

The
REAL COSTS OF OUTSOURCING
from low-wage countries:

An empirical study of the Mississippi wood furniture industry



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Research Bulletin

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The Real Costs of Outsourcing from Low-wage Countries: An Empirical Study of the Mississippi Wood Furniture Industry

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INTRODUCTION

This investigation of “real costs” is a call for a realization of all potential costs associated with outsourcing furniture from overseas. In any business decision, especially before outsourcing, careful consideration of obvious and hidden costs is prudent. Thus, a detailed study identifying all potential costs and assessing their economic impacts on outsourcers from low-wage countries is essential for fully informed decisions on furniture production sources.

According to recently released data by the U.S. Department of Commerce, the American wood furniture trade deficit continues to increase from \$1.43 billion in 2002 to a record \$13.86 billion in 2005. The increase in imports from the People’s Republic of China reveals that more and more American furniture manufacturers are outsourcing furniture production from low-wage countries, particularly China.

However, outsourcing firms typically focus on price quotations, often ignoring additional costs that arise from outsourcing. In an effort to help identify the real costs, including all potential costs, and assess their economic impact on outsourcing furniture from low-wage countries in the wooden furniture industry, researchers are conducting a study on the real costs of outsourcing wood furniture production from low-wage countries by Mississippi furniture manufacturers. Mississippi is one of the nation’s top three states in furniture production. This study, initiated in March 2006, is sponsored by the United States Department of Agriculture’s Forest Service and Mississippi State University.

The purpose of this study is to present a detailed description of offshore outsourcing in Mississippi wood furniture industry. This purpose is fulfilled through

three objectives. The first objective is to identify the real costs of importing wood furniture which include all potential costs and risks; the second objective is to assess their economic impacts on Mississippi wood furniture outsourcers from low-wage countries; and the last objective is, within Mississippi, to compare costs of contracting furniture manufactured by domestic manufacturers with outsourcing from low wage countries.



LITERATURE REVIEW

A comprehensive literature review was conducted to ascertain the width and breadth of the former outsourcing studies. The results of this review summarized seven factors of hidden costs and risks associated with outsourcing furniture production from low wage countries. These seven are:

Bureaucratic Complications

First of all, conducting business in China and other low wage developing countries is quite different from conducting business within typical western practices. Generally, Americans follow the business rules and theories that have proven successful in the U.S. However, these practices do not necessarily work in China. They fail most often due to underestimating the non-rational business environment in China (Economist 2004a, Economist 2004b). Bureaucratic complications reflect a wide range of serious problems that American offshore importers usually encounter. Bureaucratic complications encountered include but are not limited to:

- Non-adherence to Western business and management rules (non-rational business environment);
- Low wage country power struggles between the central government and the provinces;
- Inconsistent central government policies;
- Inconsistent application of policies by bureaucrats;
- Provincial government local protection, e.g., over-manning to keep low unemployment levels.

Legal System Issues

The legal systems in many low wage countries seriously lag behind and have not kept up to date with developed countries. This situation will not be easily changed in the short run. It has been estimated that it will take at least 15 years—maybe as long as 80 years—to modernize low wage countries' such as China's legal system (Economist 2004a, Die-casting Development Council 2001). Americans commonly encounter and will continue to encounter legal hassles, loss of intellectual property, loss of investment property, collapse of businesses, and so forth. Legal system issues include but are not limited to the following:

- Cost of legal affairs;
- Foreign countries' ambiguous legislation;
- The power of an individual rather than the power of law;
- Weak intellectual property protection;
- Legal hassles;
- No comprehensive bankruptcy law;
- Weak business law enforcement;
- Legal handling of warranty issues between countries;
- Legal handling of payment issues between countries.

LITERATURE REVIEW

Cultural Challenges

The Western business management model is not applied in the low wage countries such as China due to heavy bureaucracy, an undeveloped legal system, and rights derived from political power or individual power. Because of cultural differences, Guanxi, a developed network of business relationships, is critical for business success in China (Economist 2004a, <http://www.exportinfo.org/region/articles/Guanxi.htm>). Developing and nurturing a strong network of relationships requires continuous resources, especially financial resources, and time. Therefore, western business people must overcome language barriers and spend time building and nurturing business relationships in order to be successful in China. That is why the following issues are included in cultural challenges:

- Language barriers;
- Guanxi;
- Building and nurturing business relationships.

