

Cultural Sustainability by Design: A Case of Food Systems in India

by

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ABSTRACT

In response to the rapid rise of emerging markets, shorter product lifecycles, increasing global exchange and worldwide competition, companies are implementing ‘sustainable development’ as a mechanism by which to maintain competitive global advantage. Sustainable product development approaches used in industry focus mainly on environmental issues, and to a certain extent on social and economic aspects.

Unfortunately, companies have often ignored or are unsure of how to deal with the cultural dimensions of sustainable product development. Multi-nationals expanding their business across international boundaries are agents of cultural change and should be cognizant of the impact their products have on local markets. Companies need to develop a deeper understanding of local cultures in order to design and deliver products that are not only economically viable but also culturally appropriate.

To demonstrate applicability of cultural appropriate design, this research undertakes a case study of food systems in India specifically focusing on the exchange of fresh fruits and vegetables (FFV). This study focuses on understanding the entire supply chain of FFV exchange, which includes consumer experiences, distribution practices and production processes. This study also compares different distribution channels and exchange practices and analyzes the pattern of authority between different players within the distribution network. The ethnographic methods for data collection included a photo-journal assignment, shop-along visits, semi-structured interviews, a participatory design activity and focus group studies.

The study revealed that traditional retail formats like pushcart vendors, street retailers and city retail markets are generally preferred over modern retail stores. For

consumers, shopping is a non-choreographed activity often resulting in exercising, socializing and accidental purchases. Informal communication, personal relationships and openness to bargaining were important aspects of the consumer-retailer relationship.

This study presents cultural insights into interactions, artifacts and contexts relevant to FFV systems in India. It also presents key implications for the field of design, design research, cultural studies, consumer research and sustainability. The insights gained from this study will act as guidelines for designers, researchers and corporations interested in designing products and services that are culturally appropriate to contexts of production, distribution and consumption.

To my parents,

To Sungduck.

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Chapter 1

INTRODUCTION

PREFACE

The growing interest in emerging markets, shorter product lifecycles, increasing global exchange and worldwide competition have led to changes in the material, economic, ethical, and cultural configurations of several societies worldwide. Most of these changes are of global significance and demand responses from nations, states, organizations, groups, and individuals. In order to address the rapidly changing market conditions and growing economic pressures, many companies are trying to implement ‘sustainable development’ as a mechanism by which to maintain competitive global advantage. Organizations ranging from global corporations to local manufacturers and retailers are forced to create products that are economically profitable, socially equitable and environmentally responsible.

Sustainable product development approaches used in industry to date mainly focus on reducing environmental impacts and attaining social equity. These approaches are limited to issues like air pollution, the greenhouse effect, deforestation, social inequity and basic human rights issues. Sustainability in product development is often addressed as an afterthought and tools are limited to measuring and reducing environmental impact. In recent years, there has been a substantial increase in research in the area of eco-innovation, green innovation and sustainable innovation for new products and services. For example, companies like Nike and IKEA have integrated eco-design through such approaches as TNS (The Natural Step) into their product development.

Electrolux and Philips have included eco-design as part of their Product Oriented Environmental Management System (POEMS).

The current corporate understanding of sustainability acknowledges the Triple Bottom Line (TBL) of sustainability and primarily focuses on balancing the economic, environmental and social aspects. Corporations are presumed 'sustainable' if an optimal balance is achieved among the competing pressures of environmental protection, social equity and economic prosperity, while still meeting traditional product requirements, e.g. quality, market, technical and cost issues, etc (Maxwell & van der Vorst, 2003).

In contrast, companies have often ignored or are unsure of how to deal with the cultural dimensions of sustainable product development. In an global climate of rapidly changing consumer needs, companies are now moving away from satisfying customers with homogenized (one-size-fits-all) products and are adopting heterogonous (made-to-measure) and user-centered approaches to design and development. Products initially designed to serve only the local market are now reaching across international boundaries. As a consequence, there is an emerging interest in the cultural consequence of the interaction between people and products, both from a professional and an academic point of view (Christensen et al., 2006).

Global corporations have identified cultural insensitivity to be a potent barrier for expansion in local markets. The degree of acceptance by local consumer cultures has become an integral part of the success and failure of their operations. According to Shaw and Clarke (1998), organizations need to understand the degree to which standardized products can be offered unchanged or whether they need to be adapted to local markets. The current approaches to understanding the cultural meanings of products are limited to

developing a deeper understanding of local culture and effects on consumption behavior. Microsoft, Hewlett Packard, Philips, Siemens, and many other global corporations are conducting cross-cultural studies to understand the impact of culture on products in order to create new business opportunities and maximize profits. These sporadic efforts from some global corporations are encouraging but do not provide the theoretical or methodological foundation for achieving culturally sustainable production and consumption. These cross-cultural studies conducted on consumer behavior pave the way for corporations around the world to acknowledge the importance of cultural sensitivity towards developing and marketing products for different cultures but often leave wanting a consistent framework for implementation.

The goal of this dissertation is primarily twofold:

1. Define and operationalize cultural sustainability: This dissertation situates cultural sustainability within the existing discourse of sustainability. It discusses the current approaches to sustainability and highlights the need for understanding the cultural aspect of consumption. This dissertation also offers a succinct definition of cultural sustainability and outlines the uniqueness of this approach. The theoretical model for cultural sustainability is based on the review of three major areas of culture, consumption and globalization. Chapter 3 discusses the aspects of cultural sustainability in greater detail. From a theoretical perspective, the goal of this dissertation is to initiate a discussion on sustainable consumption and draw recommendations for culturally sustainable production.

2. Case study: To demonstrate the theoretical and methodological applicability of cultural sustainability, I conducted a thorough cultural analysis of the vending of fresh

fruits and vegetables (FFV) in India. Using ethnographic research methods, this case study presents specific insights into FFV exchange in India and also lays a methodological foundation for other similar studies. Comparing traditional retail with modern retail systems provided some valuable insights into culturally grounded ways of shopping. Chapter 2 presents the research approach, methodological model and methods used for conducting cultural analysis of fresh fruits and vegetables (FFV) systems in India.

CASE STUDY: CULTURAL ANALYSIS OF FFV SYSTEMS IN INDIA

Food and grocery constitutes about 59.5 percent of the total consumer basket in India (Images F & R Research report, 2009). Only 11.5 percent of the food and grocery share contributes to modern food and grocery retailing. Local and global corporations are competing for a share in the growing modern retail sector. The growing interest of local and global corporations to penetrate the Indian food retail market has lead to the conspicuous transition of traditional consumption into a modern organized way of consumption. In spite of increasing modern retailing and new consumer demands, traditional retail formats are more popular and accepted largely because they resonate with the cultural practices and needs of individuals and families.

In an attempt to understand the underlying aspects of these successful traditional retail formats, I conducted an in-depth cultural analysis of fresh food and vegetable (FFV) systems in India. Unlike other contemporary studies, this research follows a ‘commodity systems analysis’ (CSA) perspective and studies the consumers, retailers, wholesalers, commission agents and producers of FFV. It focuses specifically on three

stages of FFV exchange: production processes, distribution practices and consumer experience. For each stage, this study focuses on understanding the interactions, artifacts and contexts of commodity exchange (see Chapter 2 for a detailed description). The following section provides a broad overview of the food market in India, effects of globalization and the gradual transformation of Indian diets.

India: A retail destination. “India is ranked as the fifth largest economy in the world with the GDP estimated at \$1.2 billion in Indian Fiscal Year (IFY) 2008/09 (April-March) and growing by an average of over 9 percent over the last three fiscal years. India has a population of over one billion, and a rapidly growing middle income population of over 300 million” (Global Agriculture Information Network (GAIN), 2009, p. 2). “Despite a global recession, India has managed to retain its position as one of the fastest growing economies in the world and is likely to grow at 6.5 percent during IFY 2009/10” (Global Agriculture Information Network, 2009, p. 2).

India ranks fifth in the global retail market. Indian retail contributes to “10 per cent of India’s Gross Domestic Product (GDP) and provides employment to 8 per cent of India’s working population” (IBEF, 2008 p. 3). The Indian Brand Equity Foundation Report (IBEF, 2008, p. 3) estimates a retail growth from the “US\$ 330 billion in 2007 to US\$ 427 billion by 2010 and US\$ 637 billion by 2015.” The GAIN ((Global Agriculture Information Network, 2009, p. 2) report confirms that in IFY 2007/08, 42.3 percent of total private consumption was directed towards expenditures of food and beverages.

“Since the 1980s, India has enjoyed quite a remarkable economic growth. Incomes have been steadily rising and per capita real expenditure has increased across all

groups” (Pingali & Khwaja, 2004, p. 2). The fast growing economy, rising urbanization, increasing global connections, technological developments, economic reforms and changing foreign policies have collectively affected the nature of the Indian diet. “As the world economy becomes more integrated and communication faster, diet transition would have been inevitable” (Pingali & Khwaja, 2004, p. 1). The diet-transformation in India can be categorized into two distinct stages:

1. Income-induced diet diversification: The first stage of diversification occurred during the early 1980s. This was mainly attributed to India’s remarkable economic growth. Though Indian diets were influenced by global forces, a greater part remained traditional. “During the first stage consumers move away from inferior goods to superior foods and substitute some traditional staples with primary food products that are more prevalent in western diets” (Pingali & Khwaja, 2004, p. 1).

