for new ideas about products and production techniques. Marketing is achieved through visibility and price competitiveness and transactions tend to be arms-length and cash driven. Furniture is manufactured based on the producer’s estimation of what people need, like, or can afford and there is an implicit assumption that a single sale will not necessarily lead to a long-term business relationship. Knowledge of the market is based primarily on prior trends, observations of competitors, and an awareness of the seasonality of income generating activities, particularly among rural residents who periodically come to Mwanza to purchase consumer goods. In addition to these rural residents, lower-income city dwellers are key customers and both of these consumer groups are concerned primarily with the price of furniture, not the novelty, creativity, or quality of its production. In terms of wider social networks and relationships, firms operating on a generic market strategy are less dependent on personal connections and it appears that their networks contribute relatively little to innovation-development practices. When one considers the age and years in business differences between the groups, a possible scenario may be that most small enterprises begin as generic producers and that some then try to shift into customer oriented production once they establish relationships and build a reputation among a regular clientele.

In contrast to the low-cost, high-volume supply-side approach of generic manufacturers,
firms relying on a demand-driven approach utilize a different array of marketing, location, and social strategies. In terms of marketing, word-of-mouth reputation is essential for these producers, particularly if they want to gain access to the most quality demanding and highest paying groups of consumers (e.g., the urban elite, expatriates, civil servants, etc.). Successful marketing comes with customer satisfaction in terms of quality, timeliness, and demeanor, and experience and age may be crucial factors influencing the social skills of business owners. Simply stated, having relatively advanced social skills is a prerequisite for achieving success in the customer oriented marketplace for furniture. Social activities center on the development and maintenance of links to key individuals—customers, government officials, suppliers, and workers—and successful networking requires a greater sensitivity to the subtleties of social exchange, a willingness to trust in a more generalized sense, and a desire to reach out beyond the narrow confines of ethnic or kin-based relationships (Murphy, 2002, 2003). In sum, the study’s findings demonstrate the trade-offs and skills associated with these different marketing strategies and raise questions about the degree to which customer-oriented firms, the more responsive, innovative, and socially connected businesses, are being supported or promoted in Mwanza’s urban selection environment.

(a) The role of location choice and clustering activities

Beyond examining the marketing strategies of firms, this study assesses the degree to which clustering activities are occurring among Mwanza’s furniture makers and evaluates whether or not such activities are significantly associated with performance improvements and enhanced innovation. Table 6 summarizes these findings by grouping firms according to two variables: (1) the firm’s location in relation to central markets (the main Mwanza market and Igoma’s peri-urban marketplace, see Figure 2); and (2) the degree to which the firm is open, accessible, and visible to other firms located in its immediate proximity. Market locations are

<table>
<thead>
<tr>
<th>Table 6. Comparison of firms based on locational choice and clustering (computed as two-tailed t-test of the equality of means)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central market location</td>
</tr>
<tr>
<td>(Central market location $n = 18$)</td>
</tr>
<tr>
<td>Creative innovations</td>
</tr>
<tr>
<td>Responsive innovations</td>
</tr>
<tr>
<td>Total innovations</td>
</tr>
<tr>
<td>Performance score</td>
</tr>
<tr>
<td>Supplier relationships</td>
</tr>
<tr>
<td>Worker relationships</td>
</tr>
<tr>
<td>Competitor relationships</td>
</tr>
<tr>
<td>Network dependence score</td>
</tr>
<tr>
<td>External link score</td>
</tr>
<tr>
<td>Customer driven demand</td>
</tr>
<tr>
<td>Customer range</td>
</tr>
<tr>
<td>Quality distinctions</td>
</tr>
<tr>
<td>Fixed investment score</td>
</tr>
<tr>
<td>Accessibility–visibility score</td>
</tr>
<tr>
<td>Distance from CBD</td>
</tr>
<tr>
<td>Age of owners/operators</td>
</tr>
<tr>
<td>Years of formal education</td>
</tr>
<tr>
<td>Years in business</td>
</tr>
</tbody>
</table>

Equality of variances was assumed only if Levene’s test for equality was significant.

