

INDUSTRIAL REVOLUTION
INTERNATIONAL OUTSOURCING IN MANUFACTURING

Master of Arts in Law and Diplomacy Thesis

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Executive Summary

Ceramic tableware has undergone massive changes in the past century. These revolutions in ceramics include the mechanization of production, the development of mass markets, and the recent shifts in consumer preferences. Today, another revolution is underway: the global disaggregation of corporate value chains for the production, distribution, and marketing of tableware. Rather than simple import competition or specialty products, the offshore outsourcing trend is the industrial revolution of our time.

For a product as mature and universal as pottery and ceramics, outsourcing to the efficient, lower-cost producers would appear to be an easy and straightforward proposition. Mankind has been firing and decorating clay vessels for thousands of years and the basic value proposition has changed little from the utilitarian and aesthetic qualities ceramics offer. Outsourcing has merely added a new variable in the complex web of value-generating activities of industry firms.

Yet, even with mature products, innovation in either process or product is still possible if not essential. As more production shifts to China's \$0.64 per hour manufacturing wage labor, the important question nagging the offshore outsourcing debate should underscore is how it affects innovation. What happens to firms that no longer "make" a good but solely design and brand it? What happens when Chinese outsource partners become tomorrow's competition?

Producers also discount the innovative capabilities of China and other developing countries. Rather than consider the history of Chinese excellence in designing and manufacturing pottery, analysts and businesses truly believe Asia is just a massive copy machine. Chinese porcelains were highly valued

in Enlightenment-era Europe and produced by technically unrivaled firms in China. European potters made the cheap knock-offs. Innovation is not defined by national borders or ethnicity, but does determine the future of nations.

Realizing the truly wide-range of possible decisions firms can make concerning outsourcing, it is possible to provide a framework that guides firms along this continuum of outsourcing options. From the firm that has only limited in-country outsourcing of production to the firm that outsources everything, there are some very basic questions that should guide firms to successfully and strategically implement an outsourced production solution. These guidelines give firms a path to improve returns from outsourcing and to manage or recapture innovation feedbacks for the organization.

Outsource Decision

Using a mix of business theories and strategies, there are six primary evaluation tools for considering what, when, and where to outsource.

Ownership & Internalization

Transaction cost economics (Coase 1937; Williamson 1979, 1980) suggest a theory of firms and markets that, in its basic form, gives context to how business is conducted. Firms organize transactions (or business activities along the firm's value chain, e.g. accounting or raw materials sourcing) either internally or through markets, depending on the costs to organize those activities. Besides the acquisition cost, transaction cost economics looks deeper at specific asset investments that not only are more efficiently organized (or owned) within the firm, but provide a source of long-term returns and hence strategic value. For instance, if production systems (including labor, machinery, process, partnerships)

produce value and strategic advantage, a firm should choose to own those assets in order to reap the long-term returns and lock out competition.

- 1: Is production an essential comparative advantage, hence a source of long-term returns, that a firm must control to be competitive?
- 2: To what degree must the firm internalize the outsourced production to retain the advantage ownership provides for its other assets (e.g. design)?
- 3: Is manufacturing a corporate asset whose specificity (uniqueness) is high enough to warrant internalization?
- 4: Are the costs of opportunism and uncertainty (with the outsource firm) high enough to negate the benefits to outsourcing?

Life Cycles

Life cycle theories include an array of micro and macro tools to understand the relationship between profits, ownership, and time. The product life cycle (Levitt 1965) introduces the linear concepts of product development, growth, maturity, and decline. The international product life cycle (Vernon 1966) expands this concept to include the international movement of products to new markets as they reach maturity.

The key concept to understand is that as a product matures, margins decline and competition increases. Expanding to a new market or adjusting costs to compete in mature or declining markets both have international scope. Some firms may choose to outsource earlier depending on their technical capabilities or product cycle times. The question to outsource hinges on the product's relative position in the cycle and the firm's ability to

produce at a lower cost than an offshore producer.

- 5: Is a product in a mature or declining stage and experiencing declining margins?
- 6: How mature and common are the firm's technologies or processes relative to offshore producers?

Innovation Decision

Innovation is the most important trait for companies to foster. Innovation's two forms, process and product, are equally essential and jointly correlated to firm performance (Kotabe). In fact, the interdependent nature of process and product mean that long-term competitiveness suffers when either is lacking. Process and product innovation are a single platform for future success.

Appropriation & Commitments

Specific or unique commitments (Williamson 1979, 1980) form the basis of a strong model of appropriation, or the ability to capture returns from innovation. If a firm expects any investment it makes to generate innovation, the return will depend on the firm's commitments. Commitments come in two forms, firm specific investments that are unique to the company, and usage specific investments that are unique to a process. Usage specific investments (e.g. equipment) can be made firm-specific by their application within a firm's value creating activities. Typically, specific commitments are those with little value to other firms or transactions (Ghemawat 1988) and that exhibit the greatest long-term returns. Commitment through specific asset investments will generate the most easily appropriated returns to innovation, particularly for firm-specific investments.

- 1: Is the firm able to use contractual agreements to obtain sufficient control over the outsourcing transaction comparable to making firm or usage specific commitments that provide innovation returns?
- 2: How strong is the firm's appropriation of innovation in relationship to its commitments in assets and its use of outsourcing?

Experience & Life Cycle

Experience curves (Ghemawat 1985) and life cycle theories both suggest that mature products and industries will turn to offshore outsourcing when the innovation cycle dissipates and experience no longer provides strong returns. Cost reductions are a result of experience acquired over time. Manufactured goods tend to have steep experience curves. Experience is also the platform on which new products and process innovation are quickly and easily built. However, with outsourced production, how can the firm capture experience gains of the outsource partner and thus recapture a valuable source of learning and ability to innovate?

- 3: Has the product, firm, or industry moved far enough along the life cycle that the returns to innovation are diminishing or zero?
- 4: Is there an experience exchange involved in the outsource transaction and can returns from it be recaptured?

The Hidden Meaning

At stake in these questions is the loss of an important source of innovation: production. If process innovation is so important to product innovation, companies who fail to consider this innovation and outsourcing framework risk long-term *strategic* returns for fleeting short-term profits. Companies that endure create

valuable products and truly lead markets. These are the companies that innovate and offer more value to the customer. If you cannot innovate, how can you offer better value?

Strangely, the ceramic tableware industry appears lost in today's competitive marketplace. From an industry that truly revolutionized the table in the 20th century, ceramic tableware is losing ground in the 21st. Rapid and fundamental social change in consumer demand is underpinned by ever cheaper prices from Chinese goods mass produced for mere cents per plate. The industry's response, while valiant on the design side, should be rethought.

Rather than rely on cosmetic design changes, it's time to look more deeply at innovation, in all its forms, and find the next revolution for the world's tables. The unprecedented opportunities available in the global economy await the firm able capture innovation internally and turn it into the next big thing. With such amazing advances in technical ceramics (for example), innovation can hardly be impossible.

Companies that want to successfully manage their sourcing (whether internally or outsourced) must incorporate innovation into their plans. Using this framework derived from important economic and corporate strategy theory, firms can make sourcing decisions that place innovation and outsourcing together in a strategic manner.

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MALD Thesis

**Industrial Revolution:
International Outsourcing in Manufacturing**

**Case Studies from the Ceramic Tableware Industry
Innovation, Competition and Offshore Production**

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**Industrial Revolution:
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Innovation and Competition and Offshore Production**

Abstract:

The purpose of this work is innovation and outsourcing; and the relationship of the two to firm success. Since companies of all types and sizes now use outsourcing to some degree, understanding the full impact of this activity on a firm's ability to innovate is crucial. This is especially important as outsourcing gets closer to the firm's value creating activities and core competencies. Some firms are already doing this successfully; others do not.

Because the ceramic tableware industry is a highly competitive consumer goods segment that miraculously continues to survive import competition, this research will look under the plate and examine outsourced manufacturing in the industry. Cracks in the fine glaze of the industry in the western economies are obvious, but outsourcing has the potential to introduce new life into old favorites that have lined the cabinets and set the table for generations. How a firm decides to implement outsourcing dictate whether this proposition pays.

Using case studies and a decision framework, the paper establishes an integrative way to evaluate offshore outsourcing. The decision framework, comprised of key economic and business strategy theories, dictates a decision to outsource when the firm is able to maximize its ability to internalize key aspects of the outsourcing. It also dictates a set of criteria from innovation theory that firms will seek the strongest appropriation models available when outsourcing in order to

minimize the loss of innovation sources. Together, these are applied to the case study firms for analysis.

The conclusion this paper draws is the need for businesses to understand fully the strategic value of outsourcing, but in the context of the individual firm. Unless the decision is fully vetted and part of a larger strategy for competitive advantage, moving production outside the firm just delays the inevitable. Such a failure is avoidable.

Part One: Introduction

Vessels of all sorts have been made throughout human history to suit a variety of purposes. From the simple clay vessels for storing water or foodstuffs to complex and highly decorative porcelains, humans developed and advanced their skills at creating value. Users derived value from both the utilitarian purpose of the object and from its visual aesthetic. Today's consumers are very similar; they look for tablewares with a particular value proposition that suit their economic rationale for the purchase. Rather than simple, barely fired clay vessels, they have the luxury of variety for their choice. Modern ceramics include an assortment of qualities, types, and embellishments catering to a minutia of demands. Yet, the basic equation remains: providing the best combination of value to the customer.

In the ceramic tableware industry, meeting this customer demand challenge has evoked a shattering wave of change. In an industry where product prices are stagnant or declining in real terms, production cost profiles are substantial, and consumer markets are rapidly changing, the challenge is far greater than the simplicity a ceramic plate belies. Under the layers of glaze, coloring, and decorative work is a product still largely the result of manual labor; labor that is expensive in the western ceramic centers. Besides labor, firms also have a complex set of regulation, heavy legacy costs, and substantial consumer changes to manage. The solution for many of the industry's firms: relocate production to a low cost overseas area through ownership or contractual relationships. However, in an industry where the "potter's art" has high regard to firms and customers, what happens to innovation? If, as the "potter's art" tradition would insist,

product and process for ceramics are so closely related, will the separation to far corners of the world work for ceramics, or any consumer good?

Manufacturing & Innovation

For ceramic tableware producers in the Western economies, the challenge of imports and cheap labor is not new. Despite the erratic behavior of trade balances since the 1980s, the crisis for American producers began in the 1950s. The dramatic trade deficits of the 1990s sparked further plant closures, but in reality, the shocks of the post-World War II era were more substantial. (See Chart 1.) For European producers, the 1990s were only the beginning of the trouble to come. Despite gradual losses to the industry in Europe through the 1980s, the rise of China changed the face of European ceramic tableware production. Today, firms across the industry face a grim fact, the lower cost production of ceramics in the newly developed and developing economies of Asia make their products uncompetitive. Firms wonder how much longer they can survive without embracing some form of outsourcing.

The U.S. manufacturing sector, as a whole, is a formidable engine of economic growth and prosperity. By itself, manufacturing represents the fifth largest economy in the world, surpassing the size of China's entire economy.¹ Manufacturing is also responsible for 90% of all patents issued in the United States and outperformed productivity in the general economy from 1977-2002 (109% for manufacturing, 53% for the economy as a whole).² The gains from innovative activities in manufacturing promote increases in the country's standard of living through wages

¹ United States. Department of Commerce. Manufacturing in America: A Comprehensive Strategy to Address the Challenges to U.S. Manufacturers. Washington, DC: Department of Commerce, 2004. 7.

² Ibid. 7.

and returns to the sector. Yet, those effects spill over into the entire economy and, according to Schumpeter (1947), effect interest rates and provide returns to stakeholders.³ Most importantly, innovation is the key from which new products and services enter the marketplace. Without innovation, firms cannot maintain a competitive position in a market.

Outsourcing has added a new dimension to innovation and its relationship to a firm's value creating activities. This practice, the business decision to contract with foreign entities external to the firm for certain activities, is used as part of a host of product or firm strategies seeking to create competitive advantage. Offshoring is essentially an offshoot of international market entry strategies of multinational corporations throughout modern history. Firms that sought access to specific immobile factors of production would partner with or license foreign firms for production. Today, with the growth of international trade and "strategic sourcing," firms use a variety of contractual tools to secure productive capacity around the globe.

With the relative ease of securing offshore production and the importance of innovation to a firm, companies should seek methods that permit them to capture innovative feedbacks from their sourcing partner. This paper seeks to answer how firms evaluate and implement offshore outsourcing that retains the innovation feedback that manufacturing a good provides. Thus, given a firm's ability to outsource production, firms should choose to subcontract manufacturing capacity when it produces a competitive advantage that includes lower costs and maintains or enhances innovative abilities. For a firm to be successful and capture long-term returns, the

³ Schumpeter, Joseph A. "The Creative Response in Economic History." The Journal of Economic History. Vol. 7, No. 2. (November 1947): 156.

outsourcing arrangement must include commitments to specific resources that allow a firm to successfully appropriate innovation from the outsource partner. Without this capture mechanism, the firm will lose a potential source of innovation and experience lower returns consistent with lower degrees of resource specificity.

Dishing up the Subject

To explore the subject of innovation and outsourced manufacturing, this paper will use cases from the ceramic tableware industry. Because this industry has had a long exposure to international trade and is considered a labor intensive and import-sensitive good, it is an interesting and informative example of how mature products compete in a globally disaggregated world of production. To that end, part one of the paper will first examine the history and development of the industry. Important industry characteristics such as geographic clustering and reliance on skilled labor are included with this overview. Using contemporary strategy analysis, the paper provides insight on the industry and its current situation. The section concludes with the relevant trends in offshoring in the industry and its sources of innovation.

In the second part, the work turns to the subject of offshore outsourcing. After introducing the topic, the section will detail the drivers of offshore outsourcing. Throughout the paper, the terms offshore and outsource will be used with some degree of interchangeability. Readers should note that there are distinct differences between these words. In particular, offshore refers typically to wholly owned investments in foreign production whereas outsource refers to externally contracting certain business functions. A substantial amount of attention to cost differential, particularly in labor, also will be discussed. Then, to provide a strategic

viewpoint, the outsourcing decision is viewed in terms of transaction cost economics, the eclectic paradigm of international production, and life cycle theories. These strategies lead to a decision framework for outsourced manufacturing.

The third section turns to innovation and looks at the importance of innovation to firms as well as its strategic value. The section first explores the differences between process and product innovation and their relationship to firm performance. Then, using a strategic framework based on specificity, commitments and appropriation models, the paper examines the relationship of firm performance to innovation management through theories of experience curves, life cycle, and innovation cycles.

The frameworks laid out in sections two and three are then turned on three case study firms in the ceramic tableware industry. These case studies are included in section five and present three very different firms: Josiah Wedgwood & Sons, Ltd., The Homer Laughlin China Company, and Michael Wainwright Pottery. Each firm was chosen specifically for its different use of outsourcing (from none to all product) and its relative size and product area (from high-end to mass market tableware).

Then, in part six, these three firms are examined using the criteria established in sections two and three. The lessons of innovation and sourcing from each case are a means of understanding the relationship of innovation and outsourcing in a global industry. Part seven concludes with observations on the future of innovation and production for the ceramic tableware industry and the economies of the developed world.

Part Two: The Ceramic Tableware Industry

Historical Overview of Ceramics

The industrial production of ceramic tableware is a curious product of its history and physical properties. As a whole, the production of ceramics covers a broad spectrum of applications. Ceramic production includes advanced ceramics for technical or specialized use (for example, bullet-proof vests and bio-ceramics), electrical insulators, sanitary ware, ceramic tiles, and tableware. However, technological and production differences between each segment create barriers that prevent firms from easily switching between the various products.⁴ The production of advanced ceramics is a specialized field and requires a high degree of research and development whereas more traditional ceramics (insulators, sanitary ware, tableware) is a mature industry.

Pottery, the common name for many household ceramics, has been a facet of mankind's existence for thousands of years. From as early as the Neolithic period, man has been firing clay for use in household applications.⁵ The production of pottery vessels is common to almost all cultures and varies in complexity and proficiency. Nonetheless, one early and universal development was the decoration of pottery.⁶ Ancient Egyptian murals depict the formation and decoration of pottery. The discovery and use of different types of pottery for specialized use followed as human familiarity with the materials and process increased.

⁴ Smyth, R. L., R. S. Weightman. *The International Ceramic Tableware Industry*. London: Croom Helm, Ltd., 1984. 18.

⁵ "Traditional ceramics." *Encyclopædia Britannica*. 2006. <<http://www.search.eb.com.ezproxy.library.tufts.edu/eb/article-9108712>> 11 March 2006.

⁶ Cooper, Emmanuel. *A History of World Pottery*. (Third Edition) Radnor, PA: Chilton Trade Book Publishing, 1988. 13.

The modern production of ceramic tableware resembles its pre-historic roots to some degree. Though more complicated, the basic process remains; a piece of ware (called greenware) is formed from clay mixtures and fired to reduce porosity and increase strength. The piece is then decorated using glazes, patterns, or hand painting before a final firing to set the decoration. Firing temperature defines the first primary differences between types of pottery. Pieces fired at temperatures of 1100-1250°C are more porous and called “earthenware” and “semi-vitreous” ceramics.⁷ Pieces fired at temperatures above 1250°C form a vitreous product that is non-porous, such as porcelain, bone china, or stoneware. (See Figure 2.)

The clay mixture used to form the piece further differentiates the final product. Clays come in a variety of characteristics including workability, fusibility, and color. When mixed with different combinations of flint, ash, feldspar, and quartz, potters can control color and body properties when fired.⁸ For example, china clays (or kaolin) typically have low iron-oxide content (lower concentrations produce whiter ware) and are fired longer to produce bone china and different types of porcelain.⁹ Stoneware and earthenware use different types of clays (by chemical composition) and are typically colored or off-white when fired. For instance, using naturally available clays found along the Upper Ohio Valley, Homer Laughlin, one of the case study firms, produced “Yellowstone” ware, a stoneware product.¹⁰

Chinese Porcelains

⁷ “Whiteware.” *Encyclopædia Britannica*. 2006. <<http://www.search.eb.com.ezproxy.library.tufts.edu/eb/article-76584>> 11 March 2006.

⁸ Smyth, 5.

⁹ Ibid.

¹⁰ Blaszcayk, Regina Lee. *Imagining Customers: Design and Innovation from Wedgwood to Corning*. Baltimore, MD: John Hopkins University Press, 2000. 126.

China, a foremost producer of ceramic tableware today, has a long history of ceramic production. The country was home to pottery production as early as 3000 BC and developed technical skills for ceramic production earlier than almost any other area of the globe.¹¹ Advances in clay handling accompanied deft use of glazing and relief decoration and are hallmarks of Chinese ceramics by the first century AD.¹² The extensive trade in Chinese ware also promoted fast development of technique and incorporated development of firing technologies such as vertical kilns and advanced glaze colors.¹³ During the Ming Dynasty, Chinese porcelains developed in the Jiangxi province led the area to become the national production center for high quality wares for royal use.¹⁴ Chinese ceramics were highly valued for their use of colored glazes and decoration. These wares were extensively traded throughout the world including a brisk trade with Europe during the 17th and 18th centuries.¹⁵ This history of innovation in ceramic production is further examined later in this paper.

Western Ceramics & the Industrial Revolution

Prior to the Industrial Revolution, small firms serving local markets performed the production of pottery in Europe. The first pottery producer in Stoke-on-Trent, the British production center for ceramics and home of Josiah Wedgwood & Sons, occurred in the 15th century.¹⁶ (See Figure 2, 19th century Stoke-on-Trent.) Dutch delft work ceramics developed in

¹¹ Cooper, 45, 88.

¹² Cooper, 44, 47.

¹³ Cooper, 47.

¹⁴ Cooper, 53.

¹⁵ Cooper, 56.

¹⁶ Day, Marc, John Burnett, Paul L. Forrester, John Hassard. "Britain's Last Industrial District? A Case Study of Ceramics Production." *International Journal of Production Economics*. Vol. 65. (2000): 9.

the 17th century following trade exposure to China's porcelains.¹⁷ Pottery production in Selb, Germany and Limousin, France also developed during the same time period.¹⁸ These European firms adapted locally available clay in order to produce a greater variety of wares for domestic consumers. Like their counterparts in China's Jiangxi province, production appeared in close proximity to the availability of raw materials (especially clay), fuels (coal or timber), and transport systems (waterways). Access to coal for use in kilns was perhaps the most important driver and geographically constrained production until the late 19th century.¹⁹

With the advent of the Industrial Revolution, European and American ceramic production dramatically changed. The fast development of the industry in Europe hinged on the availability of fuel, transportation networks, and mass production techniques. As economic development proceeded in Europe, consumption of ceramics increased. Skills accumulation accompanied industrial changes. Pottery was a craft industry based solely on the skills of individual workers who each possessed a highly specialized role in production.²⁰ Each particular activity, clay mixing, mould making, jiggering (or casting pieces), kilnmen (overseeing kiln firing), and decorators, had separate functions requiring high degrees of skill that took years to accumulate. Thus, as the industry concentrated into specific geographical areas, a pool of skilled pottery workers grew.

¹⁷ "Delft Blue Introduction." Holland Tourism. <<http://www.holland.nl/uk/holland/sights/delftblue-history.html>> 27 March 2006.

¹⁸ Smyth, 111, 115.

¹⁹ Smyth, 13.

²⁰ Warren, Matthew P., Paul L. Forrester, John S. Hassard, John W. Cotton. "Technological Innovation Antecedents in the UK Ceramics Industry." International Journal of Production Economics. Vol. 65. (2000): 90.

Locational Factors

Location, as mentioned, was particularly important to ceramic producers. As in Britain, the American pottery industry grew in highly concentrated locations with the necessary factor endowments, including labor. Like its counterparts in Selb, Limousin, and Stoke-on-Trent, East Liverpool, Ohio, possessed the normal set of qualification: fuel, transport networks, and raw materials.²¹ With the growth of the United States, these domestic production centers grew tremendously to supply local demand, first locally then nationally. In addition, East Liverpool attracted English talent. American firms relied heavily on importing skilled potters (and their work systems) from the Stoke-on-Trent area.

For each of these production centers, locational endowments of input factors provided advantage and disadvantage. Because firms competed for talent from the same pool and supply was restricted by apprenticeship systems to transfer skill, wages were not particularly unstable. The same dynamic was important for other inputs. Firms in each of the Western centers competed on design traits such as decoration and quality of ware. Location also promoted cooperation and competition between firms. Technology transfer between firms was commonplace. Homer Laughlin's technological advances in the 1920s and 1930s diffused quickly throughout the industry because of its concentration in East Liverpool.²² This also meant that as one firm introduced a new product, firms nearby would overnight copy the product. When Josiah

²¹ Gates, William C. Jr. *The City of Hills & Kilns: Life and Work in East Liverpool, Ohio*. Steubenville, OH: Tri-State Publishing Company & East Liverpool Historical Society, 1984. 35, 167.

²² Blaszczyk, Regina Lee. "Reign of the Robots: The Homer Laughlin China Company and Flexible Mass Production." *Technology and Culture*. Vol 36. (October 1995): 863-920. Blaszczyk provides a particularly interesting and undeniably thorough treatment of innovation in ceramic production in the first half of the 20th century.

Wedgwood's "creamware" garnered acclaim and rapid sales, both the product design and his innovations in glaze colors spread to other Stoke-on-Trent potteries.²³ This pattern of cooperation and, to a lesser degree, competition continues today, but has been interrupted to some degree by increased foreign competition.