2. Diet globalisation: The second stage of diversification occurred during the early 1990s. This was mainly influenced by India’s changing reforms that opened agricultural sector to foreign direct investment (FDI). Early stages of diet globalization were “markedly different diets that no longer conform to the traditional local habits” (Pingali & Khwaja, 2004, p. 4).

Apart from effect on diet transformation, globalization has also “played an enormously important role in the transformation of food consumption patterns of Indian households” (Pingali & Khwaja, 2004, p. 1). Both the changing consumer taste (diet transformation) and demand has had critical implications for the whole food supply system (Pingali & Khwaja, 2004). Globalization has also resulted in “significant increase

in the size of the domestic food market” and steady rise in global retail forms like supermarkets and hypermarkets (Pingali & Khwaja, 2004, p. 16).

Current political situation: foreign direct investment policy (FDI) in India. In the report, *World Investment Prospects Survey 2009-2012*, the United Nations Conference on Trade and Development (UNCTAD) identifies India as the second best location for foreign direct investment (FDI). According to Ernst and Young's 2010 European Attractiveness Survey, India is ranked the second most attractive destination for FDI during 2010-2013 (FDIIndia.in, 2013). FDI is defined as the inflow of foreign cash into a country. The “International Monetary Organization (IMF) and Organization for Economic Cooperation and Development (OECD) define FDI as a category of cross border investment made by a resident in one economy (the direct investor) with the objective of establishing a ‘lasting interest’ in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor” (Batra, 2010).

FDI in India was introduced in 1990 by Finance Minister Manmohan Singh (now the Prime Minister of India). The FDI policies did not gain momentum until 1997 when the Indian government allowed FDI in Cash And Carry Wholesale Trading. FDI in retail was not approved at this time, but companies could invest in India using alternative means like Franchise Agreements, Cash And Carry Wholesale Trading, Strategic Licensing Agreements and Manufacturing and Wholly Owned Subsidiaries (Gupta, 2012).

On January 24, 2006, the government of India initiated FDI in retail by allowing single brand retailers to invest in India with a 51% ownership cap. This attracted popular single brand stores like Nike, IKEA and Apple to invest in the Indian retail market. At this stage, operations of foreign companies needed bureaucratic approval and were subject to heavy scrutiny. Taking a step further, in January 2012, the central government of India approved 100% FDI in single brand retailing. Single brand retailers were allowed 100% ownership as long as they procured 30% of goods from India. This was a significant reform considering the relentless opposition from other political parties.

On September 20, 2012, the central government approved multi-brand retailing in India with a 51% ownership cap. This has attracted companies like Wal-Mart, Carrefour and Tesco to invest freely into Indian markets. In 2007, Wal-Mart announced its joint venture with Bharti Enterprise for wholesale cash-and-carry and back-end supply chain management operations in India. With the new reform in place, companies like Wal-Mart can now equally and freely participate in Indian markets. The FDI reform in multi-brand retail has come across heavy political criticism. To pacify the opposition, the FDI in multi-brand retailing is currently limited to urban centers with a population of over 200 million and also requires mandatory approval from state governments.

The effect of multi-retail FDI on agricultural sector and retailing has been much debated. “Agricultural market of India is highly fragmented and unorganized. Given the various changes like virtual collapse of rural credit in organized sector, especially for small and marginal farmers, continuous increase of input cost and stagnant crop price, profit potential of agricultural sector has declined substantially” (Roy & Kumar, 2012). The central government believes that the FDI reforms will bring in much needed

economic, infrastructural, education and back-end management support for small farmers. For example, currently Indian farmers lack cold-storage infrastructure to preserve and transport agricultural goods. The new FDI reforms will enable farmers with cold-chain options for preserving goods and reducing food wastage. In the current system, farmers heavily depend on the middleman or other government authorities for food distribution. More intermediaries in the current food chain compromises farmers' interest and reduce percentage return on sales. According to Roy and Kumar (2012), "Indian farmers realize only 1/3rd of the total price paid by the final consumer, as against 2/3rd by farmers in nations with a higher share of organized retail."

To understand the relevance of this study it is important to understand the current political and economic situation in India, specifically related to foreign direct investment (FDI). The change in FDI policies and increasing participation of multinational and global companies in India is rapidly affecting the retail landscape. Within the agricultural retailing sector, increasing number of modern retailers are now competing against traditional retail vendors, making it an opportune time to study the strengths and limitations of the socially and culturally grounded food systems.

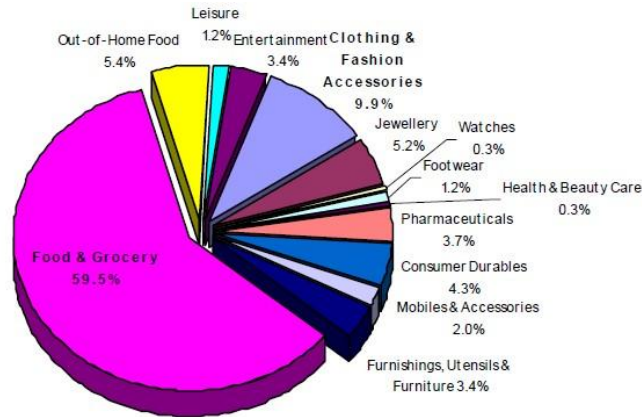
Transformation of Indian Food Supply Systems. "India is beginning to observe a dramatic change in food supply systems in response to rapid urbanization, diet diversification, and the liberalization of foreign direct investment in the food sector" (Pingali & Khwaja, 2004, p. 16). These changes can be seen in both the retail sector as well as in the production sector (Pingali & Khwaja, 2004, p. 16). Organized retail in India started in early 1990s with the advent of international formats of retailing, especially with

the emergence of food retail chains, such as ‘Food world’, ‘Nilgiris’, ‘Fabmall’, ‘MTR’, ‘Apna Bazaar’, ‘Subhiksha’ and ‘Reliance Fresh’” (Mangala & Chengappa, 2008, p. 363). According to Sengupta (2008, p. 689), “almost every major Indian business houses are either getting into the retail space or are consolidating and expanding their presence in the retail space at a feverish pace.”

According to a study conducted by AT Kearney across 30 developing nations, “India is ranked as the most preferred retail destination for international investors” (IBEF, 2008, p. 4). Global corporations and multinationals are striving to own a share of the growing Indian retail market. Both local and global players are trying hard to introduce new organized forms of retail in India. Factors such as a rapidly growing economy, potential untapped market, large base of consumers, rise of organized retail, lower cost of operations, increasing urbanization, high disposable income, easy credit, changing foreign policy and evolving consumer behavior all make India a preferred destination for new forms of organized retail. Organized retail is a commonly used term for modern retail in India.

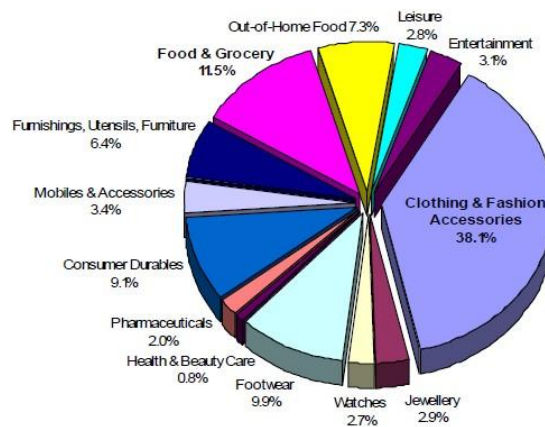
In spite of the great opportunity, modern retail in India only contributes to 5% of the total share, with traditional retail outlets serving the rest of the consumers. “With a share of over 95 per cent of total retail revenues, traditional retailing continues to be the backbone of the Indian retail industry” (IBEF, 2008, p. 7). “Over 12 million small and medium retail outlets exist in India, the highest in any country” (IBEF, 2008, p. 7).

According to the Images F & R Research report, “penetration of modern retail in the food and grocery retail sector is the lowest @ 0.8 per cent” (Sengupta, 2008, p. 689). Figure 2 illustrates the modern retail market in India.



The Indian Retail Pie 2007 (Market size: Rs 1, 330,000 Crore at prevailing prices)

Figure 1. Indian retail market segmentation (Images F & R Research report, 2009)



The Organized Retail Pie 2007 (Market size: Rs 78, 300 Crore at prevailing prices)

Figure 2. Indian organized retail market segmentation (Images F & R Research report, 2009)

In spite of rising modern retail formats in the food sector, traditional retailing still continues to be the popular choice among Indians. Traditional formats like corner stores referred to in some local languages as *kirana* stores, push-cart vendors, and city markets continue to dominate the fresh fruit and vegetable market. What are the aspects that

contribute to the success of traditional food retailing in India? How can global corporations learn from traditional street vendors about the cultural specificities that dictate FFV exchange in India? How has modern retailing affected consumers? How have traditional retailers accommodated changing consumer needs? These questions guide this study.

This research uncovers the underlying cultural aspects of food systems in India. It specifically studies the exchange of FFV through different stages of commodity exchange. This research will provide insights into interactions, artifacts and context relevant to FFV systems in India. These insights will act as guidelines for designers, researchers and corporations (both local and global) to design culturally relevant consumer experiences, distribution practices and production processes. The following section presents key research topics and questions explored in this research. It also elaborates on different shopping formats and research participants recruited for this research.