* Difference in means significant at 0.10.
** Difference in means significant at 0.05.
*** Difference in means significant at 0.01.
used to assess the significance of central places for performance and innovation and physical openness and proximity are used to determine if clustered firms achieve any significant advantages when compared to non-clustered firms.

Firms that select central market locations \( (n = 18) \) for their production sites generally, but not significantly, perform better and innovate less than those in non-central or residential areas. As for significant differences, three groups of relationships emerge. First, centrally located firms have significantly fewer external links and relationships with suppliers (most of who are actually located in or near central markets). Second, centrally located firms are significantly less sensitive to quality distinctions and it appears that there is a general tendency among these firms to emphasize generic market production. Third, centrally located firms are significantly more visible and accessible to passersby.

More interesting than the differences between central and non-central firms, are those between firms that cluster together with high degrees of visibility and accessibility \( (n = 14) \) and those that are more secluded, isolated, and security conscious \( (n = 15) \). In determining which firms were clustered and which were not, van Dijk and Sverrisson’s (2003) directly observable characteristics were used as a guide: (1) relative spatial proximity; (2) a generally high density of economic activities; and (3) similar firms involved in similar or related activities. For the most part, clustered firms in Mwanza’s furniture sector exhibit location type and local market type characteristics—close proximity, information exchange (most clearly manifest in imitative behavior among firms), some pooling of labor, and consistent and ready access to consumers (van Dijk & Sverrisson, 2003). Despite the perceived advantages of clustering, clustered firms only perform marginally and not significantly better than non-clustered firms and do not achieve higher levels of innovation. Most interestingly, respondents from clustered firms are significantly less dependent on networks, have fewer external links, identified fewer customer types and quality distinctions, are less educated, and have invested less in their premises and production systems.

Beyond the statistical findings, a few summary observations are worth making. Clustering appears to be more commonplace in highly visible areas near principal markets where small firms desire to be close to major transportation centers. However, there is a downside to exploiting more convenient market access as business owners are more exposed to the municipal authorities who periodically evict microenterprises and unlicensed vendors from highly visible areas of the CBD. This issue of insecure property access, coupled with the relatively low profit margins involved in generic furniture production, has meant that most clustered firms reinvest relatively little into their enterprises beyond purchasing basic tools and infrastructure. In fact, most clustered firms are highly mobile and able to restart quickly if and when their owners/operators lose access to property. To counter this insecurity, some furniture makers have organized into cooperatives of more than five carpenters through which they can collect funds to pay for night-time security guards and, possibly, bribes for officials seeking to relocate them. Despite the benefits, innovation levels are low in these cooperatives and do not exceed those of independent enterprises competing in central markets.

In contrast with clustered firms, non-clustered enterprises are more customer oriented and have a greater reliance on networks and external links. For such firms to succeed in more profitable and higher-quality markets, physical visibility, accessibility, and co-location are trumped by the need to have stronger social skills, a good reputation, and innovative capabilities. In fact, it appears that co-location with competing firms is viewed by some as a detriment to performance as there are fears about competitors stealing valuable clients or copying novel design ideas and production approaches. The trade-off between co-location, visibility, and proximity to central markets appears to come with security, higher-value customers, and the ability to make greater investments in production sites and systems. In sum, clustering and visibility are most clearly associated with generic production by the smallest and poorest firms and do not, under the current market, institutional, and infrastructural circumstances, appear to facilitate the most innovative activities in Mwanza’s furniture industry.

7. MWANZA’S URBAN ENVIRONMENT AND ITS INFLUENCE ON MANUFACTURERS

When considered in market, institutional, and spatial terms, Mwanza’s urban environment plays a significant role in influencing the characteristics, strategies, and locations of firms.
and industries. From a market perspective, Mwanza’s furniture makers must contend with hypercompetitive circumstances in which quality is typically second to price and where higher-end customers are in short supply. While some manufacturers have succeeded at tapping into higher-value markets, they represent the minority of businesses and the performance of their firms is not significantly higher than those competing in the generic marketplace. Thus the market environment is not rewarding attentiveness to design, flexibility in production, and quality workmanship. Moreover, local markets are not rewarding those businesspeople who are more socially adept in nurturing worker and supply-chain relationships. In sum, market factors are selecting for lower quality, less social connectivity, and generic, not specialized, production systems.

