Applying a Supply Chain Perspective to Understand Sustainability in the Apparel and Textiles Discipline

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Introduction

The interconnected issues of globalization, economic development, social responsibility, and environmental protection require inclusive partnerships from different areas and from different organizations to create a global learning environment. Definitions of and approaches to sustainability vary depending on the view and interest of the definer, but each emphasizes that activities are ecologically sound, socially just, economically viable and humane, and that they will continue to be so for future generations. This research is an effort to utilize a supply chain perspective to integrate sustainability into the Apparel and Textiles (AT) discipline in universities and colleges. The AT discipline is an interdisciplinary area which includes, but is not limited to science, technology, arts, business management, culture and diversity. An AT curriculum includes the knowledge not only about the different industrial segments of textiles and apparel production, but also marketing, distribution, and retail operations of apparel and textile products. Sustainability relates to every aspect of the AT industry.

Literature Review

The AT industry is an ideal exemplifier of global supply chain (Su, 2013). However, the industry is characterized by the intense use of chemical products and natural resources, the significant issues with the generation of waste, and heavily criticized labor practices and conditions. Indeed, few industries have received as much public attention as the AT industry, and few are more challenged by the sustainability concerns that have recently emerged in the media and public (Caniato et al., 2012).

Historically, the AT industry has used various chemicals in the production of fibers, dyeing, finishing, causing many pollutants to be released into the environment. Textile and apparel production and consumption carries a high environmental load in terms of energy use, requires large water inputs, and contributes to the earth's solid waste load (Hiller Connell & Kozar, 2012). The Environmental Protection Agency estimates that the average person throws away 81 pounds of clothing per year; and that adds up to 3.8 billion pounds of unnecessary waste added to our landfills (Secondary Materials And Recycled Textiles Association, 2019). Beyond environmental issues, the AT industry is guilty of many societal issues such as labor standards and working conditions. The AT industry is perhaps the largest and the most influential enterprise in the world's cultural societies. With the ability to shape attitudes and social values, clothing/textile products have become a major social issue as they dictate the image and perception individuals have about themselves, others and culture (Miller-Spillman, Reilly, & Hunt-Hurst, 2012). Therefore, the AT industry has tremendous power to control what people see, feel, and think about themselves, the environment, and about the welfare of society; and this

power is even greater because of globalization and advances in communication and information technologies. Dickson, Loker and Eckman (2009) introduced the expanded model of a socially responsible AT business which maintains that a socially responsible orientation requires a system-wide focus on the interactions of people, processes, and the environment involved in the production, marketing, consumption, regulating, and disposing of textile and apparel products.

Carter and Rogers (2008) introduced the concept of sustainable supply chain management as the strategic, transparent integration and achievement of an organization's social, environmental, and economic goals in the systemic coordination of key inter-organizational business processes for improving the long-term economic performance of the individual company and its supply chains. Thus, applying a supply chain perspective to understand sustainability issues offers powerful approaches to the AT industry.

A Framework of Sustainability Applied to the AT Industry

Sustainability is a rich and dynamic concept in the AT supply chain. Based on the nature of the AT industry, the macro and microenvironments that surround the AT industry, and the previous research on sustainable supply chain management, this study presents a model (Figure 1) that addresses the relationship between sustainability and the AT industry. This model promotes an understanding of core sustainable development knowledge, values and skills relevant to AT students, including the interdependence of major systems, such as the relationship between production and consumption of textiles and apparel products in the global environment, the need for long-term thinking/visioning, an understanding of the value of diversity in cultural, social, and economic and natural systems, and an understanding of the different approaches to sustainable solutions (legal, economic, managerial, scientific and technological, design, and educational).

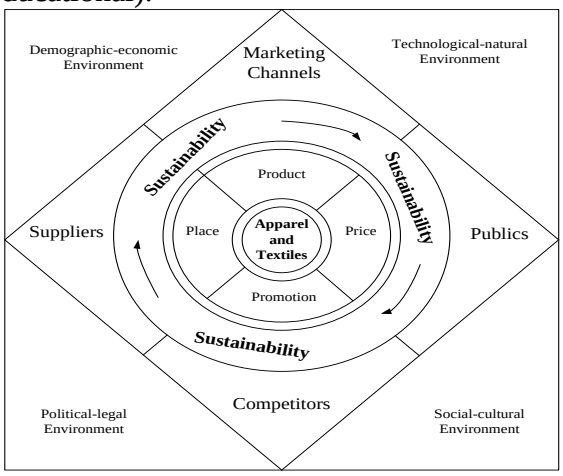

Figure 1. Sustainability in AT industry

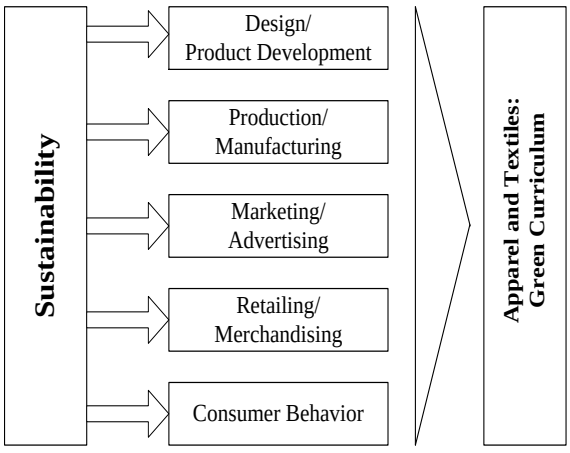

Figure 2. Integration of sustainability in AT core curriculum

Figure 2 shows a framework of integration of sustainability in the AT core curriculum. We argue that the principles of sustainability should be embedded as a core philosophy into the AT curriculum. Only then will students experience the powerful contribution AT higher

education can make towards creating a sustainable world. This is when students will fully engage with the sustainability agenda and truly begin to find clear paths to new forms of practice. Examples of future possible topics and trends may include: (a) Green design in fashion products (e.g. zero waste design); (b) Eco-textiles and marketing (e.g. new sustainable development in textiles); (c) Environmental management and waste control in the textile and apparel industry; (d) Balance of outsourcing and domestic production; (e) Recycling and upcycling; (f) Textile and apparel product life cycle analysis-cradle to cradle strategies; (g) Social responsibility in the textile-apparel-retail supply chain; (h) Fast fashion and slow fashion's impacts on society.

Discussion and Conclusions

This study provides a supply chain perspective to examine the sustainability issues in the AT discipline. Using a supply chain perspective, a model of sustainability applied to the AT industry is presented, and furthermore a framework is proposed that addresses how to embed sustainability in core AT higher education curriculum. In adopting this view, some future trends and topics in AT discipline are proposed.

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