RESEARCH TOPICS AND QUESTIONS

The study is focused on understanding the role of the consumer, retailer, wholesaler, commission agent (pre-harvest contractor) and producer in the entire food supply chain (see Appendix A) by studying all three stages of FFV commodity exchange: production processes, distribution practices and consumer experience. For each stage, this study focuses on three major aspects of FFV commodity exchange:

1. Interactions: This aligns with the ‘social actor perspective’ borrowed from Actor Network Theory (ANT) that focuses on understanding the interactions between different users and FFV commodities.
2. Artifacts: This aspect focuses on understanding the artifacts used for interaction and also maps the social life of FFV commodities. Borrowed from the ‘social life of commodity’ perspective, this aspect studies the flow of the commodity and different distribution practices.
3. Context: This aspect includes studying the changing cultural context of commodity exchange. It includes both macro and micro understanding of forces that shape the commodity exchange. The immediate context of consumer-retailer-wholesaler interactions was studied using ethnographic methods while the macro forces affecting commodity exchange were studied using secondary archival research.

The following research topics and questions were examined during the course of this study:

1. Consumer Experience:
 - a. What are the different retail environments preferred by shoppers and what is the nature of the experience of shopping for FFV at different retail outlets?
 - b. What is the nature of interaction among different consumers and retailers (or wholesalers)?
 - c. What is the primary reason for shopping with specific retailers? What are the points of attraction that attract consumers to different retail formats?

- d. What are the factors that contribute towards creating an ideal shopping experience for consumers?

2. Distribution and exchange practices:

- a. What are the different distribution and exchange practices used by wholesalers and retailers? How are these practices different or similar and how can they be categorized?
- b. What is the pattern of authority between different players within the distribution network? How do different players negotiate authority?

3. Production processes:

- a. How have the distribution practices and consumer demands affected production practices?

The following conceptual framework illustrates the scope of this research. As illustrated in Figure 3, the cultural analysis of FFV is divided into three stages: production practices, distribution practices and consumer experience. Each stage is further divided into understanding interactions, artifacts and context of FFV exchange.

participants recruited for this study lived within a 4 mile range with access to six different retail and wholesale shopping formats. Each shopping format included single or multiple stores. Participants selected for this study were given complete freedom to choose retail and wholesale formats for shopping. For all participants, the number of family members, area of house, employment status, income type and number of vehicles owned was recorded. This information was obtained to ensure that all participants represented a similar income category.

2. Retailers: Based on participant preferences, FFV retailers were recruited for this study. Familiarity of participants with different retailers was leveraged to gain access for in-depth interviews. To understand the distribution practices and interaction with participants, 10 retailers were recruited for this study. Retail formats included modern retail shops, the district wholesale market, city market vendors, street retail shops, street vendors and pushcart vendors.
3. Wholesalers: To understand the district level distribution system of fresh fruits and vegetables, 11 wholesalers (also commission agents) were recruited for semi-structured interviews. These wholesalers were recruited from the district wholesale market in Pune.
4. Producers/Farmers: To understand the production practices of FFV and its effects on wholesaler-retail distribution system, 6 farmers were interviewed for this study. Farmers were recruited based on references provided by wholesalers. Interviews with farmers were conducted at the district wholesaler market in Pune.

VENDING AND SHOPPING FORMATS

The following section describes a narrative story of a participant (Vanita) to introduce the different retail formats included in this study. The following narrative provides an insight into various shopping alternatives available to Vanita and her impressions about each format.

Narrative Story. Take the example of Vanita, a woman who lives with her husband and in-laws in Pune. Vanita buys her monthly groceries from a nearby *kirana* store (mom and pop store) run by the Kelkars. She also prefers the *kirana* store for her yearly supply of staples like rice and wheat. The *kirana* store provides cleaned, sorted and carefully stored bags of staples. Personal rapport, reliable quality, a flexible return policy, proximity, monthly credit and free home delivery are some of the reasons why Vanita prefers the *kirana* store.

Vanita prefers to buy fresh vegetables from a local street vendor who sets-up his stall every morning from 5 am to 10 am. She prefers to shop for fresh vegetables after her daily morning walk and likes to buy fruits from a nearby street shop vendor. She feels assured about the quality of fruits at the street shop. For seasonal fruits like mangoes, she prefers the local *kirana* store because he owns an orchard in Ratnagiri, an area known well for a special variety of the fruit. Considering the high cost and perishability of mangoes, she believes in the genuineness and integrity of the *kirana* store. In addition, the *kirana* store offers a flexible and amenable return policy for the fruit. When Vanita is out of town, her mother-in-law buys vegetables from a pushcart vendor. The pushcart vendor comes to her door step to sell fresh vegetables. In the event of an emergency, the pushcart vendor provides a viable shopping option for the family.

For special events like birthdays and festivals, Vanita prefers to buy vegetables from the city market. When buying in bulk, she prefers the wholesale district market. For her daily needs she always prefers the nearby street vendor. For Vanita, shopping for vegetables involves exercising and socializing. The modern retail store is not an attractive option for her. The following figures illustrate six different retail formats.



a. Pushcart vendor



b. Street vendor



c. Street retail shop



d. City retail market



e. District wholesale market



f. Modern retail

Figure 4. Six different retail formats

- a. Pushcart vendors: Pushcart vendors are retailers who sell vegetables and fruits on mobile platform-type carts pushed by hand. A typical pushcart is 6' long by 4' wide with four wheels and storage space. Pushcarts have been one of the oldest traditional formats for door-to-door selling of vegetables and fruits.

- b. Street vendors: Street vendors are retailers who set-up temporary shops on sidewalks. Street vendors are typically active in early mornings (between 6-10am) and/or late evenings (from 5-8pm).
- c. Street retail shops: These retailers typically own small sized (from 150sq. ft to 300 sq. ft.) retail store with a possible extension on sidewalks. In addition to fresh vegetables and fruits, these stores also sell small quantities of groceries, bakery and dairy products.
- d. The city retail market: A city market includes small stalls (commonly known as *gallas*) provided by the government as designated spaces for retail and wholesale vending. The government leases out small retail stalls to potential retailers.
- e. District wholesale market: These are district level distribution markets for vegetables, fruits and flowers. Typically, every major metropolis has one or two district markets. These district markets consist of smaller stalls (commonly known as *gallas*) provided to wholesalers for trading food commodities to retailers and consumers. Located at city outskirts, these wholesale markets act as distribution centers for the entire city.
- f. Modern retail: Modern retail, also known as organized retail, refers to the advent of global formats of retailing including super markets, hypermarkets and malls. Modern retail in India has been dominated by the emergence of food retail chains, such as 'Food world', 'Nilgiris', 'Fabmall', 'MTR', 'Apna Bazaar', 'Subhiksha' and 'Reliance Fresh' (Mangala & Chengappa, 2008, p. 363).

Chapter 2

RESEARCH DESIGN

INTRODUCTION

Before discussing the strategy, methodology and methods for this research, the following section reviews four key theories in agrifood research: commodity systems analysis (CSA), systems of provisions (SPOs), actor-network theory (ANT) and cultural economy model (CEM). For each theory, a brief historical background is provided along with salient features, contribution to the field of agrifood research and key shortcomings. Based on these four theories a theoretical model (see figure 5) for cultural analysis of FFV is suggested. This theoretical model provides the foundation for selecting the research strategy, methodology and methods for this research.

REVIEW OF LITERATURE: THEORIES IN AGRIFOOD RESEARCH

In their essay, *Beyond the Farm Gate: Production-Consumption Networks and Agri-Food Research*, Lockie & Kitto (2000, p. 3), point at “the relative neglect of any serious theorization or research into the relationships between practice associated with the provision of food and the consumption of that food.” Scholars have accounted this lack of theorization to many factors such as production-centric (Marxist) approach, asymmetric handling of production-consumption dichotomy, emphasis on horizontal analysis of practices and elimination of social and cultural aspects of consumption.

The theories on contemporary agrifood systems can be broadly divided into two major approaches. The ‘new political economy,’ approach stresses the importance of transnational agrifood producers for aligning production and consumption at both

national and global levels” (Dixon, 1999, p. 152). In this approach the focus is more on production systems and flow of capital while consumption practices are considered secondary. The ‘sociology of consumption’ approach “is based on the premise that consumption cannot be reduced to the logic of production systems” (Dixon, 1999, p. 152). Following this perspective consumption should be studied as a social and cultural phenomenon. Based on these two approaches, the following section summarizes four key approaches for agrifood commodities. Following a Marxist production-centric approach the first section discusses two major approaches: commodity systems analysis (CSA) and systems of provisions (SOPs). The second section follows a consumer centric (sociological) view and discusses actor-network theory (ANT) and the cultural economy model (CEM).

The rationale behind summarizing these key agrifood theories is: 1) to create a theoretical and methodological framework for this research study and 2) to justify the need for a commodity systems perspective for analyzing agrifood commodities. For each major school of thought (see Appendix B); key authors, broad theoretical contributions, limitations and aspects relevant to contemporary study of agrifood commodities are discussed. At the end, a theoretical model (based on the review of literature) is presented for cultural analysis of agrifood commodities (see figure 5).

As Friedland (2003) points out, commodity analysis (and specifically agrifood commodities) in theory can be divided into two major approaches. First, commodity analysis or commodity studies focuses on “a single- or limited –aspect of commodity life, usually in a single area or locality or region but is not concerned with analyzing the commodity as a system” (Friedland, 2003, p. 5). Commodity analysis or commodity

studies have been more popular in economics, marketing, consumer research and business. Individual commodity studies are based on “Marx’s notion of commodity fetishism: the necessary masking of the social relations under which commodities are produced from which capitalist commodity production gains much of its legitimacy” (Guthman (2002, p. 296). The social relationship between individuals is expressed as a relationship between things (both commodities and capital).