Contemporary Tableware Manufacturing, a Plate Full of Change

The manufacture of ceramic table evolved substantially during the 20th century, but the fundamentals of designing for consumer preferences and reliance on skilled labor still remain. Despite advances in automation and advanced equipment, the industry needs highly skilled labor that takes years to properly train.²⁴ Each job in the process is unique and companies expend much time and money ensuring the employee acquires the necessary skills.²⁵ In the United States, this need for skilled labor is striking in its divergence from modern manufacturing. Techniques in pottery production have not substantially changed over the past century. American producers are hardly alone. With the exception of Germany's porcelain manufacturers, production lines in Western European and English factories generally lag behind other industries, exhibiting low yields and high labor costs.²⁶

Today, the ceramic tableware industry is global in scope and highly competitive. The value of the industry increased from roughly \$4bn in the early 1990s to \$5.8bn by the end of the

²³ Miller, George L. "Marketing Ceramics in North America." *Wetherthur Portfolio*. Vol. 19, No. 1. (Spring, 1984): 3.

²⁴ Day, 12.

²⁵ "SIC 3269 Pottery Products, Not Elsewhere Classified." *Encyclopedia of American Industries*. <<http://www.referenceforbusiness.com/industries/Ston-Clay-Glass-Concrete/Pottery-Products-Elsewhere-Classified.html>> 20 February 2006.

²⁶ Small, G. J. "Improved Business Performance through Advanced Technology." *Interceram*. Vol. 444, No. 3. (1995): 181. See Table 1 for a benchmark example of tableware against other manufacturing industries.

decade.²⁷ Successful and dominant firms in the industry include the British firm Wedgwood (and Royal Doulton), Japanese leader Noritake, and American firms Lenox and Mikasa.²⁸ Mikasa represents a newer breed of tableware firm because it essentially only designs tableware, leaving the manufacturing to offshore firms. More flexible manufacturing techniques have also invaded tableware producers. When markets became oversaturated in the 1960s, firms responded by moderately changing manufacturing systems to permit more variation in product lines.²⁹ The 1970s brought on greater international competition as world trade increased and lower-cost foreign products entered western markets. Competition has also come from alternative materials such as paper and glass tableware.³⁰

Strategic Analysis

Using the tools of contemporary strategic analysis, some focus on a business strategy view of the ceramic tableware industry is helpful. In this section, the paper will reference the Structure-Conduct-Performance (SCP) analysis tool for industries, Porter's "Five Forces" framework for competitive analysis, and Prahalad's "core competence" views of the firm's competitive strengths. These tools provide a basis for understanding the context in which the decision to outsource production and the need to capture innovation both occur.

²⁷ Bangsberg, P. T. "China Wants New Glaze on Ceramics Industry." *Journal of Commerce*. Vol. 394, No. 27825. (October 1992): 4. Sheppard, Laurel M. *Trends in the Tableware Market*. Hilliard, OH: Lash Publications International, 1998.

²⁸ Sheppard.

²⁹ Day, 7.

³⁰ Warren, 91.

Structure-Conduct-Performance

The Structure-Conduct-Performance (SCP) framework is a tool for understanding the dynamic between markets and the firms that service the market. Based on neoclassical theory, SCP postulates a series of causal relationships between the structure of the market, the conduct of the firms in that market, and economic performance of the industry.³¹ According to this view, markets are contestable when “the costs facing new entrants are similar to those of firms already in the market and where a firm leaving the market is able to salvage its capital costs” to some degree.³² This is an important concept because it provides a first point of reference for when competition should increase in a market.

The SCP framework also provides a means to define the operational units of an industry and predict how the firm should behave as a rational economic entity seeking to maximize returns. Structure, the first component, refers to the characteristics and composition of markets and industries, including the number and size of firms.³³ Conduct refers to how the firm sets prices and creates structures to serve a market.³⁴ Finally, performance refers to the productive operations of the company and whether these are productively efficient, avoiding wasteful use of factors, and allocatively efficient, producing the right goods in the right quantity as dictated by supply and demand.³⁵

³¹ Ferguson, Paul R., Glenys J. Ferguson. Industrial Economics. New York: New York University Press, 1994. 13.

³² Ibid, 18.

³³ Ibid, 14.

³⁴ Ibid, 15.

³⁵ Ibid, 15.

The ceramic tableware industry, from a structure standpoint, is comprised of firms that fall along two key axes. First, firms differ in their degree of vertical integration. More traditional ceramics firms are fully vertical from product distribution through to materials handling. (See Figure 3 for a value chain view of firms in the industry.) Most firms do not integrate the raw materials extraction (e.g. clays, fuels). At the other end of the axis are firms that are comprised of only one value segment. For instance, many US-based firms today no longer manufacture products but act as design and innovation providers. Others only manufacture product and have no part in its design or distribution.

The second axis relates to firm technical capabilities to produce different types of ceramics. Ceramic tableware manufacturers tend to produce only one specific type of ware (for example, porcelain, fine china, earthenware, or stoneware). Typically this is related to the cumulative experience of the firm's labor and management or to the equipment and raw materials available to the firm. Larger firms are capable of producing a greater variety of ceramics and have larger work forces, more plants, or specialized equipment investments.

From a conduct standpoint, firms in the industry are highly dependent on market mechanisms to determine price. No one single distribution channel or producer has substantial power in the industry. For instance, Wal-Mart is the world's largest retailer of dinnerware by volume.³⁶ However, a firm such as Wedgwood performs better from a pricing standpoint due to the brand and design premiums its products garner. This lack of monopoly or oligopoly power is

³⁶ Webb-O'Connor, Carla. "Keeping It Casual Is Key for Dinnerware as Sales Figures Show." HFN: The Weekly Newspaper for the Home Furnishing Network. (January 16, 2006): 50.

new to the industry. In the United States, high tariffs limited import competition (American firms controlled roughly 75% of the market for all ceramic tablewares) and firms actively coordinated on pricing through the 1950s before the domestic industry collapsed.³⁷ In addition, the continued price pressure from Asian producers forces firms to remain competitive on price and quality, further reducing any single firm's ability to control the market.³⁸ Such assessments indicate the possibility of a contestable market.

The performance of firms in the industry reflects the conduct norms established by the marketplace. Competition has forced firms to maximize their efficiency allocate production to market demand. The variety of designs and prices of tableware continues to increase, allowing firms to specialize in particular niches. In the western countries, environmental and labor regulation promotes efficient use of factors in production. Finally, the massive production shifts to Asia are another sign of increased efficiency in the industry. Outsourcing permits labor arbitrage and forces western producers to either make profitable use of capital and production factors or to exit the market.

These factors of structure, conduct, and performance lead to an important conclusion, the contestability of the market for ceramic tableware. Though not perfectly contestable due to the presence of some unrecoverable sunk costs, firms are able to easily enter the market today without the hefty investments in the sunk costs of the past. The phenomenon of offshore production outsourcing has changed how firms enter the industry. Rather than build a pottery plant, firms

³⁷ Kennedy, Donald. "Industrial Relations in the Pottery Industry." *Journal of Political Economy*. Vol. 35, No. 4. (August 1927): 529.

³⁸ Sladek, R. "Assembly Line Technology—The Future of the Tableware Industry?" *Interceram*. Vol. 44, No. 5. (1995): 330-334.

can easily take their designs and subcontract production to a facility in Asia and compete against the industry behemoths. This new competitive dynamic will be addressed later in more detail.

Porter's "Five Forces"

A second tool for strategy analysis is the "Five Forces" model championed by Porter (1998).³⁹ In Porter's model, the firm is at the center of a series of forces that shape the competitive environment of the firm. These forces include industry rivals, buyers, suppliers, availability of substitutes, and barriers to entry (to the industry). A structural view of the ceramic industry using Porter's Five Forces is provided in figure 4. The sum of these alterations to the market places greater competitive strain on incumbent firms.

From the five forces framework, there are several important aspects that currently weight heavily on the industry. First, the entry barriers that once dominated the industry have gradually disappeared since the 1970s, pressuring existing firms to quickly adjust their cost structures and compete for customers.⁴⁰ This eroding of entry barriers changes the firm's competitive environment. Firms with a traditional cost profile must now compete against leaner firms with outsourced production.

A second shift has occurred in the availability of substitutes. From a product view, ceramic tableware competes with a broader array of materials such as plastic or glass. In addition, traditional firms compete against cheap, private label brands at mass retailers and lifestyle stores

³⁹ Porter, Michael. Competitive Strategy: Techniques for Analyzing Industries and Competitors. New York: The Free Press, 1998.

⁴⁰ Day, 9. UK firms that previously serviced the entire domestic market have abandoned the lower tiers of the market due to the competition from Asian firms.

(e.g. Crate & Barrel) that are almost all imported.⁴¹ The proliferation of these additional channels and materials placed downward pressure on prices, with unit price declines marking most of the 1990s.⁴²

The third major change has been with consumers. With the advent of import competition and information technologies, customers are now “sophisticated and complicated shoppers that have become 24-hour instant gratification consumers.”⁴³ Customers have more information on pricing and power to find alternate brands and designs easily. Even the traditionally strong bridal segment, a \$1.65bn ceramic spending spree, is seeing competition from buyers who choose substitutes such as home electronics over ceramic tableware. Decorated ceramics, which garner higher prices, have even seen declines as well. Changes in consumer tastes now dictate that 95% of all tableware is plain white without any decoration.⁴⁴

Core Competence of the Corporation

Hamel and Prahalad (1990) provided another useful strategic framework for understanding a company’s ability to compete and sustain long-term advantage. This framework, the core competence, assumes a company is the collection of learning in the organization, in particular how to coordinate the diverse production skills necessary and integrate multiple technologies.⁴⁵ This learning creates core products or abilities the firm does well and aids in the competitiveness of a range of end products. Further, core competencies must provide customer benefits, be hard to

⁴¹ Smyth, 25, 44-8.

⁴² “Tableware Trends on the International Market.” Ceramic Forum International. Vol 80, No. 11. (2003): 23.

⁴³ Ibid, 22.

⁴⁴ Webb-O’Connor.

⁴⁵ Prahalad, C.K., Gary Hamel. “The Core Competence of the Corporation.” Harvard Business Review. (May-June 1990): 81.

imitate, and can be used for more than one application.⁴⁶ According to Hamel and Prahalad, firms that fail to invest in a building core competence will find it difficult to compete in the long-term.⁴⁷

For the tableware industry, finding a core competency is difficult. Firms specializing in one segment of the industry's value chain can easily point to superior design or highly tuned marketing and distribution systems. For firms that are fully integrated and have a full gamut of design, marketing, sales, distribution, research, and production divisions, how to pick the activity that the firm does best? Identifying core competencies for the integrated ceramic tableware producer is a complicated proposition, and one that is suited to the individual firm. However, Prahalad and Hamel make one strong assertion appropriate to this discussion. "In our view, too many companies have unwittingly surrendered core competencies when they cut internal investment in what they mistakenly thought were just cost centers in favor of outside suppliers."⁴⁸ This statement offers an evaluation tool for understanding how case study firms make decisions about outsourcing manufacturing.

Industry Offshoring Trends

The manufacture of ceramic tableware is a labor-intensive process that has been beset by waves of import competition. These two factors alone are significant drivers found to correlate with offshore sourcing decisions.⁴⁹ This might explain why more than 80% of global production

⁴⁶ Ibid, 82-3.

⁴⁷ Ibid, 84.

⁴⁸ Ibid, 84.

⁴⁹ Moxon, Richard W. "The Motivation for Investment in Offshore Plants: The Case of the U.S. Electronics Industry." *Journal of International Business Studies*. Vol. 6, No. 1. (Spring 1976): 53.

of tableware is based in Asia.⁵⁰ China dominates the majority of this production today and dominates US imports. (See Chart 2, 3, and Table 2.) The United Kingdom has also seen an increase in imports, particularly in the lower segments of the market for tablewares. This increase may not be as steep as seen in the US, but more importantly, UK firms are losing exports. Whether due to outsourced production or market share loss, the declines may indicate the industry's general decline.

These competitive pressures have led to an accelerating trend to outsource production. Venerable US manufacturer, Pfaltzgraff, the nation's oldest continuously operated pottery manufacturer, shuttered its production facilities in 2005 citing costs. When brand giant Lifetime Brands acquired Pfaltzgraff, the company bought everything but the plant. "There's no question that the people in the factory in York made terrific product, but there are literally thousands of factories in the world capable of making a terrific product," said Lifetime Brands CEO Owsley Brown III.⁵¹ Wedgwood followed a similar strategy in 2003 with the Johnson Brothers brand, a low to mid-market line whose UK-based cost profile was uncompetitive.

In addition to simply moving lines offshore for production, the industry also has a group of "designer" firms that have no production capabilities. These firms, like New Jersey based Mikasa, Inc., create lines for the American market, and source them from overseas factories for import. The variety of these firms is impressive both in size (by turnover and employees) and spectrum of nice products and mass-market items.

⁵⁰ "R&D for the future of a traditional ceramics centre." Ceramic Forum International. Vol. 82, No. 8. (2005): 11.

⁵¹ "Dinnerware & Pottery Markets: Pose Challenges, Present Opportunities." Ceramic Industry. Vol. 155, No. 12. (December 2005): 15-16.

Offshoring has not been kind to supplier networks in ceramics. The flight of companies to China and Asia has closed or stunted many supplier firms. One firm that attempted to access both domestic and foreign firms in China spoke sternly of the future. A prominent manufacturer of kilns for the industry noted the “first and last contract” effect for Chinese deals.⁵² Local supplier competition would easily, quickly, and cheaply copy any kiln or other machinery it sent to China. However, with much of the tableware industry now centered in China, the prospects for firms incapable of penetrating this market are grim.

Platter of Innovation

To manufacturers in the industry, innovation is the only key to survival. Yet, when faced with shrinking margins and a product almost as old as mankind, how does a firm put innovation on the table? Even industry experts comment, “the (ceramics) industry is more than 5000 years old, there is nothing left to invent.”⁵³ Truly, pottery is a mature industry, and the rise of the Chinese firms is all the more jarring. Can the western industry reinvent itself and beat off firms from the country where many ceramics and porcelains were first created?

A crucial concern for many firms is the pressure thinning margins have placed on research budgets. Whether a function of traditional family ownership of firms, small relative productive sizes of the firms, or lack of professional management skills, many firms simply do not have the resources (both monetary and technical) to move beyond the most minor incremental

⁵² “R&D for the Future of a Traditional Ceramics Center.” 11-12

⁵³ Warren, 91.

innovations.⁵⁴ Innovation is a risky proposition that firms are reluctant to bear. One slight misstep would spell certain demise for most western firms. The threat of piracy and competition raise the stakes for companies who have little financial and competitive margins of error. Yet ,western firms cannot deny their existence hinges on substantial changes in order to fabricate ceramics more quickly, cheaply, reliably, and flexibly.⁵⁵

When firms do innovate, it is usually a response to labor costs and the result of cooperative arrangements. As with any labor-intensive industry, the battle to reduce labor costs is constant. The ceramic tableware industry is no exception. The industry, often described as being “unable or unwilling to germinate, develop, and transfer” innovation, has a long track record of innovative products and processes.⁵⁶ Homer Laughlin, the American mid-market firm, has a substantial history of introducing labor saving machinery and processes into manufacturing. The firm invested heavily in process and invented plant layouts and machines that revolutionized the industry in the 1920s.⁵⁷ The firm continues this tradition and invests heavily in further automation. (US industry R&D spending is provided in Table 5.) The German ceramics industry, in which most firms produce fine china and porcelain, is also renowned for its heavy investments in plant and equipment. Innovation, in the production process, is certainly present.

In addition, firms that innovate tend to innovate through cooperative arrangements. The geographic concentration of firms aided in forming informational networks through which

⁵⁴ Ibid, 93.

⁵⁵ Ibid, 91.

⁵⁶ Ibid, 86.

⁵⁷ Błaszczyk (1995), 947. Homer Laughlin adopted Fordist production techniques to pottery production and created what was the most advanced ceramic production facility of its day. The single-story layout was innovative since traditional production was oriented on multiple stories.

innovations at one firm spread to others.⁵⁸ Firms also have very close relationships to suppliers. Firms that manufacture kilns and other equipment used in the manufacture of ceramics often work with firms to create unique solutions. These innovations spread to other companies who purchase similar equipment. For instance, the application of isostatic pressing was a significant advancement in shaping technology in the 1980s. Today the process is standard and used by almost all Chinese firms.⁵⁹ However, innovation is typically a long process, taking upwards of 10-15 years.⁶⁰ Universities and research centers like CERAM (British Ceramic Research, Ltd.) assisted in generating several important breakthroughs for the industry.

Currently, regulation, input costs, and new product development are the primary drivers for innovation in ceramic tableware. Regulation increased in the industry and encompasses a variety of labor, product safety, and environmental rules. In the 1980s, US and California state rules on lead leaching from ceramic glazes prompted the industry to quickly eliminate its use in most production applications.⁶¹ The use of dangerous heavy metals (for instance, cadmium), part of certain color glazes, have also been reduced due to consumer safety concerns in western nations. Western labor regulation also mandates costs, methods, and materials to reduce potential harm to pottery workers. Firms have turned these locational disadvantages into product advantages. For instance, many offshore contract manufacturing firms in Asia have extreme difficulty in meeting

⁵⁸ Day, 7. Blaszczyk also notes how firms in the East Liverpool area frequently and openly shared equipment innovation. In addition, proximity also meant that firms quickly copied one another's products. For instance, Homer Laughlin's Fiesta Ware had several copycat variations. TS&T, a firm operating within just three miles of Homer Laughlin quickly took up production of "LuRay Pastels" after the introduction of Fiesta.

⁵⁹ Seitz, Gerhard. "Modern Shaping Methods in the Tableware Industry." Ceramic Engineering Science Proceedings. Vol. 20, No. 2. (1999): 75-88.

⁶⁰ Warren, 95. Day, 11.

⁶¹ Grahl, Christine. "Finding Genius." Ceramic Industry. Vol. 152, No. 10. (September 2002): 6.

some of these consumer safety regulations and frequently fail on random checks, but these wares are nonetheless circulating in western stores.⁶²

⁶² Bopp, Andrew. "Competing with China's Decorating Industry." Ceramic Industry. Vol. 149, No. 10. (September 1999): 18.

Part Three: Outsourced Manufacturing

Offshore Outsourcing

Outsourcing is a complex decision a firm makes to use outside entities to supply a good or service it would otherwise need to furnish itself. The practice received much attention during the 2004 US elections with Democratic candidate Senator John Kerry (D-MA) proclaiming business leaders “Benedict Arnold CEO’s” for their offshore outsourcing strategies.⁶³ The threat of offshoring raised eyebrows for its recent expansion upward into the “value-adding” white-collar US jobs, but since the 1960s, outsourcing has grown increasingly common for manufacturing.

The offshore decision is a reaction to market forces. The first “offshoring” occurred as US investment in international markets, driven primarily by the need to source materials or to access foreign markets.⁶⁴ As trade developed, firms looked to the developing world as part of a strategic sourcing initiative to create arbitrage opportunities. Today, firms must no longer use direct investment or joint-venture options for sourcing arrangements overseas. The manufacturer can access foreign production capacity (and hence cost structures) via contractual buyer and seller relationships.⁶⁵ These arms-length tools free manufacturers from maintaining costly asset balances in plant, property and equipment. It also reduces a dependence on typically more expensive home country labor.

⁶³ Drezner, Daniel W. “The Outsourcing Bogeyman.” *Foreign Affairs*. Vol. 83, No 3. (May-June 2004).

⁶⁴ Kogut, Bruce. “Normative observations on the international value-added chain and strategic groups.” *Journal of International Business Studies*. 15 (2, Autumn 1984): 156-7.

⁶⁵ Kotabe, Masaaki, Janet Y. Murray. “Linking product and process innovation and modes of international sourcing in global competition: a case of foreign multinational firms.” *Journal of International Business Studies*. 21 (3, Q3 1990): 385.

Drivers of Outsourcing

The growth of outsourced manufacturing is the result of growing world integration that initiated disaggregation in production. Promoted by the collapse of political and economic barriers of the past, firms now easily transfer capital and goods across borders, while labor and regulation remain immobile.⁶⁶ Hence, firms access lower cost production through the use of mobile capital. Global trade has also brought more competitors from foreign markets. Their ease of access and lower cost base meant western firms either matched these firms, retreated to higher value-added products, or left the industry. Again, offshore production helped to solve the problem.

Integration in the world economy has led to a phenomenal increase in global trade. Transportation and communications networks make it easier to procure and distribute goods from a foreign manufacturing facility to consumers in western countries. (Growth of US trade in goods provided in Chart 6. Additional trade information in Chart 2 for the US and Charts 3 & 4 for the United Kingdom.) Whole companies have developed in the world economy devoted to managing the logistics of global supply and distribution chains. Complex networks of firms participate as one unit, directed from a multinational's headquarters.⁶⁷ The entire system of offshore production for western markets rests on the machine of international trade and transport.

The arbitrage opportunities available in developing countries are difficult to deny. Phrases like cost reductions, competitiveness, locational advantages, and regulatory arbitrage litter the

⁶⁶ Dertouzos, Michael L., Richard K. Lester, Robert M. Solow. Made in America: Regaining the Productive Edge. Cambridge, MA: MIT Press, 1991. 40.

⁶⁷ "Movin' on up." The Manufacturer.com 11 November 2005. <http://www.themanufacturer.com/us/detail.html?contents_id=3841> 8 February 2006.

literature on offshore outsourcing. Kotabe (1990, 1992, 1994, 1999), a frequently cited expert on offshore production, underscores simple point reflected in all his studies: companies offshore to remain competitive and capture flexibility.⁶⁸ According to one recent study, the cost of doing business in the United States is 22% higher (on average) than other countries.⁶⁹ Labor and regulation costs appear to be the primary reasons for this difference.

The Labor Question

The necessity of labor to the ceramic tableware industry (and many manufacturing industries) requires a closer examination of the labor arbitrage that firms seek to exploit when offshoring production. A cursory glance supports the possibility of arbitrage given China's manufacturing workforce is 109m whereas the total for all G7 nations is only 53m.⁷⁰ This is 109m of a population hovering at one billion. The potential for even greater production expansion exists. Despite China's low comparative productivity, the low wages more than compensate. (Table 5 details historic US productivity increases for the industry.)

The low wage economies, in particular China, are an essential if not critical link in the global production system.⁷¹ China itself is the fourth largest exporter in the world economy and produces a full two-thirds of the global supply of copiers, microwave ovens, and shoes.⁷² Western

⁶⁸ Kotabe (1992), 183. Kotabe, Murray (1990), 386.

⁶⁹ "The Power of Ohio." [Manufacturer.com](http://www.themanufacturer.com) 12 November 2004. <http://www.themanufacturer.com/us/detail.html?contents_id=2906> 8 February 2006.

⁷⁰ United States. Department of Labor. *Manufacturing Employment and Compensation in China*. Washington, DC: Bureau of Labor Statistics, 2005. 2.

⁷¹ United States. Department of Commerce. Bureau of Labor Statistics. Judith Banister. "Manufacturing Earnings and Compensation in China." *Monthly Labor Review*. (August 2005): 36.

⁷² Ibid, 36. United States. Department of Commerce. *Manufacturing in America: A Comprehensive Strategy to Address the Challenges to U.S. Manufacturers*. Washington, DC: Department of Commerce, 2004. 28.

firms “price themselves into competitiveness” by using China as a production base.⁷³ The low cost Chinese labor moved from simple plastic and textile manufacturing into high electronics due to its comparative labor-cost advantage on the world market.

