Korean Apparel Manufacturing Industry: Exploration From the Industry Life Cycle Perspective

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Abstract
Under the industry life cycle framework, the study (a) explored Korean apparel manufacturing firms' business activity profiles (what firms do) and competitive advantages (what they have or do to compete) as described by firms; and (b) examined the relationships between business activity profiles and competitive advantages. Based on content analysis, canonical correlation analysis, and correspondence analysis of 200 Korean apparel manufacturing firms' Web sites, the study found that the Korean apparel manufacturing industry showed consistent characteristics of the mature or declining phase of the industry life cycle. The majority of these firms were engaged in value-added activities such as retailing and product development with an emphasis on brand, quality, and customer service. Results also showed the three clusters of Korean apparel manufacturing firms, Domestic Manufacturers, Foreign Manufacturers, and Retailers, all of which had different competitive advantages. The study concluded with contributions and implications of the results.

Keywords
industry life cycle, Korean apparel industry, firm strategies, globalization

Introduction
The history of global textile and apparel (T & A) industry evolution shows distinct patterns of industry migration across countries and of industry development within single countries. First, since the industrial revolution in the late 19th century, economic leadership in the global T & A industry shifted first from the United Kingdom and other Western European countries to the United States, then to newly industrialized countries in Asia, then to developing countries in Southeast and Southern Asia (Dicken, 2003; Jin, 2004; Khanna, 1993). Second, while this geographic shift was occurring in the global marketplace, the T & A industry within individual countries has gone through various
phases of an industry life cycle, from birth to maturity and decline (Kilduff & Chi, 2006; Toyne, Arpan, Barnett, Ricks, & Shimp, 1984).

From a business strategy perspective, industry evolution is an important research topic because firms may choose different business activities and strategies depending on the phase of the industry life cycle in which they operate. These different business activities and strategies, in turn, may affect business performance outcomes (Abernathy & Utterback, 1978; Gort & Klepper, 1982; Klepper, 1997; Klepper & Graddy, 1990). Much research reported in the industry evolution literature has addressed internal and external influences on industry life cycles (Cohen & Levinthal, 1989; Gavetti & Levinthal, 2000; Nelson, 1995). In the global T & A industry literature, the patterns of industry development have been a focus, and researchers have examined trade or economic data to formulate graphical models that would help predict the next phase of the industry life cycle (Khanna, 1993; Kilduff & Chi, 2006; Toyne et al., 1984).

Thus, an understanding of industry life cycle is critical for the success of firms in the industry because it helps a firm make decisions that guide its current and future business activities; however, researchers have given little attention to firms’ perspectives on their business activities and strategies in different phases of industry life cycles, particularly the maturity or decline phase. To fill this gap, we sought a deep and timely understanding of business activities and competitive advantages in the mature or decline phase of an industry life cycle, using the Korean T & A industry as an example. More specifically, in this study, we (a) explored Korean apparel manufacturing firms’ business activity profiles (what firms do) and competitive advantages (what they have or do to compete) as described by firms themselves; and (b) examined relationships between business activity profiles and competitive advantages.

**Literature Review**

*Global Textile and Apparel Industry From an Industry Life Cycle Perspective*

The industry evolution literature suggests that, like most organisms, industries go through distinct stages in their life cycles. Led by Abernathy and Utterback (1978) and Gort and Klepper (1982), researchers in the industry life cycle tradition have argued that the number of firms in an industry grows when the industry is new, then declines sharply, and finally levels off. As the number of firms changes through the industry life cycle, firms’ output, prices, and market shares also increase and then fall, eventually leveling off (Klepper & Graddy, 1990).

Overall, the goal of industry evolution research seems to be prediction of the next phase of the industry life cycle so that firms can make decisions that will help them achieve future success. To achieve this goal, firm strategy researchers have investigated internal and/or external factors that may influence industry evolution. Some argued that the heterogeneity of firms’ resources, such as different levels of knowledge, competencies, and learning capabilities, affect their competitive advantages and shape the overall evolutionary pattern of the industry in which firms operate (Cohen & Levinthal, 1989; Gavetti & Levinthal, 2000; Nelson, 1995). Others have suggested that the contributions of external organizations, such as universities, research organizations, government regulatory bodies, and financial organizations may help innovation and technological advance, which are fundamental for industry evolution (Cohen, Goto, Nagata, Nelson, & Walsh, 2002; Levin, Klevorick, Nelson, & Winter, 1987; Malerba, 2006).