Second, commodity systems analysis can be defined as “the methodology for studying a specific commodity from its origins in production to consumption” (Friedland (2003, p. 5). Guthman (2002, p. 297) argues that commodity system analysis highlights the Marxist notion of M-C-M transactions- “money transferred into commodity and back to money again.” Advocating the systems perspective, Guthman (2002, p. 297) adds that “investigating the movement of the commodity from farm to table (and possibly further), can illustrate where value is added, appropriated and distributed including any value extracted from nature.”

1) Commodity system analysis. During the 1970s, commodity systems analysis began to develop within the field of social science. Borrowing from the well-established work of agricultural economist, social scientists “approached their research with a specific problem generated with the discipline and literature; the focus was less on the commodity than what a commodity could illustrate about a research problem” (Friedland, 2003, p. 6). Criticizing their work, Friedland (2001), states that “agricultural economists have long focused on the economics of particular commodities but have been less interested in studying commodity systems, let alone social, political or cultural aspects of commodities.”

With the advent of globalization, “researchers understood that a new level of analysis was required to deal with the expansion of trade and the restructuring of commodity chains” (Friedland, 2003, p. 6). There was a need to include the global flow of capital, infrastructural developments, technological advancements in production and consumption at both local and global level. In comparison to clothing, automobiles, computers and other technological advancement, globalization of agrifood was considerably delayed. As Friedland (2003) points out, within the agrifood sector, certain stages of the commodity chain were globalized whereas production or distribution still remained local or regional.

Earlier attempts to analyze the commodity as a system was done by McGinity (1979) who divided the system into seven stages: “farm supply, farming, consolidation, processing, wholesaling, retailing and consumption” (Friedland, 2001). This was followed by William H. Friedland’s (1984) pioneering work that established the ‘systems analysis approach’ for analyzing agrifood commodities. In his essay, *Commodity Systems Analysis: An approach to the Sociology of Agriculture*, Friedland (1984) presented a methodology for commodity systems analysis based on number of empirical studies conducted in California during the late 1970s. Friedland (1984, p. 222) outlined the following five foci for commodity systems analysis:

1. Production practices: It consists of “examining the techniques of production: the distinctive characteristics of each commodity, its problems, diseases, control processes, etc” (Friedland, 1984, p. 223).

2. Grower organization: This includes studying famers (growers) or organizations and analyzing labor practices, production cycles, costs, finance issues and other entities.
3. Labor as a factor in production: This includes analyzing both management and labor activities of growers. “The analysis of labor factor includes, among other things, the way labor is made available to agriculture, how it is recruited and once on the job, how it is managed and directed” (Friedland, 1984, p. 225).
4. Scientific production and application: This area focuses on the creation of a requisite knowledge base, research, problem solving for particular commodities and explores the “relationship between commodity organization and research and developmental units” (Friedland, 1984, p. 226).
5. Marketing and distribution systems: This includes studying marketing and distribution channels for commodities, pricing, creation of demand, organization, flow of capital and others.

Goodman and DuPuis (2002, p. 6) believe that “following a Marxian reading of the notion of fetishism, analysis of the commodity chain has principally been directed towards ‘uncovering’ the social relationships behind the production of a particular commodity.” Commodity systems analysis (CSA) was a pioneering effort in establishing a systems approach to commodity studies but was heavily criticized for its omission of consumption or the consumer. CSA elaborated on the issues of economy, production, market and distribution but completely disregarded consumption practices.

Acknowledging the role of consumption (and consumers), Friedland (2001) later

appended his original commodity system model to include three new areas: the scale of commodities, sectoral organization and commodity culture.

2) Systems of Provisions (SOPs). To incorporate consumption into the system analysis model, Fine (1994), argues “that a shift is necessary from ‘horizontal’ analyses of activities believed common across commodities... from narrow disciplinary perspectives to ‘vertical’ analyses of particular commodities –or groups of commodities – in the context of the chain of horizontal factors that give rise to [them] –production, distribution, retailing, consumption and the material culture surrounding [them]” (Lockie & Kitto, 2000, p. 4). According to Fine (1994) this, “unique interaction between seemingly common horizontal factors leads to the development for each commodity or commodity groups of equal unique ‘systems of provision’ (SOPs)” (Lockie & Kitto, 2000, p. 5). Lockie & Kitto (2000, p. 4) describe the following four basic principles of systems of provisions (SOPs):

1. Consumption of food is seen as a complex chain of activities.
2. “The impact of any one determinant is dependent upon its interaction with the others” and cannot be studied in isolation (Lockie & Kitto, 2000, p. 5).
3. Different food systems will have different systems of provisions irrespective of some shared or overlapping elements. This supports the case for a detailed investigation (vertical analysis) of individual commodities rather than horizontal analyses of activities (proposed earlier by Friedland) that are common among different commodities.

4. “Food systems are themselves distinguished from other SOPs by virtue of their organic content” (Lockie & Kitto, 2000, p. 5).

Lockie & Kitto (2000, p. 5) acknowledge that the SOPs approach extends beyond the “traditional concerns of CSA as the material culture surrounding commodities, the role and agency of consumers within SOPs and the organic content of food” but also criticized this approach for offering multiple unique systems for commodities. Guthman (2002) highlights three major shortcomings of this approach suggested by Fine (1994):

1. Fine emphasizes the need for a vertical analysis of individual commodities and its relation to the horizontal process but in the process pre-determines taste. A vertical analysis explains in great detail the different stages of a particular commodity but fails to explain the underlying reasons behind consumption.

2. In the vertical analysis of commodities, consumption is seen only as a logical end of the process. SOPs ignore the role of consumption in shaping production. Guthman (2002, p. 298) states that “it is Fine’s failure (ironically enough) to address the simultaneity of food’s symbolic and biological dimensions (‘at all instances along the chain’), replicating a methodological dualism between nature and culture. This view is further elaborated within the ‘cultural economy model’ for commodity analysis.

3. As Guthman (2002, p. 298) points out, the SOP approach “privileges human agency above all others’, such that food appears only to be acted on by humans.” The lack of balance between symbolic and biological dimensions, over-emphasized verticality of analysis, and the predisposition towards human agency

lead to the downfall of SOPs. These shortcomings were later addressed by the actor-network theory (ANT) and the cultural economy model (CEM).

3) Actor-Network Theory (ANT). The emergence of actor-network theory is attributed to eminent scholars Bruno Latour, Michel Callon, and John Law. It was first developed during early 1980s at the *Centre de Sociologie de l'Innovation of the École nationale supérieure des mines de Paris*. The theory was known as the ‘material-semiotic’ method as it examined symbolic as well as the material relationships within a society. This theory “insists that networks are materially heterogeneous and argues that society and organization would not exist if they were simply social” (Law, 1992, p. 379).

Law (1992) believed that, “society, organizations, agents, and machines are all effects generated in patterned networks of diverse (not simply humans) materials” (Law, 1992, p. 380). According to ANT, “agents, texts, devices, architectures are all generated in, form part of, and are essential to, the networks of the social” (Law, 1992, p. 379). ANT scholars go on to claim that the ‘social’ is nothing but a “patterned network of heterogeneous materials” (Law, 1992, p. 381). The actor-network scholars define networks as “composed not of people, but also of machines, animals, texts, money, architectures- any material that you care to mention” (Law, 1992, p. 381). The social role of an individual is not necessarily limited to interacting with humans only but also includes the material environment. Actor-network theory suggests that “all our interactions with other people are mediated through objects of one kind or another” (Law, 1992, p. 382).

For Law (1992, p. 382), “if human beings form a social network, it is not because they interact with other human beings. It is because they interact with human beings and endless other materials too.” Law also (1992, p. 382) warns against a reductionist approach about the “material patterning of the social.” He criticizes reductionists for creating a false dichotomy of human versus material objects and then assuming that one dominates the other. Rejecting this *a priori* approach, Law (1992) calls for an equal status for humans and objects. Actor-network theory considers humans as part of the network but not necessarily the drivers of the network.

ANT criticizes the clear distinction between human and non-humans and argues that the modern world depends on new type of beings that are hybrids of nature and culture” (Lockie & Kitto, 2000, p. 7). “It is these hybrids that ANT refers to as networks, or to put it more simply, networks are comprised of a heterogeneous array of *actants* including humans, nature and technology” (Lockie & Kitto, 2000, p. 7).

Apart from including the material environment within the analytical framework, Lockie (2002) applauds the work by actor-network theorists for managing scale and exploring the macro-micro levels of social interaction. As Giddens (1984) cited in Lockie (2002, p. 282) points out, “social practice remains situated in time and space and that apparently macro-level phenomena such as globalization result from the extension of social relationships beyond face-to-face interaction.” In addition to social practices situated in time and space, “participants actively construct and pursue representations of the ‘macro-social’ as they engage in situated social practice” (Lockie, 2002, p. 282). In sum, the representation of ‘macro-social’ is a collective result of its micro-social practices. This research study focuses on the understanding of ‘situated cultural practices’

in order to understand the cultural dimension of food systems in India. The notion of ‘situated cultural practices’ is further elaborated in the section on research strategy, methodology and methods.

Advocating the role of ANT in agrifood research, Lockie and Kitto (2000, p. 6) insist that this theory would help in “understanding how globalization processes are created through situated human action, but it would help also to account for the organic content of food and the biological bases of agricultural labor process in a conceptually coherent manner.” Lockie and Kitto (2000, p. 278) provide three reasons to justify the appropriateness of ANT in agrifood research:

1. Actor-network theory focuses attention on the symbolic aspect of food.
2. It explores the “complex and relational nature of power”, and
3. includes humans, machines and nature within the network.

