



# GOING GLOBAL

THE TEXTILE AND  
APPAREL INDUSTRY

**4<sup>TH</sup> EDITION**

Elena Karpova, Grace I. Kunz,  
& Myrna B. Garner

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GOING GLOBAL





# GOING GLOBAL

## The Textile and Apparel Industry

FOURTH EDITION

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# preface

Everyone who buys and wears apparel in the United States as well as in any other developed country knows that by far the majority of garments sold in these markets are produced in lower-wage countries. Since the turn of the twenty-first century, Chinese-made apparel has dominated the global markets. However, China's fast-rising production costs have necessitated exploration of new garment assembly locations by apparel companies around the world. This, coupled with new trade regulations and agreements, has resulted in shifts in sourcing strategies and the emergence of new players in the global apparel marketplace.

Even though relatively little apparel is now produced domestically, most imported clothes are still designed, developed, and sourced by US companies, supporting many white-collar jobs. How do these companies decide where their garments will be produced and where all input materials, such as fabrics, trims, and packaging, will come from? Why and how do some countries become major producers and exporters of textiles and/or apparel? What trends affect textile and apparel production, trade, and consumption in the global marketplace? *Every* successful textile, apparel, and fashion professional must have the knowledge to answer these questions and many more. A primary purpose of this book is to equip readers with the knowledge that is essential for any apparel industry professional, regardless if they are a designer, product developer, merchandiser, buyer, or a small business owner.

We developed a comprehensive framework for understanding how and why the global textile and apparel industry's trade and markets function. The framework is used to holistically examine the global sourcing of textiles and apparel in the context of sustainability of the supply chain. To facilitate learning, this text introduces the language and concepts fundamental to the global textile and apparel industry without overwhelming the reader. This understanding of the global textile and apparel industry is essential to

not only make everyday professional decisions but also to forecast its development in the future and secure a competitive advantage in the highly volatile wholesale and retail markets. The discussions apply to any products related to fashion, including textiles, apparel, shoes, accessories, and home furnishings, although the primary discussion is focused on apparel.

The fickle consumer of the 2020s demands not only the latest fashions at affordable prices delivered overnight but also would like them to be produced responsibly and sustainably. Apparel professionals have been under the greatest pressure ever to stay on top of these and other changes in the global environment. This new edition of the book addresses major developments in the global textile and apparel industry as well as trade policies to help companies remain competitive and grow.

## NEW TO THIS EDITION

This edition of *Going Global* was substantially streamlined and restructured with the goal to make the text more effective in understanding the complex nature of the most globalized industry. It presents current perspectives on social, economic, and environmental responsibility across the entire textile and apparel supply chain, with the focus on both businesses and consumers. We show how new trade agreements enacted and implemented since the last edition shape the short- and long-term sourcing decisions in the industry. Discussion of the role and specialization of the four major regions of the world reflects recent shifts in the textile and apparel marketplace that are illustrated using the most recent economic statistics and trade data. The Sustainability Matrix for Textile-Based Product Lifecycle developed by the authors was updated, and new examples were provided to illustrate the application of the matrix as well as new trends in how apparel is designed, manufactured, retailed, and consumed.



An exciting new feature created for this edition is *Industry Profiles* that showcase inspiring textile and apparel professionals at all stages of their careers working across the entire supply chain, from buyers and merchandisers to product developers and sourcing specialists to successful small business owners. A dozen professionals were interviewed for this edition of the book to illustrate many stimulating and fulfilling career opportunities in the industry. Each chapter's Industry Profile includes the professionals' tips for aspiring fashion and apparel students and recent graduates.

This edition features all new cases developed exclusively by the authors. A few cases were written in collaboration with industry experts to help readers apply the new concepts to the real-world scenarios. Most images are new, many from around the world taken by the authors to facilitate comprehension of the complex concepts discussed in the text. We encourage you to view them in full color in an electronic version of the text.

## FEATURES

Each chapter begins with objectives that identify its primary goals and content. For readers' convenience, a "Global Lexicon" is presented at the beginning of each chapter that lists and defines the relevant new vocabulary and concepts. Reviewing the lexicon before proceeding with a chapter is an *active learning approach* that can speed progress and enhance understanding of the topics discussed.

Critical thinking is the type of *thought* involved in solving problems, formulating inferences, calculating likelihoods, and making decisions. It is useful in all aspects of our lives, and it will be valuable in the reading of this text as well as in making use of the information presented. Investing time, attention, and critical thinking to the topics will optimize learning processes as well as the opportunity for long-term application of the principles gained.

To encourage critical thinking, concepts and principles related to globalization of the textile and apparel business are presented in many forms; for example, as maps and main text as well as in tables, diagrams, cases, and pictures. Each form of information provides a different perspective, emphasis, and comparative food for thought. The tables provide an opportunity for comparisons among regions and

countries to draw conclusions and create insights about levels of development and activity in the textiles and apparel business, as well as comparisons of labor productivity, costs, and overall competitiveness among countries and regions. Amazing insights can be gained, but it takes a special bit of time and attention to appreciate the opportunities the multiple forms of information have to offer.

To help readers gain an understanding of supply chains as well as global sourcing concepts and practices, a case is presented in each chapter to provide the opportunity to experience the application of academic concepts to real-world scenarios. It is important to keep in mind that many topics presented in the text are very complex and multifaceted and rarely can be judged as "good" or "bad" and "wrong" or "right." Often, they can be looked at from multiple perspectives, so be prepared that your point of view might differ from your classmates or professor, and realize that people in other parts of the world might have even more different opinions than those around you.

Hands-on learning activities are positioned at the end of each chapter to help address the chapter's objectives and provide an opportunity to apply the concepts introduced. To generate long-term retention as well as the ability to apply what is learned to new situations, students are asked to research multiple perspectives, recognize assumptions, analyze relationships, and give reasons to support conclusions. This is critical thinking at its best.

## COVERAGE AND ORGANIZATION OF THE TEXT

Achieving effective presentation of such complex and wide-ranging topics requires careful consideration of ways to present fundamental concepts and build on them. In this case it requires an introduction to the world that includes a globally pervasive textile and apparel industry. To accomplish this, *Going Global* is divided into three parts.

### Part One. Embarking on a Global Adventure

The focus is on establishing a foundation for effective learning about the global textile and apparel industry by developing an understanding of the organization

and operation of the textile complex. Learning is dependent on developing some understanding of the fundamentals of globalization and how the textile and apparel industry operates within it. Examples of challenges to students include assessing levels of trade among countries, interpreting countries' levels of economic development, and the application of the concept of sustainability. The major components of the worldwide textile complex are introduced along with the role of the many supply chains that operate around the world. These are some of the concepts developed in Chapter 1.

Both apparel manufacturers and retailers are dependent on the world's consumers. The apparel business wraps around the world, but it cannot operate without satisfied customers for the products produced and retailed. The foundation of successful business relies on understanding how target consumers make choices, how much they want to buy, how much they will spend, and when. One of the outcomes is the immensity of textile waste by both manufacturers and consumers. Emerging trends in how consumers view and approach apparel consumption are reshaping the industry. This is the focus of Chapter 2.

During the last century, huge changes have emerged in the world's textile and apparel trade because of improved technology, equipment, machinery, transportation, and collaborative trade agreements between and among countries. Beginning in the late 1950s, retail buying offices in developed countries began seeking international business relationships. Their purpose was to supply US and European apparel markets with finished garments *different from or at a lower cost than* what was being offered domestically. Buying offices grew in number and popularity until the late 1980s, when merchandisers and designers got involved in product development for private label lines. The race then began for development of supply chains that included the lowest-cost labor with the highest efficiency to make the garments somewhere in the world. This led to the development of the standardized merchandise identification systems essential for processing goods that are transported from one country to another. This is the focus of Chapter 3.

Supply chains for textiles and apparel, more often than not, are now global in scope and may involve a few or dozens of different companies and governments. The interaction of all of the components of supply

chains takes place in countries with different priorities, cultural values, and methods of communication and making decisions. Now, a primary challenge is incorporating social, economic, and environmental dimensions of sustainability into the supply chains. These priorities have the power to reduce waste of resources, improve the health and comfort of populations, and improve the welfare of people around the world. Application of the Sustainability Matrix for Textile-Based Product Lifecycle will help businesses and consumers to holistically evaluate current practices and make more sustainable choices. This is the focus of Chapter 4.

## Part Two. The Global Supply Chain

Chapters 5 through 8 introduce, explain, and examine the flow of materials, products, and services that make worldwide sourcing in the textile and apparel industry possible. Trade involves exchange of goods and services across political boundaries. Governments establish regulations regarding the transfer of products from one country to another as well as to verify their origin, ownership, quality, and safety. Some regulations are developed to encourage trade, whereas others aim at restricting trade to control the amount of imports or exports of an economy. Politics frequently intervene, often in pursuit of self-interest. It is very important for apparel professionals to understand what effect different trade regulations might have on sourcing products and services from vendors in countries around the world. Textile and apparel trade barriers, regulations, and politics are the topics of Chapter 5.

As global textiles and apparel industries evolve, opportunities also develop for illegal and unethical activities. Trade regulations and trade barriers are put in place to protect ownership of brands, technology, production methods, and so on. Government regulations and protectionism sometimes result in illegal attempts to get around them. Trade restrictions, requirements for customs compliance, and intellectual property law are ongoing sources of controversy and illegal activity in the global market. These are the topics of Chapter 6.

Global sourcing involves determining the most cost-efficient locations of services, materials, production, finished goods, or a combination of these at a specified quality and service level for delivery to



specified locations within an identified time frame. Consideration of what countries to source involves political, economic, social, and cultural forces in the context of government regulations. Geographic locations of production can be a primary factor in efficiency and speed of delivery. Out of nearly 200 countries in the world, how do professionals decide which country might be the best for their companies to manufacture apparel in? These are the topics of Chapter 7.

Selecting factories for apparel manufacturing involves a complex combination of considerations and trade-offs. There is a variety of types of factories that provide apparel manufacturing services, so matching the services needed with an efficient and effective vendor is an ongoing challenge. Multiple factors must be taken into account when selecting partners for designing a competitive and sustainable supply chain. Chapter 8 walks the reader through the decision-making process of factory selection, explaining advantages and disadvantages of various options available in the marketplace.

## **Part Three. Trading Partners**

Chapters 9 to 12 examine textile and apparel industries in countries in the four major parts of the world, which are defined as (1) Europe and the European Union, (2) the Americas and the Caribbean Basin, (3) Asia and Oceania, and (4) Africa and the Middle East. The Global Competitiveness Index (GCI), which determines the level of a country's productivity, is presented for all countries discussed. The index is very useful in helping keep track of how developed countries are and whether each country is more likely to be more involved in the textile industry, the apparel industry, or both. Each chapter includes maps, a political and economic overview, and the role of textiles and apparel in each region.

Many countries that are major players in textile and apparel production and consumption are discussed in each of the regions, so there is a lot of geography involved to be able to keep track of where in the world you are. We sincerely hope you find your global adventure challenging, insightful, and rewarding.

# instructor and student resources

## GOING GLOBAL STUDIO™

The book is accompanied by an online multimedia resource, *Going Global STUDIO*. The online *STUDIO* is specially developed to complement this book with rich media ancillaries that students can adapt to their visual learning styles to better master concepts and improve grades. Within the *STUDIO*, students will be able to:

- Study smarter with self-quizzes featuring scored results and personalized study tips
- Review concepts with flashcards of essential vocabulary

*STUDIO* access cards are offered free with new book purchases and also sold separately through Bloomsbury Fashion Central ([www.BloomsburyFashionCentral.com](http://www.BloomsburyFashionCentral.com)).

## INSTRUCTOR RESOURCES

- The Instructor's Guide provides suggestions for planning the course and using the text in the classroom, supplemental assignments, and lecture notes
- The Test Bank includes sample test questions for each chapter
- PowerPoint® presentations include color images from the book and provide a framework for lecture and discussion

Instructor's Resources may be accessed through Bloomsbury Fashion Central ([www.BloomsburyFashionCentral.com](http://www.BloomsburyFashionCentral.com)).

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# PART 1

## Embarking on a Global Adventure





# Introduction to Globalization

## Fun Fact

*The global fashion industry accounts for 3 trillion dollars, or 2 percent of the world's Gross Domestic Product (GDP). (FashionUnited, n.d.)*

## OBJECTIVES

Upon completion of this chapter, you will be able to:

- Describe the global nature of the textile and apparel business.
- Compare and contrast countries by the level of economic development.
- Examine relationships between countries' level of economic development and their roles in the global textile and apparel industry and market.

# CHAPTER 1



No other form of commerce can claim to be as pervasive throughout the globe as the textile and apparel business. This business provides employment for more people than any other business segment (except agriculture), directly affording a livelihood to many people in every country in the world. This text explores the complexities involved in where textile and apparel products come from, under what conditions, how these products are distributed in today's global marketplace and what are the social and environmental impacts of textile and apparel consumption. The core of the discussion is examination of economic, political, and ethical issues that textile and apparel professionals as well as consumers face when making decisions.

Investing time, attention, and critical thinking to the topics addressed by this text will optimize the learning process and the opportunity for long-term application of principles gained. Critical thinking is the type of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions. It is useful in all aspects of our lives, and it will be valuable in the reading of this text as well as in making use of the information presented.

In this book, concepts and principles related to globalization of the textile and apparel business are presented in many forms: as main text and in cases and industry profiles, as well as in pictures, diagrams, and tables. Each form provides a different perspective and emphasis and different food for thought. Numbers in tables provide amazing insights, but it takes a special bit of time and attention to appreciate what they have to offer. Cases presented in each chapter provide the opportunity to apply what is learned to “real-world” scenarios. In addition, each chapter includes an industry profile—a brief description of an apparel professional's career path and how it was affected by the global nature of the industry. Ten industry professionals were interviewed for this edition of the book to illustrate a multitude of career possibilities as well as outline opportunities, challenges and excitement of jobs within the global industry. Discussion and reflection questions are considered after each case and “Learning Activities” are positioned at the end of each chapter. To generate long-term retention as well as the ability to apply what is learned to new situations, students are asked to consider multiple perspectives, recognize assumptions, analyze relationships, and give reasons to support conclusions. This is critical thinking at its best. We encourage delving

into the complexity of the global textile and apparel market and appreciating the challenges that are likely to be a part of a professional career in the field.