How inexpensive is Chinese labor? When compared to surveys of just pottery workers across the industrialized nations, only Germany and Japan have consistently had higher labor costs than the US. (See Table 3.) Britain’s labor cost profile is approaching the United States, an important fact that producers note as their previous advantages dwindle. Mexico and Taiwan have substantially lower labor costs than the developed western economies. Yet, both countries are still more expensive than China. Pfaltzgraff, who built plants in Mexico to take advantage of NAFTA, closed its plants as part of its decision to outsource to China because of costs.

From the recent Bureau of Labor Statistics study on Chinese manufacturing wages, the first and most comprehensive view of Chinese labor markets, it is easy to see just how stark the wage differences are. (Table 4 provides a comparison between Chinese manufacturing wages and those of US manufacturers in general and US tableware production worker wages.) In China, the average production worker earns \$0.64 per hour (blended average) or a PPP average of \$2.96 per hour.⁷⁴ This makes Chinese wages 10 times less expensive than the average Asian newly industrialized economy and four times less expensive than Mexico or Brazil. Even with recent inflation spikes affecting raw materials and new regulations on benefits and wages, China is still the home of the world’s cheap labor pool.

⁷³ Park, Hong Y. “Foreign Direct Investment and Global Sourcing Choices of Firms in the US.” Managerial and Decision Economics. Vol. 21, No 6. (September 2000): 214.

⁷⁴ United States. Department of Commerce. Manufacturing Employment and Compensation in China. 25-6.

Despite the comparative advantage western firms have in access to capital, firms seem unable to translate capital advantage into a competitive advantage. China's capital-poor financial markets keep Chinese firms uncompetitive in capital-intensive industries.⁷⁵ In the west, manufacturing employment has declined over time, but workers have continued to increase productivity, likely due in part to capital investments. How much capital is really required to overcome the Chinese advantage in labor costs, and is it economically feasible? As long as western labor and regulatory costs remain high, and capital easy to move, the offshoring trend will persist.

Strategic Sourcing

Armed with the fundamentals of offshore outsourcing, it is necessary to place the use of offshore outsourcing into a strategic framework. First, the international drivers of Dunning's (1988) Eclectic Paradigm of International Production supply the rationale for examining foreign markets. A second set of theory initially developed by Coase (1937, furthered by Williamson, 1979, 1981) and known as transaction cost economics will provide a solid foundation in what drives firms to use markets rather than internal resources. After a short introduction to life cycle theories, which are also treated in part four, these structures will be used to summarize a decision framework for using offshore outsourced production.

Driver for Internationalization: the Eclectic Paradigm

Under the eclectic paradigm of international production, firms will seek to invest in production in a foreign country when there are specific ownership, locational, and internalization benefits to doing so. As such, these specific ownership advantages include the exclusive or

⁷⁵ United States. Department of Commerce. Banister. 36.

privileged ownership of a source of comparative advantage relative to the firms in the host country. Locational advantages are those available from immobile factors or other direct benefits only obtained in another country. Internalization dictates how the investment occurs, whether through direct ownership or market transaction.⁷⁶ Under Dunning's (1988) framework, the foremost drivers for internationalization are the presence of structural market distortions (such as tax or regulatory policies) and the need to access a factor of production not available in the home country.⁷⁷

In the case of offshoring, this analysis provides two key insights. Since we have already established the importance and immobility of low-cost labor in international markets, it is the ownership and internalization factors on which more attention is required. First, ownership implies that the firm has a competence or comparative advantage in the market that no other firm possesses. This asset provides returns to the company because of its ownership. In this regard, marketing skills, distribution networks, financial resources, and product design capabilities are all types of advantages a firm has that it possess. Thus, if a firm knows that it can exercise these corporate competencies better than a firm in the host country, it will be motivated to produce in that market.

The second key area is internalization. To Dunning (1988), a firm must have internalization advantages that require it to maintain control over its investment, suggesting that only direct investment is the option. Yet, in today's global economy where risks are more easily

⁷⁶ Dunning, John H. "The Eclectic Paradigm of International Production: A Restatement and Some Possible Extensions." *Journal of International Business Studies*. Vol. 19, No. 1. (Spring 1988): 2.

⁷⁷ *Ibid*, 5.

distributed in the marketplace or where various transaction costs are easily minimized, it is restrictive to believe a firm will always choose to exploit its comparative advantage through direct investment only. Thus, internalization, for this analysis, consists of a mechanism to internalize a productive asset (e.g. a production facility) as much as is feasible and economically viable for a firm. In this instance, firms with highly valuable ownership assets (for instance, brand) will internalize production as much as is economical or feasible through contract, but not necessarily ownership. Though this restatement is not an ideal interpretation of Dunning's (1988) original framework, this is still a useful way to utilize it without losing the value of his insight.

The choice to outsource production to an offshore facility will, under this framework, be a function primarily of ownership and internalization factors given that localization is necessary to capture low-wages in the host country. The consequence of this conclusion is that a firm will choose to offshore production if it possesses some ownership advantage. Internalization will be a function of the importance, value, or nature of advantage that constitutes the ownership factor. In simple terms, how a ceramic tableware manufacturer controls its decision to outsource offshore will relate directly to the value its own comparative advantages bring to the firm in relation to its competitors. If its advantage is great, it will choose a method that internalizes the transaction as much as possible.

Transaction Cost Economics

Transaction cost economics, a theory first proffered by Coase (1937) and refined by Williamson (1979, 1981), offers an appealing structure for understanding offshore outsourcing. At its core, transaction cost economics states that firms exist due to their ability to organize an

activity internally more efficiently than the market.⁷⁸ From this central idea, the theory stipulates that firms will internalize a transaction when there is a high degree of asset specificity (e.g. site, productive asset, human capital, or brand), the presence of uncertainty, a high frequency of transaction repetition, and the possibility of opportunism.⁷⁹ An optimal transaction to internalize is one where there are particular economies of scale in production and transaction-cost economies not available through arms-length negotiation in the market.⁸⁰

Turning to outsourcing, firms with a high degree of asset specificity should choose to internalize production. This means that if there is a particular corporate asset providing a comparative or competitive advantage, ownership and control of this asset is paramount. Because the asset has such a high value to the firm and to its competitors (but basically no value outside the transaction), firms seek to inhibit opportunism through internalization.⁸¹ Core competencies (discussed earlier) are a form of asset specificity since the second best use of the competency is nil. As it relates to the ceramic tableware industry, firms with strong brand, product and production idiosyncrasies, or marketing systems should internalize these functions.

In addition to asset specificity, the components of uncertainty and opportunism have relevance to the offshoring decision. First, uncertainty adds costs to a transaction because it implies risks such as non-performance. If the market is incapable providing a constant or predictable supply, this uncertainty creates costs to the firm that it might otherwise negate or

⁷⁸ Coase, Ronald. H. "The Nature of the Firm." *Economica*. Vol. 4, No. 16. (November 1937): 398.

⁷⁹ Williamson, Oliver E. "Transaction-Cost Economics: The Governance of Contractual Relations." *Journal of Law and Economics*. Vol. 22, No. 2. (October 1979): 79.

⁸⁰ *Ibid*, 79.

⁸¹ Kotabe, Masaaki, Janet Y. Murray. "Sourcing strategies of U.S. service companies: A modified transaction-cost analysis." *Strategic Management Journal*. 20 (9, September 1999): 796.

reduce through internalization. Opportunism adds costs to a transaction as another form of risk. In this case, it is the possibility that market-based transactions may encompass contingencies not otherwise predictable. These contingencies include strategic self-interest or guile of the counterparty. To minimize these risks, firms internalize the transaction and prevent other parties from acquiring the firm's strategic goods such as intellectual property or human capital.

Traditionally, firms in the ceramics tableware industry internalized almost all transactions. From a value chain perspective, this included almost all facets of production including design, manufacture, and marketing. Only raw materials and physical transportation remained outside the aegis of the firm. The exception to this rule is the firm that only imports finished products. The advent of offshore production changed this dynamic. Because of reliable production that, in sum, offers some firms a more cost efficient source of tableware, firms are able to choose outsourcing and internalize only specific assets such as design and marketing. Increasingly complex and detailed contractual obligations limit opportunism and uncertainty. Even more importantly, these conditions are available to all firms and reduce entry barriers for entrants.

Life Cycle Theory

Rather than focus on a the various permutations of life cycle theory, using an organic version combining elements of each type of life cycle gives a final framework for evaluating offshore outsourcing. Levitt (1965) first introduced the product life cycle in 1965 and stipulated four stages of a product's life: development, growth, maturity, and decline.⁸² Vernon (1966)

⁸² Levitt, Theodore. "Exploit the Product Life Cycle." Harvard Business Review. Vol. 43, No. 6. (November-December 1965): 81.

expanded on this theory and introduced an international dimension to the product life cycle. His contribution states that as products reach maturity and decline, firms will seek to expand its markets for the good by entering overseas markets.⁸³ Since its inception, life cycle theory has been expanded to include industry cycles and strategies for extending product life cycle. For the outsourcing decision, the decision framework must account for the industry and product as a single cycle. (See Figure 5 for a graphic representation of the life cycle and experience curves.)

To the firm approaching the end of the maturity cycle, remaining competitive is essential. As an industry or product reaches maturity, additional firms enter the market, increasing price competition and decreasing margins.⁸⁴ With decline, incumbent firms typically find ways to better compete, increase value to the customer, or incrementally change a product in order to reenter a growth stage. Other firms will concentrate on the international perspective. This assumes that a firm has an advantage relative to firms in other countries that it can exploit in these foreign markets. As such, introducing one country's declining product into a new foreign market puts the product or industry back at the growth stage.⁸⁵ An extension to this theory adds a production dimension whereby maturing or declining products are sourced from foreign countries due to some type of cost advantage.

With the availability of offshore outsourcing, firms now have several choices to align manufacturing capacities with product and industry stages. Firms may choose to source

⁸³ Vernon, Raymond. "International Investment and International Trade in the Product Cycle." The Quarterly Journal of Economics. Vol. 80, No. 2. (May 1966): 197.

⁸⁴ Levitt, 83.

⁸⁵ Vernon, 197-8. Vernon's original statements assumed producers would fulfill demand in these new markets using productive capacity from the home country unless some type of structural barrier.

production overseas and capture economies of scale or other cost benefits that maintain margins and firm competitiveness. Also, as Kotabe notes, the decision to offshore production occurs today at earlier stages in the life cycle.⁸⁶ Firms may also choose to identify strategic advantages of location in relationship to the possibility of extending or reorienting the life cycles by capturing other sources of innovation or factors of production unavailable in the home market, for instance.

For firms manufacturing ceramic tableware, life cycle is a worrisome theory. First, consider the product and industry's stage in the life cycle. The product is mature, meaning it is standardized to great extent, in use by almost all consumers, and sales are incremental with population changes.⁸⁷ In fact, the increased use of substitutes and changes to consumer preferences indicate an actual decline stage for ceramic tableware. The industry is also in a decline stage in western nations. Intense price competition, commoditization, and concentration of productive capacity in China are all symptomatic of industry decline. These examples all underscore the importance of offshore outsourcing to western firms as well as the inevitability of permanent competition from low-cost economies for ceramic producers.

The Make or Buy Framework for Offshore Outsourcing

To determine when a firm should consider outsourcing production from an overseas market, individual parts of the eclectic paradigm, transaction cost economics, and life cycle

⁸⁶ Kotabe, Masaaki, K. Scott Swan. "Offshore Sourcing: Reaction, Maturation, and Consolidation of US Multinationals." *Journal of International Business Studies*. Vol. 25, No. 1. (First Quarter, 1994): 118. Also see Kotabe, Masaaki. "The relationship between offshore sourcing and innovativeness of U.S. multinational firms: an empirical investigation." *Journal of International Business Studies*. 21 (4, Q4 1990): 625-6.

⁸⁷ Levitt, 83-4.

theories can be amassed into a decision framework. This framework supplies a decision tool by which outsourcing decisions should be made.

1: Ownership & Internalization

From the eclectic paradigm, two key drivers for considering offshore sourcing are the advantages to ownership and the need to internalize.

1. Is production an essential comparative advantage, hence a source of long-term returns, that a firm must control to be competitive?
2. To what degree must the firm internalize the outsourced production to retain the advantage ownership provides for its other assets?

2: Specificity & Costs

Transaction cost economics equips the framework with the drivers of specificity and transaction costs for deciding to outsource.

3. Is manufacturing a corporate asset whose specificity is high enough to warrant internalization?
4. Are the costs of opportunism and uncertainty high enough to negate the benefits to outsourcing?

3: Life Cycle

With the life cycle theory, the question to outsource hinges on the products' relative position in the cycle, and the firm's ability to produce at a lower costs than an offshore producer.

5. Is a product in a mature or declining stage and experiencing declining margins?
6. How mature and common are the firm's technologies or processes relative to offshore producers?

Part Four: Innovation for Outsourced Manufacturing

Innovation Primer

Innovation is the heart of the market economy. Innovation, the process of creating new methods, ideas, and products, is nothing less than the backbone of productivity and western standards of living. It accounts for how well companies perform in markets, how well nations compete in the global economy, and provides other benefits well beyond the firm. Without innovation, wages stagnate, companies fail, and nations decline.

In the manufacturing sector, innovation is present at all stages of the organization. Innovation is equally important for both the most mature and the most technologically advanced industries and firms.⁸⁸ The firm's ability to introduce new products determines its future growth potential, and a host of additional indicators of performance.⁸⁹ Innovation is also part of a holistic view of the firm whereby innovation and the ability to innovate are part of a learning experience that occurs within the firm.⁹⁰ The ability of western firms to innovate is highly dependent on research & development budgets; budgets that Asian competitors now easily match.⁹¹

Types of Innovation

Innovation originates in three primary realms within the firm: from new product development and incremental changes to existing products, from process or manufacturing

⁸⁸ Warren, 96.

⁸⁹ Kotabe (1990), 625. Ettl, John E. "R&D and Global Manufacturing Performance" *Management Science*. Vol. 44, No. 1. (January 1998): 1.

⁹⁰ Cohen, Wesley M., Daniel A. Levinthal. "Innovation and Learning: The Two Faces of R&D." *The Economic Journal*. Vol. 99, No. 397. (September 1989): 596-7.

⁹¹ "The Innovation Arms Race." 15 July 2005. <http://www.themanufacturer.com/us/detail.html?contents_id=3558> 8 February 2006.

improvements, and from enhanced management systems.⁹² The linkage between product and process innovation is particularly important. Multiple studies from Kotabe (1990, 1992, 1994) and Ettlie (1998) indicate a high correlation between these two types of innovation.⁹³ Kotabe even extends this relationship indicating that the interdependent nature of product and process innovations requires firms to cultivate both sources of innovation in order to maintain a competitive position in competitive markets.⁹⁴ Process improvements enable the firm to improve its abilities to innovate products and together they supply the strongest competitive advantage.⁹⁵

The first type of innovation that concerns the topic of this paper is product innovation. Product innovation is simply the creation of new products or the creation of incremental changes to existing products for consumption in a market. In manufacturing, research & development budgets often focus considerable efforts on identifying new products and bringing them to market. From a life cycle perspective, radically new products create new life cycles, while incremental product innovation simply shifts the curve upward and outward, extending the life of the core product. Product innovations are also often tied to ad hoc innovation on the production line.⁹⁶ Competitive pressures from domestic and international competition have significantly cut the lead-

⁹² Kotabe (1990), 625.

⁹³ Kotabe, Murray (1990): 403. Ettlie, 3. All of Kotabe's works cited in this paper mention the linkages between product and process innovation.

⁹⁴ Kotabe, Murray (1990): 403.

⁹⁵ Kotabe, Masaaki. Global Sourcing Strategy: R&D, Manufacturing, and Marketing Interfaces. New York: Quorum Books, 1992. 85.

⁹⁶ Dertouzos, 70.

time for new products. Companies responding to this pressure often reallocate scarce research & design budgets to favor product innovation over process improvements.⁹⁷

Process improvement is the less exciting type of innovation, but in no way is less important. Process technology is the set of ideas involved in the manufacture of the product or the steps necessary to combine new materials to produce a finished product.⁹⁸ Process innovation makes it possible to lower product costs, increase efficiencies, and be more competitive. Refinements to the production system may include anything from how to handle raw materials to areas such as packaging or distribution systems.

Manufacturers in the ceramic tableware industry have an interesting record of product and process innovations. Homer Laughlin, one of the case study firms, has a fascinating record of both innovation types. The firm originated many key production advances that, thought the 1950s, were cutting edge and unique in the industry.⁹⁹ Homer Laughlin also pioneered several landmark tableware products and marketing innovations that brought “beauty on a dime” to the American household. Wedgwood and Royal Doulton also have strong records of innovation and invest heavily in equipment that enhances their ability to design products more quickly and cheaply.

Innovation has not stopped in the industry either. Particularly in lower end lines where there is substantial competition, western firms search out new ways to create costs savings.

Industry magazines carry hundreds of articles on redesigning production lines, squeezing

⁹⁷ “R&D in uncertain times.” 12 October 2005. <http://www.themanufacturer.com/us/detail.html?contents_id=3761> 8 February 2006

⁹⁸ Kotabe, Murray (1990), 391.

⁹⁹ Smyth, 124. Again, Blaszczyk’s works on the tableware industry provide the most comprehensive studies in the industry. The author provides a detailed treatment of both Wedgwood and Homer Laughlin.

additional efficiency out of labor, creating labor free processes, and even inventing new equipment that reduces operating costs.¹⁰⁰ The pace of new product development and innovation also remain important to firms and is frequently cited as a key area for future growth by industry leaders.¹⁰¹

Though firms in the industry realize the importance of innovation and its benefits to the firm, the reality of tight margins and continued intense competition threaten budgets for innovation. Process budgets are frequently raided for product improvements or new lines.¹⁰² Product lines moved to China in order to simply remain viable have few resources to invest in new development. Yet, if western firms are to survive, they must continue to invest in both types of innovation.

Innovation Drivers

Identifying key drivers for innovation is a straightforward task. Put simply, the firm must innovate either via process or via products if it wants to continue operating. Process innovation is typically the function of a production-associated cost.¹⁰³ In tableware, highly competitive earthenware lines have been a source of many process and product innovations for the industry chiefly because of low-cost Asian imports.¹⁰⁴ Markets are also significant to innovation. Consumer preferences and feedback create situations of market pull and market push. In these situations,

¹⁰⁰ See articles from Schmid, Seitz, Sladek, and Small for examples of equipment and production system innovation.

¹⁰¹ See "What's Ahead." *Tableware Today*. (April/May 2005): 94-107.

¹⁰² Small (as well as other industry articles) makes reference to industry difficulties concerning budgets for new products.

¹⁰³ Abernathy, William J., James M. Utterback. "Patterns of Industrial Innovation." *Technology Review*. Vol. 80, No. 7. (June/July 1978): 44.

¹⁰⁴ Warren, 91. Warren points out the lack of innovation in higher end products, i.e. bone china.

firms will attempt to respond (pull factors) to market indicators or shape (push factors) market preferences.¹⁰⁵ Marketing and research are the most important interfaces supporting innovation.

Strategic Innovation

Innovation is an important part of firm strategy. As such, the remainder of the innovation discussion focuses on important theories concerning how firms appropriate and view innovation. A strategic view of innovation is necessary because it should dictate how firms treat investments in their own production or how firms approach outsourced production. This is a crucial point. If a firm rightly views innovation as a key part of its organization, then it should seek to maximize the return to innovation by fully appropriating each source of innovation.¹⁰⁶ With offshore production, innovation management becomes part of a competitive strategy for global sourcing.¹⁰⁷

To create this strategic framework for appropriating and managing innovation, a mixture of innovation and management theory follows. The first framework, specificity, mixes transaction cost economics' concept of asset specificity with the work of Prahalad and Hamel (1990) on the importance of commitments and firm performance. This strategy concoction provides a gauge of how a firm should use innovation to derive long-term strategic and performance returns. The second framework highlights the role of life cycle theories, the experience curve, and the innovation cycle from Abernathy and Utterback (1978). This mixture gives a good understanding of how a firm should manage innovation against the backdrop of product life cycle and experience stages. These strategies also inform how innovation is managed with outsourced production.

¹⁰⁵ Warren, 88.

¹⁰⁶ Kotabe (1990), 634.

¹⁰⁷ Kotabe (1992), 158-9.

Specific Commitments

Specific commitments refer to the firm's need to own or control specific production assets in order to sustain long-term advantage and returns. Williamson (1979, 1981) highlights the role of asset specificity in transaction cost economics, affirming its centrality to how firms internalize and govern transactions.¹⁰⁸ The simplest definition of asset specificity is an asset that, outside the transaction, has little or no value. Such a definition would imply that asset specificity involves sunk costs that are difficult to recover like specialized production equipment, research and development, human capital, or management systems. When a high degree of asset specificity exists, firms will internalize the transaction in the corporate system in order to capture not just rents, but innovation as well.¹⁰⁹

Asset specificity also relates to a firm's ability to appropriate all innovation that it derives from ownership of the asset. Appropriation refers to the ability of a firm to control and receive all the economic returns a particular innovation provides. Ownership alone is not enough to appropriate all returns. In addition, the type of innovation must also demonstrate specificity to the transaction and thus to the firm.¹¹⁰ The ability to appropriate is also a function of opportunism. When the risks of market-based transaction performance failure, firms will increase

¹⁰⁸ Williamson, Oliver E. "The Economics of Organization: The Transaction Cost Approach." The American Journal of Sociology. Vol. 87, No. 3. (November 1981): 555.

¹⁰⁹ Kotabe (1992), 158-9

¹¹⁰ Kotabe, Murray (1990): 390.

the specificity of the asset by investing to control.¹¹¹ Appropriation and specificity also relate to the concept of lock-in or irreversibility.¹¹²

For innovation specifically, appropriation and specificity depend greatly on how and where an investment is made within the firm. (Figure 6 displays the innovation planning triangle and its relationship to specificity and commitments. Figure 7 outlines the traits of rent appropriating innovations.) Investments and innovation that are more specific to the firm have a strong appropriation profile.¹¹³ This is particularly true of innovations that result from cooperation between the marketing and research interfaces of the company. Investments in operations technologies or innovation have a weaker appropriation profile. Usually, this is due to the commonality of equipment or know-how that is generally available to all firms in an industry. However, a firm can improve the ability to appropriate operations innovations and technologies by making them more firm specific.

The idea of strategic commitments in firm and usage specific resources underpins the theory of building strategic advantage through specificity. Ghemawat (1985, 1998) built on transaction cost principles to formulate the role of commitment for corporate strategy. Ghemawat (1985, 1988) defines specificity as having “a value to the firm that exceed its price in the factor market (or) if its value to one firm exceeds its value to any other firm.”¹¹⁴ He also separates

¹¹¹ Kotabe, Murray (1999): 795-6.

¹¹² Williamson (1981): 555.

¹¹³ While the idea of appropriation and the innovation planning cycle are fairly commonplace in innovation literature, the primary source for information in this section comes from Etlie, John. Managing Innovation. Rochester Institute of Technology. Draft copy, 2005.

¹¹⁴ Ghemawat, Pankaj. Patricia del Sol. “Commitment versus Flexibility?” California Management Review. Vol. 40, No. 4. (Summer 1998): 28.

commitment by classifying it as being firm or usage specific. The division not only provides a useful gauge of the resource's usage within the firm, but also to its ability to provide competitive advantage and long-term returns. Like appropriation models, Ghemawat (1985, 1988) recognizes the higher value of firm-specific resources in generating strategic advantage than usage-specific resources (that can possibly be acquired by other firms in the industry).¹¹⁵

Commitments are additionally specified in relation to the flexibility of the resource. A flexible resource is one that permits the firm a wider-range of possible outcomes. However, whether usage or firm specific, flexibility also infers lower returns and hence less strategic value.