Actor-network theory was a great improvement over SOPs as it considered both the symbolic and material dimension of society. This theory can be described as “relational materialism; a ‘semiotics of materiality that conceptualizes all objects in terms of their relationships with others’” (Lockie and Kitto , 2002, p. 281). ANT was also successful in bridging the gap between macro-social and micro-social aspects of food systems. This facilitated a causal understanding of micro-social practices and its effects on macro-social phenomenon.

4) Cultural Economy Model. The ‘cultural turn’ to consumption theories can be associated to contemporary scholars like Ritzer, Appadurai, Dixon, Boccock, Miller and others. These scholars advocate a non-Marxian view of consumption that is embedded in

social interactions and relationships. As Goodman and DuPuis (2002, p. 11) explain, these authors “explain food more in terms of Durkheim’s idea of ‘totem’-as a symbol which represents social relationships – and less in terms of Marx’s ‘fetish,’ a symbol which hides social relationships.” The notion of “systems of meanings” proposed by Appadurai and Miller find ontological similarities with ‘network’ defined in ANT (both include non-human elements).

Cultural economies can be defined as “an analytical perspective which examines economies as they are embedded in and constructed by cultural systems that are larger and more powerful than particular individuals and particular historical moments” (Halperin, 1994, p. 17). Adapting Friedland’s model (CSA), Dixon calls for a social constructivist approach that “demands an actor-orientation and is context and case specific, and as such is most amenable to ‘letting in’ consumers and others responsible for the commodity’s ‘social life’” (Dixon, 1999). In his essay, *A Cultural economy model for studying food systems*, Dixon (1999) highlights the role of culture in consumption practices and describes five new dimension for consumption: “tertiary production practices, the means of access, delivery dimensions, the eating environment, and the experience of consumption” (Friedland, 2001).

Citing the work of noted American anthropologist, Sydney Mintz, Dixon (1999, p. 154) urges researchers to follow Mintz’s concept of “humans as consumers of presentation.” “Mintz has argued that because food is burdened with a symbolic load, research needs to adopt a dual emphasis upon the inside and outside meaning of food” (Dixon, 1999, p. 154). This includes not only understanding the commodity but also the individuals who are responsible in assigning cultural values to commodities. According

to the cultural economy model (CEM), “central to the process of commodity exchange is the process of communicating the value of commodities to a species, which deals in representations – in categorizing social reality symbolically and conceptually” (Dixon, 1999, p. 154).

Dixon (1999, p. 159) suggests that a contemporary model for analyzing food systems should include: “social actor perspective, a social life of commodities approach, and changing cultural practices that can reveal the shifts in power that shape food and commodity systems.” He adds that, the role of cultural economy is not to replace political economy but to work together in a way that unites the “vertical and horizontal dimensions of the food system” (Dixon, 1999). The following table summarizes Dixon’s model by highlighting three stages of commodity exchange: production processes, distribution processes and consumption processes.

Table 1

Proposed model by Dixon (1999)

Production Processes	Distribution and Exchange Processes	Consumption Processes
Production processes-public and self provisioning Farmer organization Labor as a factor of production- paid and unpaid Science production and application Product design process Regulatory politics	Marketing and distribution networks Retailing practices & organization Food service practices Labor as a factor of production- paid and unpaid Food knowledge & discourse production & application Regulatory politics	Tertiary production Conditions of access Manner of delivery The environment or context The experience

THEORETICAL MODEL FOR CULTURAL ANALYSIS

The theoretical model for this study (see figure 5) is adapted from commodity systems analysis (CSA), actor-network theory (ANT) and the cultural economy model (CEM). The cultural analysis of FFV is conducted built upon the CSA model. This model provides justification for including all three stages of FFV exchange (see Table 1): production processes, distribution and exchange processes and consumption processes. According to Dixon (1999, p .151), Friedland's work is pioneering in the field of agrifood commodities for two major reasons:

1. It is a very “robust effort and debate to explain changing commodity and food systems” and
2. “Its premise that commodity systems have a ‘social reality’ permits what has been termed a social constructionist approach.” This study of FFV adapts a social constructivist position and explores the ‘social life of commodities’ across different stages of exchange.

The ‘social actor perspective’ is borrowed from actor-network theory. Following ANT, this study believes that the social role of an individual is not necessarily limited to interacting with humans only but also includes the material environment. Adopting the ‘social actor perspective’, this study aims to understand both the symbolic and material (humans, machines and nature) aspects of food systems.

In addition, ANT provides the necessary bridge that defines the relationship between macro-social and micro-social practices. Researchers in the past have theorized either the macrosocial (political economist and sociologist) or the microsocial aspect (consumer researchers and anthropologist) of consumption, providing a detailed but

incomplete picture of food systems. This research acknowledges the two-way relationship between macrosocial and macrosocial aspects and focuses on the understanding of ‘situated cultural practices’ in order to understand the cultural dimension of food systems.

And finally, the cultural economy model emphasizes the role of culture in shaping consumer behavior and the social life of commodities. This study includes not only understanding commodities but also the individuals who are responsible in assigning cultural values to them. Changing contexts and cultural practices were mapped by conducting secondary archival research of FFV systems in India. This provided the necessary background for conducting ethnographic study of consumption, distribution and production practices. The following figure illustrates the theoretical model for studying FFV in India. The cultural analysis of food systems is based on three key aspects: social actor perspective (understanding interactions), a social life of commodities approach (understanding social life of artifacts), and changing cultural practices (understanding global forces and cultural practices).

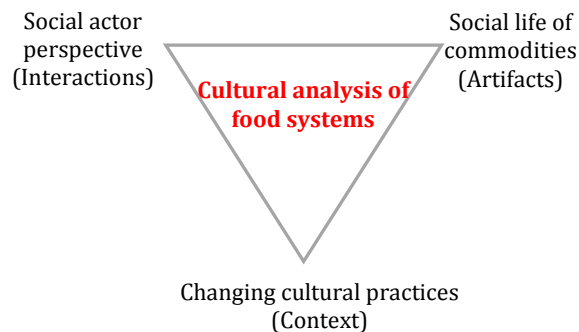


Figure 5: Theoretical model for the cultural analysis of food systems

RESEARCH STRATEGY

The cultural analysis of FFV is focused on understanding the supply chain which involves the following human actors—consumers, retailers, wholesalers and commission agents (pre-harvest contractors) and producers (see Appendix A) of commodity exchange. The nature of this study lends itself to a flexible/qualitative research approach. The process of FFV exchange is studied with an ethnographic approach coupled with Friedland's commodity systems approach (CSA). This study includes all three dimensions of commodity exchange: production processes, distribution and exchange practices and consumer experience.

On the one hand, this research acknowledges that consumer experiences are inscribed in daily rituals, practices and interactions of users that require a descriptive ethnographic approach. On the other hand, descriptive accounts of food systems are not enough to provide a complete picture of commodity exchange. In addition to consumer experience, the commodity systems approach (CSA) permits an organizational understanding (a 'systems approach') of commodities and the larger context of exchange. This will enable a better understanding of food distribution networks and changing cultural practices of wholesalers and producers. The combination of ethnography and CSA provides a unique advantage to comprehensively document both everyday experience of users and the process (different stages) of FFV exchange.

Culturally Situated Difference. The methodological (derived from the theoretical framework; see Figure 5) framework for this study is based on the notion of

‘situated difference’ presented by Arjun Appadurai (1996) in *Modernity at Large: Cultural Dimension of Globalization*.

First and foremost, he opposes the noun form of culture where it is defined as a substance or entity having independent existence. Work by earlier anthropologists and sociologists often emphasized the noun form of culture positioning it at the center of every inquiry. It was only after the advent of the psychological and symbolic schools of anthropology that culture was seen as a dimension rather than the focus of a study. For example: psychological anthropologists studied culture as a supporting phenomenon that affected personality. Symbolic anthropology defined culture as one of the subjective dimensions that mediated human experience and behavior. It was then that culture was seen as one of the dimensions of a phenomenon rather than the only factor explaining a phenomenon. Appadurai suggests that the noun form of culture seems to “carry associations with some sort of substance in ways that appear to conceal more than they reveal,” but the adjectival usage of culture becomes a force to understand cultural differences, or comparisons (Appadurai, 1996). He calls for “stressing the dimensionality of culture rather than its substantiality... [it] permits our thinking of culture less as a property of individuals and groups and more as a heuristic device that we can use to talk about difference” (Appadurai, 1996, p. 13).

Cultural differences are defined as the differences that “either express, or set the groundwork for, the mobilization of group identities” (Appadurai, 1996, p. 13). Cultural differences can be a way of understanding different glocal cultures and as a tool for separating the local embodied aspects from global forces. Culture then acts as a force that decides the boundaries between different groups or individuals. Situated cultural

difference between cultures represents the “difference in relation to something local, embodied, and significant” (Appadurai, 1996, p. 12). Cultural situated difference becomes a frame of reference for identifying different groups with cultural boundaries. Appadurai (1996, p. 12) underlines the contrastive use of culture rather than understanding it as a substantive property of a thing or phenomenon. Understanding culture as a “dimension that attends to situated and embodied difference” presents a new direction to uncover the local entity of a glocal phenomenon.