For your convenience, a Global Lexicon is presented at the beginning of each chapter. It lists and defines the new vocabulary and concepts discussed in the chapter. You may be familiar with many of these terms in a different context, but reviewing the lexicon before you proceed through a chapter is an *active learning approach* that can speed your progress and enhance your understanding of the topics discussed. Referring back to the Global Lexicon to remind yourself of definitions as you work your way through is a strategic means of building your vocabulary and developing an understanding of the concepts. Note: The Global Lexicon in Chapter 1 is “loaded”; they will become less so as the chapters progress.

From the perspective of some consumers, textile and apparel products are simply something they purchase in the marketplace to satisfy their personal needs. Many of these consumers have little understanding of or a particular interest in where these products originate or how they arrive at their favorite stores. At the opposite end of the consumer continuum are individuals who are concerned about unethical business practices, for example, labor exploitation and environmental issues. These consumers attempt to force the textile and apparel businesses to employ fair and sustainable business practices, both domestically and abroad. These viewpoints, related to labor and the environment, represent social, environmental, and economic perspectives of globalization issues. Throughout this exploration of global business and trade involving textiles and apparel, both participants and observers use multiple legitimate perspectives to reach diverse justifiable conclusions. As you read this book, keep in mind that diverse viewpoints are dependent upon content and context.

## PERSPECTIVES FOR CONSIDERATION OF GLOBALIZATION

### Global Interconnectedness

Because of **globalization**, the world's people have become increasingly connected and interdependent in

## GLOBAL LEXICON

**accessories** bags, jewelry, watches, purses, shoes, belts, and glasses

**apparel industry** combination of businesses that contribute to designing, developing, merchandising, producing and wholesaling of garments and accessories

**apparel production** the process that actually converts materials—including fabrics and findings—into garments; also known as apparel assembly

**brand manager** an apparel company engaged in design and product development as well as distribution, retail and marketing but owns little or no production facilities and sources garment assembly from vendors located elsewhere in the world

**clothing** wearing apparel including men's, women's, and children's garments as well as gloves and headgear

**department store** retailer that provides a variety of product lines, including apparel for men, women, and children; soft goods for the home; and home furnishings, usually at moderate-to-higher price levels

**discount store** retailer that sells goods below typical market prices, also known as an off-price retailer

**domestic trade** exchange of goods and services within the boundaries of a specified state or country

**exports** goods or services shipped across national borders for the purpose of selling

**findings** materials other than face fabric used to construct garments:

interlinings, pocket bags, linings, closures, and trims

**firm** any for-profit business, corporation, proprietorship, or partnership

**global trade** worldwide business that involves interactive participation of many nations in manufacturing, transporting, and distributing products and services

**globalization** process whereby the world's people, their firms, and their countries become increasingly interconnected in all facets of their lives

**gross domestic product (GDP)** market value of all goods and services produced within a country in a year

**gross domestic product (GDP) per capita** gross domestic product (GDP) of a country divided by the number of people in the population after GDP has been adjusted by purchasing power parity (PPP)

**gross national income (GNI)** income generated by a country's citizens, regardless of geographic location of the income; does not include the income of foreign businesses and foreign workers laboring in the country

**gross national income (GNI) per capita** gross national income (GNI) of a country divided by the number of country's residents

**imports** foreign goods or services available for domestic consumption or materials available for domestic production because of exports of other countries

**infant mortality** measures how many babies die within the first year following birth and reflects availability and quality of healthcare in a country

**international trade** any exchange of goods and/or services across national border, involving two or more countries

**life expectancy** number of years a newborn is expected to live on average; reflects quality of healthcare and nutrition in a country

**literacy rate** percent of population who are fifteen years old and older that can read and write; indicates availability of free primary education

**market capitalization** the value of a company that is traded on the stock market, calculated by multiplying the total number of shares by the present share price

**mass retailer** firm that offers a wide variety of low-priced consumer goods in a self-service environment with broad appeal across income ranges and lifestyles

**off-price retailer** see discount stores

**outsourcing** contracting out specific operations outside the company to a domestic or foreign vendor with the goal to perform these operations more efficiently and/or at a lower cost; outsourced operations might include manufacturing, product development, logistics, IT, accounting, customer service, etc.

**purchasing power parity (PPP)** measure that allows comparisons of the countries'

economic output and the well-being of their populations, accounting for price level differences across countries

**retail industry, or retail**

businesses that sell merchandise and/or services to ultimate consumers through brick-and-mortar and/or online stores

**soft goods** products made of textiles, including yarns, fabrics, apparel, home furnishing items, and fashion accessories

**sourcing** process of finding, evaluating, and partnering with a vendor to secure services, materials, production, or finished goods, or a combination of these, at a specified cost, quality, and service

level, for delivery within an identified timeframe

**specialty retailer** retailers that focus on specific classes of merchandise to the exclusion of other products

**supply chain** total sequence of business processes involving single or multiple companies and countries that enables demand for products or services to be satisfied; an apparel supply chain might include some or all of the following: design and product development agencies, material suppliers, manufacturers, transporters, warehouses, retailers, and consumers

**textile complex** includes firms engaged in man-made fiber

production, textile manufacturing (knit, woven, and nonwoven fabrics), apparel manufacturing, retailing, and product consumption and disposal

**textile industry** combination of businesses involved in development and manufacturing of fibers (only man-made), yarns, fabrics, and related materials

**trade** exchange of goods and services; can be domestic, international, or global

**trade balance** difference between exports and imports of a country

**trade deficit** negative trade balance; imports exceed exports in a country

**trade surplus** positive trade balance; exports exceed imports in a country

all facets of their lives. Individual countries, businesses, and people vary by the degree of globalization, or interconnectedness with the rest of the world. To measure how globalized world countries are, the DHL Global Connectedness Index was developed and is updated annually. The index evaluates how involved countries are in the international flows of the four factors: trade, capital, information, and people. A total of 169 countries were evaluated for the 2018 report, which offers a comprehensive assessment of developments in globalization (Altman, Ghemawat, & Bastian, 2019). Global connectedness ranking for selected countries that are most active in textile and apparel is displayed in Table 1.1. The lower the ranking, the more globalized the countries are. The countries are grouped in four regions: Europe, Americas, Asia & Oceania, and Middle East & Africa. The four regions are discussed in the last four chapters of the book with respect to textile and apparel production, trade and consumption.

You can see from Table 1.1 that Europe was the most connected region, where eight of the top ten most globalized countries are located. With the exception of Russia (54), the countries' rankings are less than 40.

Overall, Europe had the highest scores for the trade and people interconnectedness. Netherlands was the most connected economy in the world. In contrast, North America emerged as the leader in the capital and information flows. The region was ranked second among the world regions in terms of globalization. The most globalized countries in the Americas were the United States (30) and Canada (37). The rest of the countries' connectedness index ranges from 58 (Brazil) to 135 (Haiti).

The Middle East and North Africa region was ranked third (this does not include Sub-Saharan Africa). Notice that United Arab Emirates was ranked as the fifth most connected country in the world but the rest of countries' indexes have a very wide range, from 17 (Israel) to 146 (Tanzania). Similarly, countries in Asia and Oceania have a wide range of global connectedness indexes: whereas Singapore was the second-most globalized country and Malaysia, South Korea, Hong Kong, Taiwan, and Thailand are more globalized than the United States, some countries, such as Pakistan (127) or Bangladesh (140) are not well integrated in the global economy yet.

Table 1.1 Global Connectedness Index 2018 for Select Countries Presented by Region							
Europe		Americas		Asia & Oceania		Middle East & Africa	
Ranking	Country	Ranking	Country	Ranking	Country	Ranking	Country
1	Netherlands	30	United States	2	Singapore	5	United Arab Emirates
3	Switzerland	37	Canada	12	Malaysia	17	Israel
4	Belgium	58	Brazil	16	South Korea	47	Saudi Arabia
6	Ireland	68	Mexico	18	Hong Kong	56	South Africa
7	Luxembourg	69	Peru	24	Taiwan	65	Turkey
9	United Kingdom	83	Costa Rica	25	Thailand	70	Jordan
10	Germany	84	Honduras	33	Australia	97	Egypt
15	France	86	Nicaragua	39	Vietnam	132	Ethiopia
21	Spain	87	Colombia	42	Japan	146	Tanzania
26	Italy	91	Argentina	61	China		
36	Poland	125	El Salvador	74	India		
54	Russia	131	Guatemala	111	Indonesia		
		135	Haiti	127	Pakistan		
				140	Bangladesh		

In 2018, globalization reached an all-time high across all the four factors; this was despite growing nationalistic and anti-globalization sentiment in several countries (Altman, et al., 2019). Yet, the majority of trade, people movements, and information exchanges are still happening domestically. For example, the report showed:

- roughly only 20 percent of the total world's production is exported;
- approximately 7 percent of all phone call minutes (including calls over the internet) are international;
- and only 3 percent of the world's population live outside the countries where they were born.

In addition, the report debunks the belief that distance is becoming irrelevant. Most countries are much more connected to their neighbors than to distant nations.

Even though emerging economies trade almost as much as developed economies, they are behind in international capital, people, and information flows (Deutsche Post DHL Group, 2019). On average, advanced economies are three times more deeply integrated into international capital flow, have five times higher people movement, and are almost nine times greater with respect to information flow. The report concluded that globalization is a decisive factor of the world's prosperity and "increasing international cooperation continues to contribute to stability so

companies and countries that embrace globalization benefit tremendously" (Deutsche Post DHL Group, 2019, para 4).

## Global Textile and Apparel Business

In the last thirty years the sources and methods used by textile and apparel professionals for procuring products have undergone profound changes. Until the 1980s and 1990s, the vast majority of textile and apparel products available to consumers were produced domestically. As we progressed into the twenty-first century, however, the source of these products changed from domestic to global as textile and apparel professionals sought the ever-elusive supplies of merchandise that would both satisfy their customers and generate profit necessary to sustain their businesses.

The **textile complex** incorporates firms around the world to accomplish man-made fiber production, textile manufacturing (for example, yarns and knit, woven, and nonwoven fabrics), apparel manufacturing, retailing, product consumption, and disposal. The apparel portion of the textile complex is the primary focus of this book. Apparel includes men's, women's, and children's clothing as well as gloves and headgear. **Accessories** include footwear, handbags, purses, wallets, swatches, tote bags, and belts as well as



eyeglasses and other devices that are attached to the body in some way for comfort, convenience, or aesthetics.

The textile complex consists of three major industries: textile industry, apparel industry, and retail industry. **Textile industry** can be defined as a combination of businesses involved in development and manufacturing of fibers (only man-made), yarns, fabrics, and related materials. Production of natural fibers (cotton, flax, silk, will, etc.) is part of agriculture, not the manufacturing sector. **Apparel industry** is a combination of businesses that contribute to designing, developing, producing, and often wholesaling of garments and other attire that covers, protects, and/or adorns the human body. Finally, **retail industry** is defined as a combination of firms that sell merchandise or services, or both, to ultimate consumers through brick-and-mortar and/or online stores. The primary focus of this text is on the apparel **supply chain** portion of the textile complex, the sequence of business processes involving single or multiple businesses and countries that enables demand for products and/or services to be satisfied. Examination of the operation of the textile complex in the global market involves language drawn from economic, political, and social perspectives.

## LEVELS OF TRADE

**Trade** refers to exchange of goods and services and can be domestic, international, or global. **Domestic trade** refers to exchange of goods and services within the boundaries of a specified state or country. **International trade** is any exchange of goods along international borders, involving two or more countries. **Global trade** is a worldwide business that involves interactive participation of many nations in manufacturing, transporting and distributing products and services. Although the terms *international* and *global* are sometimes used interchangeably, most people understand *global* to mean a universal, comprehensive perspective that pertains to the whole world.

## International Trade

International trade in textiles and apparel is not a new phenomenon. Since the centuries-old trade routes brought silk out of China by way of camel caravans that

crossed the Middle East to Europe, international trade in textile products has prevailed. The silk trade involved silk fiber, silk yarn, silk fabric, and some silk garments produced domestically in China and transported to Europe and Middle East for exchange for other goods and services. Ships crossing the Mediterranean Sea from Africa and Middle East to Europe invariably included textiles in their cargoes. The first ships that arrived in the Americas carried textiles as items for trade with the natives. One of the reasons the South was unable to win the US Civil War was because of the loss of revenue from the cotton trade with Great Britain. In today's markets, large and small textile and apparel firms import materials, finished goods, or both through international trade with firms in countries around the world. Many of these same firms are using international trade to export their products and make them available for sale in multiple countries.

A primary driver of the growth of international trade of textiles and apparel into global trade is the outsourcing of apparel assembly and other services from countries with high wages to countries with low wages. **Outsourcing** is contracting specific operations outside the company to a domestic or foreign vendor with the goal of acquiring more efficient operations, specific expertise, or a lower cost. Outsourced operations might include manufacturing, product development, logistics, IT, accounting, customer service, etc. The term “outsourcing” is often used interchangeably with **sourcing**, which is the process of finding, evaluating, and partnering with a vendor to secure services, materials, production, or finished goods, or a combination of these, at a specified cost, quality, and service level, for delivery within an identified timeframe. Apparel sourcing priorities have contributed to the globalization of trade by driving the apparel manufacturing industry around the world.