In the context of the global T & A industries, researchers have attempted to describe the past and current industry characteristics so they could predict what would come next. Some scholars described the shifting pattern of the core economic activities from developed countries (the United States or United Kingdom), to Asian newly industrialized countries (Korea, Hong Kong, or Taiwan), and to developing countries in Southeast and Southern Asia (Sri Lanka, Bangladesh, or Thailand;
Dicken, 2003; Jin, 2004; Khanna, 1993). This is partly because the locus of comparative advantages has also changed from one country to another, depending on the level of a country’s economic development (Kilduff & Chi, 2006). Countries in the early stages of economic development have comparative advantages in labor-intensive sectors, such as apparel assembly, and thus, the apparel manufacturing sector can start and grow. Countries in the mature stages of economic development tend to have comparative advantages in capital-intensive sectors, such as man-made fiber production, and thus, fiber and textile manufacturing can prosper. Dickerson (1999) also explained that firms in developed economies tend to engage in value-added activities such as design, branding, and product development.

Toyne and his colleagues (1984) identified six phases observed in the T & A industry at the individual country level. According to these authors, apparel production and exports typically expand during the embryonic stage of a country’s T & A industry; in later stages of the industry’s life cycle, fabric production grows and fiber manufacturing develops, followed by eventual decline in output and the occurrence of significant trade deficits in apparel and textiles.

Korean Textiles and Apparel Industry

The Korean textile and apparel industry shows a classic example of industry evolution patterns described by Toyne and his colleagues (1984). After the embryonic phase of the T & A industry until the late 19th century, the Korean T & A industry was slowly beginning to modernize under the Japanese occupation from 1910 to 1945 (Park, Kim, & Rye, 2003). Soon after, however, the Korean War broke out in 1950. Korean infrastructure in manufacturing industries completely collapsed during the war. When the war was over, the Korean T & A industry was considered one of the most important industries for the country’s economic recovery (Park et al., 2003). By the late 1950s, domestic textile production supported up to 50% of domestic demand for certain textile products (Kim, 1990).

During the 1960s, Korea was considered an important and profitable sourcing destination for apparel manufacturing to take advantage of abundant, high-quality labor at low cost (Dickerson, 1999). Naturally, fiber and textile production had also been developed to accommodate a rising output of domestic apparel manufacturing driven by foreign direct investment and/or owner equipment manufacturing (OEM) contracts with foreign buyers. Soon, Korea had become one of the leading fiber and textile suppliers in the world. By the 1970s, the overall export of textiles and apparel products exceeded 30% of all national export (Korean Federation of the Textile Industry, 2008). With the knowledge gained from textile and apparel manufacturing, Korean ready-to-wear brands such as “Venus” for underwear and “Dandy” for menswear were introduced in 1954 and 1970, respectively (National Brands in Domestic Fashion Market, 2008). In addition, wholesale markets for textiles and apparel, such as Dongdamun and Namdaemun Sijang, were advanced and modernized to support the growing domestic T & A industry in the 1970s (Lee, Lee, & Gwak, 2002).

Just as predicted by Toyne and his colleagues (1984), the Korean T & A industry faced challenges of increasing labor cost and decreasing productivity while the Korean economy advanced. During the 1980s, the Korean T & A industry slowly started losing its competitiveness over that of other developing countries (Korea Federation of Textiles Industries [KOFOTI], 2008). Countries in Southeast and Southern Asia, such as Sri Lanka, Indonesia, and Philippines, have taken over the labor-intensive manufacturing operations in which Korea once had a strong competitive advantage. By the 1990s, Korea had even lost market shares in capital-intensive processes, such as man-made fiber and fabric production, to China, Taiwan, and Indonesia (Korea Textile Development Institute, 2009).
These challenges have then called for major transformation of the Korean T & A industry. Since the early 2000s, the Korean T & A industry, particularly the apparel industry, has begun to focus on value-added activities, such as branding, marketing, and designing, beyond simple assembly or material production (KOFOTI, 2008). Today, the Korean T & A industry and the government are working hand in hand to redefine the role of the Korean T & A industry within the country’s economic system and to promote its creativity, brand power, and positive image in the global marketplace (Issues in the Korean Fashion Industry, 2008). As of 2007, the T & A industry still remains a valuable industry in Korea, accounting for 15.9% of the total manufacturing establishments or 9.6% of the total manufacturing employment (Korea Statistical Information Service [KOSIS], 2009; Statistics Korea, 2009).

In sum, the history of the Korean T & A industry shows the five distinctive phases of the industry life cycle: (a) growth in apparel manufacturing due to low-cost labor; (b) growth in textile manufacturing to support domestic apparel manufacturing; (c) growth in exports due to quality and cost competitive advantages; (d) decrease in manufacturing output and exports from the loss of competitive advantages; and (e) industry transformation from manufacturing to value-added activities. The fourth and last phases of industry transformation are still in progress today. Whether the industry transformation will be successful and the Korean T & A industry would continue to prosper is yet to be seen.