Institutionally and spatially, Mwanza’s municipal authorities have little interest in the activities of small-scale manufacturers except with regard to their relocation away from the CBD. Government officials view small-scale furniture makers as key contributors to congestion, pollution, and noise in the CBD, and are frustrated with their unwillingness to pay taxes and/or license fees. Numerous attempts have been made to relocate firms by force and/or the shifting of markets to the city’s outskirts but such initiatives have not reduced the attractiveness of being near major markets and key transportation links. Repeated attempts at convincing or forcing manufacturers to move from central locations have failed and only increased tensions between small enterprises and municipal officials. Beyond these particular public-private tensions, the general lack of trust between business and the state means that legitimate attempts to relocate markets and firms are met with skepticism and cynicism by businesspeople and consumers alike. In essence, the institutionalized practices of the state, the private sector, and domestic consumers encourage informality, breed insecurity, and reduce capital investments in small-scale manufacturing industries.

The long-run implications of the tension between municipal authorities and small-scale manufacturers lie with the insecurity and lack of trust it breeds within the business community and civil society. Insecurity is manifest in the lack of control that business owners have over property and this creates disincentives to invest in site improvements or fixed capital. Municipal officials are more concerned with attracting large inward investments in industries, particularly those that can only be located in predefined industrial zones in peri-urban areas and which will generate significant and consistent tax revenues. In the context of structural adjustment programs and more decentralized control over fiscal resources (esp. tax revenues), such desires are logical but their long-term consequences appear to be poorly understood or considered by the state and some in the donor community. Most problematic is the implicit assumption that Mwanza’s urban landscape can experience a process of creative destruction whereby municipal authorities and structural adjustment policies attract large-scale foreign and domestic investments that eliminate “backward” firms and replace these with modern, rational, and tax-revenue generating enterprises and industries. Lost in this vision is the importance of centrally located small businesses and manufacturers, enterprises that presently meet the majority of consumers’ demands for products like furniture and which are largely ignored by policymakers and planners.

Mwanza’s current selection environment, as exemplified by activities in the furniture making industry, the demands of consumers, and the actions of local authorities, is not fostering the market, institutional, or spatial circumstances conducive to growth and productivity improvements. Moreover, the longer-term prospects are not encouraging as there are competing forces at work that seem to be moving the furniture industry toward an even lower productivity situation. Population growth and in-migration are increasing the size of the available labor force but a lack of reliable and/or desirable wage labor is forcing many to turn to self-employment for subsistence. The size of the informal microenterprise sector is booming and while some external economies are being realized through clustering activities, they are primarily exploited for market access and basic cost-reduction reasons, not creativity, innovation, and/or specialized knowledge pooling. Meanwhile, consumers, particularly as their purchasing power has declined in the context of Tanzania’s structural adjustment process, have become reliant on low-price and low-quality wage goods such that competition is primarily cost driven (Wuyts, 2001). As such, those manufacturers seeking to establish a local, regional, or national reputation based on creativity, quality, and larger-scale production are effectively crowded out by microenterprises and imports while few opportunities exist for export to international furniture markets.
8. POLICY IMPLICATIONS AND CONCLUSIONS

When Mwanza’s urban-industrial environment is viewed in relation to the demands and expectations of the global furniture industry, three significant policy considerations emerge. First, that innovation in production and creativity in design need to be rewarded by consumers and should be supported through programs to assist the most innovative and customer oriented firms. The challenge here is clear in that further improvements to relatively innovative firms will be most successful if they coincide with changes in consumption patterns and welfare improvements in the domestic economy. This is not to say that targeting of firms for upgrading is unwarranted or that it will be wholly unsuccessful, only that widespread improvement in quality and productivity cannot be separated from the need for broader changes to consumer preferences in Tanzania’s economy. Because of this, it is essential to consider the ways in which macroeconomic reforms and policies are influencing both the purchasing power of consumers as well as their preferences in terms of style and materials. In the case of Tanzania, economic liberalization has facilitated a rapid increase in imports of low quality consumer goods, particularly from Africa and Asia. Because of this, consumer preferences may be shifting away from more traditional kinds of products and toward foreign designed and manufactured goods. Without direct support for innovation and capital improvements in local firms, it is unlikely that Tanzanian manufacturers can keep pace with changing demands in the marketplace or that they can develop production systems that are on par with those of foreign competitors.