## Global Trade

Lodge (1995) provided a generalized definition of the globalization concept, stating that “globalization is the process whereby the world's people are becoming increasingly interconnected in all facets of their lives—cultural, economic, political, technological, and environmental” (p. 1). To further explain global business and the process of globalization, we must clarify the nature of global business transactions.

Businesses involved with the development, production, and distribution of textile and apparel products in a global market potentially deal with a combination of financial, trade and investment, and labor transactions. These transactions incorporate the operation of businesses, labor, and governments in the global context. See and think about Figure 1.1.

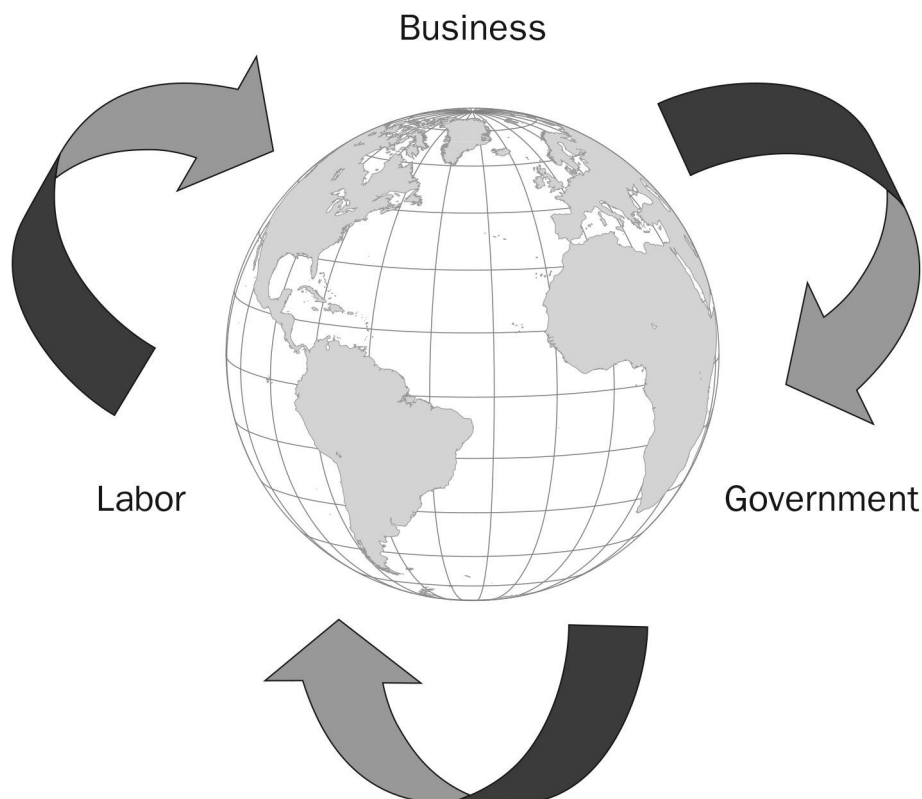
An example of global trade might involve 10,000 pairs of men's suits. These suits, sold in stores across the United States, could have been designed and developed in Canada, made with fabric woven in Taiwan out of wool fiber from Australia, with polyester lining made in South Korea, shoulder pads from China and assembled somewhere in Vietnam. In each country, individuals of different cultural backgrounds are employed; different languages are spoken; diverse tasks requiring different sets of performance skills are performed; and resources, from land and petrochemicals to water and machinery, are required to produce the product. This simple suit becomes a microcosm of globalization, involving many complex and potentially controversial issues.

## Measuring Levels of Trade

Trade is often described in terms of exports and imports. **Exports** are goods or services sold across national borders. Exports result in the accruing of revenue to the firms in the countries where the goods originated. **Imports** make foreign goods and services available for domestic consumption or materials available for domestic production. Both export and import can be measured in quantities, or how many items of goods or services are traded; however, more often export and import data are reported in value (the total cost of goods and service that are being traded), usually in US dollars. The difference between exports and imports for a region or a country is called the **trade balance**. The trade balance is calculated as follows:

$$\text{exports} - \text{imports} = \text{trade balance}$$

A **trade surplus** means there is a positive trade balance; the value of exports exceeds the value of imports. A trade surplus is sometimes regarded as desirable, because, cumulatively, the firms and/or the



**Figure 1.1**  
Business decisions in a global market.

government of the country in question has gained more revenue from the sale of exported goods than it gave up to other countries for the purchase of imported goods. It is important to note that a trade surplus does not necessarily mean that more products are available domestically. In newly developing countries it is common that goods produced for export are not made available to or affordable for domestic consumers. A **trade deficit** means there is a negative trade balance; the value of imports exceeds the value of exports. A negative trade balance may be regarded as undesirable, because greater revenue is accrued to foreign countries as the result of trade than to the domestic country in question.

## CLASSIFICATION OF COUNTRIES BY LEVELS OF ECONOMIC DEVELOPMENT

### GDP and GNI

To understand what role countries play in the global textile complex in relation to trade and why some countries are primarily textile and apparel exporters while other countries import more textile and/or apparel products than they export, it is necessary to consider a country's level of economic development. The level of economic development is of particular interest to us because location of different parts of the textile and apparel supply chain tends to be determined by level of development of the countries involved. To classify countries based on level of economic development, the following economic indicators are typically used:

- country's **gross domestic product (GDP)** per capita;
- country's **gross national income (GNI)** per capita;
- the population's **purchasing power parity (PPP)**.

GDP measures market value of all goods and services produced within a country in a year; it includes income earned by foreigners and foreign businesses while they are in the country. GDP per capita is GDP divided by the number of people in a country's population but only *after GDP has been adjusted by purchasing power parity*. Purchasing power parity (PPP) is a measure that allows comparisons of the countries' economic output

and the well-being of their populations, accounting for price level differences across countries. In other words, PPP equalizes the purchasing power of currencies.

GNI is income generated only by a country's residents and businesses, regardless of where it was produced. GNI per capita is GNI divided by the number of a country's residents. GNI does not include the income of foreign businesses and foreign workers laboring in the country. GNI per capita can be calculated after adjusting for PPP. Per capita GDP and GNI are used by researchers and major world organizations to determine a country's level of economic development.

Table 1.2 presents both GDP per capita and GNI per capita for the world countries that are most active in textile and apparel production, trade, and/or consumption. These countries are discussed in depth in Part 3 of the book, where the four world regions and their involvement in the global textile and apparel industry are described. The countries in Table 1.2 are organized in four groups, using the World Bank's classification system based on countries' per capita GNI. Note that World Bank uses the Atlas method to calculate GNI; it helps reduce the impact of short-term exchange rate fluctuations.

For the 2020 fiscal year, World Bank (n.d.) classified 217 world countries into four income groups, as follows:

- 31 *low* income countries with GNI per capita of \$1,025 or less;
- 47 *lower-middle* income countries with GNI per capita between \$1,026 and \$3,995;
- 60 *upper-middle* income countries with GNI per capita between \$3,996 and \$12,375;
- 80 *high* income countries with GNI per capita of \$12,376 and more.

World Bank revises the country classification by income annually and releases new groupings every year on July 1. The thresholds for classifying the countries are also reviewed and adjusted periodically.

Glance over the values of the per capita GNI and GDP in Table 1.2. The range among nations' income per capita is astounding! Note that for many countries per capita GDP doubles and for some countries nearly triples per capita GNI. The last column in Table 1.2 displays in which world region each country is located. Countries in the high-income group represent all regions of the world but Africa. The upper-middle

**Table 1.2** Countries by Level of Economic Development

Country	GNI per Capita, Atlas Method <sup>1</sup>	GDP per Capita (PPP) <sup>2</sup>	Least Developed Country, UN method <sup>3</sup>	World Region
<b>Low-income, or least developed economy</b>				
Ethiopia	\$790	\$2,200	X	Africa
Haiti	\$800	\$1,800	X	Americas
Madagascar	\$440	\$1,600	X	Africa
Uganda	\$620	\$2,400	X	Africa
<b>Lower-middle income, or newly developing economy</b>				
Bangladesh	\$1,750	\$4,200	X	Asia
Cambodia	\$1,380	\$4,000	X	Asia
Egypt	\$2,800	\$12,700		Africa
El Salvador	\$3,820	\$8,000		Americas
Honduras	\$2,330	\$5,600		Americas
India	\$2,020	\$7,200		Asia
Indonesia	\$3,840	\$12,400		Asia
Kenya	\$1,620	\$3,500		Africa
Morocco	\$3,090	\$8,600		Africa
Nicaragua	\$2,030	\$5,900		Americas
Pakistan	\$1,580	\$5,400		Asia
Tunisia	\$3,500	\$11,900		Africa
Vietnam	\$2,400	\$6,900		Asia
<b>Upper-middle income, or developing economy</b>				
Argentina	\$12,370	\$15,600		Americas
Brazil	\$9,140	\$16,300		Americas
China	\$9,470	\$16,700		Asia
Colombia	\$6,190	\$14,400		Americas
Guatemala	\$4,410	\$8,200		Americas
Jordan	\$4,210	\$9,300		Middle East
Malaysia	\$10,460	\$29,100		Asia
Mexico	\$9,180	\$19,900		Americas
Peru	\$6,530	\$13,500		Americas
Russia	\$10,230	\$27,900		Europe
Sri Lanka	\$4,060	\$12,900		Asia
South Africa	\$5,720	\$13,600		Africa
Thailand	\$6,610	\$17,900		Asia
Turkey	\$10,380	\$27,000		Middle East
<b>High-income, or developed economy</b>				
Australia	\$53,190	\$50,400		Oceania
Canada	\$44,860	\$48,400		Americas
France	\$41,070	\$44,100		Europe
Germany	\$47,450	\$50,800		Europe
Hong Kong	\$50,310	\$61,500		Asia
Israel	\$40,850	\$36,400		Middle East
Italy	\$33,560	\$38,200		Europe



Japan	\$41,340	\$42,900		Asia
Spain	\$29,450	\$38,400		Europe
Portugal	\$21,680	\$30,500		Europe
Saudi Arabia	\$21,540	\$54,500		Middle East
United Arab Emirates	\$41,010	\$68,600		Middle East
United Kingdom	\$43,860	\$41,330		Europe
United States	\$62,850	\$59,800		Americas

<sup>1</sup>World Bank. (2018). GNI Per Capita, Atlas Method. Retrieved August 21, 2019, from <https://data.worldbank.org/indicator/NY.GNRPCAPPPKD>

<sup>2</sup>Central Intelligence Agency. (2017) World Factbook: GDP Per Capita (PPP). Retrieved August 21, 2019, from <https://www.cia.gov/library/publications/the-world-factbook/fields/211.html#AS>

<sup>3</sup>United Nations. (March, 2018). Economic Analysis and Policy Division. LDCs at a Glance. Retrieved August 21, 2019, from <https://www.un.org/development/desa/dpad/least-developed-country-category/lcds-at-a-glance.html>

income group includes countries from all four regions of the world: Africa and Middle East, Americas, Asia, and Europe. The same is true for the lower-middle income group. The low-income group consists primarily of African countries, along with several Asian countries and Haiti.

A slightly different classification of countries based on their level of development is used by United Nations (UN). In 2018, UN included 47 nations in the group of least developed countries (LDCs) with the purpose to coordinate international support measures for these economies. LDCs are “low-income countries confronting severe structural impediments to sustainable development” (United Nations, n.d., para 1). Refer to Table 1.2 where these countries are marked with an “X” (Column 3). All countries classified by World Bank into the low-income group are also included in the LDC category. In addition, several countries in the lower-middle income group, such as Bangladesh and Cambodia, are also considered as LDCs by the UN.

Every three years the LDC list is reviewed by the UN Committee for Development Policy, using three comprehensive indices:

- income, measured by GNI per capita,
- human assets, assessing health and education indicators,
- economic vulnerability that includes measures of types and stability of exports and agricultural production, among other factors.

Countries can graduate from the LDC category as well as be added to it, based on GNI per capita thresholds as well as the preceding economic and social indicators.

Another common approach for classifying world countries based on economic development is to use

the four groups: developed countries, developing countries, newly developing countries, and least developed countries. World average GDP per capita (PPP) is employed to classify a country into one of the four groups. The world average GDP per capita was estimated at \$17,500 for 2017. Level of development of countries can be described as follows:

- When a country’s GDP per capita is significantly higher (about twice or more) than the world average, the country is called “developed”; citizens in these countries typically have access to high-quality social services such as health care and education.
- When a country’s GDP per capita is about the same as the world average, the country is called “developing”; adequate social services such as health care and education are available in these countries but not all citizens have access to them.
- When a country’s GDP per capita is significantly lower (about three times) than the world average, the country is called “newly developing”; a significant portion of population in these countries does not have access to health care, education, and other social services.
- A country with the world’s lowest GDP per capita (eight to ten times lower than the world average) is called “least developed”; the majority of population in these counties might be at risk of a humanitarian crisis.

Carefully review the data in Table 1.2. For countries in the *high*-income group, GDP per capita ranges from \$30,500 (Portugal) to \$68,600 (United Arab Emirates), which is about twice the world average or more. These countries are considered developed economies. For most countries in the *upper-middle* income group, GDP per

capita is in the teens, from \$8,200 (Guatemala) to \$27,900 (Russia). These countries are considered developing economies, including Brazil, China, Mexico, and South Africa. In the *lower-middle* income group, most countries' GDP per capita is around \$4,000 to 6,000. These countries are typically referred to as newly developing economies. Finally, countries in the *low*-income group have GDP per capita lower than \$3,000. These countries are considered as least developed economies, in line with the UN classifications discussed earlier.

You can see from Table 1.2 that per capita GDP and GNI are closely related. GDP and GNI per capita indicators are more easily accessible and more often used by economists as well as media; therefore, it is used in this book to describe a country's level of economic development. To classify a country by level of economic development, the four groups are used (Table 1.2) and labeled as either by the income group or by development level (developed, developing, newly developing, and least developed).