Research Questions

Most previous studies on the evolution of the global T & A industry were limited to describing different economic activities at the macro level, depending on trade or economic data to examine the pattern of industry development (Khanna, 1993; Kilduff & Chi, 2006; Toyne et al., 1984). Although the previous approaches were useful, the research results using trade or economic data often lagged due to the time-consuming data collection processes. Analysis of trade or economic data is frequently of little help for gaining insights into firms’ activities and strategies in various phases of the industry life cycle. In addition, the mature or decline phase of the industry life cycle has been a relatively unpopular research topic within industry evolution literature, resulting in lack of knowledge regarding the activities and strategies of firms that operate in this particular phase of the industry life cycle.

Consequently, we sought to gain a deep and timely understanding of what firms do and what they have or do to compete to be successful in the mature or decline phase of the industry life cycle. An understanding of the firms in the mature or decline phase of the industry life cycle is important as it would provide valuable insights into “what comes next” for the firms in the development or growth phase of the industry life cycle and would help them prepare for an uncertain future. To achieve this goal, we aimed to (a) explore Korean apparel manufacturing firms’ business activity profiles (what firms do) and competitive advantages (what they have or do to compete) as described and managed by firms themselves and (b) examine relationships between business activity profiles and competitive advantages.

Method

Data Collection and Sample

The Korean apparel manufacturing sector was selected for the study, because given the current status of the industry life cycles, it is the main driver for the transformation of the Korean T & A industry led by the industry leaders as well as the government (Ministry of Knowledge and Energy, 2009). For example, of the total of today’s Korean T & A businesses, apparel businesses account for over 55%, with total annual sales of US$13.9 trillion in 2006 (KOSIS, 2009; Statistics Korea, 2009).
Sample firms in this study were selected from the Korea Information Service, which provides detailed information about more than 1.2 million Korean businesses entities, including their contact information, website addresses, and various indices of business performances (Seo, 2008). First, firms classified under the apparel manufacturing sector (Korean Standard Industrial Classification 141, 142, 143, 144, and 1332) were searched and downloaded in spring 2009. This sector included business types such as women’s, men’s, and children’s wear manufacturing, dress suit manufacturing, hat manufacturing, knit-to-shape manufacturing, and miscellaneous apparel manufacturing.

Second, the raw data were filtered and the firms without website addresses were removed from the study. In total, 6,759 cases were removed. Third, for the remaining 206 firms, each firm’s website was visited. If it showed no indication of update since January 1, 2006 (suggesting a lack of active firm activities in the past 2 years) or provided no self-description information, the firm was removed from the study to ensure the timeliness of the study findings. The firms with any missing information on organizational performance variables were removed as well. Finally, a total of 200 firms were obtained for the study sample.

The study sample showed a wide range of business sizes and characteristics. Thirty-four of the 200 firms were listed as “large” corporations; while the rest, 141 firms, were classified as “mid-to-small” businesses. The study sample had an average employment size of 174, average annual sales of US$63 million, and an average credit score of 6 (from 0, the lowest, to 10, the highest) as reported in 2007 and 2008. Table 1 shows a complete list of the study sample characteristics.

Table 1. Sample Characteristics

<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment (number)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5–50</td>
<td>34</td>
<td>17.0%</td>
</tr>
<tr>
<td>51–100</td>
<td>50</td>
<td>25.0%</td>
</tr>
<tr>
<td>101–150</td>
<td>30</td>
<td>15.0%</td>
</tr>
<tr>
<td>151–300</td>
<td>32</td>
<td>16.0%</td>
</tr>
<tr>
<td>301–500</td>
<td>19</td>
<td>9.5%</td>
</tr>
<tr>
<td>500–1,000</td>
<td>11</td>
<td>5.5%</td>
</tr>
<tr>
<td>1001–1,087</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>No response</td>
<td>23</td>
<td>11.5%</td>
</tr>
<tr>
<td>Annual sales (US$ in thousands)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,250–10,000</td>
<td>24</td>
<td>12.0%</td>
</tr>
<tr>
<td>11,000–20,000</td>
<td>43</td>
<td>21.5%</td>
</tr>
<tr>
<td>21,000–50,000</td>
<td>37</td>
<td>18.5%</td>
</tr>
<tr>
<td>51,000–150,000</td>
<td>49</td>
<td>24.5%</td>
</tr>
<tr>
<td>151,000–300,000</td>
<td>17</td>
<td>8.5%</td>
</tr>
<tr>
<td>301,000–500,000</td>
<td>3</td>
<td>1.5%</td>
</tr>
<tr>
<td>501,000–633,000</td>
<td>3</td>
<td>1.5%</td>
</tr>
<tr>
<td>No response</td>
<td>24</td>
<td>12.0%</td>
</tr>
<tr>
<td>Credit scores (from 0 the lowest to 10 the highest)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–3</td>
<td>23</td>
<td>11.5%</td>
</tr>
<tr>
<td>3–5</td>
<td>43</td>
<td>21.5%</td>
</tr>
<tr>
<td>6–7</td>
<td>64</td>
<td>32.0%</td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>17.5%</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>6.0%</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>1.0%</td>
</tr>
<tr>
<td>Not available</td>
<td>21</td>
<td>10.5%</td>
</tr>
</tbody>
</table>
Data Analysis I: Content Analysis

