Recreation of jobs through workplace innovation in the light of outsourcing and insourcing of manufacturing

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Over the past decades, we have witnessed considerably accelerated globalized trading. Products are made in one country and then shipped across national borders and continents for further processing, packaging, assembly, storage, and sale. In Western Europe, a high number of manufacturing jobs have disappeared through outsourcing and offshoring of manufacturing activities to low-cost countries in Eastern Europe and Asia. However, some signs indicate this practice is beginning to fade and have even led to insourcing and back-shoring manufacturing in Western Europe. This paper provides a brief overview of a Danish questionnaire survey about this phenomenon and reflects on how workplace innovation can sustain this creation of new manufacturing jobs in Western Europe.

1. Introduction

The role of manufacturing has changed over the past decades due to a globalized business environment in which manufacturers in Western Europe have applied different globalization strategies in response to intensified competition from low-wage countries. A large number of manufacturing jobs have disappeared from Western Europe as manufacturers outsourced and offshored their work. However, some debates have recently been initiated that question the benefits of global outsourcing (Arlbjørn et al., 2014). Reported problems of outsourcing include poorer product quality and increased costs (Arlbjørn & Lüthje, 2012). The economic development of the countries where manufacturing is being outsourced and offshored may also hollow out any wage advantages.

The economic crisis that began in earnest in 2008 unearthed a wide range of risks that companies face when sourcing from offshore locations. Some companies have reportedly moved their production activities back to their home country under terms like reshoring, back-shoring, and back-reshoring, and more companies look likely to follow (Kinkel, 2012; Kinkel & Maloca, 2007; Arlbjørn et al., 2013; Fratocchi et al., 2014). However, few empirical research studies have analyzed the extent of outsourcing and insourcing of manufacturing activities. From a job creation perspective, knowledge about the location of manufacturing sites is extremely important as it stimulates research on how workplace innovation contributes to the recreation of manufacturing jobs in Western Europe. The way work is organized has a
direct impact on the achievement of wider social and economic goals, including competitiveness, better jobs, employment growth, and social inclusion (Exton & Totterdill, 2009).

This paper provides a brief overview of the main conclusions of a Danish study that analyzed these movements of production within a Danish context. The study provides novelty in its large number of respondents and its explicit distinguishing of firm sizes. In Europe, small and medium-sized enterprises (SMEs) dominate the total number of companies. Extant research on outsourcing and insourcing of manufacturing has apparently not considered firm size. Among the parameters often used to distinguish SMEs from larger companies are 1) smaller market share, 2) different management structure, 3) smaller revenue, 4) local area of operations, 5) fewer employees, 6) scarce resources, 7) lack of competencies, 8) lack of strategic thinking, 9) reliance on a small number of customers, and 10) owners deeply involved in the operations (Forsman, 2008; Arlbjørn et al., 2009). The literature on SMEs, however, differentiates between relatively small and large SMEs and emphasizes their important differences (Storey, 1994). It is therefore relevant to investigate small, medium, and large companies.

2. Terminology

Outsourcing and insourcing refer to the governance structure of companies with many connotations. Outsourcing is about turning over all or part of an organization’s activities to an outside supplier and not necessarily one from abroad. In contrast, insourcing is the reverse as it involves moving activities previously sourced from an external supplier back in-house. Since the purpose of this research has been to study the movements of production across the Danish borders, the following definitions of outsourcing and insourcing have been applied:

- **Outsourcing** is the relocation of in-house activities or functions from the home country to an independent third party in another country.
- **Insourcing** is the repatriation of activities or functions from outside suppliers to the home country.

3. Method

The companies participating in the questionnaire survey were randomly selected from a Danish database and resulted in a list of 3,572 companies (see Table 1).
Each of the 3,572 companies was contacted by telephone and, if a company agreed to take part in the survey, a link to the online survey (survey-exact) was sent to the person identified as responsible for manufacturing. A follow-up process showed that 843 companies completed the online survey, yielding a response rate of 23.6%.

4. Analysis
As shown in Table 1, 200 companies (equivalent to 23.7% of the sample) have outsourced their manufacturing from Denmark in the past five years. The primary destinations for outsourcing have been China and Europe. The data in Table 1 show that the outsourcing of manufacturing is a practice for all companies regardless of size: 87 companies insourced manufacturing to Denmark (10.3% of the sample).

4.1 Drivers for outsourcing
Obtaining wage and/or productivity advantages was the main driver for all three groups. Although some variations occurred depending on size, this driver is by far the most frequently identified. For small companies, the secondary drivers are to obtain increased flexibility, to escape from non-competitive frame conditions, and to avoid investments in new equipment, with the latter being more prevalent among small companies.

For the medium-sized companies, the major drivers are increased flexibility, production close to or in the market, lack of competitive frame conditions, focus on core areas, and avoidance of investments in new equipment—all weighted almost equally. The same picture is valid for large companies; however, a focus is mainly on increased flexibility, despite the lack of competitive frame conditions and a focus on core areas.