“Flexibility is not free; it often leads to higher production costs or lower product quality.”¹¹⁶

Flexibility is often the result of uncertainties, opportunism, or transaction costs that motivate the firm not to lock-in a commitment.¹¹⁷

Commitment, the opposite of flexibility, provides the greatest strategic advantage and returns to firm. Just as with transaction cost economics, when a firm internalizes a transaction, it is seeking to capture efficiencies, rents, or other gain. Commitment is a very similar idea.

Commitment limits the ability of a firm to react to information in the marketplace because it locks the firm into producing specific goods. Yet, it enables a firm to capture all the benefits of ownership and signals competitors. From an appropriation standpoint, the greater the commitment to a particular investment in innovation, the more likely the firm can strongly appropriate the economic gain the innovation realizes.

¹¹⁵ Ibid, 28.

¹¹⁶ Ibid, 35.

¹¹⁷ Ibid, 39.

From this perspective, ceramic manufacturers should choose to invest in specific commitments that enhance the ability to reap the gains from innovation. Otherwise, if a resource is not firm-specific or presents a weak appropriation model, firms should remain flexible and acquire the resource in the marketplace. A firm like Mikasa, a “design” firm that contracts all production from outsource providers, has made commitments to firm-specific resources such as human capital, marketing systems, and design competence, leaving the vagaries and usage-specific investments to the offshore firm. Though it fails to capture rents from usage-specific resources, it capitalizes its competencies on firm-specific resources that normally have higher strategic advantage.

Experience Curves & Life Cycles

As discussed in the outsourcing sections, combining the various permutations of life cycle theories into one combined strategy framework is useful for this application. In addition, the experience curve strategy will be included to enhance familiarity with how process innovation benefits a firm. Taken together, these theories support a natural and complete way to view innovation over the life of a product and industry.

The experience curve offers an explanation of how firms internalize and use innovation. Though these curves differ from product to product, the experience curve observes the collective impact of firm learning on production.¹¹⁸ The cost declines scale economies bring provides context to Ghemawat’s (1985, 1998) observations, a widely cited source of experience curve

¹¹⁸ Ghemawat, Pankaj. “Building Strategy on the Experience Curve.” *Harvard Business Review*. Vol. 20, No. 6. (March/April 1985): 144.

strategy.¹¹⁹ Cost reduction is a benefit of experience due to feedbacks from exogenous sources, scale economies, and improvements in cumulative output.¹²⁰ Manufacturing is well known to have very steep experience curves compared to other industries.¹²¹

Experience also creates a platform on which new products and other innovations are more easily and quickly built.¹²² The ability to innovate is linked to expertise and this has a direct influence on how well firms succeed in research and development.¹²³ Experience also links to the firm's ongoing acquisition and use of new ideas on innovation from outside sources. A prime example is the integration of outside technologies from supplier partners. The firm's ability to implement the equipment into production results in more learning and experience.

Despite the importance of experience, it is also important to note that experience rarely rests solely inside a single firm and experiences diminishing returns. Competing firms are able to easily reverse engineer products or use the same suppliers.¹²⁴ Firms in mature industries also experience the diminishing returns to process innovation as they reach the end of the experience curve. This will drive a firm to find new ways to compete using its experience.

The tableware industry often echoes this last sentiment; the lack of new innovation possible for an industry so far along the experience curve. Yet, future performance rests on the firm's ability to continually move along an experience curve or apply its collected experience to a

¹¹⁹ Ibid, 144.

¹²⁰ Ibid, 154.

¹²¹ Ibid, 146.

¹²² Ibid, 145.

¹²³ Klepper, Steven. "Entry, Exit, Growth, and Innovation over the Product Life Cycle." The American Economic Review. Vol. 86, No. 3. (June 1996): 556.

¹²⁴ Ghemawat, 158.

related area or new product. When looking at outsourcing, the greatest issue is how to capture some of your offshore partner's experience gains or to prevent losing a source of learning and ability to innovate. How is it possible to limit or prevent other firms to benefit equally from experience producing another firm's goods?

From Experience to Life Cycles

Life cycle theories for innovation that resound with outsourced manufacturing are the international product life cycles and the product and process innovation cycles. Innovation, particularly for mature products and industries, is difficult to foster. Having used process innovations to make a product innovation cheaper, faster, and more reliable to produce, firms eventually have fewer ideas or ability to improve process. In addition, similar incremental product innovations provide progressively smaller returns or advantages to the firm.¹²⁵

From a strictly innovation view, the Abernathy and Utterback (1978) model for process and product innovation illustrates the relationships between the types of innovation discussed earlier. As the duo suggest, "many of the innovations of great commercial significance are of the relatively low-cost, incremental type, the result of largely continuous development efforts."¹²⁶ Initial product innovation gains are supplemented by incremental innovations in produce and in process. (See Figure 8.) Utterback (1974) also expanded these innovation cycles by offering that firms will innovate more often in more competitive industries and as a reaction to an increasing number of firms competing for customers. In addition, firms will move to quickly adopt

¹²⁵ The exception would be for products that are radical innovations. These have separate curves from incremental innovations in product or process.

¹²⁶ Utterback, James M. "Innovation in Industry and the Diffusion of Technology." *Science*. Vol. 183, No. 4125. (February 15, 1974): 621. Also see Abernathy, Utterback, 41.

technologies its competitors are already using in order to reap the same process innovation returns.¹²⁷

In choosing a product to outsource relative to its innovation life cycle, firms should choose products that are mature, experiencing competitive cost pressures, and where the additional benefits of process innovation are economically insignificant. In addition, as product and process innovations disperse throughout the industry, the returns to fully appropriating the innovation source shrink or become negative. When innovation lead expires and entry barriers fall, firms will look to outsource production in order to remain cost competitive as they recognize the null benefit of retaining the production internally.

The international product life cycle theory proposed by Dunning (1988) is also a valuable tool to understand the firm's ability to generate and manage innovation. Dunning (1988) originally offered that firms produce for foreign markets once a product reaches maturity in its home market. This model was refined in the examination of outsourcing to include an added dimension for allowing contractual arrangements over direct ownership. As with the innovation cycle, once a product or industry reaches maturity, the returns to innovation, particularly in process, decline. In addition, the uncertainties of demand are reduced in such highly mature industries. Demand is easily forecasted.

For innovation, this means that in conjunction with the increased likelihood of outsourcing, innovation management and focus are not necessarily articulated for mature or declining industries and products. When the production remains in a western firm with higher

¹²⁷ Ibid, 621, 625.

costs, the firm will pursue priorities and strategies to improve product and process through innovation aimed at cutting costs.¹²⁸ The outsourced mature product will experience less of these pressures and any incremental improvements from the provider can be captured through contractual agreements. If production is concentrated in one country, it may actually increase innovation in process since outsourced production now provides some of the benefits of agglomeration to the firm (e.g. costs), without the additional investments.

The “Innovate or Die” Framework

To determine when a firm should outsource production to an offshore partner as a function of innovation, the theories of specification, commitments, and life cycles can be formed into an innovation decision framework. This framework supplies a decision tool by which offshore outsourcing decisions should be made in terms of innovation.

1: Appropriation & Commitments

The returns to specific commitments provide a framework for strong appropriation. However outsourcing is a viable choice if firms are able to find ways to strengthen this inherently weak innovation appropriation model. Can you capture enough process innovation to make up for its loss within the firm?

1. Is the firm able to use contractual agreements to obtain sufficient control over the outsourcing transaction comparable to making firm or usage specific commitments that provide innovation returns?
2. How strong is the firm’s appropriation of innovation in relationship to its commitments in assets and its use of outsourcing?

¹²⁸ DuBois, Frank L., Michael D. Oliff, Brian Toyne. “International Manufacturing Strategies of U.S. Multinationals: A Conceptual Framework Based on a Four-Industry Study.” *Journal of International Business Studies*. Vol. 24, No. 2. (2nd Quarter, 1993): 310.

2: *Experience & Life Cycle*

Experience curves and life cycle theories both suggest that mature products and industries will turn to offshore outsourcing when the innovation cycle dissipates and experience no longer provides strong returns.

3. Has the product, firm, or industry moved far enough along the life cycle that the returns to innovation are diminishing or zero?
4. Is there an experience exchange involved in the outsource transaction and can returns from it be recaptured?

Part Five: Ceramic Tableware Case Studies

Methodology

To test the innovation and outsourcing frameworks thus far established, it is necessary to examine these models in practice through a look at three firms in the industry. Those firms are The Homer Laughlin China Company, Josiah Wedgwood and Sons, and Michael Wainwright Pottery. The firms were chosen to represent a spectrum of firms involved in the industry but using different means to compete and produce. (Figure 9 provides a graphical comparison of the firms.) At one end, Michael Wainwright Pottery outsources all production to a firm in the United States, produces specialty ceramics, and has a small number of internal employees. Homer Laughlin, on the other hand, produces almost its entire product line itself, only outsourcing one or two individual products to a neighboring firm.

From another dimension, firms vary in revenues and product markets. Wedgwood is part of a large multinational corporation, Waterford-Wedgwood PLC, and produces millions of dollars of revenue annually. The firm also relies heavily on export markets in Europe, the United States and Japan. Homer Laughlin and Michael Wainwright are different. Homer Laughlin has very little international sales and has turnover much less than Wedgwood. Michael Wainwright Pottery is a small firm that creates only high-end specialty ceramics and retails them through US outlets. Such variety allows a robust testing of the outsourcing and innovation frameworks.

Information for the case studies was obtained through a combination of sources. Key production decision makers at each company were personally interviewed based on a pre-screened questionnaire. Additional resources including academic journals, trade publications, and

corporate documents also contributed to the case studies. Transcripts of the interviews, for confidentiality reasons, will not be included with this document.

The Homer Laughlin China Company

Sitting at a bend in the Ohio River, the Homer Laughlin China Company is the largest producer of semi and fully vitrified chinaware in the United States, a position it has held since 1906. Founded in 1871 by a pair of English immigrant brothers, Homer and Shakespeare Laughlin, Homer Laughlin began as a challenge. With \$5000 of start-up cash and a plot of land from the City of East Liverpool, Ohio, the brothers built their pottery amid the dozens competing in the “Crockery City.”¹²⁹ From the beginning, the brothers believed in using the latest technology and production techniques available.¹³⁰ Despite locating in an area where firms shared a similar cost exposure for labor and raw materials, the pottery grew under the management of W. Edwin Wells, accountant and manager of the firm.¹³¹ By the 1930s, the firm earned the distinction of being the world’s largest and most modern pottery, thanks to innovative approaches to selling and distributing its products, continuous implementation of new technology, and a strong visionary leadership.¹³² Homer Laughlin’s has always understood the need to remain competitive and led the industry as it fought off foreign producers, embraced societal changes, and weathered industry havoc. Today, from its offices next to the plant complex in Newell, West Virginia, Joe Wells, III leads Homer Laughlin based on the same premise as when it was founded: innovation in products, manufacturing, and marketing.

¹²⁹ Gates, 77.

¹³⁰ Gates, 80.

¹³¹ Blaszczyk (1995), 868. The Wells and Aaron families bought out the Laughlin’s in 1897.

¹³² Blaszczyk (2000), 90.

Firm Strategies

Despite its unrivaled position and reputation for innovation both at home and abroad, survival has not been easy for the firm, but its core strategies still prove to be a winning combination.¹³³ These strategies represent the core competencies of the firm. First, Homer Laughlin embraces a need to constantly renew its product lines in tandem with changes to technology and markets. This commitment led the company to introduce its blockbusters “Yellowstone” in 1923 and “Fiesta®” in 1936.¹³⁴ Secondly, the firm maintains a technological and process innovation leadership in its manufacturing facilities. The firm never shies away from implementing technologies that disrupted other manufacturer; always looking to be first on the learning curve. Finally, the firm possesses a level of customer intimacy that few in the industry possess. Homer Laughlin introduced chinaware to mass markets at the turn of the century in conjunction with retailer Woolworths.¹³⁵ Together, these three factors have built the company and helped it continue to manufacture solely from its Newell, WV headquarters, refusing to outsource production overseas.¹³⁶

Homer Laughlin in the US Industry

Today’s U.S. pottery industry is comprised of two very separate types of firms. First, firms like Homer Laughlin, fully integrated potteries that design, market, and manufacture pottery, still exist but continue to dwindle in number as environmental regulation and cheap Chinese labor

¹³³ Blaszczyk (1995), 864.

¹³⁴ Blaszczyk (2000), 125.

¹³⁵ Blaszczyk (2000), 90.

¹³⁶ Wells, Joe III. “Doing the right thing: Why one small-town employer believes it should be ‘Made in the USA.’” *Industry Week*. 242, no. 16: 37.

erode margins.¹³⁷ Most U.S. producers in this category have moved into product niches or produce exclusively for the hospitality and foodservice industry. As Wells himself claims, finding niches that are difficult for foreign firms to attack is a key tactic.¹³⁸ The second type of firm is the design and sourcing company that sources actual manufacturing production from foreign firms and imports the product. Today, most U.S. and English producers follow this model and include firms like Mikasa, Lenox, Buffalo China, and British high-end brands like Wedgwood and Royal Doulton.¹³⁹ Firms in this category also produce primarily for either very high-end clientele or for mass consumer markets, both areas abandoned by Homer Laughlin in the 1950s. These firms present a tough challenge to more integrated firms like Homer Laughlin. By repositioning their business model to focus on core U.S. value adding activities (design, finance, and marketing) and shedding volatile manufacturing assets, these outsourced production firms achieve two very important advantages: 1) similar exposure to manufacturing costs diversified on an international scale (most firms use the same production facilities in China, India, and Turkey) that take production out of competition; and 2) ability to focus exclusively on markets and customers in their respective home markets.

¹³⁷ Berliner, Elliott, and Hufabuer noted that all US firms face environmental and safety regulations that are onerous in comparison to foreign producers. In addition, industry firms and analysts continue to note the Non-Tariff Trade Barriers that China has in place to keep out US production and bolster Chinese firms (e.g. no-interest, no-payback government loans). These restrictions, however, do not prevent foreign firms from exporting dangerous productions (containing lead and cadmium) to the United States. For interesting comments, see “Bush is accused of favoring Chinese over U.S. interests.” Manufacturing & Technology News. 3 June 2003.

<<http://www.manufacturingnews.com/news/03/0603/art1.html>> 15 November 2005. CEO Joe Wells also complained of unfair practices of Chinese firms.

¹³⁸ Wells, Joe III. Personal Interview. 25 November 2005.

¹³⁹ Grahl, Christine. “Consumer trends, cheap imports erode dinnerware market.” Ceramic Industry Online. 1 October 2003. <http://www.ceramicindustry.com/CDA/ArticleInformation/features/BNP_Features_Item/0,2710,108913,00.html> 6 November 2005.

Product Innovations

A core area where Homer Laughlin has been able to consistently distance itself is product. Homer Laughlin's key historical strengths are: a commitment to flexibility and diversity in product offerings; and an ability to incorporate and introduce cutting-edge design technologies. When first introduced in 1936, Fiesta®¹⁴⁰ ware was a breakthrough in process and style and incorporated many of Homer Laughlin's unique innovations. Today, Homer Laughlin continues this trend as it creates unique shapes and plate weights for Alexa®, a dinnerware line that gives the foodservice industry lighter chinaware that retains heat and remains stylish. Both of these are just a few examples of Homer Laughlin's product leadership.

Flexibility in product offerings has been a continual source of strength for the firm. From its founding, the Homer Laughlin China Company's leadership believed the firm must be quick to provide multiple designs and shapes for its customers. In addition, the company always sought to provide new and enhanced value with its products. These core values resulted in several advances in the industry. First, Homer Laughlin was one of the first (if not the first) producers to adopt standardized shapes for its products.¹⁴¹ By creating a core set of shapes, the pottery moved its attention to value-adding components of the labor chain to attract customers: design, decals, and colors. The flexibility to change design and colors of a basic core product captured lower costs while keeping the firm market focused. In addition, the firm was first to market with "open stock"

¹⁴⁰ Fiesta® is the company's most successful retail product to date. Initially introduced in 1936, the product was discontinued in the 1960s, but later brought back in 1986. Fiesta® was introduced to the U.S. market in 1986 as a completely lead-free product. This was a significant achievement for the worldwide tableware industry as a whole since lead leaching from wares contributed to household lead poisoning.

¹⁴¹ Błaszczuk (1995), 873.

products that allowed customers to buy pieces as needed or in bundles. “Yellowstone,” available at all Woolworths in 1920s America, gave shoppers flexibility, and also the firm by building upon a standardized shape from other lines.¹⁴² Another key flexibility that proved a savior: the firm learned during the 1930s and 1940s how to create fully vitrified chinaware.¹⁴³ This innovation heralded the introduction of “Oven Serve” (an oven to tabletop baking dish line) and its foodservice lines.¹⁴⁴ Homer Laughlin was now capable of producing both semi and fully vitrified ware; an advantage few domestic producers had at the time.

Just as important as its flexibility in core products, Homer Laughlin’s design innovations furthered the company’s product leadership. Unlike many of its competitors in turn of the century America, Homer Laughlin quickly adopted stenciling tools and female labor to reduce costs.¹⁴⁵ Later, the firm embraced techniques such as air brushing and decals. Decals, in particular, provided further flexibility due to the increase in product output and lower labor costs. Homer Laughlin hired designers and suppliers who would exclusively create for the firm a multitude of proprietary patterns and designs.¹⁴⁶ With silk-screen printing, a development in the 1930s, Homer Laughlin introduced another innovation to the industry. Silk-screen printing allowed the firm to achieve even lower costs (especially when decals became hard to produce with WWII rationing) and required little skilled labor to apply. Customizations would happen in-house and be in production immediately.

¹⁴² Blaszczyk (2000), 126.

¹⁴³ Wells. Personal Interview.

¹⁴⁴ Blaszczyk (2000.), 155.

¹⁴⁵ Blaszczyk (2000), 75.

¹⁴⁶ Wells. Personal Interview.

Color and glazing are a final area of product innovation for the company. One of Fiesta's® key achievements in 1936 was the use of a standard innovative shape that depended on unique colors for market appeal. This innovation was the product of a intense team efforts where lead designers, design teams, marketing research, chemical engineers, manufacturing engineers, and production workers all cooperated to move the product to market.¹⁴⁷ Colors that were difficult to copy, more durable glazes, and had less chemical content appealed to company officers seeking lower cost profiles and better products. Color innovation started at Homer Laughlin early in its history when the firm produced white-wares, a category previously held by imports. Color also was a factor in the "Yellowstone" launch in the 1920s. Homer Laughlin's introduction of a completely lead-free color glaze in 1986 was groundbreaking. The firm successfully transformed the entire industry and anticipated coming product safety restrictions.¹⁴⁸ This focus on color and glazing technology strengthened the firm's ability to produce standardized wares with great flexibility in meeting customer tastes.

Process Innovation

In an industry where labor costs have traditionally placed firms at a disadvantage to foreign competition and where customer tastes create constantly changing demand conditions, Homer Laughlin has used innovation in manufacturing to eliminate non value-adding labor and to

¹⁴⁷ Blaszczyk (2000), 149.

¹⁴⁸ Wells. Personal Interview. "Profiles of leadership: Joe Wells, III." Ceramic Industry Online. 1 October 2004. <http://www.ceramicindustry.com/CDA/ArticleInformation/features/BNP_Features_Item/0,2710,134907,00.html> 5 November 2005.

enhance the firm's production flexibility and productivity.¹⁴⁹ In the 1890s, Homer Laughlin concentrated on diversifying its customer base by creating a production system that provided for scale economies and faster time-to-market for products as buffers against demand and import competition changes.¹⁵⁰ This mantra gave the firm advantages and a core strategic goal that propelled it to U.S. and global leadership. Today, the firm supplements this philosophy with a focus on speed: getting custom products to customer faster than its competition.¹⁵¹

Due in part to its location and the sensitive-nature of the industry to imports, Homer Laughlin took an early lead in manufacturing innovation. When Japanese imports flooded the U.S. in the 1930s and high energy costs erased firm profits, Homer Laughlin concentrated on increasing its scale economies through directed investments in plant and process engineering, new equipment, and unique management systems that took an inherently batch process system and transformed it into a continuous production model; a capability very few firms had in the world.¹⁵² Homer Laughlin management toured facilities around the world in the 1920s and worked extensively with other U.S. plants to build best practices models for their investments and processes.¹⁵³ In the 1970s, as the domestic industry crumbled, Homer Laughlin actively invested in equipment to compete globally, contributing substantially to the 320%, \$4.8m increase in capital expenditures of U.S. potteries.¹⁵⁴ When nearby pottery Taylor, Smith & Taylor folded in

¹⁴⁹ Wells. Personal Interview. Wells stresses the importance to use high-cost labor in areas where it will add the most value per piece.

¹⁵⁰ Blaszczyk (2000), 98.

¹⁵¹ Wells. Personal Interview.

¹⁵² Blaszczyk (2000), 130. Blaszczyk (1995), 864.

¹⁵³ Blaszczyk (1995), 881

¹⁵⁴ Berliner, Elliott, and Hufbauer. 82. Includes period of change in protection status for industry, 1973-1977.

1976 with annual losses of \$1m on \$10m sales, citing a failure to bring “modern, professional” management teams and production processes to the plant, Homer Laughlin turned a profit and already had more than 50 years experience with innovative manufacturing and management.¹⁵⁵

Homer Laughlin was able to succeed because of its commitment to bringing technology and automation to its plants. A key early investment for the company was the tunnel kiln. Introduced in 1923, tunnel kilns radically altered the firm’s competitive profile.¹⁵⁶ The tunnel kiln, a gas fired device, broke the firm’s reliance on batch systems first by removing the days of processing required for traditional “beehive” kilns, and secondly by giving the firm an exponential increase in production. Tunnel kilns were able to process 18-20 times the amount of product the older technology permitted.¹⁵⁷ Realizing all firms could acquire this destructive technology, the firm capitalized on first mover advantages to embrace the technology (second in the nation) and employed it as a centerpiece in a program to redesign and automate manual processes. When the firm showcased its new production plants in the 1930s, an industry analyst would remark at the marvel of “push-button, sprocket, and bearing” that operated in the plant. Homer Laughlin still looks to embrace technology and automation for its needs. CEO Joe Wells, III takes a long-term approach to capital investment, realizing that benefits may take eight to ten years for payback.¹⁵⁸

¹⁵⁵ “Anchor Hocking branches out.” Business Week. May 10, 1976: 69.

¹⁵⁶ Gates, 264.

¹⁵⁷ Gates, 264.

¹⁵⁸ Harman, Cameron. “Taking your business to the next level.” Ceramic Industry Online. 1 March 2001.
<http://www.ceramicindustry.com/CDA/ArticleInformation/features/BNP_Features_Items/0,2710,22140,00.html>
5 November 2005.

These investments include cutting-edge robotics at its newest plant, a facility that is almost completely automated and produces its most standardized items.¹⁵⁹

Combined with investments in equipment, Homer Laughlin invests in new physical plant designs that realign its production to compete at a world-class level. Throughout its early history, the firm, as mentioned, actively shared information with other local firms, in particular with Mount Clemens Pottery. This information sharing led to a friendly but nonetheless competitive profile whereby the firm introduced proven and experimental industrial designs at their plants.¹⁶⁰ Most U.S. potteries in the 1920s were housed in complicated, multi-level buildings that were organized on traditional Staffordshire models.¹⁶¹ When Homer Laughlin opened its Plant #6 in 1923 at a cost of \$1m, the firm had the most modern facility in the world. Plant #6 was the culmination of intense reorganization to accommodate continuous production afforded by the tunnel kiln. Homer Laughlin's work with engineering talent from the Massachusetts Institute for Technology created process models unique to the firm.¹⁶² The birth of the "Rational Pottery" led to further innovations and new plants investments in the 1930s that took the best of "Fordist" production methodologies and adapted them piecemeal to the pottery industry, retaining the best of both to build flexibility, speed, and scale.¹⁶³

The end result of these investments in technology and plants for Homer Laughlin was a flexibility to realign its labor force and to augment the role of professional talent in its business.