Second, secure property rights are essential if furniture makers and other small manufacturers are to invest capital in their production systems and establish more stable and innovative relationships to suppliers, competitors, and consumers. Most small-scale manufacturers fear the state and periodically have to bribe officials or face eviction from locations they do not formally own but which are centrally situated. Moreover, the process of obtaining formal ownership of property in cities like Mwanza is costly and complex and requires that an enterprise first be formally registered with revenue authorities. On the surface, this is not problematic but in practice it is extremely difficult for small-scale enterprises to obtain formal legal control over land; particularly plots located in the central business district. For firms choosing to locate in non-central and residential areas of the city, property rights are similarly tenuous but the relative seclusion and isolation from municipal authorities means that small business owners are more likely to invest in site improvements. This is not to say that manufacturing firms should be allowed to locate anywhere without any question or planning review, only that their desire to remain in places where the city’s officials do not want them is indicative of broader problems associated with the municipal authority’s approach to industrial planning.

Third, industrial clusters in Mwanza are not sites of high-end innovation or higher quality production but rather situations exploited for market access and the collective efficiencies associated with tool sharing, labor pooling, and ready access to inputs. As McCormick (1999) observed, these may be seen as “groundwork” clusters that offer newcomers and microenterprises improved prospects for survival but few, if any, guarantees for growth and progressive innovation. Mwanza’s selection environment encourages the emergence of these survival-type agglomerations while those firms excelling in terms of their design and marketing strategies avoid co-location and focus primarily on building a favorable reputation within a network of key customers. This finding echoes Kristiansen and Mbwambo’s (2003) recent study on cottage industries in Tanzania where they observed that the most successful firms were the least likely to be found in manufacturing clusters. Moreover, it indicates that the value of any collective efficiencies generated within Mwanza’s furniture clusters is significantly less than the costs associated with having reduced access to higher value customers and the inability to protect one’s innovations and creative capital from widespread imitation.

In policy terms, the message is straightforward: if the state were to actively promote clusters of small enterprises, many of the most innovative firms in Mwanza would simply choose not to participate. As such, clustering must not be viewed as the only strategy for small-scale industrial development in African cities but rather as one part of multiple initiatives that acknowledge the diversity of small-scale enterprises and recognize that different
kinds of support and incentives are needed to facilitate upgrading among them. This is not to say that clustering is not or cannot be a worthwhile approach for planners and policymakers, but rather that it alone cannot overcome circumstances, such as those in Mwanza, where institutional and market conditions are preventing or discouraging existing clusters from developing the kinds of specializations and divisions of labor observed in dynamic, flexible, and innovative examples of industrial agglomeration. Thus the potential for clustering initiatives must be realistically considered in relation to wider urban, regional, and global circumstances and industrial development programs should also identify and target non-clustered, innovative, and customer-oriented firms through capital improvement grants, improved access to information about markets, and training programs that enable these business owners to develop the skill sets associated with global value chains. Scott’s (2006, p. 1530) observation regarding the prospects for low-technology and labor-intensive industries in the Global South sums up this finding quite well, albeit with an emphasis on the importance of market elements:

“Agglomeration may be an indispensable adjunct to competitiveness for many segments of the clothing, footwear, and furniture industries, but without complementary mechanisms for the distribution of final outputs on wider markets, its full powers must remain stillborn.”