To profile Korean apparel manufacturers’ business activities and competitive advantages as described by firms themselves, a content analysis of web-based communication data was performed. Content analysis is useful as it allows researchers to obtain core characteristics of texts and to interpret those messages from the producer’s perspective in a systematic way (Neuendorf, 2002). Firms’ websites are considered important tools to examine firms’ communication and image management as website contents represent the results of firms’ deliberate choice of words to communicate and deliver their positive image (Argenti & Forman, 2002; Berthon, Pitt, Ewing, Ramaseshan, & Jayaratna, 2001; Lamertz, Hergens, & Calmet, 2005).

The entirety of text available under “About Us,” “Company Information,” or “Contact Us” on each firm’s website was collected in the first half of 2009 and used for coding. The two investigators developed a system for coding the business activity profile and competitive advantage categories for each firm based on text available in its website. The overall principle of the coding system was to collect all terms used to describe business activity profiles and competitive advantages. All the websites of the sample firms were reviewed to generate master lists of all the business activity and competitive advantage categories found on the websites. These master lists were then compared to the website of each firm to decide the coding for each business activity and competitive advantage category. A dummy code “1” was assigned if a firm described business activities or competitive advantages and a dummy code “0” was given if a firm did not indicate such business activities or competitive advantages.

The two investigators used the aforementioned coding system to code the first 15% (30 of the 200) of the study data to make sure the coding principles were consistent between the two investigators. During this procedure, a few classification and/or cultural issues were resolved. First, although Korean firms tend to consider wholesaling and retailing operations as the same business classification (Dosomae, which literally means wholesaling and retailing establishment or Yoo-tong, which refers to all supply chain operations including wholesaling and retailing), the investigators differentiated retailing and wholesaling as separate business activities, as wholesaling and retailing operations require different activities and competitive strategies for their success. For the study, a retailing operation was defined as selling final products directly to consumers, whereas wholesaling included business-to-business transacting activities, such as distribution and intermediaries. Second, although design could be part of the product development activities, it seemed that Korean firms use these two terms for different purposes. Throughout the study data, the term “design” was used with associated terms such as garment, apparel, style, or silhouette, whereas the term “product development” was strongly associated with the terms such as new materials, innovation, or research. Thus, design and product development were considered separate business activities in this study.

Once the two investigators had resolved all the interrater differences regarding the business activity categories, they and a graduate assistant coded the business activity categories for the entire set of study data (Arndt & Bigelow, 2000). This process was repeated for the competitive advantage categories. The interrater agreement reached 90% for both the business activity and the competitive advantage categories. On completion of the content analysis, frequency analysis was performed on the categories of business activities and competitive advantages for the study sample.

Data Analysis II: Canonical Correlation Analysis

Canonical correlation analysis was conducted to uncover relationships between business activity profiles (what they do) and competitive advantages (what they have or do to compete), using SAS 9.1. Canonical correlation analysis is appropriate when the researcher seeks to explore the
relationship between two *sets* of latent variables, rather than two individual variables (Hair, Black, Babin, Anderson, & Tatham, 2006). Canonical correlation analysis is particularly appropriate when one or both sets of variables are expressed as dummy variables (Hair et al., 2005). Multivariate statistics produced in the canonical correlation analysis were reviewed to assess the statistical significance of each canonical correlation value (dimension). In addition, each composite canonical variable was examined for the strength of its relationship to each measured variable in its own set and in the other composite canonical variable.

### Table 2. Business Activity Profile of Korean Apparel Manufacturers

<table>
<thead>
<tr>
<th>Business activity</th>
<th>Description</th>
<th>Other Descriptors Used</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic retailing (RET)</td>
<td>Selling products to domestic consumers directly</td>
<td>None</td>
<td>157 (78.5%)</td>
</tr>
<tr>
<td>Product development (PD)</td>
<td>Developing new materials for new product categories or new technology for efficient production</td>
<td>Innovation; Material development; Research &amp; Development (R&amp;D)</td>
<td>105 (52.5%)</td>
</tr>
<tr>
<td>Exporting (EXPORT)</td>
<td>Selling products to foreign distributors, buyers, or consumers</td>
<td>None</td>
<td>114 (57.0%)</td>
</tr>
<tr>
<td>Domestic manufacturing (DM)</td>
<td>Manufacturing within Korea</td>
<td>Manufacturing</td>
<td>95 (47.5%)</td>
</tr>
<tr>
<td>Foreign manufacturing (FM)</td>
<td>Manufacturing outside of Korea</td>
<td>None</td>
<td>77 (38.5%)</td>
</tr>
<tr>
<td>Design (DSN)</td>
<td>Designing new apparel products</td>
<td>None</td>
<td>71 (35.5%)</td>
</tr>
<tr>
<td>Wholesaling (WHL)</td>
<td>Linking between the manufacturers and buyers as middlemen</td>
<td>Distribution; Intermediaries</td>
<td>13 (6.5%)</td>
</tr>
<tr>
<td>Total sample size</td>
<td></td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>Average number of descriptors used</td>
<td></td>
<td></td>
<td>3.2</td>
</tr>
</tbody>
</table>