¹⁵⁹ Wells. Personal Interview. During the research for this paper, the author interviewed both the CEO and local plant workers.

¹⁶⁰ Blaszczyk (1995), 879.

¹⁶¹ Gates, 261.

¹⁶² Blaszczyk (1995), 889.

¹⁶³ Blaszczyk (1995), 889.

The re-engineering of the 1920s and 1930s kept the firm keenly focused on eliminating non value-adding labor and lowering its cost profile.¹⁶⁴ Only those workers with high skill levels would remain due in part to their flexible and hence difficult to automate skills. In addition, under the leadership of the Wells family, the firm understood that skills from professional fields such as engineering and physical sciences would be a source of future advantage.¹⁶⁵ As such, the firm invested heavily in research and design, laboratories, industrial engineering, and the talent at a time when most U.S. firms lagged far behind their foreign counterparts.¹⁶⁶ This corporate strategy to find the right talent with integrative and specialized skills underpins the firm's success today. Wells remains committed to maintaining investments in research, innovation, engineering, and people; offering training for workers to adapt to computerized production systems and keeping core design and engineering resources in house.¹⁶⁷

Outsourcing

For a firm with such a strong commitment to supporting the local community, it is no surprise that Homer Laughlin refuses to source product from overseas. However, the firm does outsource. The usage specificity of assets for ceramic producers can provide a formidable strategic advantage. As such, it is not surprising that some US firms specialize due to something they produce that no other firm can. Whether the size limitations to molds for slip casting, pressing equipment that can handle specialty sizes, or other unique capability (including labor skills), firms have specific competencies built on production characteristics.

¹⁶⁴ Blaszczyk (2000), 128.

¹⁶⁵ Blaszczyk (2000). 155.

¹⁶⁶ Ibid.

¹⁶⁷ Wells. Personal Interview.

Homer Laughlin, while a highly integrated firm with a diverse production capability, has made usage specific investments in equipment that are now firm-specific capabilities. This does not include the production of certain shapes such as jars or teapots. This is where outsourcing lends a specific productive capability to the firm it otherwise would not have. After identifying a niche for a specific type of Fiesta® product, Homer Laughlin contacted a local firm for help. The firm, literally within a few miles of Homer Laughlin, produces specialty items for the firm with its specific production capabilities. Without the outsource production, Homer Laughlin would have been unable to fill this product niche.

The implication for a fully integrated producer is the possibility of acquiring either some form of learning or asset usage through outsourcing. Homer Laughlin's choices for outsourcing could attempt to recapture the process, except that the outsourcing relationship cannot capture the productive asset itself, only a portion of the total ownership rents of the equipment inlets. However, for a firm that needs new products and expanding sales, outsourcing offers a flexible response to niche production that limits the commitment to a specific asset and capitalizes on the firm-specific asset: brand.

View for the Future

Today, Homer Laughlin has also refined its vision to include another more salient commitment; a commitment to remaining a manufacturer and not just seller of tableware – and to providing employment at its Newell, WV location. Survival, it seems, has become engrained into the mindset of Homer Laughlin. Regardless of frustrations with local unionized labor or skill shortages in the area, Joe Wells and Homer Laughlin remain in their original home. While other

potteries have closed down, steel companies moved overseas, and other core manufacturing jobs left the Upper Ohio Valley, Homer Laughlin refuses to budge. In a recent interview, Joe Wells firmly stated his belief that companies have chosen “the easy way out” and the “path of least resistance.” Rather than submit to the challenge and “execute the ingenuity necessary to make U.S. operations viable,” firms simply relocate production.¹⁶⁸ Wells uses this observation to claim superiority. Homer Laughlin bests its competition because the firm does survive despite tough labor conditions and a web of regulation. The importance of such strong and committed vision cannot be understated. It engenders a loyal and enabling environment where management, labor, and community struggle and persevere.

Nonetheless, Homer Laughlin faces tough challenges in its future. Three decades of incremental successes and turbulent environments have fostered a quiet background noise: survival. Though survival is always a strong measure of success, thirty years of survival mentality affects corporations. When asked how he could envision the company in 25 years, Mr. Wells responded simply, “still here.” The long battles of Alexander the Great’s armies were tiring and drove deep into new territories, but eventually, his armies, like organizations and people, tire. Thus, Homer Laughlin must look hard and create a vision and purpose that incorporates an exciting future; a future of new products, new markets, and new innovations that surpass the

¹⁶⁸ Wells. “Doing the right thing.”

survival mentality and guide the company strongly into its third century. This new future might just be in the works, and that is why Homer Laughlin could once again be America's pottery.¹⁶⁹

Josiah Wedgwood & Sons (Waterford-Wedgwood, PLC)

Founded in the industrial heart of England in 1769, Josiah Wedgwood & Sons is one of Britain's great brands. Wedgwood is a name synonymous with elegance and quality to consumers around the globe.¹⁷⁰ The firm, located in England's pottery center, Staffordshire, retained nearly all of its production locally until 2003. Through 1967, the firm was privately held, a typical corporate arrangement in the industry. Today, much like its early history, Wedgwood pioneers in product and production design. However, the new frontiers in production have forced the firm to look outside Staffordshire to the low-cost Asian countries in the hopes of reinforcing and retaining its highly valued reputation.

The modern Wedgwood is a large and globally diverse manufacturer of ceramics. Over its history, the firm has actively acquired other UK industry manufacturers whose brands, distribution channels, and facilities provided competitive advantage to the firm.¹⁷¹ The Wedgwood family includes brands such as Johnson Brothers and Coalport, both acquired in the late 60s and early 70.¹⁷² In 1986, Irish crystal manufacturer Waterford acquired Wedgwood and formed the new parent company, Waterford-Wedgwood, PLC. The corporate group owns several luxury housewares brands including the German manufacturer, Rosenthal. (Table 6 provides select

¹⁶⁹ Wells. Personal Interview. During the interview, Mr. Wells coyly noted that Homer Laughlin has been reexamining its options in the retail markets. He declined to comment further, but to expect something interesting.

¹⁷⁰ Smyth, 84-5.

¹⁷¹ "Corporate Profile." Waterford Wedgwood Portal. <<http://www.waterfordwedgwood.com/01in/05in.asp>> 19 February 2006. Smyth, 86.

¹⁷² Ibid.

financial information about the firm.) In 2005, Wedgwood acquired rival Royal Doulton, a high-end British firm with a similar product market. However, the Royal Doulton acquisition introduced Wedgwood to a different production profile: offshore manufacturing.

The Royal Doulton acquisition is interesting because of Royal Doulton's earlier use of international sourcing. Though it maintained productive capacity in the United Kingdom through the 1990s, the firm, a heavy investor in process and product research & development, was convinced it needed to have access to cheaper costs if it wanted to be viable in the market. According to pre-merger CEO Bylin in 2003, "Years ago, (the) business was manufacturing oriented. Today it's marketing oriented."¹⁷³ The answer to Royal Doulton's cost problems came island size: Indonesia. From 18 factories in England employing thousands at the beginning of the twentieth century, not a single Royal Doulton facility remains in the UK post-merger. However, the Indonesian plant continues producing ware for Wedgwood.¹⁷⁴

Industrialized Wares

The great achievements of Wedgwood founder, Josiah Wedgwood, are the transformation of an art-based cottage industry in to an industrial system and the development of marketing ideas that still underpin the industry. Each of these transformations laid the foundation for the spectacular growth of Britain's ceramic tableware industry. Wedgwood's developments in the industry promoted the development of more advanced wares for larger markets.¹⁷⁵

¹⁷³ "Royal Doulton." *Tableware Today*. <<http://www.tablewaretoday.com/Doulton-A.htm>> 31 January 2006.

¹⁷⁴ Wilcock, Michael. Josiah Wedgwood & Sons. Personal Interview. 22 February 2006.

¹⁷⁵ Hillier, Bevis. *Pottery and Porcelain 1700-1914: England, Europe, and North America*. New York: Meredith Press, 1968. 145.

Organization and development were hallmarks of the industrial transformation of tableware. First, Wedgwood was quick to understand the need to view industrial development as part of a larger development program. This development cycle included the improvement of transportation networks for materials and products and the nurturing of artistic talent to enhance his firm's design and decorating.¹⁷⁶ Wedgwood also concentrated on developing cost effective techniques for use in industrial tableware production. Early wares attempted to create mass markets through substitution. Rather than sell only fine porcelains, Wedgwood's first major product, "Creamware," used local clays to produce a tea service that, while different in color, approximated the luster of fine porcelain china, but at a much lower price for the consumer.¹⁷⁷

Product marketing is another skillful implementation of Wedgwood. Josiah Wedgwood never failed to capture current trends in ceramic. His "Jasperware," the famous decorated bas-relief product, used neoclassical forms that permeated 18th century society.¹⁷⁸ Wedgwood deftly used product marketing to promote his industry and the firm. Through royal appointments, the industry's first product catalog, customer outlets, and prominent showrooms, Josiah Wedgwood promoted his firm's brand and captured the attention of consumers, including Russia's Catherine the Great.¹⁷⁹

¹⁷⁶ Ibid.

¹⁷⁷ Miller, 2.

¹⁷⁸ Hillier, 145.

¹⁷⁹ Miller, 2. Also "The Life of Josiah Wedgwood." Ceramics Today Online. <<http://www.ceramicstoday.com/articles/040300a.htm>> 14 February 2006.

Product Innovation

Wedgwood's greatest historical contribution to ceramics was his ability to create demand for a plethora of constantly changing wares. Wedgwood, always keen to enhance the firm's image through public relations and marketing, took advantage of his firm's ability to innovate and develop new products. The firm stressed the high quality, design, and craftsmanship of its products through multiple channels.

Customer intimacy and creating product demand were two of Josiah Wedgwood's strengths. The firm's network of showrooms and customer outlets transferred customer tastes back to the Staffordshire factories. In addition, the direct customer contact promoted demand. The tea service manufactured for Catherine the Great was shown at the company's showroom windows in London and attracted great crowds. This in turn, promoted the Creamware line and advanced this "low cost" mass produced item both domestically and in European markets.¹⁸⁰

Products directly reflected customer tastes. By discarding the "traditional" pottery forms of Staffordshire and focusing on the market pull dynamics, Josiah Wedgwood linked his firm directly to the customer. Inspiration came from books, design materials, works of art, and current trends.¹⁸¹ The firm quickly translated these tastes to lines that reflected customer demand. Wedgwood also used more complex ceramic forms to further distinguish his products and promote differentiation.

¹⁸⁰ Miller, 2-3.

¹⁸¹ Hillier, 133.

Process Innovations

Josiah Wedgwood also created industrial processes to get his wares to market quickly and cheaply. The invention of transfer printing for ceramics was revolutionary to ceramics.¹⁸² Following its invention, other local manufacturers in Staffordshire took up the method quickly. Wedgwood also developed proprietary glazes, solved problems related to “crazing” that plagued the industry, and pioneered the use of ceramics for sanitary uses.¹⁸³ The key to Wedgwood’s early success required finding ways to mass produce efficiently enough that products would be affordable to more consumers in Britain and in Europe but still maintain the quality of Staffordshire.

Innovation in process has been a constant factor of Wedgwood’s history. Following World War II, the firm rebuilt its international profile and focused on enhancing its cost advantages. These labor saving and cost enhancing activities include formalization of human resource policies, computerization efforts in the 1960s, implementation of quality management systems in the 1980s, and continuation of internal development programs.¹⁸⁴

This focus on continued innovation has kept Wedgwood at a technical leadership position. The firm leads the world in the direct printing of ceramic wares due to in-house developments. In addition, the company has machinery that can automate the difficult process of printing on cup sleeves.¹⁸⁵ Such a system cuts time and costs out of the production process by allowing wares to be

¹⁸² Hillier, 145.

¹⁸³ Crazing is when cracks appear in the glaze after firing. Hillier, 145. “The Life of Josiah Wedgwood.”

¹⁸⁴ “Josiah Wedgwood and Sons, Ltd.” [Manufacturing Foundation](http://www.manufacturingfoundation.org.uk/info-centre-document-view.php?id=141). 18 November 2004.

<<http://www.manufacturingfoundation.org.uk/info-centre-document-view.php?id=141>> 18 January 2006.

¹⁸⁵ Ibid.

immediately fired. In 2002, the firm invested in supply management software to quickly integrate new products into existing manufacturing and distribution systems.¹⁸⁶ Arguably, many of these innovations are reactions to competitive pressures in the market to reduce manufacturing costs.

The Royal Doulton acquisition also lends itself to enhancing Wedgwood's innovation profile. As a company whose products saw early and "severe competition on a massive scale from mainland China," Royal Doulton reorganized production to reduce costs.¹⁸⁷ Research and development, a formal division since 1815, investigated new equipment, materials, and processes for the firm. The firm also adopted custom developed CAD modeling systems in the 1990s that quickly create design prototypes, shortening the entire new product development cycle. Acquiring Royal Doulton gave Wedgwood an additional source of innovation.

The Chinese Experiment

Wedgwood's first foray in offshore outsourcing started small. Beginning in 2001 with a line of promotional goods, the firm first needed to gather customer reaction to goods not produced at its UK factories.¹⁸⁸ After a successful first try, the firm then moved to spot sourcing of production for its lower-tier products. With continued success and greater experience with outsourcing, the firm then moved production of the entire Johnson Brothers line to China in

¹⁸⁶ "Case Study: Wedgwood-Supply Chain Management." *Computer Weekly*. 28 February 2002. <http://www.buyitnet.org/Case_Studies/Docs/Wedgewood.pdf> 19 February 2006.

¹⁸⁷ Smyth, 99.

¹⁸⁸ Wilcock.

2003.¹⁸⁹ The proposition was not without its difficulties. Consistency is important to tabletop buyers, and if the products did not exactly match, the market may have reacted negatively.¹⁹⁰

The hurdles Wedgwood faced with this transfer were generic, but nonetheless challenging to the firm. The first difficulty claims Michael Wilcock, Director Manufacturing and Supply, was communication. Language barriers included a host of factors: having four translators in a room to interpret during meetings, obtaining real technical and production expertise to provide necessary operating statistics for the Chinese facility, and communicating complex concepts over long distances. Yield presented another hurdle. At 96% yield for its Stoke-on-Trent facilities, the measly 65% yield for Chinese production added complexity to the bargain.¹⁹¹ The firm also found it difficult to assess the full cost of the outsourcing arrangement. Wilcock's initial "total acquisition cost" failed to initially account for handling costs, lower yields, packaging concerns, and an array of operational concerns it took for granted with its domestic facilities.¹⁹² However, at roughly half the cost per unit, Chinese production simply was cheaper than the UK.

Outsourcing

Wedgwood has continued to expand its outsourcing program since its initial trials. Today, offshore production (including from wholly-owned facilities) is roughly 45% of the Wedgwood group sales.¹⁹³ Outsourced production happens in India, China, Bangladesh, and other Asian

¹⁸⁹ Dwyer, John. "Chinese checks." The Manufacturer.com. March 2005. <http://www.themanufacturer.com/uk/detail.html?contents_id=5355> 18 January 2006.

¹⁹⁰ Wilcock.

¹⁹¹ Dwyer.

¹⁹² Wilcock.

¹⁹³ This includes all the current Wedgwood brands such as Johnson Brothers, Royal Doulton, and Royal Albert. Offshore production figure includes both outsourced and wholly-owned offshore production.

countries. Each exploits the same cost arbitrage dynamic. Still, much of this growth is due to the experience the firm gained from the initial transactions in China. While English-speaking management is easy to find in other Asian factories outside of China, the cost equation is still difficult to assess. Wedgwood is also committed to the program. The firm shuttered production facilities in the UK that had produced the outsourced lines, signaling a commitment to employ outsourcing as a strategic tool.

Michael Wilcock speaks frankly about the firm's early cost analysis for outsourcing. A simple number drove the initial look at Asian production: a free-on-board (FOB) cost of 70 pence per item.¹⁹⁴ The firm failed to account for a host of costs: hidden overheads, logistics, inspection fees, storage, transit times, inventory financing, administration, auditing, quality control, and even exchange risks.¹⁹⁵ The preliminary 70p, or 20% the base cost of UK production, quickly added up to 50% of UK cost. Still, a host of lines that were previously unprofitable when produced in the UK are now profitable lines; a clear result of the offshore outsourcing experiment.¹⁹⁶

To choose lines that would suit outsourced production, Wedgwood look at the numbers and the technical traits of the product. For the latter, lines that are highly standardized or where production facilities overseas are available that can match the product's technical profile, Wedgwood will consider outsourcing. For instance, though transferring production overseas is difficult, if the product is standard, changes little, and can be produced in bulk runs, Wedgwood

¹⁹⁴ Dwyer.

¹⁹⁵ Wilcock.

¹⁹⁶ Ibid.

looks to its Asian partners for production.¹⁹⁷ Capturing economies of scale is of special importance. Most Chinese and Asian factories produce efficiently for bulk runs of thousands of pieces at a time, whereas Wedgwood's own facilities are flexible and capable of smaller, custom runs of product.

Technical capability and product markets are other areas Wedgwood examines before outsourcing. Again, Asian production facilities tend to produce standardized products with simple design qualities that fit the bulk runs necessary to be profitable. Wedgwood has a number of high-end products that do not fit this profile. Lusterware, a Wedgwood produce since the 19th century, is not only a high-end product, but also technically difficult to produce, needing the quality trademark of Wedgwood's skilled production staff.¹⁹⁸ It is next to impossible to find an Asian firm that can produce such high quality, technically difficult products, despite China's deep history of porcelain production. Factories in China have not yet achieved this level of product sophistication. As Wilcock asserts, there will always be a niche product that suits home country production, but the bulk lines for mass markets will "inevitably" go overseas.¹⁹⁹

To manage its outsourcing deals, Wedgwood uses contractual agreements. These agreements are exclusive arrangements whereby the outsource firm's entire production belongs to Wedgwood.²⁰⁰ The firm simply cannot sell any spare capacity to other firms. In addition, that means the firm is strictly prohibited from the "extra runs" common in Chinese facilities. These "runs" are sold off to other companies or end up as "fakes" in markets worldwide. Preventing

¹⁹⁷ Ibid.

¹⁹⁸ Ibid.

¹⁹⁹ Ibid.

²⁰⁰ Ibid.

competition is difficult, and without ownership, the ability to stop copycat goods is tough.

Wedgwood's exclusive production contracts are useful tools for thwarting underhanded moves by its Chinese partners. Such a practice is not widespread, however. Most firms simply contract for runs, specifying packing needs, price points, and design, according to a buyer with the TJX Companies in Framingham. Exclusivity and monitoring costs create added expense the cost-conscious low-end market consumer will not bear.

As for its experience with outsourcing, Wedgwood, according to Wilcock, is about mid-way along the learning curve. With the acquisition of Royal Doulton in 2005, Wedgwood gained a production facility in Indonesia. The wholly owned plant is a testing ground for technology transfers to outsourcing partners. In China, Wilcock claims, despite all the initial problems, a can-do attitude and less bureaucracy make it easier to do business. India, on the other hand, has an intricate web of rules and regulation that add complexity to any deal. The other problem for Wedgwood, is the possibility that the outsource partner may one day be its competition. Though Wedgwood owns all production from its outsource partner in China, it cannot prevent people from leaving the plant and taking Wedgwood's processes and product designs to other firms in China, a source of counterfeit goods showing up on international markets. Finally, the competitiveness of China is in question. Even with low wages, internal inflation is making China more expensive for tableware production. As Wilcock says, the firm's experience with outsourcing gives it a better set of tools to evaluate other countries, in case China does become costly.²⁰¹

Innovation

²⁰¹ Ibid.

The unique arrangement at Wedgwood, a global integration of outsource, offshore, and domestic production, is modeled closely to product value and life cycle. Similar to Homer Laughlin, Wedgwood focuses its domestic production on items where the labor value added is high and unique.²⁰² Technical skills, craftsmanship, and quality remain the exclusive domain of Wedgwood's English facilities. Research and design budgets focus on developing products that are tested and vetted in Britain, then sourced based on technical and strategic properties. All creative work, technical change, and engineering remain in the United Kingdom.

Innovation and outsourcing for Wedgwood are both important and both irreversibly intertwined. Without outsourcing, there would be no possibility for Wedgwood to innovate. According to Wilcock, the surplus from outsourcing production went exclusively to maintaining research and development budgets.²⁰³ Even a line that was previously unprofitable when manufactured in the United Kingdom provides returns post-outsourcing that the firm can invest in future innovation.

Wedgwood's sourcing strategy and investments provide a strong competitive edge. The exclusive contractual arrangements Wedgwood uses for its outsourcing deals may be viewed as transforming a weak appropriation model into a stronger source of innovation and advantage. Also notable is the use of offshore facilities wholly owned by Wedgwood as staging grounds for technology transfer. Because the firm uses its internal resources first, it captures the most gain from those resources while enhancing their value, through experience and learning, prior to

²⁰² Ibid.

²⁰³ Ibid.

transfer. Though the outsource firm may not be the source of any innovation, as Wilcock states, its value can be enhanced through cost savings transferred from Wedgwood's management and technical experience.

Internalization and ownerships of its specific corporate assets remains key to Wedgwood. Because the firm maintains its UK production and research facilities, it enhances the firm's ability to fully capture any innovation or strategic advantage it produces from these core assets. The firms' equal emphasis on product and process innovation generates returns only available from firm and usage specific asset commitments. The Indonesian facility also gives the firm a unique position. It can benefit from the competencies developed in Britain and capture lower costs in Asia.

Competition and the Future

For Wedgwood, the future of ceramics and global sourcing both have strong potential yields. Outsourcing permits Wedgwood the luxury of continuing its investments in future innovations without giving up important contacts at either end of the value chain. Finding the next opportunity is always on Wilcock's mind. Looming in the future is the possibility China might become too expensive. When asked where Wedgwood may next look, Wilcock offers up Southeast Asia, South Asia, and even Africa as potential outsourcing locations. Yet, there is caution about the future. Wedgwood must continue to provide value to the customer; some unique proposition no one can imitate. Even if China currently is not innovating and competing directly with western tableware firms, it may one day. In essence, as Wilcock says, sourcing strategy is "buying time and moving the problem to the next generation."

Michael Wainwright Pottery

Passion Goes Retail

When Michael Wainwright's father sent a sample of Michael's pottery to Tiffany's, neither knew what to expect. The business today has grown substantially from a Brooklyn loft to a retail business that claims a distribution network comprised of Henri Bendel, Bloomingdales, and Tiffany's.²⁰⁴ Fifteen years later, Michael Wainwright Pottery is doing well and outsources all production to a firm in the US ceramics center in the Upper Ohio Valley. His brand is associated to high-value, high-quality wares that are beautiful and unique. Each order is custom made by hand using complex designs employing specialty glazes and gilding. Now relocated from New York to Massachusetts' Berkshire Mountains, the bucolic scenery belies his hectic life. "I eat, sleep, and breathe this business."²⁰⁵

Wainwright relies on his own creative talents to provide inspiration and innovation for his business. A lifetime passion for the ceramic arts was reinforced by strong arts programs throughout his schooling and later with a Master's degree in ceramic sculpture from New York University.²⁰⁶ After a trip to Italy, Wainwright sought to translate a new modern neo-classicism suitable to any lifestyle. From his Brooklyn studio, Wainwright began peddling his wares throughout New York. After landing the prestigious Fifth Avenue window at Henri Bendel, the business took off and Wainwright quickly added employees to fill the demand.