It is important to keep in mind that the classifications of countries by level of economic development, whether using per capita GDP or GNI, are not perfect and in many cases simply offer an estimate as to which group a country most likely belongs. Besides the income measures, it is very important to consider other economic and social indicators, such as literacy rate, life expectancy, infant mortality, unemployment, inflation and others. As a country's economy develops and quality of life improves for its citizens, the country moves up in the classification. In contrast, if a country is weakened by civil war for a significant time (which has been the case with Syria in the 2010s), or has a prolonged political and economic crisis (like in Venezuela, for example), it might move down in the classification.

## Other Indicators of Economic Development

While per capita GNI and GDP are the primary indicators for determining a country's level of economic development, it is important to consider other indicators of population well-being. Table 1.3 presents three well-being indicators along with the world average values for each indicator:

- **Literacy rates** for males and females indicate the percent of people in a country who are fifteen years

old and older that can read and write; it is indicative of the level of education accessibility such as free primary education systems.

- **Infant mortality** measures how many babies die within the first year following birth and reflects availability and quality of healthcare.
- **Life expectancy** indicates how many years a newborn is expected to live on average and reflects levels of nutrition and healthy lifestyle in a country.

In general, these variables present changes in a positive direction as countries become more developed.

In Table 1.3, literacy rates for developed countries are at 95–99 percent. This means that in these nations almost all people who are fifteen years old and older can read and write. Literacy rate is the same for both males and females in the United States and very close in Germany. In Japan, female literacy rate (95%) is lower than male literacy (99%). In developing countries, literacy rates are also quite high—all in the 90s percentile. However, there is a more noticeable gender difference as in all three countries more men can read and write than women do. In newly developing countries, the literacy rate is lower, in the 60s–80s percentile, with even greater difference between males and females. For example, in India, 40 percent of females age fifteen and over cannot read and write, whereas the number for males is half lower—20 percent of adult males are illiterate. In Pakistan, nearly two-thirds of adult males but under half of adult females can read and write. In the least developed economies, literacy rates are even lower: in the 40s–60s percentile. The lowest rates are in Ethiopia where 57 percent of adult males and 41 percent of adult females can read and write.

In developed countries, infant mortality is quite low. Considering the countries listed in Table 1.3, out of 1,000 births in developed countries, between two and seven babies die. In the United States the number of infant deaths is more than twice higher than in Germany and Japan. In developing and newly developing countries, infant mortality is much higher and ranges from teens to thirty baby deaths within the first year of life. Least developed countries have by far the highest infant mortality rates—forty to forty-eight babies die within the first year of their birth out of every thousand newborns.

Life expectancy tends to be higher in more developed economies because of better health care systems,

**Table 1.3** Indicators of Levels of Development for Selected Countries<sup>1</sup>

Country	Literacy Rate, Male	Literacy Rate, Female	Infant Mortality (per Thousand Live Births)	Life Expectancy at Birth (in Years)
<i>Lower-Income / Least Developed Economy</i>				
Ethiopia	57.2%	41.1%	48.3	63
Haiti	64.3%	57.3%	45.4	64.6
Madagascar	66.7%	62.6%	40.1	66.6
<i>Lower-Middle Income / Newly Developing Economy</i>				
Bangladesh	75.6%	69.9%	30.5	73.7
India	81.3%	60.6%	37.8	69.1
Egypt	86.5%	75%	18.3	73.2
Nicaragua	82.4%	83.2%	17.7	73.7
<i>Upper-Middle Income / Developing Economy</i>				
China	98.2%	94.5%	11.8	75.8
Mexico	95.8%	94%	11.3	76.3
South Africa	95.4%	93.4%	29.9	64.1
<i>High-Income / Developed Economy</i>				
United States	99%	99%	7.7	80.1
Japan	98.7%	95.4%	2.0	85.5
Germany	98.8%	97.7%	3.3	81.8
<i>World Average</i>	<i>89.8%</i>	<i>82.6%</i>	<i>32</i>	<i>69.8</i>

<sup>1</sup>Based on estimates of 2017 data from the Central Intelligence Agency (CIA), "The World Factbook." Retrieved August 22, 2019 from <https://www.cia.gov/library/publications/the-world-factbook>

nutrition, and overall quality of life. In countries that are less developed and that have lower well-being levels, people are expected to have shorter lives. The highest life expectancy is in Japan (85 years), the lowest in Ethiopia (63 years), and the world average is almost seventy years.

The examples in Table 1.3 illustrate that every indicator has to be considered together with other economic data and placed in appropriate context. We will be using demographics and other data like these throughout this text to examine the well-being of populations in relation to where the textile and apparel industry is located and how it works. It is important to have a good understanding of these indicators to determine a country's level of economic development and be able to explain some differences among developed, developing, newly developing and least developed countries. How does level of economic development relate to the textile and apparel industries and trade? For an apparel professional, why is it important to know how developed (or not) a country is? The answers to these questions now begin, after

discussing major characteristics of the textile and apparel industries and reviewing the basics of trade.

## TEXTILE AND APPAREL INDUSTRIES

### Labor Intensive Apparel Production

Historically, both the textile and apparel industries were labor intensive. It is no longer the case for the textile industry as all the processes of making yarns and fabrics are now automated: computers oversee and control quality at all the stages of spinning, weaving, dyeing, and finishing yarns and fabrics. However, all attempts to mechanize and automate apparel production have been largely unsuccessful. In fact, apparel assembly remains one of the most labor-intensive industries due to several reasons.

First and most important, materials that are used to make apparel tend to be very pliable and delicate. Yarns and fabrics can be easily overstretched or shrunk during

processing, so it is not easy to use robotic elements to handle these materials. In contrast, many other industries use assembly components made of sturdy plastic, wood, glass, or metal that can hold a shape and can be handled and manipulated more easily by robotic elements.

Second, a great variety of types of materials are used to make apparel. For example, the same top can be made of silk organza, cotton calico, polyester jersey, or wool crepe, not to mention leather or its substitutes. A combination of different fibers and blends with dozens of fabric weaves and structures for the relevant garment designs results in different sewing properties that have to be accounted for when assembling a garment as well as the equipment required for making it.

Third, there is even a greater variety in apparel products. Hundreds if not thousands of styles are developed and produced by each company every year. Apparel factories have to quickly change assembly of one style of garment to the next. This is in sharp contrast with many other industries that continuously manufacture the same models and styles of products for several years.

Finally, each apparel product comes in many different sizes—from XXS to XXXL, all sizes are in petite, regular and tall. An assembly line has to accommodate all the changes in materials, product styles, and sizes very quickly and frequently, which makes it nearly impossible or prohibitively expensive to use robots for sewing. This is why “despite millions of dollars invested in research in mechanization [and

technology], people are still required to piece together fabric and feed it in the sewing machine” (Rivoli, 2009, p. 86). There has been lots of new technology developed but the majority of the time the key event that makes apparel assembly possible is human hands running fabric under the needle (Figure 1.2).

In contrast to the apparel industry, the textile industry is more capital intensive and technology intensive than labor intensive. Modern textile mills are run by computers and look comparatively empty; there are a few operators who are there to adjust computer settings and address any machinery and process problems (Figure 1.3). Today, manufacturing of textiles requires little physical labor but workers need to be educated enough to operate complex computerized looms. Machinery for textile production is very expensive. In addition, textile finishing mills require compliance with environmental standards for using water for dyeing and finishing processes, and this equipment is also expensive. Typically, textile mills rely on economy of scale and require a relatively large operation to produce competitively priced fabrics, which makes the textile industry more capital intensive and technology intensive than the apparel industry.

## Apparel Industry Entry Barriers

Another unique characteristic of the apparel industry is its low entry barriers, which means it is easy to enter the industry by starting a new apparel business. Entry



**Figure 1.2**  
Apparel assembly line with people operating sewing machines, illustrating the labor-intensive nature of the industry.



**Figure 1.3**

Modern textile mill in operation showing some of the machinery and technology required for producing textiles (notice: no human beings are on site).



barriers are low because if, for example, you compare apparel production with manufacturing of electronics or cars:

- Relatively simple machinery and equipment is needed for apparel production.
- Machinery is fairly simple to operate; apparel assembly does not require highly skilled workers and training times tend to be short.
- Comparatively little capital is needed for a start-up because machinery and equipment are less expensive than in other industries that are more technology intensive.

These low entry barriers are the reason why practically all countries in the world began their industrialization with apparel manufacturing. Low wages are regarded as critical for labor-intensive apparel production. Labor cost depends on a country's level of development: less-developed countries have lower wages.

## Developed Countries

Developed economies have high income as measured by per capita GNI and GDP (Table 1.2) as well as highly desirable social indicators of quality of life: low infant mortality and high literacy and life expectancy (Table 1.3). For 2020, World Bank (n.d.) classified eighty countries in this group. Beginning in the late 1700s with the start of the Industrial Revolution, manufacturing of textile and apparel products formed the foundation of the economies in developed

countries. In every case, the developed nations listed in Table 1.2 plus many others have at one time or another utilized textile and clothing production as a major means of achieving industrial and economic growth.

As the countries became developed and labor cost increased, there was a shift from producing textiles and clothing to consuming them. For example, recently, South Korea moved into this group because the country readily embraced industrialization in the 1970s through large scale textile and apparel production as a means of building economic development. Today, you can find very little apparel assembly in South Korea as the country produces electronics, cars, and other technology-intensive products. Some Korean high-tech and automotive brands that might be familiar to you are: Samsung, LG, Hyundai, and Kia. Typical for any developed country, as the standard of living improves, industry evolves from a primary focus on manufacturing to creative and technological aspects of a business and information-driven economy.

Due to high cost of labor, developed countries have relatively little domestic clothing manufacturing; as a result, most developed nations have a deficit in apparel trade. All developed countries but Italy in Table 1.4 import significantly more clothing than they export. For example, the United States imported about sixteen times more apparel (\$91 billion) than it exported (close to \$6 billion). Italy exported more clothing (\$24 billion) than it imported (\$16 billion). As you will learn in Chapter 9, Italy has a highly competitive textile and apparel sector

that allows for significant domestic apparel production and exports of luxury fashion goods.

Many developed countries have advanced textile industries and produce a lot of man-made fibers, yarns, and fabrics. Because most of these countries have limited clothing production, they export a lot of their domestically produced textiles. For example, Italy and Germany have positive balance known as a textile trade surplus, where textile exports exceed imports. Other developed countries in Table 1.4 have a negative trade balance in textiles; however, the textile trade deficit is much smaller than the apparel trade deficit.

## Developing Countries

Developing economies have upper-middle income as measured by per capita GNI and GDP (Table 1.2); their social indicators of quality of life—infant

mortality, literacy, and life expectancy—are relatively good, but not as good as in developed countries (Table 1.3). For 2020, World Bank (n.d.) classified sixty countries in this group. Through industrialization, developing countries have significantly improved their overall economic conditions and well-being. Many developing nations have built impressive textile and apparel industries and successfully compete in the global marketplace. However, developing countries are no longer the lowest-cost labor sources for apparel and many other products. Thus, many of these countries, like Russia, now either outsource apparel assembly, or, like Mexico, have struggled to maintain apparel assembly in the face of lower labor costs in newly developing and least developed countries. Generally, developing countries are transitioning from focusing on production for export to increasing focus on production for domestic consumption.

<b>Table 1.4</b> 2017 Textiles and Apparel Imports and Exports for Selected Economies, in Millions of US Dollars				
	<b>Textile Imports</b>	<b>Textile Exports</b>	<b>Apparel Imports</b>	<b>Apparel Exports</b>
<i>Developed Countries</i>				
Canada	\$4,517	\$1,780	\$10,087	\$1,289
France	\$6,996	\$4,738	\$24,204	\$11,732
Germany	\$12,997	\$14,123	\$37,314	\$20,942
Italy	\$8,208	\$12,076	\$16,077	\$23,324
Japan	\$8,383	\$6,521	\$28,098	\$591
United States	\$29,746	\$13,658	\$91,300	\$5,728
<i>Developing Countries</i>				
Brazil	\$3,329	\$799	\$1,841	\$152
China	\$17,284	\$109,884	\$7,267	\$158,463
Mexico	\$6,316	\$2,645	\$3,628	\$4,638
Russia	\$3,146	\$1,523	\$7,264	\$300
Turkey	\$6,837	\$11,448	\$2,390	\$15,100
<i>Newly Developing Countries</i>				
Bangladesh	\$9,403	\$1,800	\$1,086	\$29,212
Cambodia	\$4,610	\$180	\$123	\$7,192
Honduras	\$1,739	\$5	\$319	\$3,176
Kenya	\$392	\$42	\$131	\$314
Morocco	\$2,769	\$453	\$474	\$3,163
Vietnam	\$16,260	\$7,376	\$1,092	\$27,782
<i>Least Developed Countries</i>				
Ethiopia	\$287	\$23	\$361	\$74
Madagascar	\$323	\$44	\$39	\$523

Source: World Trade Organization. (2017). "International Trade and Market Access Data." Retrieved June 6, 2019, from [https://www.wto.org/english/res\\_e/statis\\_e/statis\\_bis\\_e.htm](https://www.wto.org/english/res_e/statis_e/statis_bis_e.htm)

Most developing countries have either built or are in the process of establishing textile manufacturing. If these countries are major textile manufacturing nations, such as China and Turkey, they have textile trade surplus: they export more yarns and fabrics than they import. In contrast, other developing countries in Table 1.4 (Brazil, Mexico, and Russia) have a textile trade deficit as they import more textiles than they export. For example, in 2017, Turkey exported (\$11 billion) twice as much textiles as it imported, and China exported (\$110 billion) over twenty-two times more textiles than it imported. China is the number one textile exporter in the world and Turkey is number five, following the United States.