Of the companies that have outsourced production from Denmark over the past five years, 18% indicated that they would likely insourced into Denmark. By contrast, 60% of the companies stated that this is unlikely or very unlikely. Approximately 20% doubted that this would happen. Among outsourcers in the past five years, 47.5% have realized that jobs to a “very high degree/high degree” can be maintained in Denmark through automation (e.g., with robots).
4.2 Barriers for outsourcing
Regardless of a company’s size, the challenges concerning the lack of a proper production foundation (complete and correct bill of materials, production routings, drawings, etc.) constitute major barriers in the outsourcing process. This is an issue for more than half of the large companies, 40% of the medium-sized companies, and 37% of the small companies. These results indicate a lack of documented knowledge about the production processes and their foundation, which is a problem of transferring tacit knowledge (Arlbjørn & Lüthje, 2012).

Other major barriers are a lack of competencies and language difficulties at the outsourcing destination. Companies report problems with finding the right qualified suppliers and problems due to the rapidity of the outsourcing process, but in general no notable differences were found among the barriers across company sizes. However, challenges with sourcing qualified suppliers seems to be more difficult for large companies and the SMEs seem to have experienced challenges with hastily outsourced processes.

4.3 Drivers for insourcing
Unsatisfactory quality is the most prevalent driver among the respondents in this survey, in particular for SMEs. A second driver of insourcing is to avoid long lead-times. If the geographical distance from the supplier is very long, then the long lead times due to transportation can cause a build-up of inventories in order to reduce the risk of unstable deliveries. A third driver is an increased level of automation in Denmark (e.g., through robots) that might also be a factor in maintaining production jobs in Denmark (see Arlbjørn & Mikkelsen, 2014). A fourth driver is the need to focus more on core activities, which indicates a need to protect core production tasks. Finally, a fifth driver is the demand to for production in close proximity to research and development.

4.4 Barriers for insourcing
The respondents have no insourced production to Denmark without problems. About 32% of the small companies indicate that a significant barrier has been a lack of resource allocation during the insourcing process, compared with 20% for SMEs and 21% of large companies. Thus, there seems to be a connection between firm size and the allocation of resources to insourcing—the smaller the company, the smaller the resource allocation. A second barrier related to insourcing of production is that the original decision process was hasty: 29% of the large companies indicated this as a barrier compared with 15% of the small companies and 17% of the medium-sized companies. A third reported barrier is a lack of a proper foundation for the insourcing decision. The fourth barrier is a lack of competences to handle the insourcing process. Finally, the fifth barrier is a lack of information about the insourcing process.
5. Conclusion

Of the companies in the survey, 23.7% have outsourced production within the past five years mainly from Denmark to other EU countries and China. Cost remains the most important driver when it comes to the decision to outsource. Most of these companies reported that they have met expectations for cost reductions, however, there are more mixed perceptions regarding the desired levels of quality, flexibility, and lead-time performance. The lack of competitive frame conditions ranked second in the survey and is about not having access to financing, administrative difficulties from public authorities, etc. This has not received much attention in the literature. The lack of a foundation for production as a barrier to outsourcing is especially significant. This might be seen as “what you outsource is what you get” (Arlbjørn et al., 2014). The lack of proper drawings, bills of materials, and the embedded tacit manufacturing process knowledge undermines the seamless handover of products, activities, or processes to a chosen supplier. Other significant challenges are a lack of competences at the sourcing destination and too few suppliers to choose from, and these are the second and fourth most experienced barriers to outsourcing. Despite the globalization of trade, language barriers still seem to be a problem.

The primary drivers of insourcing production are a lack of quality, long lead-times, and an increasing use of automation within Danish companies. Other reported reasons for insourcing include a greater focus on core areas and the importance of having production closely associated with new product development. The respondents have also reported some perceived problems with insourcing production to Denmark, such as a lack of resource allocation during the insourcing process, a too hasty insourcing process, and a lack of a proper foundation for the insourcing decision. These points could motivate governments to spend more public resources to assist companies with moving manufacturing back to Western Europe.

The research carried out by Arlbjørn et al. (2013) confirms the importance of applying a total cost perspective in the analysis about outsourcing that include both direct and indirect cost categories. The research report demonstrates that the question about outsourcing and insourcing not is an “either/or” but instead is about “both/and.” Some manufacturing will continue to be outsourced and some will not. Some manufacturing will be outsourced for a period but will then be insourced again to the home country or moved to another location in the world in order to fulfill the new competitive criteria. The research also confirms that there might be quality and lead-time challenges and an increased level of coordination and logistics costs with the outsourcing decisions. Furthermore, the research stresses the importance of close interactions with product development and manufacturing and that the use of automation in manufacturing might be a way to keep manufacturing activities in Denmark. However, these contributions to the current body of knowledge of outsourcing and insourcing of manufacturing also point to at least
three new research areas: 1) how companies can use automation equipment to maintain and create new jobs in Western Europe, 2) how employers and employees can jointly maintain and create new jobs through workplace innovation, and 3) competence requirement for employees in manufacturing in a dynamic business environment where continuous outsourcing and insourcing decisions of manufacturing will be the norm.

References