²⁰⁴ "By Design-Michael Wainwright" Tableware Today. <<http://www.tablewaretoday.com/Wainwright-A.htm>> 12 March 2006.

²⁰⁵ Ibid.

²⁰⁶ "About Michael." MichaelWainwright.com. <<http://www.michaelwainwright.com/bio.html>> 21 March 2006.

Outsourcing Solutions

With the business' growth, Wainwright was forced to make sourcing decisions. To fill the burgeoning demand, the Brooklyn studio was no longer sufficient.²⁰⁷ Even after hiring several artisans and constantly increasing the power needed for his electric kilns, production delays meant long delivery lead times and even the possibility of lost orders. To solve this space and output issue, Wainwright looked to outsourcing.

Following the advice of a colleague, Wainwright's first attempts at outsourcing were problematic. In Peru, Wainwright forged personal ties to the family that owned the production facility. Because the firm came highly recommended and produced similar technical products for others, Wainwright established an oral agreement with the owner and thus began his first outsourcing contract. Since the batches of his product were small and employed more technical glazes and firing techniques, Wainwright knew Asian suppliers would not fit his needs. Hence, the Peruvian facility seemed a good fit. However, Wainwright soon realized he could not rely on the firm. Coordination costs mounted due to shipping lags, and quality problems added to the difficulty. When defective product arrived at Wainwright's business, the costs to fix the problem were high, incurring losses on the deal for the fledgling firm.²⁰⁸

Wainwright realized he needed a new solution to his production problem and sought to locate a new partner. After exploring several opportunities, Wainwright located a small firm in the former US ceramics center in Ohio. For this engagement, Wainwright established several criteria

²⁰⁷ Wainwright, Michael. Michael Wainwright Pottery. Personal Interview. 3 March 2006.

²⁰⁸ Ibid. The remainder of this text is taken from the interview and not directly cited.

to evaluate the decision including defect rates and delivery times. In addition, Wainwright reinforced his informal personal relationship to the firm with a non-compete contract. Because the outsource partner was located with a day's drive of his business headquarters, Wainwright could easily solve production problems on the phone or in person. Such proximity and ease of communication helped remove potential production issues.

Outsourcing allows Wainwright's business to grow. First, though costs are not less than the Peruvian facility, the potential for scale economies exists that would diminish piece costs as orders increase. In addition, since the firm was already a competent producer of ceramic bodies, Wainwright is able to rely on the firm's manufacturing experience as a source of flexibility and consistent supply. Secondly, the reduced concentration on coordinating product allows Wainwright to work on increasing his distribution channels. Knowing the available capacity for his products and the priority processing the outsource partner gives his goods, Wainwright can actively pursue new channels and markets, including the highly valued bridal segment.

Innovation and Artistry

Innovation at Michael Wainwright Pottery comes from one place: Michael Wainwright. The key to his success has been a constant ability to design new pieces and expand his product offerings. As an artist, Wainwright maintains an active studio in his home where he designs new products, tries new glazes, and experiments with process techniques. This direct connection to the product means that Wainwright maintains control over both design and process. Since the firm's wares are all porcelain, the primary innovation comes in terms of artistic design and decoration. Decorating techniques encompass glazing and gilding each piece.

When Wainwright chose the Ohio firm as his outsource partner, the potter needed to transfer some process technology to the firm. The outsource firm produced ceramic bodies, and was not competent in glazing and gilding Wainwright's wares required. Over time, Wainwright was able to transfer these techniques to the firm. This transfer essentially provided the outsource partner a new experience or competence that it previously did not have. Basically, Wainwright transfers his personal experience curve to the outsource partner. Luckily, the firm's US location provides experience and skills unavailable from other international partners: skills with ceramic production, communication skills, production capabilities, and understanding of order fulfillment. Both now share a common technical and business language that creates advantages for the Michael Wainwright brand.

Success and Worries

Despite all the success, Wainwright does worry about his outsourcing choice. As a firm with no productive capacity, Wainwright has essentially locked-in his production choices. Should financial or other calamity affect his US partner, a real possibility given the continued failure of US ceramics firms, Wainwright's entire distribution chain would suffer. To compensate for this, Wainwright is exploring ways to manage this risk and is considering reestablishing a modest productive capability in Western Massachusetts.

Wainwright also does not worry about his outsource partner competing directly with him. Because the value of Michael Wainwright wares is the brand name of the artist, the outsource firm could not "copycat" production easily without incurring a host of legal consequences. The presence of strong US intellectual property and contract law protect Wainwright's firm from the

vagaries of disreputable Asian production practices. Also, as Wainwright admits, his business represents 40% of the outsource partner's capacity. Wainwright also stresses the informal networks of ceramic producers in the United States that compel firms to act honestly. This access to intangible reputation costs and buyer power give him considerable leverage in his sourcing needs.

Michael Wainwright Pottery looks eagerly to the future, thanks in part to using outsourced production. Consumers, as Wainwright says, are looking for something new and personal to convey their feelings, beliefs, and lifestyles. This new generation of consumer values the artistic and beauty fine ceramic products bring to the table. Wainwright's products fill a creative niche the big players miss with their established audiences. That niche is originality and innovation everyday direct from the potter's studio.

Part Six: Dishing up a Winner

Evaluating the Cases

Using the frameworks established in the outsourcing and innovation sections of this research, it is possible to now evaluate each case study's use of outsourcing in the context of innovation. (Table 7 provides the framework and performance of the case studies.) In each instance, firms chose to outsource in a manner appropriate to the idiosyncratic business strategies and value-creating activities each pursues. For innovation, most have found ways to incorporate their particular innovation strategies into the outsourcing arrangement. However, there is a wide variety in the way each seeks to appropriate innovation in relation to the outsource partner's activities.

Outsourcing

Q1: *Is production a comparative advantage that a firm must control to be competitive?*

Of the companies studied, brand and market position seem to trump concerns about the competitive advantages of production, with the exception of Homer Laughlin. Homer Laughlin's position is that the production processes for its retail brand, Fiesta®, provide a source of value and uniqueness. A usage-specific resource, like equipment and machinery, combine with its firm-specific labor pool and brand to create the value that the product offers consumers. Wells underscores the singular contribution these factors make to production, creating a comparative advantage for the firm. The firm also decides to only outsource where its internal capabilities prohibit production. Wedgwood takes a similar position, but embraces selective outsourcing as a means to remain competitive in its domestic production. The firm's comparative advantages in

domestic production, skill and quality, are focused on lines and products where it generates the highest value. Thus, the outsourced production is leveraged as a profit generator for reinvestment or brand promotion.

Q2: To what degree must the firm internalize the outsourced production to retain the advantage ownership provides?

As theorized, the firm should seek to internalize transactions where ownership infers a high value to the firm and where contracting in the market is a higher cost proposition. Michael Wainwright Pottery uses little internalization mechanisms for outsourcing. With the exception of a basic non-compete contract and an ability to create intangible business costs for his outsource partner, Wainwright focuses primarily on brand and product. This is likely atypical of smaller firms where the transaction costs to internalize production are higher than using market mechanisms. In contrast, Wedgwood uses complex mechanisms and contracts that serve to create a degree of ownership over the outsourcing partner, for example the exclusivity clause. This provides a strong degree of internalization and infers the possibility of returns ownership provides. Notably, as Wedgwood has discovered, the development of a market (e.g. outsource facilities in China) will, over time, reduce the need to internalize transactions such as production (e.g. low-end standardized product manufacturing).²⁰⁹

²⁰⁹ Coase, 396.

Q3: Is manufacturing a corporate asset whose specificity is high enough to warrant internalization?

Partially answered under the first question, two firms in this study have invested substantially in making manufacturing capabilities a highly specific asset to the firm. Homer Laughlin and Wedgwood, as integrated producers, have a high degree of sunk costs in research, development, equipment, and process technologies. These investments, that have no practical value outside the firm, provide the highest long-term rewards when they are fully internalized through ownership. Wedgwood would be unable to maintain its high-value brand image and renowned craftsmanship if it did not create ownership structures for its firm-specific assets. Homer Laughlin would lose the unique qualities of Fiesta® if manufacturing were not fully owned, since transferring its processes, a daunting task at best, would likely alter the unique value proposition of the product.

Q4: Are the costs of opportunism and uncertainty high enough to negate the benefits to outsourcing?

Without any reservation, Michael Wainwright Pottery has found a very unique way of managing the possible costs of opportunism and uncertainty related to outsourcing. Wainwright's laissez-faire contracting methods provide an interesting example other firms might wish to emulate. The use of intangible business costs, such as harm to reputation and loss of referrals, as governing mechanism work well for the firm. Wainwright's use of personal relationships also, as Williamson (1979, 1981) asserts, negate many of the costs of what is otherwise an arms-length

transaction.²¹⁰ Homer Laughlin also uses a similar tactic. Because the outsource provider for Homer Laughlin is a local firm, part of the intimate ties within the domestic industry, and part of a personal relationship between the two owners, Homer Laughlin relies on these ties to prohibit opportunistic behaviors.

Wedgwood, though in a more complex manner, uses a roughly similar approach as well. However, unlike the two US firms, Wedgwood cannot rely on the legal and institutional frameworks of the outsource provider's country to provide fair due process. With relationship so important, Wedgwood might consider more widely publicizing the names of its outsource partners, in order to lock-in their involvement and create greater business reputation costs for contract breach.

Q5: Is the product in a mature or declining stage and experiencing declining margins?

Ceramic tableware is not a new product. In fact, very few products and industries have the mature profile of ceramics. Those that are as mature, for instance book publishing, find themselves at the edge of social and technological change. Wedgwood found margins in its lower end products had eroded so significantly that it threatened the viability of the line. Homer Laughlin desperately retreated to the institutional foodservice segment to beat off import competition in the 1960s. Both companies survive by creating niches through product or brand. However, the continuing impact of foreign production will not stop soon and may diminish margins for both producers. Michael Wainwright Pottery is unique in this respect. The design innovation inherent in Wainwright's products makes them unique. Wainwright also focuses on

²¹⁰ Williamson (1979), 244.

creating a customized product experience that enhances his product value. Thus, Michael Wainwright Pottery contradicts the product life cycle application in this instance.

Q6: How mature and common are the firm's technologies or processes relative to outsource producers?

The ability to transfer lines to outsource providers hinges on matching product technical qualities to the outsource firm. For Wedgwood, this means choosing products with standardized production methods and low labor value added. Moving the Johnson Brothers line offshore to the outsource firm was a natural choice due to the large production runs and limited technical expertise required. Michael Wainwright, a firm that outsources all production, did not have this requirement. The technical simplicity of the basic ceramic body was not difficult to source. While the processes for glazing and gilding his pieces is more complex, it relies on a set of standard techniques that a flexible producer with technical capabilities in the United States would find less difficult to reproduce.

Innovation

Q1: Is the firm able to use contractual agreements to obtain sufficient control over the outsourcing transaction comparable to making firm or usage specific commitments that provide innovation returns?

All of the cases felt that the technical innovation profile of their outsourcing partner was incapable of providing any innovation to the firm. Nonetheless, Wedgwood has established a method for internalizing and thus appropriating the possibility of future innovation returns from the outsource partner. Because of the complexity of the deal and the strong communication

required for its success, Wedgwood can first-hand see any changes in production techniques that might provide a return to the firm. Exclusivity also promotes a strong degree of control over the outsourcing arrangement. These commitments form a substitute for direct ownership or investment in specific assets. Homer Laughlin does not use contractual arrangements to sufficiently control the outsource firm. Because the outsourced product is an addition to an existing line and a usage-flexible asset for Homer Laughlin, the relationship factor provides sufficient control.

Q2: How strong is the firm's appropriation of innovation in relationship to its commitments in assets its use of outsourcing?

Again, Wedgwood leads in its ability to appropriate possible innovation returns from the offshore outsource partner. The exclusive nature of its contracts and close monitoring of the outsource firm allows Wedgwood the ability to appropriate innovations from the outsource firm, in the eventually it should find an innovation of use. Wedgwood is committed to its outsource production. It forced a lock-in of the decision with the closure of facilities in the United Kingdom that used to produce the Johnson Brothers products. Wainwright's close personal relationships and direct oversight of the outsource firm also gives Wainwright the ability to appropriate process innovation back into his own work. However, this form of appropriation is weaker due to the less formal nature of the relationship and the lower degree of commitment Wainwright makes when compared to Wedgwood. Homer Laughlin's commitment to flexibility is also evident in its outsourcing practices. Because the firm is sourcing only products based on a consumer demand cycle, it makes a commitment commensurate with its needs.

Q3: Has the product, firm, or industry moved far enough along the life cycle that the returns to innovation are diminishing or zero?

For Wainwright, the potential returns to innovation from an outsource provider are significant, unlike the other two case study firms. However, the core product for all the firms is one where product innovation seems to trump process innovation. This is likely due to the core standard processes for ceramic production that have changed only slightly since the industrial revolution. Wedgwood and Homer Laughlin both are incumbent firms competing in well-established markets using mature technologies to create incremental innovations in product. Wainwright is the exception. The firm's products and processes are somewhat novel and unique. As such, they are still in the relatively early stages of the life cycle. Because product and process are just as much a part of the customer's experience, the ability to innovate in process is also available to Wainwright. The possibility of enhancing the young firm's product ranges may well depend on developing methods to transfer innovation as it progresses along the experience and life cycle curves.

Q4: Is there an experience exchange involved in the outsource transaction and can returns from it be recaptured?

Each of the firms transferred a portion of learning to the outsource firm. In order to the outsource firm to reliably and accurately produce a piece of Fiestaaware, Homer Laughlin needed to transfer some type of experience or learning to the outsource firm. Without the transfer, the outsource firm would have been unable to produce the unique product qualities that are a hallmark of Fiesta®. Wainwright transferred its glazing recipes and gilding techniques to its

outsource partner. In fact, Wainwright taught the firm a new technical skill it previously did not have. Wedgwood also had to transfer skills and product experience to the outsource firm. Fortunately, Wainwright and Wedgwood both have made some commitments to the outsource firm that provide a stronger form of appropriation for innovation. Thus, as the outsource firm builds on the experience transfer, the two firms will definitely capture some portion of this experience either via price or enhanced production capabilities.

Winning Strategies

Of the three firms, Wedgwood has taken the most strategic and thorough approach to outsourcing and innovation. This is hardly surprising given the firm's size and international experience prior to the international sourcing venture. It is, however, significant since Wedgwood may easily, regardless of its commitments and control, miss the possibility of capturing potential innovation from the outsource firm. Whether this is a cultural or business bias, assuming that innovation is a one-way street is potentially dangerous.

On the other hand, a firm such as Homer Laughlin, while its commitments to community and an American product are quite noble, may be missing the potential of outsourcing to increase product innovation and process innovation. Offshore sourcing could provide a strong platform from which the company could leverage its brand and distribution channels in order to introduce new products—products that might contribute to its profits and research budgets.

Part Eight: Disposable Heirloom China

Conclusions

“America must never compete in the battle to see who can pay their workers least, and it will take sustain innovation to ensure that we don’t have to.” Bruce P. Mehlman, former Assistant Secretary of Technology & Policy.²¹¹

Outsourcing has permitted firms an unparalleled opportunity to access an international cost profile that makes their products more competitive. This competitive contribution gives the firm a greater flexibility to respond to market factors and a chance to maintain its innovative abilities. However, firms cannot simply believe they will survive as a “designer” that specializes in creating products and then distributing them to customers. With the global economy quickly closing gaps between nations and making information more easily available, very little stops developing country firms from pushing back against the design firms with their own products. The Asian economies supply plenty of examples. Just as porcelain and fine china from China captured European tastes in the 16th and 17th centuries, China has the potential to create another blockbuster that usurps western competition.

Creating a competitive advantage through outsourcing is possible, but requires the firm to make strategic commitments timed to product cycles. When a firm produces a good using a sourcing option outside the internalization paradigm, it risks permanently transferring its innovation and experience to the “public” good, available for any firm to exploit.²¹² Further, a firm divorced from process will limit its innovative abilities in product. Offshore production that

²¹¹ Lester, 175.

²¹² Kotabe (1992), 197.

lacks a proper analysis and strategic intent (inclusive of business & innovation concerns) will cost the firm in the long-term and have a deleterious impact on the ability of the firm to innovate faster than the offshore firms.²¹³

“It’s a myth to think that you only lose the cheap stuff. We used to say that about shipbuilding. We’ll get rid of the boring manufacture of ships. We’ll keep the design and we’ll keep the sexy stuff in Britain. Eventually the low wage economies will take the value added stuff as well.” Paul Miller, United Kingdom Government Industrial Economic Policy Consultant.²¹⁴

Learning is part of innovation. As a firm does something, it learns. Each activity, as with the experience curve, contributes to the firm’s collective learning and ultimately its core competencies. When there is a lack of investment focused on both product and process development, the firm loses the potential to learn something. As outsourcing continues, rather than capture this learning and innovation within the firm’s home countries, the offshore partners captures more of those skills, aiding their competitive profile and productivity. Firms simply should never assume that the Chinese “are not able to innovate; it’s not in (their) psyche.”²¹⁵ Such folly fails to understand how spillovers from production transfers benefit these economies, build up a source of learning, and eventually allow the outsource partner to compete head-to-head with rivals. Western firms beware.

In the meantime, ceramic tableware producers, a tradition-based industry with a formidable history, are making good choices. Whether it is the highly integrative nature of legacy

²¹³ Kotabe (1992), 186-7.

²¹⁴ Dwyer.

²¹⁵ Dwyer. Peter Bullock, partner at Pinset Masons, a London law firm commenting for an article aimed at the manufacturing audience and reviewing Wedgwood’s outsourcing activities.

firms, the connection of product and art, or a keen business sense, these firms are finding ways to use outsourcing as a way to remain competitive and, potentially, to innovate. These firms serve as an example to manufacturers on how to manage and understand what parts of the corporation are core assets and thus require strong commitments; including the delicate and decorative product it ships to the customer's table.

*Part Eight: Appendices
 Charts, Figures & Tables*

Chart 1. United States Trade in Goods and Services, Balance of Payments, 1960-2005

Source: United States. Census Bureau. Foreign Trade Division. United States Trade in Goods and Services, Balance of Payments Time Series Data. Washington: Census Bureau, March 2006.

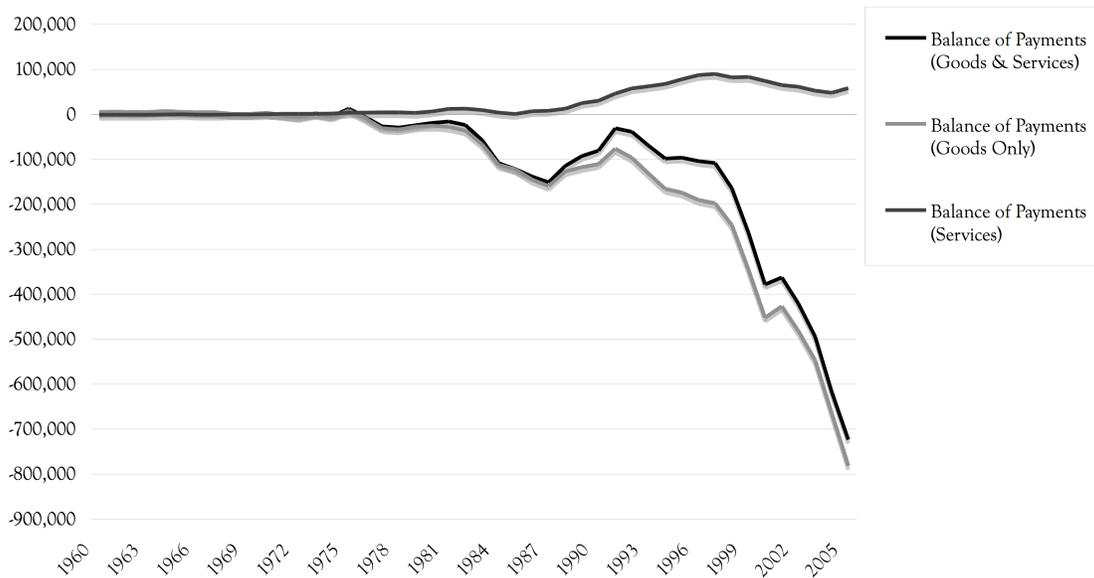


Chart 2. Composition of US Ceramic Imports (SIC 3260, NAICS 327112. USD '000)

Source: United States. Census Bureau. International Trade Statistics. "Value of Exports General and Imports for Consumption by SITC - 666 Pottery." Washington, DC: Census Bureau, 1996-2004.

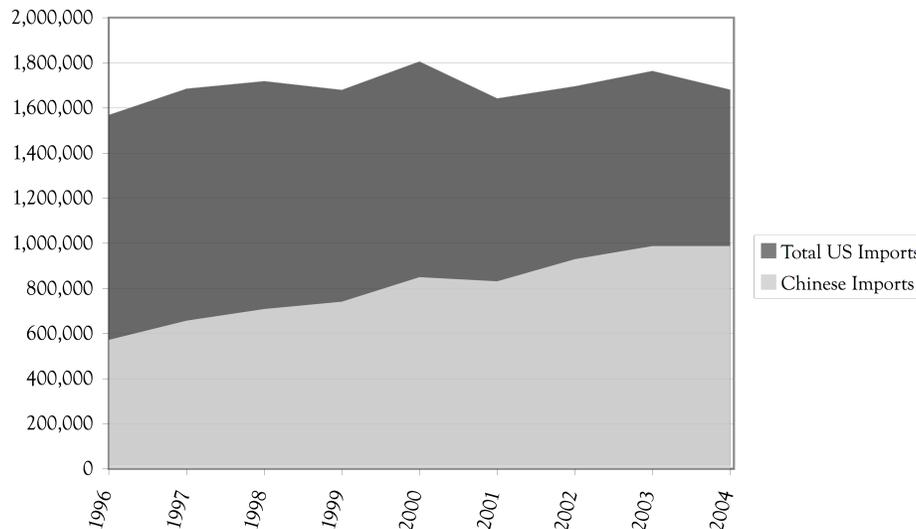


Chart 3. UK Ceramic Household Goods Imports (£ '000)

Source: United Kingdom. National Statistics. Total Trade and Trade in Goods by Industry (Ceramic Household Goods). London: National Statistics, 2006.