Apparel trade has similar patterns to the textile trade. The same major producing countries, Turkey and China, have significant trade surplus. In 2017, Turkey exported (\$15 billion) six times more apparel than it imported, while China exported (\$158 billion) over twenty-one times more apparel than it imported. Similar to textiles, China is the undisputable world champion in apparel production and export. In contrast, Brazil and Russia had negative apparel trade balances. In general, developing countries, over time, tend to upgrade apparel production to develop and manufacture higher-quality goods positioned at higher price points. This becomes necessary to compete with lower wages in newly developing and least developed countries.

## Newly Developing Countries

Newly developing economies have lower-middle income as measured by per capita GNI and GDP (Table 1.2). Literacy in these countries is substantially lower than in developed and developing nations, especially, among women; whereas infant mortality is higher (Table 1.3). For 2020, World Bank (n.d.) classified forty-seven countries in this group. Newly developing countries tend to be economies that primarily rely on agriculture, although some countries, which actively pursue industrialization, have built significant apparel manufacturing capacities. Because the apparel industry has the lowest entry barriers in the industrial sector and labor-intensive production, newly developing countries can be ideal locations, as one of their most available resources is a low-wage workforce. In many newly developing economies apparel manufacturing

often provides the only industrial employment option, especially for women, to support their families and afford education for children.

All newly developing countries in Table 1.4 have apparel trade surplus as they export more apparel than they import. Countries such as Bangladesh and Vietnam emerged as major apparel suppliers to the world, second and third only to China. These countries tend to focus more on production for export rather than on production for domestic consumption. They also import little apparel as the middle class in these nations has not yet gained much prominence.

Newly developing countries tend to have little textile production as they do not have sufficient capital, technology, and education levels to support the industry. Newly developing countries might have some natural fiber-based textile production and typically import man-made fiber-based textiles from developed and developing countries. As a result, these countries have to import the textiles needed for apparel production and, therefore, typically have a trade deficit in textiles. All newly developing countries in Table 1.4 import more textiles than they export.

## Least Developed Countries

Least developed economies have low income as measured by per capita GNI and GDP (Table 1.2). Social indicators are the lowest in comparison with other countries of the world and world averages (Table 1.3). For 2020, World Bank (n.d.) classified thirty-one countries in this group. Note that United Nations (n.d.) identified forty-seven countries as least developed in 2018.

Nations in this group might suffer from social unrest, corrupt and inefficient government, or lack of appropriate laws and regulations as well as their enforcement necessary for supporting business activity. Because these countries have the lowest wages in the world, they are attractive for the labor-intensive apparel industry. In addition, many countries have large populations that might be underemployed. Many least developed countries, such as Ethiopia, have been actively building up the apparel industry by attracting investors from all over the world, as you will learn in Chapter 12. It is important for global apparel companies to contribute to economic development and social stability in these nations by providing safe

working conditions and well-paid factory jobs when partnering with local companies or investing in new industrial facilities. In fact, it should be a responsibility of multibillion-dollar apparel businesses that built their fortunes on millions of low-paid workers stitching clothes for these brands around the world.

## ORGANIZATION AND OPERATION OF THE TEXTILE COMPLEX

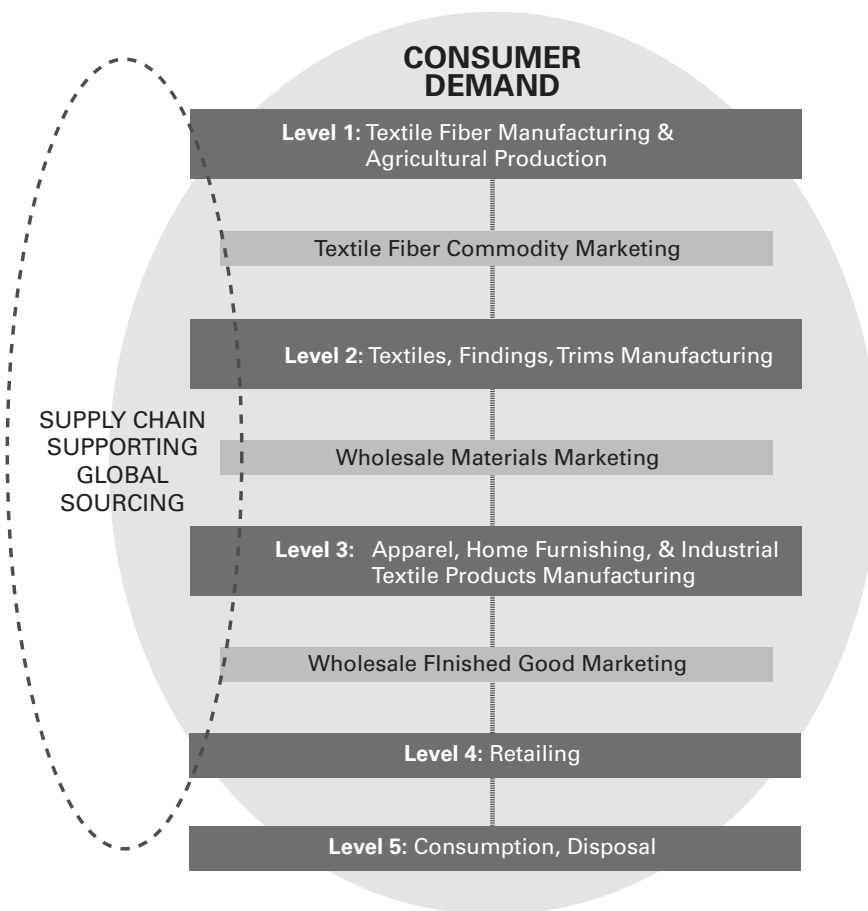
The textile complex is the combination of textile-related firms that supply soft goods to the world population. A **firm** is any business, be it corporation, proprietorship, or partnership. In the textile complex a firm could be engaged in (1) manufacturing; (2) sourcing; (3) supplying materials, equipment, or technology; (4) retailing; or (5) some combination of these activities. **Soft goods** are products made of textiles, including yarns, fabrics, apparel, home furnishing items (linens, towels,

upholstery, draperies, etc.), and fashion accessories. There are three primary end uses for soft goods: apparel, household goods, and industrial products. The primary focus of discussion here is on the apparel component of the textile complex, although textile products, such as bedding, drapes, and towels, and industrial products, such as medical materials, roadbeds, and building materials, are growing components of the textile complex.

### Structure of the Textile Complex

Figure 1.4 presents a conceptual model showing the five levels that are the primary components of the textile complex, from fiber and other materials supply through product consumption and disposal. The five levels of the model are linked together by a loop representing a supply chain supporting global sourcing. Note that all the different dimensions involved in operating a supply chain begin with consumer demand.

Each of the five levels of the textile complex in Figure 1.4 represent different but related areas of



**Figure 1.4**  
The primary components of the textile complex integrated into a global supply chain.



specialization necessary to convert raw materials into finished goods for the ultimate consumers. Each also has multiple categories, subcategories, and auxiliary activities that contribute to the necessary functions in each area of specialization. Between each of the levels is often a wholesale function for transferring ownership of goods to the next level in the textile complex. In the model, think of the five levels as floating over a sea of consumer demand that constantly requires redefinition of the products being conceptualized, planned, designed, developed, and produced. Ultimate consumers make the final decisions that determine who and what are the winners and the losers. Now, consider the activities that are necessary components of each level of the textile complex.

### ***Level 1—Fiber Manufacturing and Agricultural Production***

Natural textile fibers derived from plants and animals are two basic types: cellulose and protein. Common examples of cellulose fibers from plants include cotton, flax (or linen), and ramie. Examples of protein fibers are wool (from sheep), cashmere (from goats), and silk (from silk worms). Manufactured, or man-made fibers, including rayon and acetate, are made from cellulosic sources such as wood pulp and cotton linters that contain naturally occurring polymers. Bamboo has recently become a popular source of wood pulp for making rayon. Many synthetic fibers, including nylon, polyester, and acrylic, have polymers made from petrochemicals, so their characteristics differ greatly from those of natural and manufactured cellulosic fibers. Whether the fibers come from the farm, the forest, or the laboratory, once they are harvested or generated, many are sold in commodity markets where prices change on a daily basis, depending on supply and demand.

Production of fibers for the textile complex is spread globally. China, India and the USA are the leading suppliers of cotton. African countries as well as Pakistan and Uzbekistan are also major cotton producers. Australia supplies more wool to the world market than any other country. China and Thailand are known for production of silk. Manufacturing of manmade fibers is present on every continent; the major producing countries include China, Japan, Taiwan, South Korea, India, USA, and European Union. Manmade fibers are primarily manufactured in developed and

developing countries. Because manufactured fiber production requires large-scale operations, expensive and complex machinery and special facilities as well as educated professionals, most newly developing and least developed countries do not have sufficient capital and technological and infrastructure levels to support manufacturing of polyester, nylon, and other petrochemical-based fibers.

### ***Level 2—Textiles and Findings Manufacturing***

Level 2 of the textile complex comprises all the activities related to manufacturing yarns, fabrics, fabric finishing, and the production of findings. These businesses convert fibers produced at Level 1 into textile materials that will be used at Level 3 to make textile-based products for the ultimate consumer. While some firms may specialize in only one type of activity (e.g., yarn spinning or fabric finishing), many textile mills are vertically integrated, so they make yarn, weave fabric, and finish fabric by dyeing or printing and applying different finishing (e.g., wrinkle resistance or water repellent) so that the fabrics are ready to be cut and sewn.

**Findings** are all the materials used in apparel products in addition to the face fabrics. Major categories of findings are as follows:

- thread, a special type of yarn that holds pieces of sewn products together
- closures, including zippers, snaps, hooks, hook and loop fasteners, and buttons
- support materials, including interlining, shoulder pads, adhesives, tapes, sleeve headers, and collar stays
- trims, including ribbon, lace, bindings, edging, and anything else that might be used to ornament or enhance garments
- labels, permanently attached information related to brand names, trademarks, fiber content, and care information

Because fabric and findings decisions need to be made very early in the apparel design process, wholesale of textile products must occur early in the apparel product development cycle (Figure 1.5). One of the major international market fairs for textile products is *Première Vision*, held in Paris, France. To shorten the preproduction cycle, different technology is used

to test out new designer concepts. For example, digital textile printing can cut weeks off the preproduction process, making it possible to respond more quickly to changes in fashion-related consumer demand (Figure 1.6). Virtual prototyping is another strategy to shorten the time needed to develop new products as it allows to fit samples virtually on an avatar instead of a live model or a dress form.

Fabric and yarn manufacturing is present, to some extent, in every country of the world. It might vary

from a simple handloom making craft fabric by the inch to multibillion-dollar conglomerates producing tons of yarns and fabrics. In 2018, top textile exporters were (Lu, 2019):

- China with \$118 billion
- European Union with \$74 billion
- India with \$18 billion
- USA with \$14 billion
- Turkey with \$12 billion



**Figure 1.5**  
Textile product trade show.



**Figure 1.6**  
Digitally printed fabric can be used to make apparel samples for testing designer concepts before bulk fabric is produced at textile mill.

### **Level 3—Apparel and Other Textile Products Manufacturing**

Level 3 comprises all activities related to production of apparel and other textile-based products from yarns, fabrics, and findings manufactured at the Level 2. Apparel manufacturing encompasses processes to design, develop, merchandise, produce, and wholesale garments and accessories. Manufacturing of other textile products includes various home furnishings—from bedding and towels to upholstery, draperies, and carpets—as well as industrial textile products for medical, construction, automotive, agricultural, and other applications.

In a global supply chain, different stages of apparel manufacturing are often completed in different countries. Carefully read Case 1 and consider the questions. Preproduction processes (development of fabrics and findings, product design, merchandising, sourcing materials, approval of samples, etc.) and postproduction processes (logistics, distribution, marketing and sales) are typically carried out in developed countries, such as Canada, Australia, Japan or EU nations.

**Apparel production**, also known as apparel assembly, is the process that actually converts materials—including fabrics and findings—into garments. Apparel production includes the following typical processes: cutting, sewing, pressing, inspecting, and packaging. These production processes usually take place in newly developing and some developing countries, where wages are significantly lower than in developed economies. Recall that apparel production is one of the most labor-intensive sectors, requiring many hands to carefully feed the fabric under the needle. Several least developed countries were able to establish export-oriented apparel production industrial parks that attracted foreign investors but these countries are not major producers and exporters of apparel yet.

Because most apparel companies in developed economies are no longer involved in apparel production, the traditional term “apparel manufacturer” has been replaced by apparel firm or **brand manager** to emphasize the importance of branding, merchandising, marketing of products. Brand managing firms typically do their own design and product development as well as distribution and retail but are not involved in apparel production. Many traditional retailers are now actively engaged in preproduction and postproduction manufacturing activities by developing and selling private label lines.

In 2018, the top five apparel manufacturing and exporting countries were, by the value of exports (Lu, 2019):

- China with \$158 billion
- European Union with \$144 billion
- Bangladesh with \$33 billion
- Vietnam with \$32 billion
- India with \$17 billion

Only European Union (EU) on the list has developed countries; the rest are developing (China) and newly developing (Bangladesh, Vietnam, and India) economies. You will learn in Chapter 9 that several countries in Europe (Italy, France, Germany, Spain, and United Kingdom) have viable domestic apparel production of high-end, designer clothing produced for the EU market as well as for exports.

Many apparel firms have sales forces that sell their product lines to retailers either at wholesale markets, at a retail buyer’s office, through sourcing fairs, or private showrooms. Major apparel market centers in the United States are located in New York, Los Angeles, Atlanta, Dallas, and Chicago. Major offshore apparel market centers include Milan, Paris, and London in Europe, and Tokyo, Hong Kong, and Singapore in Asia. One of the major market centers for knitwear is Florence, Italy. During market weeks, formal presentations such as fashion shows and personal presentations of styles to buyers are made to encourage sales (Figure 1.7). Most retail buyers view the options among dozens of product lines and return home to examine their merchandise plans and place orders to translate the line plans into styles, sizes, and colors of real merchandise. The product orders put the desired merchandise selections into production.