The methodological foundation of this study is based on understanding and designing for ‘situated differences’ that can lead to the development of culturally appropriate products and services that are globally situated but culturally appropriate. By studying the interactions and artifacts, this study maps the ‘situated cultural differences’ that provide cultural insights into FFV exchange.

The research strategy, methodology and methods are aimed at understanding the three different aspects of culturally situated difference: the people, the artifacts and the context. For all three stages of FFV exchange (consumption, distribution and production) the following three aspects were studied:

1. Interactions: Borrowed from ANT, the ‘social actor perspective’ focuses on understanding the interactions between different users and commodities.

Interactions were studied using a descriptive (ethnographic) approach that focuses on understanding the daily interaction and experience of participants selling, distributing and shopping for FFV.

2. Artifacts: This refers to understanding FFV as a commodity with social and cultural biographies. Borrowed from the ‘social life of commodity’ perspective,

this aspect will study the flow of commodity and distribution practices related to FFV.

3. Context: This aspect focused on studying the changing cultural context of commodity exchange. It included both macro and micro understanding of forces that shape the FFV commodity exchange. Immediate context of consumer-retailer-wholesaler interactions were studied using ethnographic methods while the macro forces affecting commodity exchange were studied using secondary archival research. The following figure illustrates the methodological framework for cultural analysis of FFV in India.

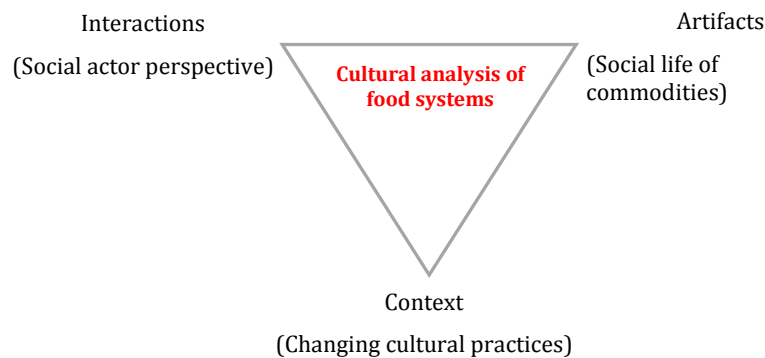


Figure 6 : Methodological framework for cultural analysis of food systems

METHODS

To understand consumer experiences, distribution mechanisms and production practices for FFV exchange, the following methods were used to collect data:

1. Shopping logbook assignment
2. Shop-along visits

3. Semi-structured interviews
4. Participatory design activity and
5. Layout evaluation and focus groups

Method 1: Shopping logbook assignment. This method was used to document the personal shopping experience of all consumers recruited for this study. Similar to a ‘photo journal method,’ participants were provided with a logbook to maintain their daily shopping activity for FFV. All participants were encouraged to maintain a daily written log (see Appendix C) that included, date, time, primary reason for shopping, type (format) of retailer/wholesaler, amount of money spent, shopping interactions and impression after each shopping visit.

Participants were provided with a logbook (see Appendix C), a digital camera, and a set of instructions to guide them through the process. In addition to written notes, all participants were encouraged to take pictures of different retail/wholesale formats. Participants were required to maintain this logbook for a span of four weeks. Each participant was engaged in a 30 minute long preparatory session that guided them on how to use the logbook and expectation from this exercise. A total of 20 participants were given logbooks. Two participants discontinued the exercise after two weeks for personal reasons. At the end of four weeks, two participants provided sufficiently incomplete (lacking required details) logbooks. A total 16 participants completed the logbook assignment for the desired period of time.

A selective sampling technique was used to recruit participants for this method. Only one member from each family was assigned to maintain a logbook. Participants

were carefully selected based on their frequency of shopping, ability to handle technology and willingness to maintain shopping records.

Only a few participants were able to take pictures during shopping. According to participants, taking pictures while shopping for FFV was troublesome and challenging. Participants reported that taking pictures delayed their shopping activity and attracted unwanted attention from other shoppers. The requirement of taking pictures was then made optional for participants.

Method 2: Shop-along visits. After participants had maintained their shopping log for two weeks, I conducted individual shop-along visits with all participants. Shop-along visits were used to document the personal shopping experience of participants. Also known as “biographies”, this method catalogued the interaction and activities of participants throughout their shopping experience. The shop-along visit involved a one-on-one interview with the participants as they shopped for daily vegetables and fruits. This method, in particular, was a way for me to relate to their shopping behavior and understand their beliefs, attitudes, rituals, habits (their culture) and decision-making process while shopping. The experiences shared with participants during these shop-along interviews were revisited during the semi-structured interviews, making it an insightful and engaging conversation. Shop-alongs were documented using field notes and pictures. After every shopping visit, a debriefing session was conducted to record participants’ views about their experience.

Method 3: Semi-Structured Interviews. Semi-structured interviews were conducted with consumers, retailers, wholesalers and producers to understand different aspects of FFV exchange. Semi-structured interviews were divided into two categories:

1. Consumer interviews: Consumers already participating in the logbook assignment and shop-alongs were recruited for interviews. Consumer interviews were conducted after participants had maintained the logbook for a minimum of 2 weeks. All logbooks were collected from participants before the interviews. I carefully studied the logbooks and prepared a set of questions corresponding to individual participants. Studying the logbook before every interview was helpful to understand participant experiences at different retail formats. Engaging participants in the logbook exercise before the interviews resulted in engaging and insightful interviews. A total of 16 semi-structured interviews (each with the average duration of 25 minutes) were conducted. All interviews were audio recorded and later transcribed, translated and analyzed for patterns.

2. Retailer, wholesaler and producer interviews: The second set of interviews was conducted with FFV retailers, wholesalers and producers. The existing rapport between consumers and retailers/wholesalers was used to recruit participants for interviews. All retailer and wholesaler interviews were conducted after shop-along visits. Shop-along visits were useful for building familiarity with the retail environment and gain access for interviews.

Wholesale and producer interviews were conducted at the Pune city district wholesale market. A written permission for conducting interviews with wholesalers/commission agents and farmers was obtained from the District Market

Committee. A total of 11 wholesalers and 6 farmers were interviewed. All interviews were audio recorded, and later transcribed, translated and analyzed for patterns. To gain multiple perspectives on the FFV system, wholesalers of various different commodities like potatoes, onions, fruits, leafy vegetables and other were recruited for interviews. Although this study does not directly focus on any particular fresh fruit or vegetable commodity, it was important to understand a wide range of commodities with its unique system of exchange. For example, the exchange system for potatoes or onions is different from leafy vegetables primarily because of considerations of perishability and storage space requirements. The exchange system for different fruits and vegetables was compared and related with producer interviews.

Method 4: Participatory design activity. To understand consumer views on ideal shopping layout for FFV, 16 participants were recruited for a participatory design activity. Each participant was given a task to design a layout that accurately reflected their needs as consumers. All participants were given the following scenario:

Imagine that you are the proprietor of a retail store that sells groceries, vegetable and fruits. Your store includes both indoor and outdoor space for retailing. Your store deals in fourteen major items. Your task is to arrange these fourteen items within the given space (both indoor and outdoor). In addition, you should think about parking facility and a billing system for your store. In the next 30 minutes, design a layout that would suit the Indian consumers and ensure maximum profit for your corporation.

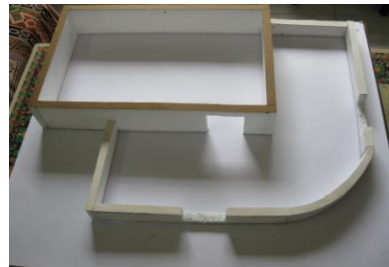
For this activity, each participant was given an architectural model (to-scale) of a typical, blank store layout that I designed, and images (small cut-outs) of vegetables,

fruits and groceries (see figure 7). Participating in this exercise helped participants to articulate their preferences towards shop layouts and services.

This design activity was followed by a short interview recording their rationale behind their design decisions. Each participant was asked to provide a virtual tour of the layout and the reasoning behind their arrangement. This was an exciting experience as participants assertively provided their opinions on culturally relevant shopping layouts. The participatory design activity was video recorded. The follow-up interview was audio recorded and later transcribed, translated and analyzed for reoccurring patterns. The following pictures illustrate the tools used for this participatory activity.



Set of 14 items/image for the activity



Architectural model for the activity

Figure 7: Tools for participatory design activity

Method 5: Layout evaluation method and focus group. Participatory design activities used in design research have been primarily generative in nature. Participants are engaged in co-design activities that result in user-designed artifacts. In practice, the role of participants is limited to the co-generation phase. The user-generated artifacts (diaries, collages, personas, photo-journals) are then analyzed and acted upon by the design research team.

In participatory design activities, participants are seldom involved in the sense-making (analysis) phase. The layout evaluation method used in this study attempts to bridge this gap. The participatory design activity and layout evaluation methods (in combination) were used as generative and analytical tools. The layout evaluation method was used as collective sense-making tool to develop an insider's perspective on consumer preferences for retail environments.

Following the participatory design activity, four participants were requested to review and evaluate design layouts created by other participants. Four participants were provided with an evaluation template (See Appendix D) to review and score all layouts. Layouts were evaluated based on accessibility of FFV, efficient circulation, billing convenience, parking facility, pedestrian friendliness and overall effectiveness. Each participant evaluated 11 other layouts. The layouts created by participants had no personal identification information. For all questions, participant responses were recorded using an Excel spreadsheet. Mean and SD for each question was calculated for all 11 layouts. This determined the importance given by participants for each question for all 11 layouts. Data from all 11 layouts was consolidated to determine the most desirable one.