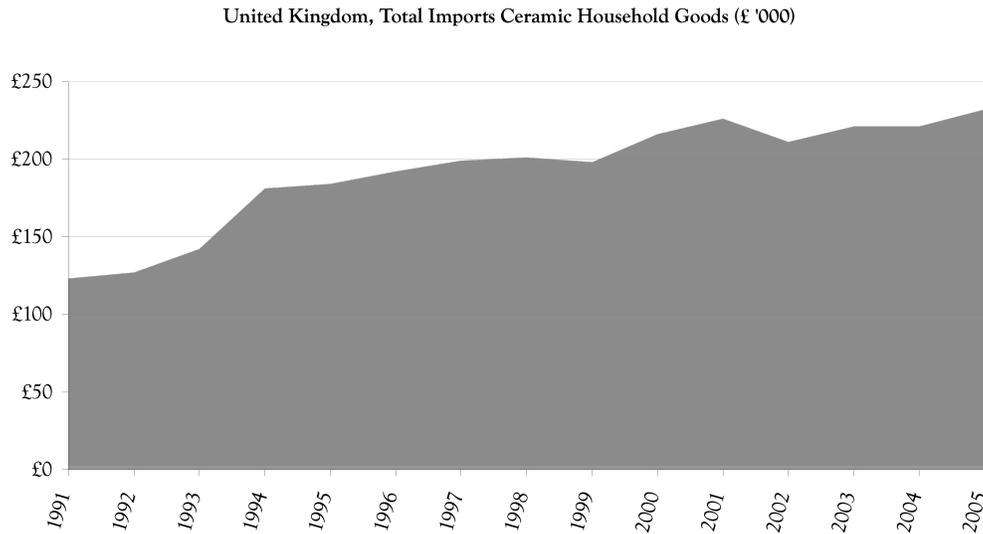


Chart 4. UK Ceramic Household Goods Imports as a Percentage of Market Consumption

Source: Day, Marc, John Burnett, Paul L. Forrester, John Hassard. "Britain's Last Industrial District? A Case Study of Ceramics Production." International Journal of Production Economics. Vol. 65. (2000): 10.

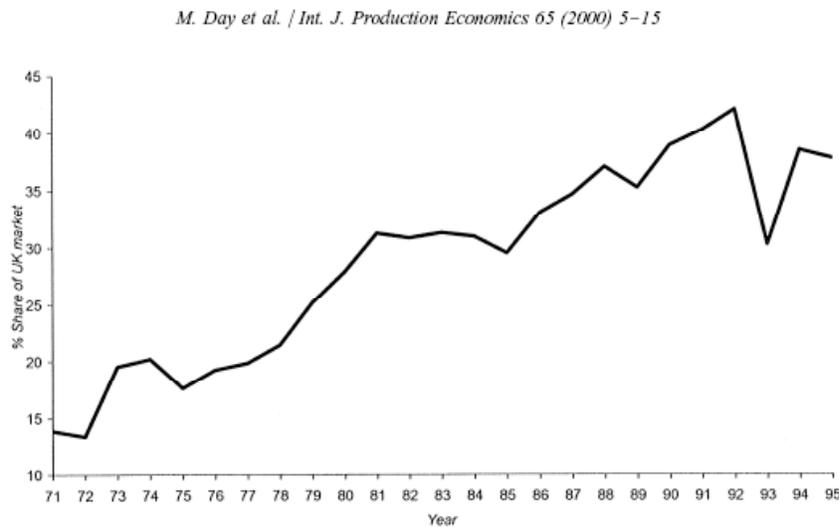


Fig. 3. The percentage of imported tableware, ornamentalware and hotelware as a proportion of total UK domestic sales for the period 1971-1995. Source: Business Monitor, PRODCOM AR 27, British Ceramic Confederation [28].
 Note: The figures quoted for 1993 onwards have been calculated using different categories that account for the sharp decline in 1993.

Chart 5. US Manufacturing Employment Trends (Workers in '000)

Source: United States. Department of Labor. Bureau of Labor Statistics. Current Employment Statistics. United States: Bureau of Labor Statistics, 2006.

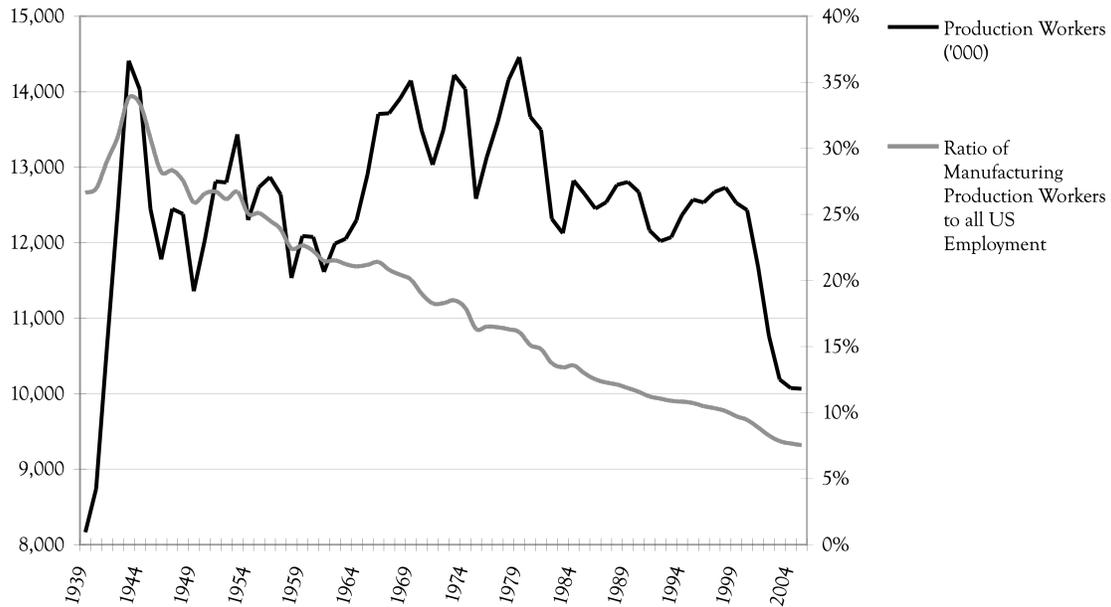


Chart 6. Trends of US Trade in Goods (USD '000,000)

Source: United States. Census Bureau. Foreign Trade Division. United States Trade in Goods and Services, Balance of Payments Time Series Data. Washington: Census Bureau, March 2006.

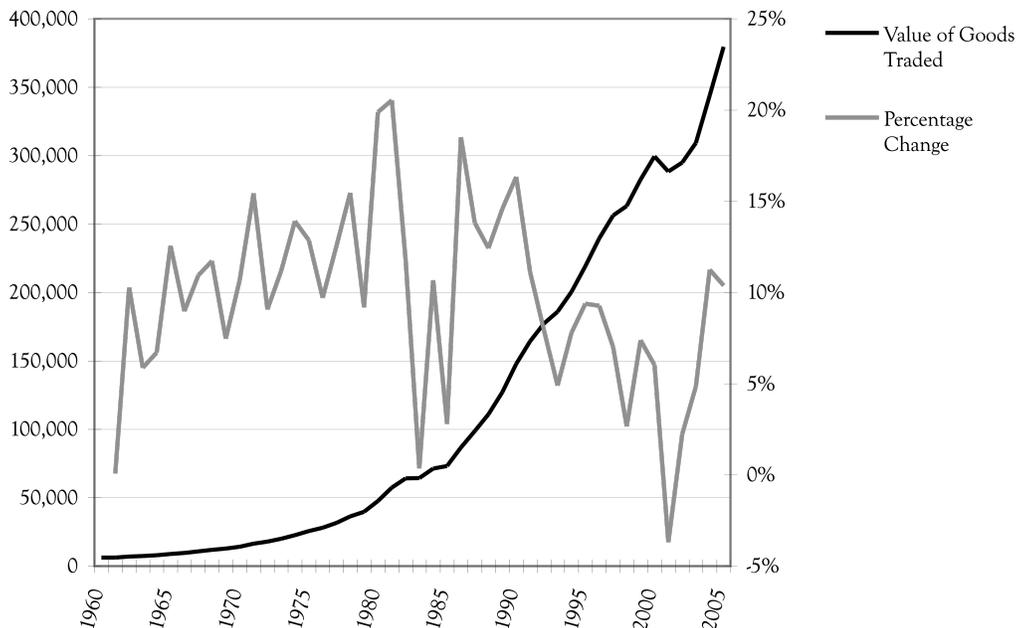


Figure 1. Variety of Ceramic Products by Firing Temperature and Color
Source: Author.

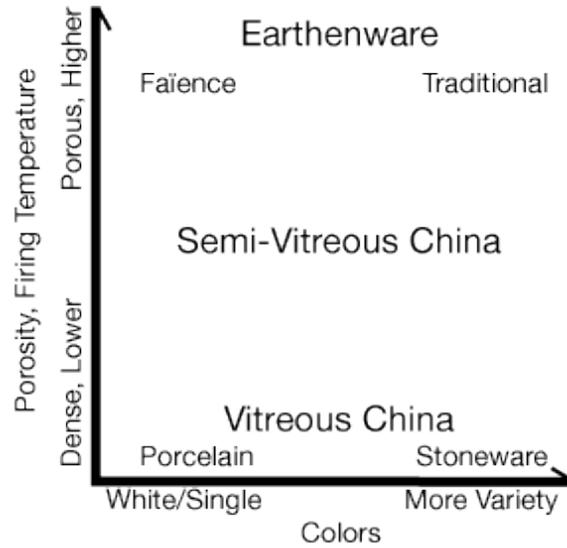


Figure 2. Stoke-on-Trent Potteries, 19th Century.

Source: "Potteries of Stoke-on-Trent Pictures." [ThePotteries.org](http://www.thepotteries.org/postcards/views/3.htm). < <http://www.thepotteries.org/postcards/views/3.htm> > 27 March 2006.



Figure 3. Value Chain Segments of the Ceramic Tableware Industry.

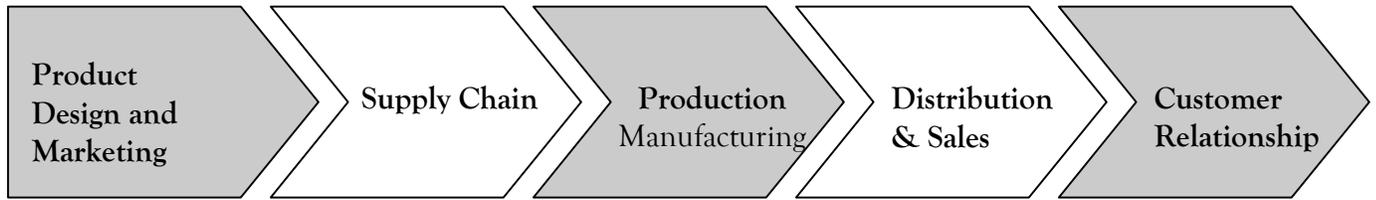


Figure 4. Strategy Analysis of the Ceramic Tableware Industry Using Porter’s Five Forces.
Adapted from: Porter, Michael. Competitive Strategy: Techniques for Analyzing Industries and Competitors. New York: The Free Press, 1998.

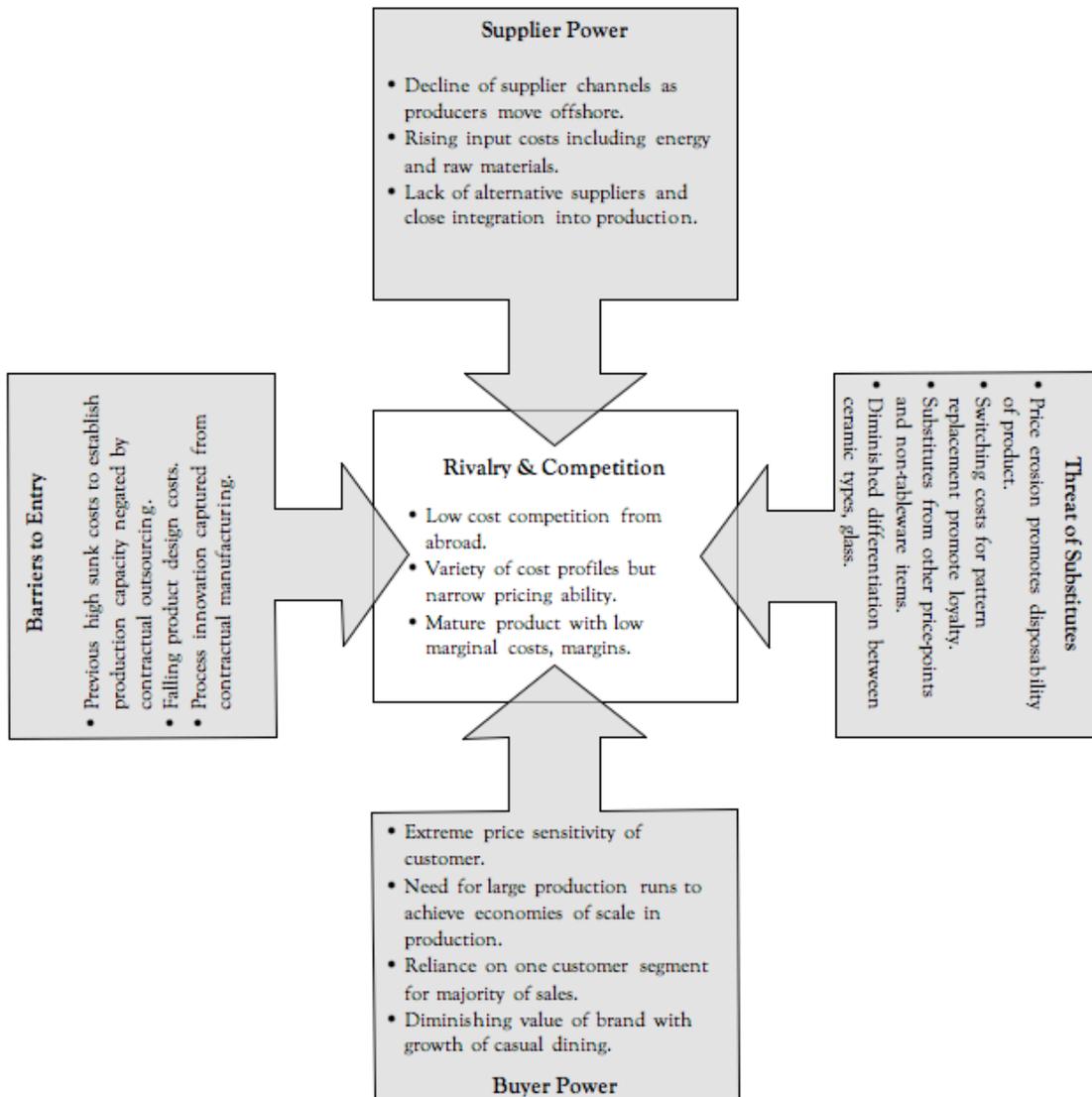


Figure 5. Life Cycle Theory & Experience Curve

Adapted from: Levitt, Theodore. "Exploit the Product Life Cycle." Harvard Business Review. Vol. 43, No. 6. (November-December 1965): 81-94.

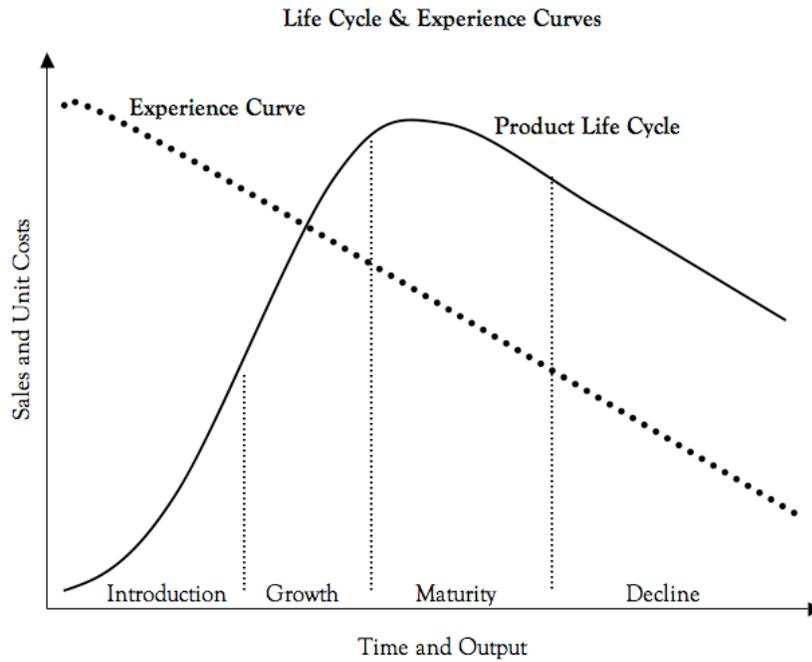
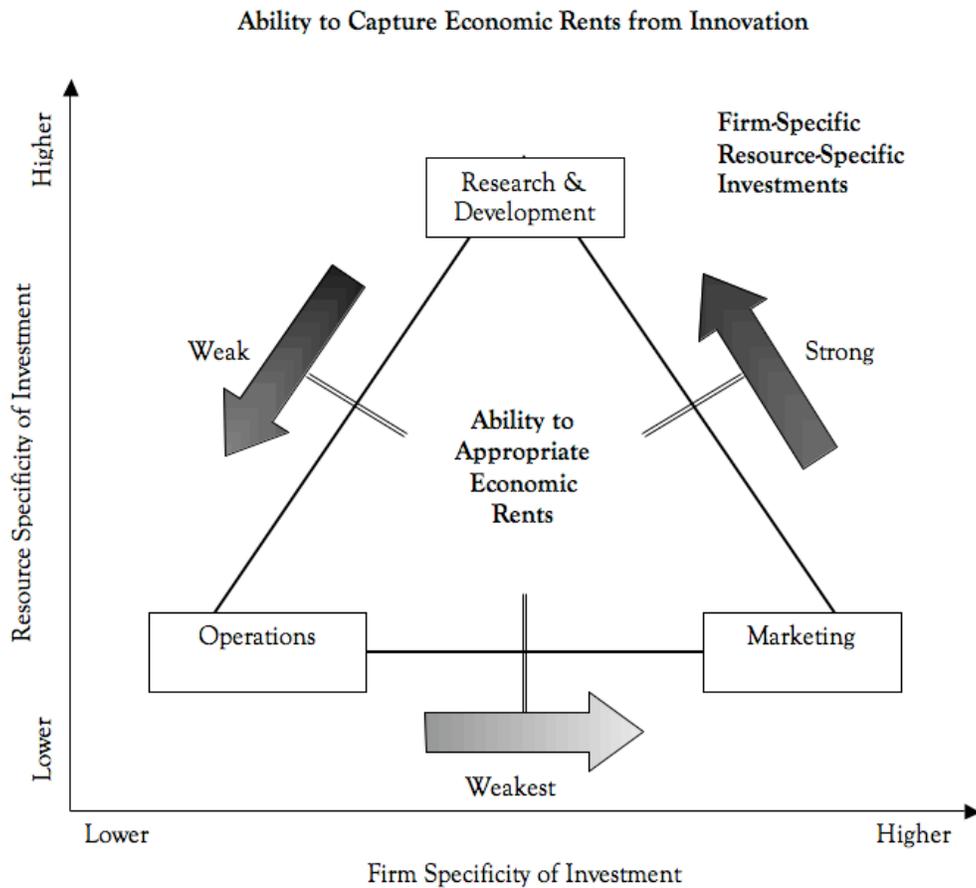


Figure 6. Appropriation, Specificity, and Commitments

This figure provides an integrative view of the types of innovation investments (innovation triangle) in relationship to specificity models and commitments. Innovation triangle adapted from Ettlie, John. *Managing Innovation*. Draft, 2005.



The ability to appropriate returns to investments in innovation are strongest when they include firm specific types of research conducted internally and have feedback from the firm's marketing. Investments in equipment tend to be weaker forms of appropriation because of the general availability of the equipment to competitors. However, internally developed equipment or equipment adapted into a firm specific process have a stronger innovation profile.

Figure 7: Rent Appropriating Qualifications

Adapted from Ferguson, Paul R. Glenys J. Ferguson. Industrial Economics. New York: New York University Press, 1994.

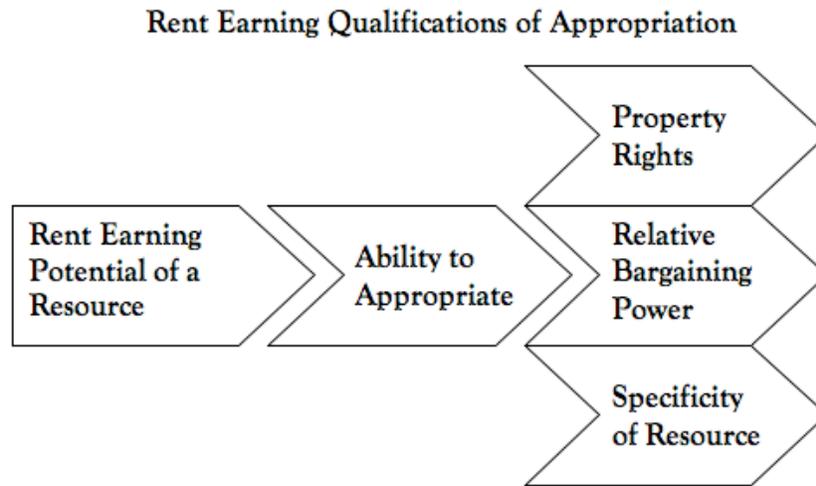


Figure 8: Utterback & Abernathy's Process & Product Innovation Cycles

Source: Abernathy, William J., James M. Utterback. "Patterns of Industrial Innovation." Technology Review. Vol. 80, No. 7. (June/July 1978): 40-47.

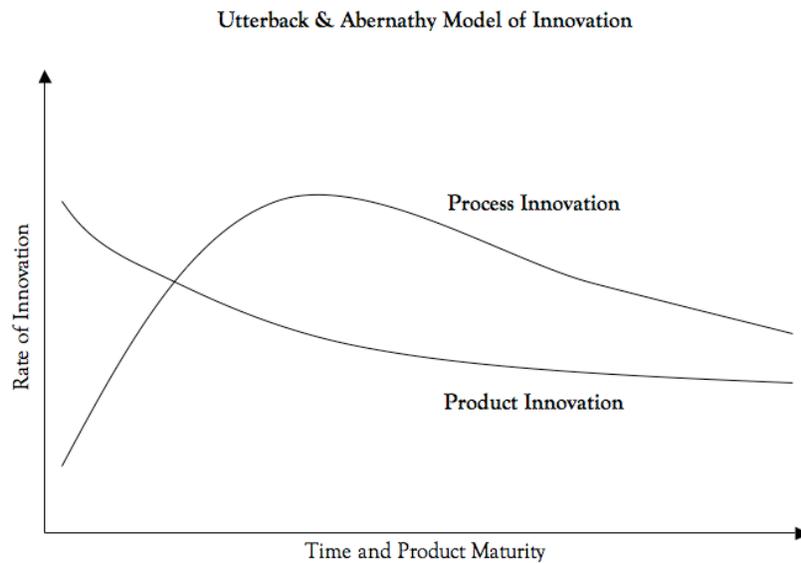


Figure 9. Case Study Firms Comparison
Source: Author.

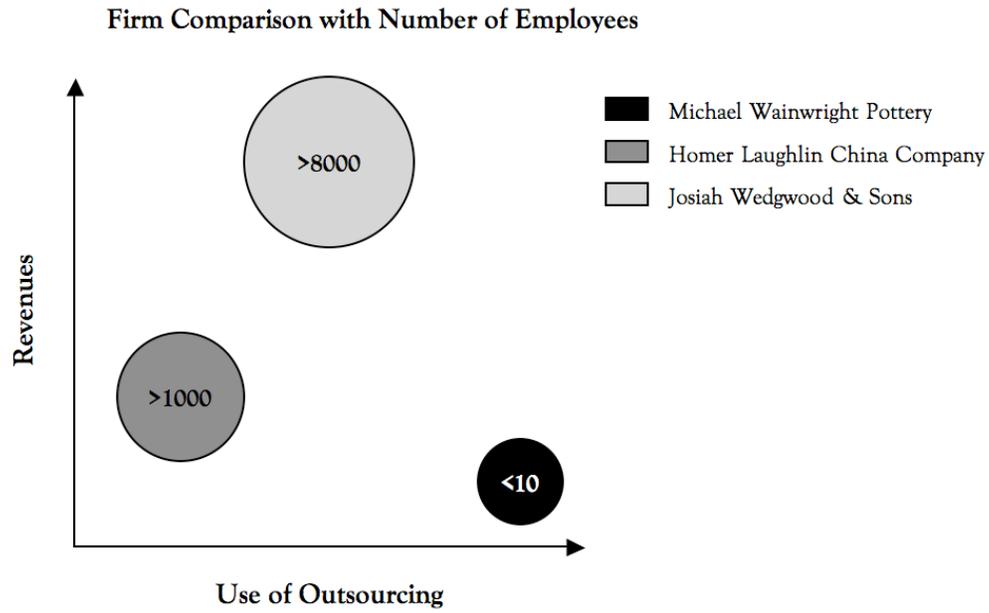


Table 1. Manufacturing Benchmarks for Ceramic Tableware Production.