Business Ethics

The failure of the legal system to enforce what few business laws that exist in many low wage countries and the lack of adequate business laws have caused business ethics and professional morality to lag behind the rise of economic reform in China. Also the communist economy has caused professional morality to be weakened and the sense of social responsibility and obligation to lessen. The result is a money worship phenomenon. These conditions have led to low business ethics. Any problems found in the products are left to the offshore importers to solve. The lack of respect for trademarks; copyrights; patents, and intellectual capital have resulted in new competitors being created resulting in market share loss (Die-casting Development Council 2001, Harvey 1999). Issues to be looked into include:

- Design substitutions;
- Material substitutions;
- Defective products;
- Trademark and copyright violations, e.g., counterfeit goods;
- Consistent price maintaining;
- Shipping on schedule;
- Information availability.

LITERATURE REVIEW

Environment, Health, and Safety

Environment, health, and safety may become increasingly important to global consumers. Less regulation of the environment by low wage and developing countries contributes to pollution. And also less regulation of the environment leads to wasting energy, materials, and labor.

- Less environmental regulation;
- Worker health/safety;
- Difference between material requirements, e.g.; formaldehyde emission and VOC emission according to Material Safety Data Sheets.

The issue of an environmental protection index, such as that for released formaldehyde in wood product panels, may seriously affect the marketability and consumer acceptance of furniture products. Researchers need to examine environmental and worker health and safety costs associated with outsourced products and provide this information to industry and consumers.

Quality Issue Costs

Quality is a critical promise for any company's success. Quality problems discovered after the fact can cause relatively high hidden costs for furniture and furniture component offshore importers. Based on a survey made by the National Bureau of Quality Control and Quarantine, one third of Chinese wood furniture has quality problems. This is evidenced by the large number of customer claims related to low quality (AKTRIN 2003, Friedl Business Information 2001). Quality issues are an extremely costly problem for outsourcers. Quality issues of concern include but are not limited to:

- Your customer discovered defects;
- Rework costs;
- Cost of finding defective products;
- Cost eliminating root cause of defective products;
- Cost of staff person or use of an outsourcing company on site to maintain quality;
- Litigation costs;
- Lack of infrastructure, e.g.; road, power, ports, etc.

LITERATURE REVIEW

Global Complexities

A national telephone survey of company executives (Die-casting Development Council 2001) with experience in outsourcing of die casting in low wage countries revealed that global complexities add significantly to product costs. However, outsourcing firms typically concentrate on price quotations, and often ignore the additional costs arising from outsourcing:

- Inflexibility of international finance;
- Long distance communication;
- Management oversight;
- Training and monitoring;
- Delivery time;
- After effects of delayed delivery;
- Reductions of cash flow;
- Tariff, tax, and duty fees;
- Transport;
- Exchange rate problems;
- Travel budgets;
- Freight forwarding agency complexities;
- Larger inventory carrying cost;
- Maintaining the flow of imported products.



METHODS

The data base of this study was fifty-six Mississippi manufacturers of wood furniture and component suppliers (Mississippi Development Authority (MDA) 2005a, MDA 2005b) that had experience importing from low wage countries for at least one year. A total of fifty-six mail-in questionnaires were returned to form the survey's basis. These survey forms were either handed out in person or mailed to all the sampled companies. Researchers also conducted in-person interviews with seventeen sampled companies based on the companies' willingness and ability to participate in interviews. All the respondents were in top management positions, such as CEOs, presidents, chairmen, owners, general managers or importing managers.

The survey questionnaire consisted of twenty questions. Questions from one to seven were the seven factors of hidden costs and risks associated with outsourcing furniture production from low-wage countries: bureaucratic complications, legal system

issues, cultural challenges, business ethics, quality issue costs, global complexities, and environment, health, and safety. A seven point Likert scale was used to measure the level influencing the potential responding company's offshore business cost—one for lowest level of influence to seven for highest level of influence. The majority of the questionnaire's remainder consisted of questions comparing the products produced in the U.S. to products outsourced offshore from low wage countries. In addition, there were several additional questions about the background of the potential responding companies.

A pre-test was conducted utilizing three industry experts. A "Think Aloud" cognitive interview was implemented during the one-on-one interviews (Forsyth and Lesser 1991). This methodology produced a final version survey questionnaire that was clear, easy to answer, comprehensive, and professional.



RESULTS AND DISCUSSION

Thirteen fully completed responses from the mailed-out questionnaires were received. Seventeen in-person interviews were fully completed plus the 13 mailed-in responses gave a total data base of 30 fully completed questionnaires.