After individual evaluation, four participants engaged in a 30-minute long focus group. In this focus group, participants were asked to reach a consensus about the layout that was the most suitable for Indian consumers. Each participant argued their own opinion about different layouts before picking two most suitable layouts. Participants discussed advantages and disadvantages for the two selected layouts. Focus group was audio recorded. The top two layouts selected from the focus group were then compared against the individual evaluation completed by participants. The focus groups were an

effective way to compare individual evaluations with group thinking and provided the necessary validity and robustness to data.

The following table illustrates the list of methods used for the study and how they contributed to the cultural analysis of FFV systems:

Table 2

Methods justification table

Methods	Purpose of the method
Shopping logbook assignment	Insight into the shopping experience. Daily log of shopping activities.
Shop-along visits	Day to day shopping experience reflecting their habits, needs, lifestyle, attitudes and other relevant details. Shop-alongs also provided me with accounts of the firsthand experience of shopping.
Semi-structured Interviews <ul style="list-style-type: none"> • <i>Consumer interviews</i> • <i>Retailer, wholesaler & producer interviews</i> 	To understand shopping preference of consumers, wholesale/retail practices and production processes for FFV.
Participatory design activity	To understand retail layout preferences of consumers.
Layout evaluation method and focus group	Building consensus on culturally suitable layout for retail shopping. Comparing and contrasting views on traditional and modern FFV systems.

The study of FFV was divided into consumer experience, distribution practices and production processes. The following table summarizes key research topics, questions and methods used for collecting primary data.

Table 3

Summary of key research topics, questions and methods used for research

Research Topic	Research Questions	Methods
Consumer Experience	a. What are the different retail environments shoppers prefer to by FFV and how is the experience of shopping for fresh fruits and vegetables (FFV) at different retail outlets?	Shopping logbook assignment Shop-along method
	b. What is the nature of interaction between different consumers and retailers (or wholesalers)?	
	c. What is the primary reason for shopping with specific retailers? What are the points of attraction that draw consumers to different scales of retailers? d. What are the factors that contribute towards creating an ideal shopping experience for consumers?	Shop-along visits Consumer interviews Participatory design activity Design evaluation method and focus group
Distribution & exchange practices	a. What are the different distribution and exchange practices used by wholesalers and retailers?	Shop-along visits Wholesaler and retailer interviews Secondary research
	b. How do different distribution players construct the value of the commodity?	Wholesaler and retailer interviews Secondary research
Production processes	a. What are the different techniques of production for FFV?	Wholesaler and retailer interviews Secondary archival research
	b. How have distribution practices and consumer demands affected production practices?	Producer interviews Secondary research

RESEARCH DESIGN

This case study of food systems in India with its focus on the production, distribution and consumption of fresh fruits and vegetables (FFV) is a way to demonstrate the theoretical and methodological applicability of cultural sustainability. The larger goal of this study is to examine the importance of culturally embedded rituals and their impact on products and consumer behavior. In addition, this study can also provide ethnographic practitioners and design researchers a theoretical and methodological framework for researching the culture of products.

This research included different stakeholders in the food commodity exchange process (consumers, retailers, wholesalers and producers) and different environments that stage the interaction with the consumer. The six different retail and wholesale formats included in this study represent different channels of FFV exchange. I believe that design plays a key role in all these different channels. It is not necessary that design can only play a prominent role in modern (organized) retail sector. The traditional retail system of pushcart vendors and street vendors involves design in an accidental and DIY (do-it-yourself) form. This study is about learning from culturally relevant design interventions at different levels (from pushcart vendors to modern retailers) and applying it to create culturally sensitive consumer experiences, distribution systems and production practices.

This research was designed and executed in the following three stages:

1. Research Prep: Research with human subjects requires approval from the Institutional Review Board (IRB). A proposal outlining my research questions, methodology, methods, participant sampling and ethical considerations was presented and approved by the Institutional Review Board (IRB): IRB Protocol # 1104006312. The

logbooks used for consumer research were designed, printed and tested before starting data collection.

After reaching India, I meet with a number of participants willing to participate in this study. The meetings were aimed at providing participants with necessary information about my research and gauge their appropriateness and willingness to participate. As my study required participation for a span of 4 weeks, it was important to ensure appropriateness and willingness of participants. Participants were carefully selected based on their family structure, income type, employment status, shopping habits and willingness to participate in the study.

To familiarize myself with FFV shopping activity, I conducted pilot shop-along visits with some participants. Pilot visits helped me to familiarize myself with the surroundings, understand the context and develop adequate competency to conduct this study.

2. Data Collection: Data collection was divided into two parts. First, the consumer experience of participants was studied using the logbooks and the shop-alongs. This was followed by interviews and participatory design activity. Finally, four participants were recruited for the design evaluation method and focus group discussion.

Using participant contacts, I gained access for interviews with retailers and wholesalers. The second phase of data collection was completed at the district wholesale market in Pune. All interviews with wholesaler/commission agent and farmers were conducted at this market.

3. Data Analysis: Data analysis was conducted simultaneously with data collection. Majority of the data collected for this study was in Marathi, a language spoken

in the state of Maharashtra in Western India. All interviews were translated and transcribed into English. For all interview transcripts, paragraph coding was used to identify key themes. For the participatory design activity, layout information was transferred in Excel sheets to create affinity diagrams (using color) that established the relationship between different FFV items.

Based on follow-up interviews conducted with each participant, an ethnographic decision model was developed. This includes outlining conditions, rules (rationale behind the design) and the design choice made by each participant. A comprehensive model for all participants was developed to predict the design choices made by consumers. For the design evaluation activity, participant responses were recorded using an Excel spreadsheet. Mean and SD values for each question were calculated for all layouts. This helped to determine the importance given by participants for each question for all 11 layouts. Two layouts that represented culturally suitable shopping environments were selected based on participant input.

The following table summarizes the methods used for data collection and corresponding analysis techniques:

Table 4

Data collection and analysis techniques

Methods	Analysis technique	Description
Consumer interviews	Open coding Axial coding Biaxial coding	Identifying paragraphs with codes Identifying key themes Comparing themes across different participants
Wholesaler/retailer interview	Open coding Axial coding Biaxial coding	Creating activity maps for how a commodity (FFV) travels across different stakeholders

Participatory design activity	Color coded affinity diagrams	Information from each layout was transferred to Excel sheets to create affinity diagrams (using color) Affinity diagrams establish relationships among different FFV items
Participatory design activity	Ethnographic decision model	The ethnographic decision model includes deciding conditions, rules (rationale behind design) and the design choice made by each participant. A comprehensive model for all participants was created to predict the consumer behavior
Design Evaluation Method	Statistical analysis	For all questions, participant responses were recorded using an Excel spreadsheet. Mean and SD values for each question was calculated (for all 11 layouts)
Design Evaluation Method	Inter-item correlation: Cronbach's Alpha (Correlation > 0.80)	Inter-item correlations were determined to establish the correlation between different items in the evaluation template. Cronbach's Alpha: $\alpha = Np / 1 + p(N-1)$
Focus group discussion	Transcribed and translated	The best 2 layouts selected by the focus group participants were compared with the top layout derived from statistical analysis
Shopping logbook method	Summary sheet for all 16 participants	Journals also documented the monthly basket and the shopping experience for each participant.

Chapter 3

LITERATURE REVIEW

INTRODUCTION

The theoretical contribution of this dissertation is to provide a way to integrate ‘culture’ into the existing discourse of sustainable design. The current approach to sustainable design largely focuses on reducing environmental impact, and attaining higher economic and social equity. I strongly believe that the inclusion of ‘culture’ into the existing Triple Bottom Line (TBL) will play a vital role in enriching and expanding the environmental, economic and social aspects of sustainability.

Before addressing the cultural dimension of sustainability, it is important to understand the current discourse of sustainability in design. The following section briefly discusses current approaches to sustainable design and highlights two primary reasons for the lack of implementation of the cultural aspects of sustainability. In the context of existing literature on sustainable consumption, the last part of this section presents a succinct definition of cultural sustainability and highlights uniqueness of this approach.

SUSTAINABILITY IN DESIGN: CURRENT APPROACH TO SUSTAINABILITY IN DESIGN

The introduction of sustainability in design is linked to the evolution of design as a profession. Giard (2003, p. 2) points out that as the “the economy became more market driven and design more democratized” the “effects of design came to the forefront.” Designers were not only responsible for creating artifacts and including users’ perceptions but were also accountable for the effects of their creation. “Designers could

not just create causes anymore; they had to understand effects” (Giard, 2003, p. 2).

Starting from the Bauhaus, design has evolved from a skill based vocation to what is now known as a knowledge based discipline that focuses on strategic problem solving and decision making processes (Bayazit, 2004). Highlighting the role of knowledge in contemporary design, Giard (2003, p. 2), points out that “being skillful is limiting and only provides one side of the equation, or the cause in the cause-and-effect scenario. It is knowledge that provides the other side, i.e., understanding the effects.”