Data Analysis III: Correspondence Analysis

To further explore relationships between business activity profiles and competitive advantages as described by Korean apparel manufacturers, correspondence analysis was performed using statistical package for the social sciences (SPSS) 17.0. Correspondence analysis reveals relationships among multiple variables. Specifically, it provides a statistical visualization of the spatial relationships among binary variables in two-dimensional space (Lamertz et al., 2005). As a technique for multidimensional scaling (MDS) of data, correspondence analysis results in graphical display of associations between data within a row or column or across rows and columns (Malhotra, 1999). The process of interpreting the results is similar to that for principal component analysis (Lamertz et al., 2005). Multivariate statistics were reviewed to determine meaningful dimensions, identify suitable labels for each dimension, and characterize the clusters of the study data in the space.
Results and Discussion

Business Activity Profiles of Korean Apparel Manufacturers

As the results of content analysis and frequency analysis, seven business activities performed by Korean apparel manufacturers emerged from the study data (See Table 2). They were (a) domestic retailing (157 of the 200 or 78.5\%), (b) exporting (114 of the 200 or 57.0\%), (c) product development (105 of the 200 or 52.5\%), (d) domestic manufacturing (95 of the 200 or 47.5\%), (e) foreign manufacturing (77 of the 200 or 38.5\%), (f) design (71 of the 200 or 35.5\%), and (g) wholesaling (13 of the 200 or 6.5\%). The business activities were not mutually exclusive for any one firm. The average number of descriptors used by each firm was 3.2 words, suggesting multiple business activities conducted by one firm.

Given the Korean apparel industry is currently going through the mature or decline phase of the industry life cycle, it was not surprising to see high percentages of manufacturing or exporting

<table>
<thead>
<tr>
<th>Competitive advantages</th>
<th>Description</th>
<th>Other Descriptors Used</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand (BRD)</td>
<td>Having own apparel brand</td>
<td>None</td>
<td>158 (79.0%)</td>
</tr>
<tr>
<td>Quality (QLTY)</td>
<td>Providing high quality</td>
<td>None</td>
<td>110 (55.0%)</td>
</tr>
<tr>
<td>Customer service (CS)</td>
<td>Offering highest customer satisfaction and excellent service</td>
<td>Service; Customer service</td>
<td>110 (55.0%)</td>
</tr>
<tr>
<td>Specialization (SPEC)</td>
<td>Providing specialized, unique, and/or differentiated products</td>
<td>Differentiation</td>
<td>95 (47.5%)</td>
</tr>
<tr>
<td>Government award (AWARD)</td>
<td>Receiving government awards for quality, service, creativity, and/or leadership</td>
<td>None</td>
<td>83 (41.5%)</td>
</tr>
<tr>
<td>Partnership (PART)</td>
<td>Having partnership with foreign investors, licensors, or licensees</td>
<td>Licensing agreement</td>
<td>72 (36.0%)</td>
</tr>
<tr>
<td>Experience (EXP)</td>
<td>Having long experience and expertise</td>
<td>Longevity</td>
<td>64 (32.0%)</td>
</tr>
<tr>
<td>Technology (TECH)</td>
<td>Possessing advanced, state of the art, exclusive technology</td>
<td>None</td>
<td>59 (29.5%)</td>
</tr>
<tr>
<td>Integrity (INT)</td>
<td>Being honest, trustworthy, transparent, and reputable</td>
<td>Transparency; honesty; and reputation</td>
<td>53 (26.5%)</td>
</tr>
<tr>
<td>Price (PRC)</td>
<td>Offering best, good, and low price</td>
<td>None</td>
<td>43 (21.5%)</td>
</tr>
<tr>
<td>Quick response (QR)</td>
<td>Reacting fast to market demands and providing on-time delivery</td>
<td>On-time delivery</td>
<td>38 (19.0%)</td>
</tr>
</tbody>
</table>

Total sample size 200
Average number of descriptors used 4.4
activities. In total, 172 (86.0%)
of the 200 firms had either domestic or foreign manufacturing operations. In addition, 114 (57%) of them exported apparel products. Whether these statistics on manufacturing and exporting have decreased or increased over time is not known. An interesting finding was the extent of Korean apparel manufacturers’ involvement in design, product development, and retailing. Considering the initial phase of the Korean apparel industry in which OEM contracts with few value-added activities were dominant, the study findings that 176 (88%)
of the 200 firms are engaged in either design or product development and 157 (78.5%)
in retailing suggest that the focus of Korean apparel manufacturers may be shifting to nonmanufacturing or value-added activities such as design, product development, and retailing. Only a few firms (13 of the 200 or 6.5%) were engaged in wholesaling.