### **Level 4—Retail**

**Retail** is the sale of merchandise and services to ultimate consumers. At this level, goods produced at Level 3 are sold through many different retail channels. The organization and structure of retail over the world have changed significantly in the first decade of the 2000s, with the proliferation of e-commerce and globalization of apparel supply chain. In fact, many retailers are now engaged in apparel manufacturing, specifically in the pre-production stage, including but not limited to design, product development, and sourcing apparel production. Many retailers, particularly large corporations, are





**Figure 1.7**  
Manufacturer's sales representative showing finished merchandise to retail buyers at a wholesale trade show.

also engaged in post-production stage of apparel manufacturing. They either control directly, or through established subsidiaries, logistics, ocean and in-land transportation, custom clearance, and distribution.

The most common type of store is **specialty retailer**, which focuses on selling only selected categories of merchandise. For example, Naturalizer focuses on shoes and accessories. Nike and Adidas specialize in sportswear. Ann Taylor, a specialty chain, sells business and business casual wear for career women (Figure 1.8a). Specialty stores make up the majority of thousands of independent, single-unit retailers.

**Department stores** present multiple categories of merchandise in designated areas of the store. These

stores provide a variety of product lines, such as apparel for men, women, and children, as well as home furnishings and other home goods. Products are priced at or near the middle- to upper-middle price ranges. Examples of department stores are Kohl's, Belk, and Dillard's (Figure 1.8b).



**Figure 1.8a**  
Ann Taylor, an example of a specialty apparel retail chain for women, operates as a subsidiary of Ascena Retail Group, which also owns Justice, Dressbarn, and Lane Bryant.



**Figure 1.8b**  
The impressive front door of a Dillard's department store, which was founded in 1938 and had 291 stores across twenty-nine states in 2018.





**Figure 1.8c**

T.J. Maxx, one of the off-price and powerful US-based discount retailers.



**Figure 1.8d**

Target's classic symbol on the front of each store means "expect more, pay less."

**Discount stores, or off-price retailers,** sell goods below typical market prices; about 20 to 60 percent below full-price retailers (specialty and department stores). They became an important component of the retail scene. Examples of these stores are TJ Maxx, Marshalls, and Ross (Figure 1.8c). A key factor for TJ Maxx was ever-changing fresh assortments at low prices. As of 2019, TJ Maxx's parent company, TJX Companies, was one of the world's top fashion retailers (Table 1.5) and operated 4,300 stores in nine countries (TJX, 2019).

**Mass retailers** have large numbers of huge stores that offer a wide variety of goods at low prices in a self-service environment, often including groceries. Examples of mass retailers include Walmart and Target (Figure 1.8d). They are not included in the list of top fashion retailers because they sell many other goods besides fashion. This is despite the fact that Walmart, the largest retailer in the world in terms of revenue (Stores, 2019), sells every third garment in the US market—the mass market retailer's market share is about 30 percent.

Practically all apparel retailers regardless of their type (specialty, department, discount, mass market, etc.) also sell apparel online. Another common trend is the focus on private labels. This has long been the business model of specialty retailers. Now almost all retailers—from department to discount and mass merchants—develop, source, and/or manufacture their own clothing lines. For example, TJ Maxx started

by selling a mix of distressed items acquired from manufacturers and other retailers, including broken lots, end-of-season goods, and overruns. Today, a large portion of goods sold in the stores is TJ Maxx's own labels. Similarly, Amazon (the world's second largest retailer, after Walmart), which used to only sell fashion designed by different brands, now has its own clothing lines.

Examine Table 1.5 to get a picture of where in the world the top twenty fashion retailers are based. The list is compiled by FashionUnited, which ranks the top 100 largest listed apparel and fashion companies around the world. The Top 100 Index "comprehends the 100 largest quoted companies within the trade by market capitalization" (FashionUnited, n.d.). **Market capitalization** is the value of a company that is traded on the stock market, calculated by multiplying the total number of shares by the present share price.

Look at the location of their home bases—just more than half (11) of the Top 20 fashion retailers are located in Europe; eight are in the Americas (all in the United States) and one in Asia (Japan). You might not have heard of some of the companies but you are likely familiar with many brands they own. Take a few minutes to absorb the magnitude and complexity of the role of countries and companies, worldwide, that are involved in the textiles and apparel business. Keep in mind that many of the "retailers" represented by these numbers are vertically integrated backward into some aspects of apparel manufacturing.

## CASE 1 Most Apparel Jobs Are in the United States Even If Labels Read “Made in China” or “Made in Vietnam”

Even though roughly 97 percent of all apparel sold in the US market is made overseas, the industry supports a lot of domestic jobs. In fact, a recent study by Moongates Associates (2013) discovered that millions of American jobs provide a major contribution to the global value chains that design, source, produce, deliver, market, and distribute clothing and accessories. Under the leadership of Susan Hester, a Seattle-based economist, several studies were conducted—the first published in 2013, with subsequent research released in 2017. After analyzing twenty categories of garments from underwear to shirts, pants, and coats, the studies concluded that an average of 70 percent of the final selling garment price was contributed by US workers (Case 1 Figure 1). Even though clothing was assembled in an overseas factory, this was only one part of the global value chain. Most parts of the supply chain remain in the United States as apparel is designed, developed, transported, marketed, and sold by American workers:

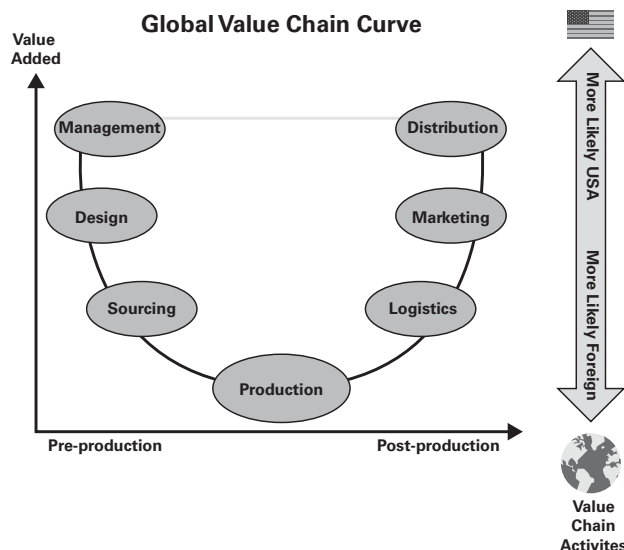
- design, research and development jobs (consumer and fashion trends research, fabric and findings development, garment design);
- apparel product development (including approval of fit, materials, construction, artistic details, etc.);
- sourcing and production management (selecting vendors for fabrics, findings, packaging and

apparel assembly; compliance with legal, labor, and environmental standards; product compliance; product testing and quality assurance; tracking production dates and troubleshooting with factories);

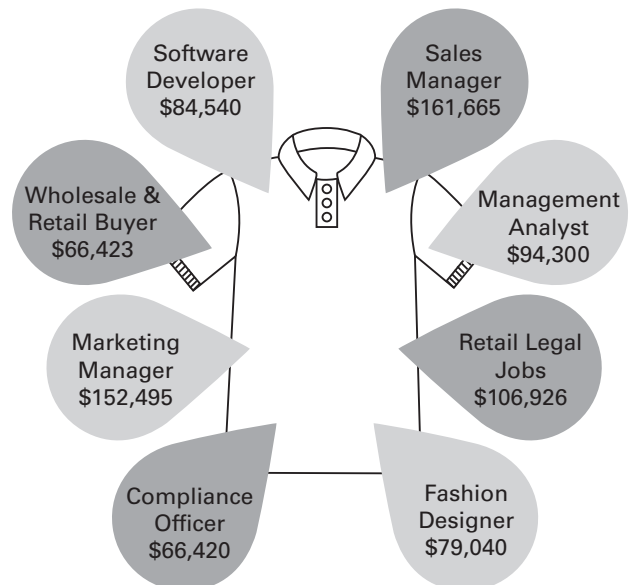
- logistics (transportation, customs clearance, import compliance);
- distribution and sales (warehousing, merchandising, marketing, wholesale, online and brick-and-mortar sales, web development, customer service, shipping).

Most of these United States–based jobs are held by white-collar professionals. These positions span across the entire apparel supply chain. Hester’s 2017 study reported average salaries for many of these well-paid positions, as illustrated in Case 1 Figure 2. In addition, various domestic blue-collar jobs are supported across the supply chain: from clerical positions to warehouse workers and customer service associates.

Susan Hester argues that simply dividing apparel into two categories—imported and made domestically—is an outdated and inaccurate approach. As her study demonstrates, most work that went into getting T-shirts, jeans, and sweaters in your favorite stores was done in the United States by American workers despite the fact that the labels on garments can



Case 1 Figure 1



Case 1 Figure 2

continued >

include a hundred world countries—from China, Vietnam, and Bangladesh in Asia to Ethiopia in Africa, Jordan in the Middle East, or Mexico and Honduras in the Americas. It is time to appropriately give credit to the US workers who design and develop apparel products by including the label “Designed in the USA.”

Based on: Moongate Associates. (2013, 2017). Analyzing the Value Chain for Apparel Designed in the United States and Manufactured Overseas. Retrieved August 20, 2019, from <http://www.moongateassociates.com/documents/Apparel-GVC-Rpt.pdf>

1. What are the primary messages that you get from Case 1?
2. How might the information from Case 1 be useful to consumers? What about the legislature?

**Table 1.5** Top 20 Fashion Retailers by Market Capitalization

Retailer Name	Country	Market Capitalization, in Billion USD	Brands Owned by the Retailer
LVHM	France	\$181.13	17 brands/houses, including Louis Vitton, Berluti, Fendi, Christian Dior, Givenchy, Kenzo, Marc Jacobs, etc.
Nike	USA	\$107.83	NIKE, Jordan, Hurley, Converse
Inditex	Spain	\$100.41	Zara, Pull & Bear, Massimo Dutti, Stradivarius, Oysho, etc.
Dior	France	\$78.73	Christian Dior, Dior Homme
Kering	France	\$75.93	Gucci, Saint Laurent, Bottega Veneta, Balenciaga, Alexander McQueen, Brioni
Hermes	France	\$71.49	Hermes
TJX	USA	\$51.01	TJ Maxx, Marshalls, Homegoods, Sierra, Homesense, Winners (Canada), TK Maxx (Europe & Australia)
Richemont	Switzerland	\$46.16	Cartier, Montblanc, Chloe, dunhill, Van Cleef & Arpels, etc.
adidas	Germany	\$45.33	adidas, Reebok
Fast Retailing	Japan	\$42.96	Uniqlo, GU, PLST, Theory, theory luxe, Helmut Lang, Princess tam.tam, J Brand
Luxottica	Italy	\$30.53	Ray-Ban, Oakley, Vogue Eyewear, etc.
Ross Stores	USA	\$29.80	Ross Dress For Less
VF	USA	\$29.07	Vans, North Face, Timberland, Smartwool, Eastpak, etc.
H&M	Sweden	\$23.81	H&M, Arket, AFound, COS, Weekday, etc.
Swatch Group	Switzerland	\$23.01	Swatch, Balmain, Tissot, Omega, Calvin Klein, etc.
Tapestry	USA	\$14.52	Coach, Kate Spade, Stewart Weizman
Zalando	Germany	\$13.52	Online fashion platform selling 2,000 brands
Gap	USA	\$13.26	Gap, Banana Republic, Athleta, Old Navy, Hill City, etc.
L Brands	USA	\$12.59	Victoria's Secret, Bath & Body Works, Pink
Tiffany & Co.	USA	\$12.56	Tiffany & Co

Source: FashionUnited. (n.d.). Top 100 Fashion Companies Index. Retrieved August 31, 2019, from <https://fashionunited.com/i/top100/>

## **Level 5—Consumption and Disposal**

At this level, apparel goods purchased at Level 4 are actually being used and, in the end, disposed when no longer wanted. This stage is often overlooked in the discussions of the textile complex and apparel supply chain, yet it is vital for continuing consumer satisfaction as they wear and care for and, ultimately, dispose of their clothing. As the effects of consumerism on society and environment become increasingly mainstream concerns, greater number and types of businesses will be created to assist people in caring for (cleaning, storing, repairing, etc.), reusing, recycling, and recovering apparel and textile materials to extend the life of products and avoid landfilling. Further discussion of this topic is presented in Chapter 4.

The review of the textile complex might have helped you appreciate the magnitude and diversity of jobs available within it to support well-functioning supply chains that are socially and environmentally responsible. Because clothing is a basic human need that comes right after food and shelter in any country and culture, the textile complex (and the jobs it provides) will always be around. The *types* of jobs in textile and apparel manufacturing and retail change constantly due to new technology and the way business is done, but . . . people will always have to have clothes on their backs. Review Industry Profile 1 for examples of global positions within the textile complex.

## **Consumer Demand**

As represented by the “sea of consumer demand” in the model of the textile complex (refer back to Figure 1.4), the primary purpose and driving force behind the entire apparel business is satisfying the needs and wants of consumers so that profits can be made. Probably the biggest challenge is forecasting what consumers will buy. Reliable consumer preference forecasts are essential for success at all levels of the textile complex. Major shifts in consumer demographics affect the acceptance of products offered in the marketplace. For example, an increasingly aging demographic in developed nations is causing a need for changes in product styling and fit. The apparel preferences of these different consumer groups are influencing the styling and sizing of products being made available to all consumers and increasing the focus on niche marketing by retailers.

Changes in population lifestyle with greater emphases on health and fitness drive continuing casualization of clothing around the world, increased desire for comfort and other functional characteristics of garments, and proliferation of athleisure apparel. More and more people are becoming aware of the impact of consumerism including the growing effects of the textile complex on the global environment. These consumers demand textile and apparel businesses employ sustainable materials and processes when designing, manufacturing, delivering, and disposing products.