Source: Small, G. J. "Improved Business Performance through Advanced Technology." Interceram. Vol. 444, No. 3. (1995): 181.

	Ceramic Tableware	Best All Industries
Inventory Turns	2-3	USA 7, Japan 12
Yields	90-95%	99%
Labor Costs	40%	10% (semi-process industry)
Factory Layout	Evolved, Multi-Level	Planned, Flexible, Single-Level
Customer Delivery	6-12 Weeks	Days
Materials Handling	Trolleys, Labor	Robotics
Quality & Price	High Quality, High Price	High Quality, Low Price

Table 2. United Kingdom Trade Statistics

Source: United Kingdom. National Statistics. Total Trade and Trade in Goods by Industry (Ceramic Household Goods). London: National Statistics, 2006.

United Kingdom, Consolidated Trade Statistics
(£ '000)

Year	Total Imports	Total Imports Ceramic Household Goods	Total Exports	Total Exports Ceramic Household Goods
1991	114,162	123	103,939	301
1992	120,913	127	107,863	304
1993	135,295	142	122,229	313
1994	146,269	181	135,143	360
1995	165,600	184	153,577	387
1996	180,918	192	167,196	413
1997	184,265	199	171,923	393
1998	185,869	201	164,056	330
1999	195,217	198	166,166	286
2000	220,912	216	187,936	289
2001	230,703	226	190,055	274
2002	233,598	211	186,511	239
2003	236,480	221	188,615	251
2004	251,347	221	190,877	213
2005	275,813	232	210,182	197

United Kingdom, Consolidated Trade Statistics
(Percentage Change)

Year	Total Imports	Total Imports Ceramic Household Goods	Total Exports	Total Exports Ceramic Household Goods
1992	5.9%	3.3%	3.8%	1.0%
1993	11.9%	11.8%	13.3%	3.0%
1994	8.1%	27.5%	10.6%	15.0%
1995	13.2%	1.7%	13.6%	7.5%
1996	9.3%	4.3%	8.9%	6.7%
1997	1.9%	3.6%	2.8%	-4.8%
1998	0.9%	1.0%	-4.6%	-16.0%
1999	5.0%	-1.5%	1.3%	-13.3%
2000	13.2%	9.1%	13.1%	1.0%
2001	4.4%	4.6%	1.1%	-5.2%
2002	1.3%	-6.6%	-1.9%	-12.8%
2003	1.2%	4.7%	1.1%	5.0%
2004	6.3%	0.0%	1.2%	-15.1%
2005	9.7%	5.0%	10.1%	-7.5%

Table 3. Comparative Costs of Hourly Compensation for Pottery Workers

Source: United States. Department of Labor. Bureau of Labor Statistics. Hourly Compensation for Production Workers, Pottery and Related Productions (US SIC 326). Washington: Bureau of Labor Statistics, 2005.

Hourly Compensation for Production Workers, Pottery and Related Items (SIC 326), US=100

	1975	1980	1985	1990	1995	2000
United Kingdom	53	76	44	78	84	n/a
Germany	114	134	73	141	181	134
Italy	90	93	63	126	108	83
Japan	46	56	51	87	149	119
Mexico	n/a	n/a	10	9	8	10
Taiwan	6	12	11	25	35	28

1) Figures before 2000 based on West Germany.

Table 4: Annual Compensation Comparison, US & China Manufacturing Wages

Source: United States. Department of Labor, Bureau of Labor Statistics. Consumer Price Index, All Urban Consumers, US City Average. Average Weekly Earnings of Production Workers, Manufacturing. Average Weekly Earnings of Production Workers, Ceramics & Sanitary. Manufacturing Earnings and Compensation in China. Washington, DC: Bureau of Labor Statistics, 2006.

Annual Compensation Comparison, China & US Wages

Year	Chinese Compensation All Manufacturing (Reported Compensation Only)				United States Compensation All Manufacturing				Ceramics Production Only				
	Yuan	USD	Annual Change		Actual USD	CPI Adjusted USD (2002)	Annual Change	Difference from China Wage	Actual USD	CPI Adjusted USD (2002)	Annual Change	Difference from US Mfg Wage	Difference from China Wage
	1990	5,058	611	0.0%		22,680	31,218	0.0%	30,607	19,088	26,273	0.0%	4,945
1991	5,316	642	5.1%		23,386	30,889	-1.1%	30,247	19,619	25,914	-1.4%	4,975	25,272
1992	5,635	681	6.1%		24,150	30,967	0.3%	30,286	20,502	26,288	1.4%	4,679	25,607
1993	6,165	745	9.4%		25,002	31,127	0.5%	30,382	21,053	26,211	-0.3%	4,916	25,466
1994	6,307	762	2.3%		26,110	31,695	1.8%	30,933	21,486	26,082	-0.5%	5,614	25,320
1995	6,515	787	3.3%		26,482	31,260	-1.4%	30,473	21,846	25,788	-1.1%	5,472	25,001
1996	6,534	789	0.3%		27,381	31,394	0.4%	30,605	22,549	25,855	0.3%	5,540	25,066
1997	6,665	805	2.0%		28,507	31,953	1.8%	31,148	23,349	26,171	1.2%	5,782	25,366
1998	7,005	846	5.1%		28,970	31,974	0.1%	31,128	24,292	26,810	2.4%	5,164	25,964
1999	7,832	946	11.8%		29,805	32,184	0.7%	31,238	24,439	26,390	-1.6%	5,794	25,444
2000	8,724	1,054	11.4%		30,714	32,087	-0.3%	31,033	25,299	26,430	0.2%	5,657	25,376
2001	9,675	1,169	10.9%		30,950	31,439	-2.0%	30,270	25,901	26,311	-0.5%	5,129	25,142
2002	11,001	1,329	13.7%		32,175	32,175	2.3%	30,846	27,413	27,413	4.2%	4,762	26,084
Period Change	5,943	718	117.5%		9,495	957	3.1%		8,325	1,140	4.3%	-183	422

Notes: 1) All wages held constant at 2002 Yuan and 2002 Dollars.
2) US compensation derived from average reported weekly wages for all manufacturing production workers and separately for ceramics.

Table 5: US Ceramic Tableware Manufacturing, Historical Performance

Sources: United States. Department of Commerce. Economics and Statistics Administration. Bureau of the Census. Annual Survey of Manufactures: 1951, 1955, 1958. Census of Manufactures (Economic Census, Manufacturing): 1937, 1947, 1964, 1967, 1972, 1977, 1982, 1987, 1992, 1997, 2002. United States. Department of Labor. Bureau of Labor Statistics. CPI History, 1913 to Present

Historical Industry Performance, United States

Year	Total Shipments ('000,000)	Total Employees ('000)	Production Employees ('000)	Production Wages ('000,000)	Value Added by Mfg. ('000,000)	New Capital Expenditures ('000,000)*	Total Number of Firms (Census Years Only)	Gross Domestic Product (% Change)
1937	62.4	0.4	21.6	24.0	38.5	0.0		5.1%
1939	72.9	25.4	22.5	24.7	42.2	0.0		8.1%
1947	188.4	34.2	35.9	80.1	126.2	10.2		-0.9%
1951	204.7	39.4	35.7	98.1	157.4	11.6		7.7%
1955	174.9	31.5	29.4	75.1	88.5	3.8		7.1%
1958	179.2	25.4	21.9	69.4	130.6	4.7	645	-1.0%
1963	205.5	22.7	19.4	76.0	145.6	4.6	510	4.4%
1967	210.4	20.8	18.0	76.9	143.8	5.9	494	2.5%
1972	290.2	21.8	18.2	97.7	223.5	10.1	478	5.3%
1977	481.9	22.6	18.7	146.9	362.3	16.9	778	4.6%
1982	769.8	19.4	16.2	195.4	509.6	24.9	764	-1.9%
1987	911.1	17.7	14.0	206.0	674.6	25.2	832	3.4%
1992	937.4	18.4	14.4	181.5	735.1	38.2	892	3.3%
1993	1041.6	19.1	15.3	255.1	817.0	56.9		2.7%
1994	1059.9	20.1	16.3	265.0	829.2	32.7		4.0%
1995	1022.1	19.9	16.2	258.1	831.0	35.6		2.5%
1996	1130.8	20.4	16.7	277.3	907.7	17.3		3.7%
1997	1489.6	23.3	18.6	353.9	1208.1	76.5	1048	4.5%
1998	1475.5	22.1	17.7	363.8	1226.0	71.3		4.2%
1999	1447.8	20.5	15.9	350.6	1207.7	66.5		4.5%
2000	1356.1	18.7	15.1	325.4	1103.0	74.7		3.7%
2001	1164.4	17.1	13.6	302.1	968.8	74.5		0.8%
2002	895.0	12.7	10.2	236.3	835.9	31.3	759	1.6%
2003	834.4	11.0	8.9	204.2	824.8	59.6		2.7%
2004	895.0	11.1	8.5	219.0	720.4	48.4		4.2%

Historical Industry Performance, Percentage Changes, United States

Year	Total Shipments	Total Employees	Production Employees	Production Wages	Value Added by Manufacturing	New Capital Expenditures	Total Number of Firms (Census Years Only)
1939	16.8%	7157.1%	4.1%	3.1%	9.5%	*	
1947	158.4%	34.6%	59.6%	224.3%	199.1%	*	
1951	8.7%	15.2%	-0.6%	22.5%	24.7%	13.7%	
1955	-14.6%	-20.1%	-17.6%	-23.4%	-43.8%	-67.2%	
1958	2.5%	-19.4%	-25.5%	-7.6%	47.6%	23.7%	
1963	14.7%	-10.6%	-11.4%	9.5%	11.5%	-2.1%	-20.9%
1967	2.4%	-8.4%	-7.2%	1.2%	-1.2%	28.3%	-3.1%
1972	37.9%	4.8%	1.1%	27.0%	55.4%	71.2%	-3.2%
1977	66.1%	3.7%	2.7%	50.4%	62.1%	67.3%	62.8%
1982	59.7%	-14.2%	-13.4%	33.0%	40.7%	47.3%	-1.8%
1987	18.4%	-8.8%	-13.6%	5.4%	32.4%	1.2%	8.9%
1992	2.9%	4.0%	2.9%	-11.9%	9.0%	51.6%	7.2%
1993	11.1%	3.8%	6.3%	40.6%	11.1%	49.0%	
1994	1.8%	5.2%	6.5%	3.9%	1.5%	-42.5%	
1995	-3.6%	-1.0%	-0.6%	-2.6%	0.2%	8.9%	
1996	10.6%	2.5%	3.1%	7.4%	9.2%	-51.4%	
1997	31.7%	14.2%	11.4%	27.6%	33.1%	*	17.5%
1998	-0.9%	-5.2%	-4.8%	2.8%	1.5%	-6.8%	
1999	-1.9%	-7.2%	-10.2%	-3.6%	-1.5%	-6.7%	
2000	-6.3%	-8.8%	-5.0%	-7.2%	-8.7%	12.3%	
2001	-14.1%	-8.6%	-9.9%	-7.2%	-12.2%	-0.3%	
2002	-23.1%	-25.7%	-25.0%	-21.8%	-13.7%	-58.0%	-27.6%
2003	-6.8%	-13.4%	-12.7%	-13.6%	-1.3%	90.4%	
2004	7.3%	0.9%	-4.5%	7.2%	-12.7%	-18.8%	

Table 5: US Ceramic Tableware Manufacturing, Historical Performance (Continued)

Productivity at Constant 2004 Dollars, United States

Year	Total Shipments (000,000)	Value Added by Mfg. (000,000)	Production Employees (000)	Production Wages (000,000)	New Capital Expenditures (000,000) *	Innovation 1: Capital Expend. per Dollar of Shipment	Innovation 2: Capital Expend. Per Wage Dollar
1937	818.6	505.4	21.6	314.3	0.0	0.000	0.000
1939	990.7	573.5	22.5	335.7	0.0	0.000	0.000
1947	1595.9	1069.0	35.9	678.5	1.9	0.001	0.003
1951	1487.2	1143.6	35.7	712.7	4.0	0.003	0.006
1955	1232.8	623.8	29.4	529.3	25.7	0.021	0.048
1958	1171.3	853.6	21.9	453.6	4.5	0.004	0.010
1963	1268.6	898.8	19.4	469.2	9.6	0.008	0.020
1967	1190.0	813.3	18.0	434.9	5.1	0.004	0.012
1972	1311.5	1010.0	18.2	441.5	8.5	0.006	0.019
1977	1502.2	1129.3	18.7	457.9	7.0	0.005	0.015
1982	1506.9	997.5	16.2	382.5	10.8	0.007	0.028
1987	1515.0	1121.8	14.0	342.5	18.9	0.012	0.055
1992	1262.1	989.7	14.4	244.4	34.4	0.027	0.141
1993	1361.6	1068.0	15.3	333.5	51.2	0.038	0.154
1994	1351.0	1056.9	16.3	337.8	34.0	0.025	0.101
1995	1266.9	1030.0	16.2	319.9	34.3	0.027	0.107
1996	1361.4	1092.8	16.7	333.9	15.6	0.011	0.047
1997	1753.2	1421.9	18.6	416.5	89.8	0.051	0.216
1998	1710.0	1420.8	17.7	421.6	120.3	0.070	0.285
1999	1641.6	1369.4	15.9	397.5	81.6	0.050	0.205
2000	1487.6	1210.0	15.1	357.0	59.3	0.040	0.166
2001	1241.9	1033.4	13.6	322.2	71.8	0.058	0.223
2002	939.8	877.7	10.2	248.1	52.8	0.056	0.213
2003	856.6	846.8	8.9	209.6	70.0	0.082	0.334
2004	895.0	720.4	8.5	219.0	48.4	0.054	0.221

Productivity, United States

Year	Total Shipments (000,000)	Value Added by Mfg. (000,000)	Production Employees (000)	Production Wages (000,000)	Productivity 1 Shipments/Pro- duction Workers	Productivity 2 Value Add/Production Workers	Productivity 3 Shipments/Pro- duction Wages	Productivity 4: Value Add/Pro- duction Wages
1937	62.4	38.5	21.6	24.0	2,888	1,783	2.6	1.6
1939	72.9	42.2	22.5	24.7	3,240	1,876	3.0	1.7
1947	188.4	126.2	35.9	80.1	5,248	3,515	2.4	1.6
1951	204.7	157.4	35.7	98.1	5,734	4,409	2.1	1.6
1955	174.9	88.5	29.4	75.1	5,949	3,010	2.3	1.2
1958	179.2	130.6	21.9	69.4	8,183	5,963	2.6	1.9
1963	205.5	145.6	19.4	76.0	10,593	7,505	2.7	1.9
1967	210.4	143.8	18.0	76.9	11,689	7,989	2.7	1.9
1972	290.2	223.5	18.2	97.7	15,945	12,280	3.0	2.3
1977	481.9	362.3	18.7	146.9	25,770	19,374	3.3	2.5
1982	769.8	509.6	16.2	195.4	47,519	31,457	3.9	2.6
1987	911.1	674.6	14.0	206.0	65,079	48,186	4.4	3.3
1992	937.4	735.1	14.4	181.5	65,097	51,049	5.2	4.1
1993	1041.6	817.0	15.3	255.1	68,078	53,399	4.1	3.2
1994	1059.9	829.2	16.3	265.0	65,025	50,871	4.0	3.1
1995	1022.1	831.0	16.2	258.1	63,093	51,296	4.0	3.2
1996	1130.8	907.7	16.7	277.3	67,713	54,353	4.1	3.3
1997	1489.6	1208.1	18.6	353.9	80,088	64,952	4.2	3.4
1998	1475.5	1226.0	17.7	363.8	83,364	69,266	4.1	3.4
1999	1447.8	1207.7	15.9	350.6	91,055	75,956	4.1	3.4
2000	1356.1	1103.0	15.1	325.4	89,807	73,046	4.2	3.4
2001	1164.4	968.8	13.6	302.1	85,615	71,235	3.9	3.2
2002	895.0	835.9	10.2	236.3	87,746	81,951	3.8	3.5
2003	834.4	824.8	8.9	204.2	93,749	92,674	4.1	4.0
2004	895.0	720.4	8.5	219.0	105,296	84,753	4.1	3.3

Notes to Tables:

- 1) Data for 1937 to 1947 based on product categories: vitreous chinaware, earthenware, pottery not otherwise specified, and china decoration.
- 2) Data for 1951 Capital Expenditures includes all ceramics manufacturing (e.g. electrical and technical ceramics as well).
- 3) Data for SIC 3269 in 1954 substituted for 1955 due to lack of delineation.
- 4) Minor changes were present in SIC classifications in 1963.
- 5) NAICS categories 327112, 3271121, 3271124, 327112W used as complements to SIC categories 3262, 3263, 3269 post 1997.
- 6) Total number of firms data available only in census data for years ending in 2 and 7.
- 7) Capital expenditure information for 1937 and 1939 is not available in the data.
- 8) Due to SIC-to-NAICS conversion in 1997, capital expenditure data is inconsistent for periods 1997-2004 and 1937-1996.

Table 6: Wedgwood-Waterford PLC, Selected Financials

Source: Waterford Wedgwood, PLC. Annual Report & Accounts, 2005. Dublin: Waterford Wedgwood PLC, 2005. Hoovers.

Waterford Wedgwood PLC
(USD '000,000 unless otherwise noted)

Category	Year		2003*		2004		2005	
	2001							
Revenues	902.0		1036.5		1023.7		946.0	
Distribution by Region								
North America	396.9	44%	528.6	51%	522.1	51%	410.0	43%
Europe	369.8	41%	383.5	37%	368.5	36%	397.3	42%
Asia-Pacific	90.2	10%	93.3	9%	102.4	10%	103.2	11%
Other	45.1	5%	31.1	3%	30.7	3%	35.5	4%
Distribution by Product								
Ceramics	387.9	43%	487.2	47%	440.2	43%	570.1	60%
Crystal	324.7	36%	342.0	33%	327.6	32%	286.3	30%
Other Household	153.3	17%	248.8	24%	255.9	25%	94.6	10%
		Δ%		Δ%		Δ%		Δ%
Employees	9743	0.7%	9210	-5.5%	8482	-7.9%	8536	0.6%
Revenues	902.0	-11.7%	1036.5	-8.1%	1023.7	-1.2%	946.0	-7.6%
COGS			478.8		502.4	4.9%	620	23.4%
Net Fixed Assets	235.8	-11.5%	228.3	-3.2%	253.7	11.1%	251.3	-0.9%
Net Income	-40.3	-163%	2.0	105%	-60.7	-2935%	-205.8	-239%

Notes: 1) 2003 results reflect change to fiscal year end in March.
2) 2003, 2004 Revenue change percentages adjusted for fiscal year changes.

Table 7: Framework Evaluation
Source: Author.

Firm Strategies	Homer Laughlin	Josiah Wedgwood & Sons	Michael Watwright Pottery
Sourcing Strategy			
Uses Outsourcing Uses/Used Offshore Outsourcing	•	•	•
Countries of Production	US	UK, China, India, Bangladesh, & Others	US, Peru
Make or Buy Framework			
Firm-Specific Assets	Brand, Production Processes (Fiesta), US Labor	Brand, R&D, Printing Processes, UK Labor	Brand, Artist
Usage-Specific Assets	Production Plant & Equipment Investments	Production Plant, Equipment Investment	None
Q1: Is production a comparative advantage that a firm must control to be competitive?	Yes: For all products	Yes: For high value products only	No
Q2: To what degree must the firm internalize the outsourced production to retain the advantage ownership provides?	High: Outsourcing components of key brand item.	Moderate: Only outsourcing standardized product	High: All production outsourced.
Q3: Is manufacturing a corporate asset whose specificity is high enough to warrant internalization?	Yes	Yes: For high value products only	No. Design is key.
Q4: Are the costs of opportunism and uncertainty high enough to negate the benefits to outsourcing?	No	No. Firm has reduced costs of opportunism via contract.	No. Firm imposes intangible costs for opportunism.
Q5: Is the product in a mature or declining stage and experiencing declining margins?	Yes: Products are very mature.	Yes: Outsourced products are mature.	No. Products are new or novel.
Q6: How mature and common are the firm's technologies or processes relative to outsource producers?	Moderate	Varies. High technical competence in some products	Core product is common. Design technique requires skill.
Innovate or Die Framework			
Commitments	Location, Brand, Process Technology	Brand, R&D	Brand
Innovation Life Cycle	Mature products, diminishing returns to process technologies.	Varies. Outsourced products have mature or declining curves.	Constantly renewing.
Q1: Is the firm able to use contractual agreements to obtain sufficient control over the outsourcing transaction comparable to making firm or usage specific commitments that provide innovation returns?	Yes. Brand commitment is protected by agreements with outsource provider.	Yes. Brand and process commitments are protected by exclusivity contracts.	Yes. Firm uses intangible costs and contracts.
Q2: How strong is the firm's appropriation of innovation in relationship to its commitments in assets its use of outsourcing?	Moderate	Moderate.	Non-existent.
Q3: Has the product, firm, or industry moved far enough along the life cycle that the returns to innovation are diminishing or zero?	Yes: For some products	Yes: For some products	No
Q4: Is there an experience exchange involved in the outsource transaction and can returns from it be recaptured?	Possibly.	Yes. Firm captures experience transfer via unit price decreases.	Yes. Firm captures returns from experience transfer.
Overall Assessment			
Use of Outsourcing	Appropriate to firm, but not strategic.	Well suited to firm needs. Allows concentration on core competencies & assets.	Well suited to firm needs. Allows concentration on core competencies & assets.
Appropriation of Innovation	Strong appropriation of all innovation via strict ownership.	Strong appropriation except for possibility of reverse transfers.	Moderate. Innovation is one-way process currently.

About the Case Studies

To obtain real-world information and experience about the use of outsourcing in this industry, the author contacted several firms including Lenox, Wedgwood, Signature Housewares, Mikasa, Rosenthal, etc. The responding firms turned out to be the most interesting and perhaps best suited examples for this work. These firms, Michael Wainwright Pottery, and Josiah Wedgwood & Sons, turned out to be exact opposites in some ways, but both were just as inexperienced when they first approached outsourcing. Homer Laughlin, the other firm studied in this work, was interviewed as part of a series of case studies and papers the author undertook. Information derived from those works forms the basis of the case presented here.

For all the cases, the author would like to personally thank the participants. Mr. Wilcock was particularly frank and engaging during the interview and deserves a special thank you for setting aside time between his many trips and engagements for the interview. In addition, thanks are necessary for Mr. Wells and Mr. Wainwright. Each provided a fascinating insight on two very different ways of doing business. Transcripts of the interviews are not included with this document due to confidentiality concerns.

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