### Competitive Advantages Described by Korean Apparel Manufacturers

Content and frequency analyses resulted in 11 themes of competitive advantage as described and managed by Korean apparel manufacturers (See Table 3). They were (a) strong brand (158 of the 200 or 79.0%), (b) high quality (110 of the 200 or 55.0%), (c) excellent customer service (110 of the 200 or 55.0%), (d) specialization (95 of the 200 or 47.5%), (e) government award (83 of the 200 or 41.5%), (f) strong partnership (72 of the 200 or 36.0%), (g) experience (64 the 200 or 32.0%), (h) advanced technology (59 of the 200 or 29.5%), (i) integrity (53 of the 200 or 26.5%), (j) price (43 of the 200 or 21.5%), and (k) quick response (38 of the 200 or 19.0%). As for business activities, the listed competitive advantages were not mutually exclusive for only one firm. The average number of descriptors used by each firm was 4.4 words.
Consistent with the finding that the majority of Korean apparel manufacturers in the sample were engaged in retailing, designing, and product development, 158 (79%) of the 200 firms described one of their main competitive advantages as having strong brands. Because the majority of the firms sell their own branded products directly to consumers, it was reasonable to see quality and customer satisfaction frequently mentioned by firms in the study sample. Interestingly, integrity, which included honesty, trustworthiness, transparency, and reputation, was mentioned by 53 (26.5%) of the 200 firms. This supports the brand integrity or brand reputation literature that emphasizes the importance of integrity to consumers’ perception of brand quality (Mangan & Collins, 2002).

Next, approximately half of the study data revealed that firms claim to have specialized or differentiated products that no other firms could provide, suggesting firms’ significant efforts to accommodate consumers’ desires to be and look different from the majority of population. Government awards were another interesting attribute described by 83 (41.5%) of the 200 firms. The Korean government has been promoting various government awards for businesses to reward firms’ innovative, entrepreneurial, and risk-taking business activities (Jeon, 2008). Korean apparel manufacturers seemed to take advantage of these awards to gain recognition from consumers and to promote their successful business practices.

Strong partnerships with domestic or foreign licensors, experience in apparel manufacturing, and advanced technology also surfaced as Korean apparel manufacturers’ success factors from the study data. It is not known whether the portions of these categories would have been higher, if the Korean apparel industry was in the initial and/or growth phases. It is logical to think that when the industry was in the initial and/or growth phase, firms focused on learning new processes or obtaining new knowledge from those in more developed economies. Partnerships, experience, and technology would have been important in determining how much a firm learned from others and how successful the firm was. In the industry’s mature and/or decline phases, however, most firms should have similar levels of knowledge or technology; thus, partnerships, experience, and technology might be less important for their competitive advantage than in earlier phases. In this study, approximately one third of Korean apparel manufacturers claimed that they have these important success factors. Finally, price and quick response had the lowest percentages, suggesting Korean consumers may put more emphasis on brand and quality than on price and quick delivery.

Relationship Between Business Profiles and Competitive Advantages

Canonical correlation analysis. Canonical correlation analysis revealed three statistically significant dimensions according to p values; however, two of these dimensions are not included in further interpretation due to having eigenvalues less than 1. The remaining statistically significant dimension has an eigenvalue of 1.862 and explains 64.2% of the variance (see Table 4).

The canonical correlation dimension with an eigenvalue of 1.862 was analyzed for the relative contributions of individual measured variables to the dimension as shown by the standardized canonical coefficients on these variables. First, the contributions of only three measured variables were considered because the standardized canonical coefficients on all other measured variables were less than the absolute value of .3, the recommended cutoff point when interpreting such coefficients (Garson, 2008). Second, two business profile variables had standardized canonical coefficients greater than .3, those being retailing (−.618) and product development (.322). These results indicated that retailing makes a stronger contribution than product development to the canonical correlation dimension. Third, one competitive advantage category had a standardized canonical coefficient greater than .3, that being brand (−.771). Overall, the standardized canonical coefficients on the measured variables suggested that the more (less) a firm tends to engage in retailing, the more (less) it tends to have brands and the less (more) it tends to engage in product development.
Correspondence analysis revealed the two most important correspondence dimensions, as indicated by 60.4% inertia. We then identified suitable labels for each dimension and characterize the clusters of the study data in the space. The first dimension appeared to capture a focus on upstream (west) versus downstream (east) activities within the supply chain. The second dimension was associated at one end with foreign-oriented business activities (north) and at the other end with domestic-oriented business activities (south). Figure 1 shows the dimension labels and relative positioning of the study data in the two dimensional space.