Another significant change affecting consumer apparel choices is the greater availability of electronic communication worldwide. Consumers throughout the globe are able to compare available apparel choices by exploring hundreds of retailer websites and social media, instantly seeing styles from around the world. The results of all these changes are causing something of a dichotomy. On one hand, there are more ethnically diverse ideas of what is beautiful and appropriate or fashionable to wear, and these ideas are made available to more consumers more quickly than at any time in history. However, more cultures are being influenced by what they see on television from the United States and Europe. This creates a homogenization of design ideas, with consumers from other cultures beginning to adapt their local choices in order to look like Western consumers. A prime example of this homogenization over the last hundred years is the almost universal adoption of the tailored business suit. Another is the acceptance of jeans anytime and anywhere. This dichotomy of individual and cultural differences versus universal sameness presents great challenges to the industry. One reality is that ultimate consumers still determine the winners. Consumer demand is the reason there are supply chains.

## **ESTABLISHING SUSTAINABLE SUPPLY CHAIN**

Beginning in the 1960s, buying offices offered services that involved international business relationships, then mostly with firms based in Hong Kong, to supply US and European apparel retail buyers with finished garments different from or at a lower cost than what was being offered by domestic apparel manufacturers. Buying offices grew in number and popularity until



## INDUSTRY PROFILE 1

### Careers in the Global Textile Complex

Because textile and apparel is a global industry, most jobs have an international component: professionals are expected to partner with vendors from all over the world, collaborate with buyers overseas, or deliver to consumers in many countries. Review real-world examples of entry-level or minimal-experience jobs and the desired skills and qualifications. What skills and knowledge are needed? What commonalities do you see in these job descriptions?

#### Entry Positions—Assistant Level

*Sourcing Assistant, Women's Tops, Mass Market Retailer*

##### **Description of responsibilities:**

- Assist the sourcing manager;
- Maintain good relationships with buyers and potential buyers;
- Identify supplier needs across production department.

##### **Skills and traits:**

- Excellent verbal and written communication skills;
- Good negotiation and relationship building skills;
- Flexibility and attention to detail;
- Outgoing and confident.

##### **Qualifications:**

- Bachelor's degree in sourcing or related field;
- Some experience in apparel/retail industry preferred.

#### **Purchasing Assistant, Men's Outerwear, Specialty Retailer**

##### **Description of responsibilities:**

- Prepare purchase orders for approvals of raw materials;
- Monitor and expedite deliveries;
- Maintain appropriate purchasing records;
- Provide support to the Purchasing Manager.

##### **Skills and traits:**

- Excellent communication skills;
- Ability to travel as needed;
- Flexibility to adapt to fast-paced environment;
- Organizational and time management skills.

##### **Qualifications:**

- Bachelor's degree in sourcing or other apparel related field;
- In-store retail experience.

#### **2–10 Years of Experience—Associate Level**

#### **Strategic Sourcing Analyst, Children's wear, independent fashion retailer**

##### **Description of responsibilities:**

- Calculate and analyze production needs;
- Coordinate and organize all activities that pertain to the strategic sourcing function;
- Serve as a liaison between suppliers and production in the resolution of sourcing issues;
- Work closely with planning, operation, QA, and R&D to ensure materials are available on time.

##### **Skills and traits:**

- Proficient in Microsoft Suite;
- Strong organizational and analytical skills;
- Able to work with and apply complex mathematical concepts;
- Detail oriented and customer focused.

##### **Qualifications:**

- Bachelor's degree in sourcing or apparel product development;
- Minimum of two years of experience in sourcing or product development;
- Experience working internationally preferred.

#### **Global Materials Director, Footwear, Leading Outdoor Retailer**

##### **Description of major responsibilities:**

- Ensure the right vendor, right capabilities, and right cost to support the footwear business;
- Evaluate vendor performance, assess and mitigate risk, carry out corrective actions as needed;
- Create a tiered vendor structure with expectations, goals, and incentives to drive optimal vendor performance;
- Have a pulse on the latest technologies, machinery, and vendor capabilities to inform sourcing strategy;
- Travel abroad to fully understand both Tier 1 and Tier 2 partners and their operations and to stay well connected with the Asia LO.

***Skills, knowledge, and traits:***

- Knowledge of footwear product development;
- Understanding of construction and manufacturing of different material types: textiles, synthetics, leathers, composites, films, plastics, and components;
- Experience managing a global team;
- Problem solving and strong presentation and communication skills.

***Qualifications:***

- Bachelor's degree with specific experience in textiles, leather manufacturing, or footwear business and manufacturing;
- Ten+ years of experience in materials, development, innovation, and/or manufacturing;
- Proven track record in working within the global material supply chain.

the late 1980s, when merchandisers got involved in product development for private label lines. The race then began in earnest to find the lower-cost labor to make the garments and, ideally, maintain product quality. Apparel supply chain has become very complex, often spanning over several continents and dozens of companies. This led to the development of the standardized merchandise identification systems essential for processing goods that are transported from one country to another. This is the topic of Chapter 3.

The supply chain begins and ends with the consumer. Demand for textile and apparel products drives the industry. Chapter 2 provides perspective on changing trends in textile and apparel consumption. With the ever-growing rates of textile and apparel production and consumption, the global environmental footprint and social issues in the industry have raised the question of sustainability. This is the focus of Chapter 4.

Governments establish regulations regarding the transfer of products from one country to another as well as to verify their origin, ownership, quality, and

safety. Some regulations are developed to encourage trade, whereas others aim at restricting trade to control the amount of imports in an economy. It is very important for apparel professionals to understand what effect different trade regulations might have on sourcing products and services from vendors in countries around the world. This is the topic of Chapter 5. Trade regulations of all kinds of activities by governments result in attempts to get around them. Free trade, trade restrictions, requirements for customs compliance, and intellectual property law are ongoing sources of controversy and illegal activity in the global market. This is the focus of Chapter 6.

Sourcing also entails the process of selecting countries and vendors when building supply chains. These are the topics of Chapters 7 and 8. Chapters 9 to 12 examine countries in the four regions of the world, which we have defined as Europe and the European Union, the Americas and the Caribbean Basin, Asia and Oceania, and the Middle East and Africa. We sincerely hope you find your global adventure challenging, insightful, and rewarding.

## SUMMARY

A primary purpose of this chapter was to introduce perspectives central to the study of the textile and apparel industry and trade from a global perspective. There are many valid ways to view and analyze the operations of the global supply chain. Perspectives include economic and business, political and governmental, as well as social and labor. These viewpoints commonly result in conflicts among options for resolution of issues. The conflicts are part of the context we wish to address.

From the perspective of economic development, countries around the world can be viewed as least developed, newly developing, developing, or developed, based on the per capita GDP and GNI. Other related measures of standard of living and well-being in a country include literacy rate, infant mortality, and life expectancy. The level of economic development determines the roles countries play in the global apparel supply chain; it also explains textile and apparel trade balance.

The level of a country's development determines availability of educated and skilled human capital as well as financial resources, both required for textile production. Developed countries tend to have textile industries as a result of sufficient investments in production and research as well as development of innovative products and processes. Goods produced in developed countries are less labor intensive and much

more technology intensive, such as for production of synthetic fibers, yarns, and specialized fabrics with unique properties such as technical textiles. In some developing countries it is possible for textile industries to produce basic yarns and fabrics, but that is very unlikely in newly developing countries. Developed countries have higher production costs, so they focus on product development and then skip to consumption of finished products.

In general, the production portion of the apparel industry takes place primarily in countries at the middle level, in developing and newly developing countries. Least developed countries are attractive in terms of inexpensive labor but some lack business infrastructure. These countries are in the process of establishing effective apparel industries, often utilizing foreign investments. The apparel industry is often the first form of industrial development in least developed and newly developing countries and therefore it is extremely important for apparel companies and retailers to contribute to establishing a culture that ensures safe working environment and fair wages as well as promotes ongoing levels of employment. Development of sustainable global supply chains involves many areas of expertise to navigate successfully and is currently a priority in the textile and apparel industries.

## LEARNING ACTIVITIES

1. To comprehend the global nature of the apparel industry, conduct this class survey:
  - Make a list of all the countries represented in the labels of your clothing, and state the type of garment (e.g., jeans, Mexico; T-shirt, Haiti).
  - Compare your list with those of your classmates, and tally the list of countries and types of garments to see which countries are represented most frequently and what types of garments come from the countries identified.
  - Do some types of garments seem more likely to come from certain countries? Describe your results.
2. Compare and contrast the five countries based on the level of economic development and their roles in the global textile complex—Singapore, Myanmar, Guatemala, Botswana, and Belarus:
  - Locate the countries on the map to determine which continent (or world region) they belong to (e.g., Europe, Asia, Africa, etc.).

- Using two different approaches presented in the chapter (GDP per capita and GNI per capita), determine the level of economic development for each of the five countries (newly developing, developing, or developed). Justify your classification.
- Based on the economic level of development, determine if each of the five countries is likely to be an: (a) importer or exporter of apparel; and

(b) importer or exporter of textiles. Defend your positions.

3. Develop a list of positives and negatives that global trade brought to the textile and apparel industries in (1) more developed and (2) less developed countries. Make sure to discuss the textile industry separately from the apparel industry.

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# CHAPTER 2

## Consumers, Consumption, and Well-Being

### Not So Fun Fact

*Inequality of opportunity is created by the lottery of birth: Gender, economic circumstances, geography, and ethnicity can trap large groups of people into poverty. (World Bank, n.d.)*

### OBJECTIVES

Upon completion of this chapter, you will be able to:

- Discuss the foundations of apparel choices in relation to the clothing consumption process.
- Explore the relationships between standards of living and apparel consumption patterns.
- Provide a foundation for interpreting consumption expenditure data.

Clothing styles and the materials with which the clothes are made may differ from place to place in the world, but some forms of many of these products are present everywhere and regarded as essential components of people's lives. For example, because of electronic communication, people in many parts of the world are aware of and follow current fashion trends. **Fashion** is a popular/prevaling style of dress accepted by the majority of a population at a particular time. At the same time, in other parts of the world, religious doctrines and/or strong cultural customs do not allow exposure of the body or elaborate use of colors to

enhance personal appeal. The unique nature of the textiles and apparel business can be attributed to many things, from their seemingly incompatible uses as both protection and adornment to the unpredictability of demand for and acceptance of new styles—the fashion factor. Regardless of where people live around the globe, in what culture or income, they all acquire and use textiles and apparel because, as discussed in Chapter 1, clothing is a basic human need that comes right after food and shelter. Consumer demand drives the entire apparel industry.

## GLOBAL LEXICON

**acquisition** the act of making products available for personal use; increases inventory of goods available for consumption

**active wardrobe** garments used by the owner within at least several years; also known as active inventory

**basic goods** goods that are standardized and utilitarian, with consistent consumer demand; appearance of these goods does not change much from season to season

**classic** a clothing style that remains in fashion over an extended period of time (several decades) and is adopted by a large portion of population

**clothing care** brushing, laundering, dry cleaning, ironing, repair and any other method used to restore garments to what is regarded as wearable condition after wearing

**clothing use** the actual wearing of garments for beauty, protection, comfort, performance, and/or fashion acceptance

**clothing standards** criteria determining styles, sizes, and colors of garments regarded as suitable for specific occasions

**complement** a product purchased and used along with another; for example, shoes and socks

**Consumer Price Index (CPI)** a measure of the impact of inflation on consumer purchasing power in the United States

**consumption** acquisition and use of commodities (goods and services) by an individual, household, or country

**consumption expenditure** money used to support the level of consumption; money spent on purchasing goods and services

**design** an interpretation or variation of a style

**discard** the act of giving up ownership of a garment; reducing inventory

**discretionary income** the amount of money available after all current obligations are covered

**disposable income** take-home pay; the amount available to an individual or family to support the level of consumption, savings, and investment

**fad** a style that rises in popularity very quickly and fades out fast, before it is adopted by a significant part of population

**fashion** a popular or prevailing style of dress accepted by the majority of a group at a particular time

**fashion goods** individualized, differentiated by style, color, and fit; follow frequent changes in fashion trends

**inactive wardrobe** garments that have not been used for several years; also known as inactive inventory

**inflation** an increase of general price level, causing a decline in purchasing power

**income elasticity** the relationship between change in income and resulting change in expenditure

**inventory** see **wardrobe**

**level of consumption** the quantity and quality of goods and services that are used by an individual or group during a given time period

**level of living** the combined benefits of goods and services and the overall well-being which is actually experienced, enjoyed, or suffered by an individual or group during a given period of time

**minimum needs** the essentials of life, defined by levels and standards of consumption and living

**nonverbal communication** use of appearance, including apparel and accessories, to communicate identity, age, sexual orientation, economic status, lifestyle, and other demographic and psychographic characteristics

**poverty** a lack of enough income or resources, or both, to satisfy minimum needs

**poverty line** the point at which income or resources are inadequate to maintain life and health at a subsistence level

**price elasticity** the relationship between the change in product price and demand for this product (or the amount of product sold)

**primary source** the most frequent means of clothing acquisition

**progressive tax** an increase in tax rate as income rises

**purchasing power** the amount of goods or services that can be acquired with a specified amount of currency at a particular time

**regressive tax** requires lower-income people to pay higher rates than higher-income people

**resale industry** a sector of the broader secondhand market that includes more curated product assortments, often well merchandised and/or higher end

**secondary source** a means of acquiring clothing other than the primary source: gifts, purchased used, handed down, rental, home sewing, custom-made, and others

**standard of consumption or living** a level that is urgently desired and strived for, substantial success yielding special gratification, and substantial failure yielding bitter frustration (Davis, 1945)

**style** a distinctive and recognizable appearance of a garment with a specific combination of elements (e.g., neckline, sleeve, collar) that makes it different from other garments

**substitute** a product purchased and used in place of another; for example, pants rather than skirts

**temporary possession** a means of momentary clothing acquisition from sources such as rental, borrowing, and clothing provided by an employer; also known as collaborative consumption

**thrifting** shopping for apparel and accessories at a thrift store, flea market, garage sale, physical or online consignment store for profit or of a charitable organization, usually with the goal of finding unique products at a low price

**total apparel expenditure** the value of all goods purchased in the market over a specified period

**total income** gross income or personal income, total amount earned before taxes

**wardrobe** the entire stock of garments owned by and/or available for use by an individual, family, or group of people that could be used at a given time; also known as inventory

**well-being** a good or satisfactory condition of existence; a state of being comfortable, healthy, and happy

## FUNDAMENTALS OF THE CLOTHING CONSUMPTION PROCESS

### Stages of the Clothing Consumption Process

The major parts of the clothing consumption process are as follows:

- acquisition
- use
- care
- discarding

**Acquisition** is the act of making garments available for personal use; it provides possession and/or ownership, depending on the source of clothing. Acquisition creates **wardrobe**, also known as inventory, of goods

available for consumption and may or may not involve monetary expenditure. When garments are acquired as gifts, handed down from friends or family members, swapped with friends or at a larger swapping event as well as received from charity organizations, monetary expenditures from the new consumer are not required. Review Case 2.1 to examine new trends in clothing acquisition. It is likely we are witnessing profound

changes in how people relate to material objects in their lives, or simply put, “stuff.” Many formats of collaborative consumption, also known as shared economy, are emerging quickly and quietly:

- renting (e.g., Rent the Runway),
- thrifting,
- resale of preloved fashion (see Case 2.2).