The mean of the respondents' scores for the issues influencing their companies' offshore business cost was obtained (Table 1). From the highest to the lowest mean, the responding Mississippi manufacturers of wood furniture and component suppliers perceived global complexities influenced the offshore business cost the most, then followed by business ethics and quality issue costs, then environment, health, and safety, cultural challenges, bureaucratic complications, and legal system issues. Then the randomized complete block design using ANOVA with each respondent treated as a block showed that the companies perceived the seven factors influencing their offshore business cost significantly different (p -value = 0.001). Duncan's multiple

range test (Freund and Wilson 1999) at five percent significant level further determined which factors showed the significant differences from the others. First, the responding Mississippi manufacturers of wood furniture and component suppliers perceived global complexities influenced their offshore business cost significantly different and higher than cultural challenges, bureaucratic complications, and legal system issues. Second, they perceived business ethics, and quality issue costs issues influenced their offshore business cost significantly different and higher than bureaucratic complications, and legal system issues. Third, they perceived environment, health, and safety issues influenced their offshore business cost significantly different and higher than legal system issues. They perceived all the other issues influencing their offshore business cost not significantly differently from each other (Table 1).

TABLE 1. FACTOR MEANS INFLUENCING OFFSHORE BUSINESS COST

Factors Influencing Offshore Business Cost	Mean	Rank	Std Error	Difference of Mean (P - Value = 0.001)		
Global Complexities	5.08	1	0.37	A		
Business Ethics	4.85	2	0.47	B	A	
Quality Issue Costs	4.62	3	0.40	B	A	
Environment, Health, and Safety	4.15	4	0.49	B	A	C
Cultural Challenges	3.69	5	0.44	B	D	C
Bureaucratic Complications	3.15	6	0.44	D		C
Legal System Issues	2.92	7	0.38	D		

The summary statistics for the percentage impacts of each of the factors, the potential costs and risks, comparing the business transactions of low wage countries with the responding Mississippi manufacturers of wood furniture were provided (Table 2). Quality issue costs impacted business transactions by 40.50 percent, the largest percentage

impact. Global complexities followed, impacting the transaction by 18.08 percent; business ethics by 11.83 percent; cultural challenges by 10.08 percent; legal system issues by 6.92 percent; bureaucratic complications by 5.92 percent; and environment, health, and safety by 5.08 percent (Table 2).

TABLE 2. SUMMARY STATISTICS FOR THE PERCENTAGE IMPACTS ON MISSISSIPPI WOOD FURNITURE OUTSOURCERS FROM LOW WAGE COUNTRIES

Percentage Impacts (Total = 100%)	Rank	Mean (%)	Median (%)	Std Error (%)
Quality Issue Costs	1	40.50	37.50	6.06
Global Complexities	2	18.08	15.00	5.32
Business Ethics	3	11.83	12.50	2.34
Cultural Challenges	4	10.08	8.00	2.39
Legal System Issues	5	6.92	7.50	1.33
Bureaucratic Complications	6	5.92	7.00	1.27
Environment, Health, and Safety	7	5.08	3.50	1.73
Other	8	1.67	0	1.12



The summary statistics for the average total dollar estimate of the input of the potential costs and risks on the responded companies' annual sales were shown in Table 3. The mean was strongly affected by inclusion of large, medium, and small sized companies (unusually large total dollar values estimate of the input of the potential costs and risks for the responding large-sized companies). The median provided a measure of the "average" cost that was more resistant to unusually large or small values than the mean (Freund and Wilson 1999). Based on the responses of the sampled companies, the reasonable average total dollar amount of the input of the surveyed potential costs and risks was estimated at three million dollars for each Mississippi manufacturer of wood furniture or component supplier.

With the comparisons between average sales price of the sampled companies' furniture product, total

TABLE 3. THE AVERAGE TOTAL DOLLAR VALUES ESTIMATED ON AN ANNUAL BASIS

Mean	Median	Std. Error
\$4,943,636	\$3,000,000	\$1,887,130

manufacturing cost of the product when produced in the U.S. and total costs, including the potential costs and risks, of the product when outsourced from the low wage countries, the present Mississippi study also found that the cost of outsourcing wood furniture from the low wage countries was 27 percent lower than the cost of producing wood furniture domestically averagely for the sampled Mississippi companies.



CONCLUSION AND RECOMMENDATIONS

Evidence in this research suggests that importing firms must consider the real costs—hidden costs and risks—when they make decisions to purchase offshore production. While the cost of outsourcing wood furniture from the low wage countries was 27 percent lower than cost of producing wood furniture domestically, average total dollar amount of the input of the surveyed real costs was estimated at \$3 million for each Mississippi manufacturer of wood furniture or component supplier.

This study emphasized costs to manufacturers, suppliers and retailers, but one area where we need more research is on consumer acceptance trends about the true costs of outsourcing to low wage countries. That is, if U.S. consumers were fully aware of the environmental costs and other non-priced factors associated with outsourcing production to low wage countries, would they be willing to pay a higher price for furniture and other products? The true story of costs also involves costs to society in general, e.g., like air and water pollution, as well as the “out of pocket” costs to producers. The present survey asked manufacturers, suppliers and retailers whether this was important to them in terms of hidden costs, and they rated it low. But would consumers feel the same way if they had good decision-making information?



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