Three distinctive clusters were also identified: (a) Domestic manufacturer, (b) Foreign manufacturer, and (c) Retailer. The Retailer cluster was found in the southeast quadrant of the plot, indicating

**Figure 1.** Plot of correspondence analysis of Korean apparel business activity profiles and competitive advantages.

Note: x = business activity profiles; • = competitive advantages.

Correspondence analysis.
a group of firms engaged in domestic-oriented business focusing on the downstream side of the supply chain. Both Domestic manufacturer and Foreign manufacturer clusters were positioned in the west of Dimension I and they were respectively in the north and south on Dimension II. This suggested that these two clusters are both focusing on the upstream side of the supply chain; yet, one is oriented to domestic business activities and the other to foreign. Interestingly, wholesaling did not seem to form a distinctive cluster in the Korean apparel manufacturing industry.

The Domestic manufacturer cluster appeared to have strong associations with partnerships, specialization, and government awards as competitive advantages. This cluster also showed a moderate association with export business activity as well as experience, integrity, service, and quality as competitive advantages. This cluster seemed to explain the nature of traditional Korean apparel manufacturing businesses, which were originally supported by OEM contracts based on partnerships with foreign buyers who sought low-cost, specialized manufacturing services in Korea since the 1960s. Firms with OEM contracts with foreign buyers were typically engaged in exporting and, thus, partnerships, government awards (typically used as indicators of excellence in business), specialization, experience, integrity, service, and quality were deemed important for their success. Interestingly, the study findings showed this cluster’s strong association with product development, which is typically considered a value-added activity that requires more advanced knowledge and know-how than simple assembly or manufacturing. This suggested that the Korean apparel manufacturing industry might have been maturing by transitioning the main business activities from simple assembly to value-added product development.

Second, the Foreign manufacturer cluster showed strong associations with design as a business activity and quick response and technology as competitive advantages, suggesting firms engaged in foreign manufacturing and design put a strong emphasis on delivering the right design in the right time to take advantage of changes in the marketplace. Technology may help such efforts for quick response. The Foreign Manufacturer cluster also showed moderate associations with export activities, as well as price, quality, and service as competitive advantages. These findings were also consistent with the nature of business activities in the mature phase of the industry life cycle in which, as domestic manufacturing grows, firms start exporting and, eventually, tend to move manufacturing operations to low-cost-labor countries to maintain price competitiveness (Cho & Lee, 2006).

Finally, the Retailer cluster was characterized by a strong association with brand as a competitive advantage. It also showed moderate associations with product development and domestic manufacturing as business activities as well as partnership as a competitive advantage. This finding implied an interesting characteristic of Korean apparel manufacturers’ focus on retailing with own brands and product development efforts. As the industry has matured, Korean apparel manufacturers have either moved their manufacturing operations to foreign countries for price competitiveness or shifted their main business activities to retailing with their own brands. Both patterns showed the main characteristics of the mature or decline phase of the industry life cycle (see Figure 1 for the graphical presentation of the study findings in two dimensions).

**Conclusions**

What will come next in the future of the global T & A industry? It seems this is a question that many people have in their minds. The United Kingdom lost economic competitiveness in the T & A industry to the United States in the early 20th century. As the global economy developed, the U.S. T & A industry lost its competitiveness to countries in Asia in the late 20th century. Even within the Asian region, Japan, Korea, and Taiwan flourished in the beginning, but then the core economic activities moved to China, Philippines, and, more recently, Viet Nam. Some people even conjecture whether countries in Africa will be the next center of the global T & A industry as more and more countries in Asia advance their economic conditions. The industry evolution literature addresses these issues and
a number of efforts have been made to predict the future of the industry. This study particularly focused on the business activities and competitive advantages of the Korean apparel manufacturing sector, which is currently undergoing the mature or decline phase of the industry life cycle, to better understand what businesses do to compete and survive even when the industry itself is declining.

Analysis of information obtained from the websites of 200 Korean apparel manufacturing firms selected from the KOSIS database revealed 7 business activity profiles and 11 competitive advantages. The majority of Korean apparel manufacturing firms in the sample claimed that they are engaged in retailing, exporting, and product development and have unique brands, high quality, and superior customer service. From the industry life cycle perspective, the Korean apparel manufacturing industry seems to be in the mature or decline phase in which capital-intensive and value-added business activities, such as retailing and product development focusing on branding, quality, and service, are more common than labor-intensive activities, such as domestic manufacturing (Dickerson, 1999).