## CASE 2.1 Seismic Shifts in How People Shop for Clothes

How people acquire clothes is changing. Instead of painstakingly going through dozens of items—whether in physical stores or online—and then making tough choices to find the perfect design, fit, color, etc., many people now receive monthly or biweekly subscription boxes with newest fashion trends carefully selected by a personal stylist, with the help of AI, which relies on data-rich algorithms and can account for your job, lifestyle, taste, personal style preference, past likes and dislikes, new boyfriend’s opinion and much more.

Birchbox successfully pioneered the subscription box concept with its makeup sample business in the late 2000s. The concept was then adopted by many other industries (pet care products, flower delivery, snacks, etc.). The most successful business in the apparel subscription sector is Stitch Fix. The company’s success has been credited to figuring out the personalization algorithm by carefully balancing the fashion sense with the help of professional stylists and computer science. This formula is credited to the company’s astronomical growth to a \$1.5 billion business in less than a decade! Stitch Fix clothing boosts women’s confidence and allows for broadening the selection of brands and exposure to greater newness. Women can try new styles, colors, and patterns that they might not have considered but that fit their taste, sense of style and overall lifestyle. Women enjoy the element of surprise as well as receiving something new that pushes them to their own edge in apparel.

In addition to hedonic pleasures, subscription services provide convenience and time saving, the utilitarian values that are even more important in today’s time-starved market. People do not need to spend time shopping and researching new trends; instead products are picked personally for them and shipped directly to their door, on time. Products are catered to subscribers’ specific tastes and needs (e.g., anti-wrinkle serum

vs. blemish treatment; product for curly vs. straight hair, etc.). Ultimately, this is what will keep them as customers because the newness and the thrill of anticipation of receiving the box will eventually wear off. However, there is no sign of slowing down for this industry sector just yet—traffic to subscription box sites grew 3,000 percent from 2013 to 2016.

Based on:

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1. What disadvantages do you see in acquiring new clothes and shoes through subscription services?
2. How do you see this industry sector evolving in the next decade? Explain why you think so.



Carefully curated beauty products are ready to be mailed to a Birchbox subscriber.



The majority of garments acquired by individuals have traditionally been purchased new from one **primary source**, such as when retailers offer ready-to-wear garments. However, with recent increased popularity of vintage apparel and clothing resale as well as growing sustainability concerns, some consumers use multiple primary sources to acquire clothing, including used and repurposed apparel and shoes. In least-developed countries, such as Haiti, for example, many people rely on the used clothing market to acquire the majority of their clothing. Even in developed countries, such as Germany or United States, many people enjoy **thrifting**, which is shopping for apparel and accessories at a thrift store, flea market, garage sale, physical or online consignment store for profit or of a charitable organization, usually with the goal of finding unique products at a low price. In fact, for some people, used clothing has become the primary source of acquiring apparel. Read Case 2.2 to learn about the rise of the apparel resale industry.

**Secondary sources** of clothing include gifts, purchased used, swapping, handed down, home sewing, and others. Items acquired for **temporary possession** come from sources such as rental, borrowing, and perhaps clothing provided by an employer. Such items are available for use by the individual and are possessed by the individual but are not owned by the individual. The intent is that these items will be returned to the owner when the individual no longer uses them (Winakor, 1969). Temporary possession of clothing, also known as collaborative consumption, is becoming a more popular form of acquiring apparel.

Clothing wardrobe is the entire stock of garments owned by an individual or group that could be used for wear at a given time. Items that are temporarily in the possession of another person, such as rented or borrowed garments, are considered part of the inventory of the owner, not the borrower. Inventory typically consists of two parts: active wardrobe and inactive wardrobe. **Active wardrobe**, or active inventory, can be defined as garments used by the owner (Winakor, 1969). **Inactive wardrobe**, or inactive inventory, is garments that have not been used for at least several years. By experts' estimates, up to 70 percent of clothing in U.S. women's closets constitute inactive wardrobe. However, definitions of active and inactive wardrobe may vary greatly from person to person as well as by the type of garments. For example, some clothes might

be used for special occasions, eccentric vacation, or in extreme weather. People in the United States tend to have larger wardrobes than people in Europe or Japan simply because they typically have bigger storage spaces (spacious walk-in closets). As a result, they tend to have large quantities of inactive inventory. In contrast, people in less developed economies may have only a small amount of active inventory that gets very frequent use.

**Clothing use** is the actual wearing of garments for beauty, protection, comfort, performance and/or fashion acceptance. Each consumer is likely to have a set of priorities that determines personal choices among these reasons for wearing clothes. Sometimes it is possible for all priorities to apply. **Clothing care** is the restoring of a garment, after a period of use or storage, into a condition that is regarded by the owner/user as suitable for wearing. Clothing care might include brushing, laundering, folding, pressing, dry cleaning, ironing, mending, and any other methods used to restore garments into what is regarded as wearable condition. The care process appropriate to the garment may be determined by the materials included in the garment, the style's complexity, the frequency of use, types of use (athletic vs. sleepwear) and/or the experience and standards of the owner.

**Discard** is making a garment no longer available for wearing by current owner(s)/user(s) including things like throwing away or giving to charity. Discard reduces the number of garments available for use by the current owner(s). Sale of garments through various channels such as garage sale, local consignment shop, or online platform can result in monetary gain for the owner. When items are discarded by handing down, donating, or selling, discard becomes a form of acquisition for someone else.

In the United States, when clothes are no longer wanted, unfortunately, often they are simply thrown away. Despite the fact that almost all textiles are recyclable, only about 15 percent of all discarded clothes and home furnishings in the United States are recycled, according to the Environmental Protection Agency's data (2015). Some discarded textiles thrown away with household garbage are incinerated with energy recovery (20%), but the majority of disposed garments, towels, and other old textiles ends up in landfill—roughly 65 percent. In Europe, textile recycling is more common and, as a result, much less textiles create environmental problems by being landfilled.

## Case 2.2 Insights into Resale of Preloved Fashion

Traditional apparel and retail companies are spooked by the success and astonishing growth of the **resale industry**, which is “a sector of the broader secondhand market that includes more curated product assortments, often well merchandised and/or higher end” (ThredUp, 2019). Between 2016 and 2018, the resale industry has grown *twenty-one times faster* than the traditional apparel retail industry. Keeping the momentum going, the sector is expected to more than double in five years from \$24 billion in 2018 to \$51 billion in 2023.

Not counting traditional large and small thrift stores (for profit or not) and consignment boutiques, there are two types of new resale disruptors:

- Resale companies, also known as augmented marketplaces, that offer a carefully curated assortment of preloved fashion and provide full service to consumers who want to buy and sell. They will mail a free kit to clean out your closet; carefully inspect the garments and use a complex algorithm to price it based on current demand and sale history; and display professionally photographed and described items on the website where merchandise is easy to find by brand, type of product, size, color, occasion, etc. Leading resale companies include ThredUp, TheRealReal, and Vestiaire Collective.
- Peer-to-peer resale marketplaces connect people and their closets. This is a DIY sector of the resale industry that can offer an outlet for your creativity: you can be the fashion stylist, photographer, merchandiser, and blogger all at once! You can also make more money selling your no-longer-wanted fashion yourself than by using a resale company. Leading online resale marketplaces include Poshmark, Depop, and Tradesy.

Who are resale customers? Everyone! In 2018, 56 million women in the United States bought secondhand products, which is a 27 percent increase from 2017. Millennials and Gen Z adopt secondhand shopping two and a half times faster than other generations, even though Baby Boomers also like thrifting as 31 percent of them shopped secondhand

in 2018. Interestingly, people with six-figure incomes shop secondhand at higher rates than less wealthy consumers.

Why is resale so popular? First, you can easily clean out your closet with the ThredUp service, which promises to give you back 45 minutes of your life to spend with family, working, exercising or doing nothing (Case 2.1 Figure). Second, you can shop a huge selection of highly discounted merchandise (up to 90 percent) at any price point, from Forever 21 to J Crew to Gucci, Christian Dior and Burberry. For example, at any point of time, ThredUp offers two million unique preloved fashion items from 35,000 brands. Happy treasure hunting!

Resalers tap into consumer desire for experience and value, which a hunt for bargains promises. Finally, a strong drive for resale growth is increasing environmental concerns. People are more aware of the pollution and waste associated with the fashion industry. There are already a lot of clothes on the planet and in each of our closets that should be worn instead of crowding landfills—and resale helps to achieve that.

The resale industry promotes apparel rotation rather than accumulation. In 2018, about 40 percent of consumers thought about apparel resale value when making a purchase decision, which is almost twice more than it was just five years ago. This trend brings back the need for quality products as well as the focus on design: not only does it encourage developing long-lasting clothing and shoes but it also makes them easier to recycle at the end of the life cycle.

Since 2012, ThredUp processed and sold 78 million garments. The amount of the garments saved from landfill equals:

- 1.4 billion pounds of CO<sub>2</sub>, or an equivalent of forty-eight million cars taken off the road for a day, AND
- 2.7 billion kilowatts of electricity, which is enough to light up the Eiffel Tower for 340 years, AND
- saved six billion gallons of water, which could be used to fill twenty-nine Bellagio fountains in Las Vegas.

continued >

Based on:

Chua, J. M. (March 19, 2019). "The Resale Market Will Be Bigger Than Even Fast Fashion." *Sourcing Journal*. Retrieved September 13, 2019, from <https://sourcingjournal.com/topics/sustainability/thredup-resale-retail-fast-fashion-144082/>

ThredUp. (n.d.). The Best Way to Clean Out Your Closet. Retrieved September 13, 2019, from <https://www.thredup.com/cleanout>

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1. What will the closet of the future look like? Do you think people will continue to own most of their clothes, or will "no ownership" or collaborative consumption become the norm?
2. What role can traditional retailers play in the rise of resale culture?

## Clothing Use Life Cycle

**Clothing standards** of an individual can determine the types and quantities of garments desired in the personal wardrobe. These standards might include the following:

- number of styles and colors
- variety of garments needed to address personal activities and lifestyle
- acceptable frequency of wearing each garment
- compromises adopted to accommodate financial restrictions

The owner's intent for the use of a garment determines the use-life of a garment. For example, a garment that is acquired with the intended use for everyday wear, whether at work or leisure activities, might have a use-life cycle as follows:

1. acquisition
2. frequent interchange of active storage, use, care
3. less frequent interchange of active storage, use, care
4. continuous inactive storage
5. discard, resale, or donation

Some garments sold at consignment stores or other resale outlets still have price and size label tags attached to them, indicating that they went straight from step 1, acquisition, to step 4, inactive storage, and then were donated without being worn once.

The movement of a garment through the use-life cycle from steps 2 to 4 may be caused by acquisition of substitutes for the garment or lack of suitable complements for the garment, or products that can be used along with it like scarves. An example of a garment **substitute** might be acquisition of new red tank when a red T-shirt is already in inventory. An example of a **complement** for the red T-shirt or tank might be a pair of black leggings to wear with the red shirts. Acquisition

of the red tank may result in the less-frequent use of the red T-shirt already owned (because of an available substitute) and the more frequent use of the black leggings (complement). The more complements a garment has, the slower it may move through the use-life cycle. The acquisition of a complement may move an item back from step 4 into step 2, where it will go through the process a second time. Other factors that might influence how fast clothes move through the use-life cycle include various changes in an individual's life: gaining or losing weight; getting a new job; moving to a place with a different climate, etc. Quality of product itself also has an impact on how slow a garment will move from step 2 to step 4, or even straight to step 5. When garment quality is low (which is often the case with fast fashion clothing, as discussed ahead), it can move to the discard step after several laundry cycles either because subpar assembly methods were used (inappropriate seams, stitches, etc.), or quality of materials (fabrics, threads) was inadequate, which resulted in garment losing its shape, fit, and/or color.

## THE NATURE OF APPAREL CHOICES

### Unique Nature of Apparel Products

Every human culture uses textiles and apparel for aesthetics and protection. Another important function of textiles and apparel is for **nonverbal communication**, or use of appearance, including apparel and accessories, to communicate identity, age, sexual orientation, economic status, lifestyle, and other demographic and psychographic characteristics. By simply watching a neighbor walk out the front door, it is often easy to tell if he/she is going to work, for a walk or a run, to a sports event, shopping, to church, or to a formal party. The more mysterious