(a) Concluding remarks

In its broadest sense, this study demonstrates that Tanzanian manufacturers have a long way to go before they might profitably and effectively link into global value chains for goods like furniture. This finding is not surprising nor is it the central concern here. Emphasis was placed not on determining whether or not Tanzanian manufacturers are ready to go global but rather on assessing and examining the current trajectory of the country’s furniture industry as a means for identifying some of the factors preventing firms from establishing more of the capabilities necessary to compete against imports and attract the attention of buyers in global value chains. By detailing the performance, innovation, marketing, situation/location, and social characteristics and activities of firms in Mwanza, a key objective has been to contextu-
1. In 1999, the Mwanza city region attracted 23.6% of all FDI in Tanzania and accounted for 16.5% of the flow of foreign direct investment (World Bank, 2005).

2. Informal sector firms are required to obtain annual "petty" licenses from the municipality but many business owners reluctantly obtain them and often only in response to a crackdown by the Mwanza municipal authorities.

3. While these data may seem a bit out of date, the condition of manufacturing industries in Mwanza and Tanzania as a whole have not changed dramatically since 2000 as evidenced by data from the World Bank (2006) and the 2004 economic survey of the Tanzanian government (http://www.tanzania.go.tz/economicsurvey/2004/).

4. QSR-NUDIST®, now known as N-VIVO®, is a qualitative data analysis (QDA) software package used to aid in the organization and coding of interview and other kinds of qualitative information (visit http://www.qsrinternational.com for details). For this project, QDA software facilitated the organization and coding of blocks of text in relation to key themes or variables (e.g., performance, innovation, market orientation, etc.). Once the texts were coded, through multiple passes through the data that allowed for refinements and the creation of subcategories for each theme, code frequency tables were generated and from these formal scores for particular variables were calculated as detailed in Table 1.

5. Raw success and failure scores were divided by the median numbers for the sample in order to index these data to a central point. The median was selected due to the small sample size and its relative resistance (compared with the mean) to the influence of outliers. Network dependence and external link scores were also indexed to the median.

6. Performance, network dependence, and external link scores also stem from a prior study (Murphy, 2002).

7. Only two groups were selected for this phase of the analysis after a K-means cluster procedure (using SPSS® statistical software) was conducted for all non-Boolean variables to assess how the groups might "naturally" cluster. The results for all of these analyses identified only two groups or clusters for each variable.

8. This finding reflects an earlier study in Mwanza (Murphy, 2002).

9. One possibility is that better educated businesspeople may have more financial assets and are thus able to be more particular about where they locate their workshops. Clearly, confirmation of such an assertion requires additional research.

10. Many furniture makers stated that higher-value items like beds and cabinets (kabati) were in greater demand after the crop harvest when rural residents were flush with disposable income. During the heart of the rainy season manufacturers might focus on lower cost items such as small tables and stools. See Murphy (2006) for details.

11. Fears and frustrations about one’s competition stealing ideas or customers were expressed by several of the more profitable and larger-scale firms in the city.

12. The assertions about municipal government industrial development policies are based on interviews with Mwanza’s municipal economist and with officials responsible for overseeing small business activities and licenses.

13. This call for secure property rights should not be viewed here as support for the rapid liberalization and market control of all urban property rights (e.g., see DeSoto, 2000) but rather as a recommendation that the state develop ways to set aside lands and infrastructure for small enterprises and that assistance be provided such that business owners can make meaningful capital investments in these properties.

14. The Tanzanian Investment Centre website (http://www.tic.co.tz) provides procedural information about obtaining business licenses and acquiring land in urban areas. A formal business license requires prospective firms to first register with the tax revenue authorities, to have an established business premises prior to licensing, and to undergo an inspection of the premises by a Land and Health Officer. Acquiring urban land is a seven-step process with four separate fees in addition to the annual land rent charged by the government who owns all land in the Republic. Not surprisingly, the fees, forms, and bureaucratic complexities are beyond the means and capabilities of the owners of small enterprises and the Tanzanian government appears to have no alternative mechanisms for granting land-use rights to such businesses. Due to the prohibitive nature of formal land acquisition, most firms informally rent property from households or establish informal usufructory rights to workshops in industrial areas. Such mechanisms of accessing land, while adequate in most cases, have no formal legal status and are highly vulnerable to the relocation programs or informal sector purges by the state.
REFERENCES