In addition, the study results showed that the more (less) a firm tends to engage in retailing, the more (less) it tends to have brands and the less (more) it tends to engage in product development. The study findings also showed three unique clusters of Korean apparel manufacturing firms in the mature or decline phase of the industry life cycle. The Domestic manufacturing cluster showed business partnerships, government awards, and specialization as competitive advantages. The Foreign manufacturing cluster seemed to focus on quick response and technology as important competitive advantages. Finally, the Retailer cluster seemed to stress brand as their competitive advantage. More interestingly, these three clusters suggested particular development patterns in the Korean apparel manufacturing industry. It seemed that the nature of Korean apparel manufacturing businesses has been shifting into either foreign manufacturing or retailing, both of which require substantial capital, knowledge, and experience from the success of domestic manufacturing.

The study findings have several important contributions and implications. First, the industry life cycle theory was explored through the Korean apparel manufacturing sector, currently in the mature or decline phase of its life cycle. The study findings were consistent with the overall description of business activities in such phase. That is, in the mature or decline phase, firms tend to perform capital-intensive and value-added business activities, such as retailing and product development with a focus on brands, quality, and customer service, as well as coordinating foreign manufacturing operations with know-how and knowledge gained from domestic manufacturing experience.

Second, by showing Korean apparel manufacturing firms’ business activity profiles (what firms do) and competitive advantages (what they have or do to compete) as described and managed by firms themselves, the study results provided important insights into what firms have or do to compete in the mature or decline phases of the industry life cycle. This finding may help firms in other sectors within the Korean T & A industry as well as other countries whose T & A industry is progressing toward the mature or decline phases of its life cycle prepare for “what will come next.” For example, export-oriented firms with their domestic manufacturing operations in Indonesia may want to consider expanding their manufacturing sites outside that country. These firms could also consider retailing their own brands based on know-how and experience collected from previous manufacturing operations.

Third, the study findings showed interesting relationships between business activity profiles and competitive advantages in the Korean apparel manufacturing sector. This information could help other firms find ways to compete and succeed in the Korean T & A industry. For example, if a firm’s main business activities are domestic manufacturing and product development, the firm may want to cultivate critical business partnerships, apply for government awards, and emphasize their specialized product development or manufacturing processes. Firms in Taiwan, Hong Kong, and Japan, whose apparel industries are in a similar phase as the Korean industry, may want to
reevaluate their strategies to gain the competitive advantages of partnerships, awards, and specialization for their success.

Finally, the study results may help educators who wish to prepare students to be “industry-ready.” Educators in Korea may want to have curricula on retailing, product development, and design aspects of the apparel industry. Other topical areas such as branding, quality assurance, and service management would also be important to help students easily adjust to the industry after graduation. Furthermore, educators in other countries currently undergoing similar phases of the industry life cycle could consider the study findings to provide relevant and timely education in similar textile and apparel related curricula that the industry require.

Despite the study’s important contributions, it also has limitations. As much as a firm’s website offers insights into its business activities and competitive advantages, “what it claims to do and have” may not reflect reality. Unfortunately, there is no perfect way to confirm whether what is written on a firm’s website is true or not. However, the study data still showed interesting findings on Korean apparel manufacturing firms as they claimed, which otherwise would not have been available. Second, the study sample was drawn from the Korean apparel manufacturing sector because the apparel industry is the main force of transformation in the Korean T & A industry; however, the resulting sample reduces the ability to broadly apply the findings. Third, generalization of the study results also must be taken with care as canonical correlations analysis is based on two fundamental assumptions, linear relationships between any two variables and multivariate normality. Finally, although a graphical display of the two dimensions resulting from correspondence analysis offered easy-to-understand relationships between business activity profiles and competitive advantages, it also limits our understanding of true reality to only a two-dimensional presentation, rather than in a multidimensional setting.

The study also offers several important future research opportunities. First, similar research that includes primary data from sources such as interviews and focus groups with industry experts and surveys of firms representing the population of Korean apparel manufacturers would be beneficial to better our understanding of firms in the mature or decline phase of the industry life cycle. Second, it would be also valuable to find out if firms’ business activity profiles and competitive advantages affect their financial performance, a bottom-line measure of success for most firms. Third, comparisons of the study findings between the Korean T & A industry and those of Japan, Taiwan, and Hong Kong are recommended. More often than not, the evolutionary pattern of Korean T & A industry has been considered similar to those of these countries. By comparing patterns between countries, the results would help support our overall understanding of the T & A industry in these countries. Finally, similar studies on textile and apparel manufacturing firms in different countries, which are in various phases of the industry life cycle would be important to support or reject the current industry evolution literature, ultimately providing critical business guidelines for firms’ future.

Note
1. The Korean government classifies manufacturing businesses into two categories in terms of the employment size: large and mid-small. Large businesses employ 300 or above, and mid-small businesses employ fewer than 300.

Declaration of Conflicting Interests
The author(s) declared no conflicts of interest with respect to the authorship and/or publication of this article.

Funding
The author(s) received no financial support for the research and/or authorship of this article.
References


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