Sustainability in design, commonly known as green design or ecodesign, was the first movement that provided a theoretical and methodological foundation for understanding the effects of design. Industrial design has been at the forefront of integrating sustainability within design processes and design education. This is partially because the profession, by its very nature, appears to promote material consumption, by introducing new products. In his book, *Design for the Real World*, Victor Papanek describes industrial design as one of the most dangerous professions. For Yang and Giard (2001, p. 1), “the paradox for industrial design is quite evident: we are both the problem and the solution.” Explaining further the authors conclude that if “Industrial designers are partially responsible for the current state of our environmental dilemma; consequently, industrial design educators should be among the first to address the problems in environmental education practice” (Yang & Giard, 2001, p. 1). According to Ramirez Jr. (2007), “Industrial designers play crucial roles in seeking out alternative solutions to the wasteful lifestyles of contemporary society, and in influencing positive change through the creation of more responsible goods and services.”

According to Yang and Giard (2001), environmental consciousness in design has evolved in three major stages:

1. Green Design: This refers to the early stages of sustainable design that focused on single environmental issues and the design process (Yang and Giard, 2001).
 2. Eco-Design: Based on work of eminent scholars like Victor Papanek, Buckminster Fuller and Jay Baldwin, eco design provided a way to determine the environmental impact of products for their entire life cycle.
 3. Sustainable design: Sustainable design was first expressed in terms of sustainable production and consumption at the Oslo Roundtable on Sustainable Production and Consumption (1994). It was defined as the “use of services and related products which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations.” Comparing with the Brundtland Commission’s (1987) definition of sustainability, this definition was more explanatory and comprehensive, and explained different aspects of sustainability that included individual, environmental and societal concerns.
- According to Yang and Giard (2001, p. 3), sustainable design “demonstrates the transition that is occurring in industrial design education, one that is evolving from skills-based education model to a knowledge-based one.” The current model of sustainable design encourages industrial designers to develop products and services that are not only economically viable but also environmentally benign

and socially equitable. The following figure illustrates the current approach to sustainable design:

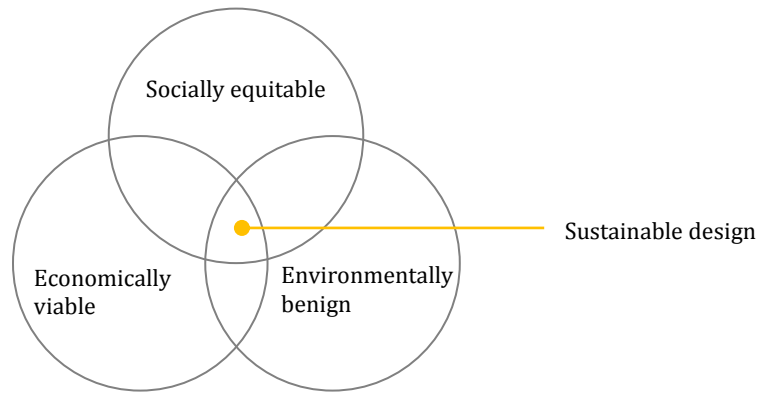


Figure 8. Triple bottom line of sustainability

The current academic and corporate understanding of sustainability acknowledges the Triple Bottom Line (TBL) of sustainability and is more focused on balancing these economic, environmental and social aspects. Corporations are presumed ‘sustainable’ if an optimum balance is achieved between environmental protection, social equity and economic prosperity, while still meeting traditional product requirements, e.g. quality, market, technical and cost issues, etc (Maxwell & van der Vorst, 2003). Similarly, academic discourse on sustainability is limited to environmental issues, life cycle assessment, carbon emissions, social inequity and fair economic policies. In contrast, both, academic scholars and industry experts have often ignored or are unsure of how to deal with the cultural dimensions of sustainable product development.

The review of literature reveals two primary reasons for the lack of implementation of cultural aspects of sustainability: 1) Conflicting approaches to sustainability and consumption and 2) lack of distinction between culture and society. These two factors have contributed to uncertainty over the inclusion of cultural issues of sustainable consumption. The following section elaborates these two key factors:

1. Conflicting approaches to sustainability and consumption: The current approaches to sustainability portray a conflicting relationship with consumption. Schaefer and Crane (2005) provide with two different approaches to sustainability and consumption:

a. Objectivist Approach: Individuals who subscribe to this thinking believe that the current consumption levels are challenging the current carrying capacity of planet Earth and are in need of reduction or control. This approach objectively determines the “maximum sustainable consumption levels and actions that need to be taken to stay within these levels” (Schaefer and Crane, 2005, p. 77). One of the most significant works in this area is determining the ecological footprint of planet Earth. Ecological footprint is “measured by the amount of land used to sustain the consumption of an individual” (Schaefer and Crane, 2005, p. 77). A report by the World Wildlife Fund for Nature estimates an average of 2.28 hectares of space as an ecological footprint for each individual. According to the authors, the two major factors affecting the rising level of consumption are increasing population and increasing material consumption at the cost of natural resources (Schaefer and Crane, 2005).

Increasing material consumption can be handled at both a macro level and micro level. Schaefer and Crane (2005) suggest that countries or states can “look at policy

measures that reduce the average material consumption levels of their citizens”. On the other hand, individuals “enjoying high consumption levels (compared to a worldwide average), regardless of the country in which they may live,” can be persuaded to consume lesser with as a way of contributing to reduced global consumption.

b. Interpretivist Approach: Individuals who subscribe to this thinking object to the universal need for reducing and controlling consumption. From an interpretive standpoint, the “question is not so much as to what levels of consumption would be objectively sustainable but from what point of view would environmentally responsible consumption be considered necessary or unnecessary” (Schaefer and Crane, 2005).

Criticizing the ‘objective approach’ the interpretivists highlight the challenges to curb consumption at both macro and micro level. From a government or organizational point of view, consumption is often associated with economic growth, better living standards and comparable status with other countries. Developing countries regularly promote consumption as a way to achieve greater economic stability and equal national status with developed countries. According to Schaefer and Crane (2005, p. 78), “governments that consider other commitments and interests as more important than an environmental agenda or meeting international environmental treaties may also show no interest in curbing consumption.” On an individual level, it is hard to control “consumers with materialist values who take prestige and construct their sense of self from consuming resource-intensive goods” (Schaefer and Crane, 2005, p. 78). Individuals today not only consume to satisfy their basic needs but also to create individual and collective identity. The objective approach does not account for individual consumption for pleasure, self-identity, expression and communication. Consumption experts call for

an approach that caters to consumers' role as communicators and not necessarily to consumers as 'rational actors.' Expecting all consumers to act rationally and measure their consumption in relation to the overall global resources is an unreasonable expectation.

According to Schaefer and Crane (2005, p. 78), the real challenge is to "link the microbehavior of individuals to the macro-process of working toward sustainable consumption." They caution that the solution to sustainable consumption cannot be implemented at an institutional (state or national) level, but needs to happen at an individual or household level. The new approach to sustainable consumption needs to account for "complexities of consumption as a social and cultural activity" (Schaefer and Crane, 2005, p. 79) that acknowledges the "cultural and symbolic conceptions of consumption."

Following the approach suggested by Schaefer and Crane, the cultural approach to sustainability links the microbehavior (e.g. shopping acts) to the larger goal of environmental sustainability.

2. Lack of distinction between culture and society: The second key factor that creates an uncertainty over the inclusion of cultural factors in sustainability and consumption is the lack of distinction between the meanings of the words culture and society. The common concerns raised for social sustainability include fair labor practices, child labor, wages, safety rules and regulations, habitable environments for work and equal benefits for all individuals involved in production. This interpretation of social concerns arises from the definition and understanding of the word society presented by traditional sociologists and anthropologists.

Starting from the early historical particularist thinking in cultural anthropology, society has been defined as “group of interrelated individuals” (Kroeber, 2006). For Alfred Kroeber, society or social refers to how individuals arrange themselves in groups. Later, the British structural functionalists described society as harmonious and cohesive unit formed by the inter-relationships between different parts (structures) of society and its functions. The recent interpretations of the term includes the study of society as a part of a larger economic and political system. In his famous book, *Europe and the People Without History*, Eric Wolf (1982) defines society as “designate an empirically verifiable cluster of interconnections among people, as long as no evaluative pre-judgments are added about its state of internal cohesion or boundedness in relation to the external world” (Wolf, 1982, p. 381). Structural functionalists along with other anthropologists and sociologists focused more on the study of society as it was a more observable entity comprising of individuals, social behavior, interactions, speech and material objects (Radcliffe-Brown, 1965). The study of culture on the other hand was considered a non-observable entity with no concrete reality.

According to Raymond Williams (1976), culture is one of the four or five key concepts in modern social knowledge. Considered as one of the most difficult terms to define, culture was first associated with cultivation of plants or animals. For example the term agri-culture was used in reference to growing or developing plants. From this point of reference the term ‘culture’ was generically applied to the process of human development. Edward Burnett Tylor, a leading cultural evolutionist, also known as the ‘father of cultural anthropology’ in Britain, provided one of the first definitions of culture: “Culture or Civilization, taken in its wide ethnographic sense, is that complex

whole which includes knowledge, belief, art, law, moral, custom, and any other capabilities and habits acquired by man as a member of society” (Erickson & Murphy, 2006).

During the end of nineteenth century the term culture was associated with a people or nations with particular distinction. Culture then meant ‘a way of life’ for particular individuals, groups or nations. This definition laid the ground work for the contemporary understanding of culture. As defined by Williams (1976), culture is a “description of a particular way of life which expresses certain meanings and values not only in art and learning but also in institutions and ordinary behavior.” The two key elements of this definition are the interpretation of culture as ‘a way of life’ and the ‘production and circulation of meanings’ through ordinary behavior. It is the clarification of meanings and values implicit and explicit in particular way of life that makes a particular “culture” (Williams, 1961, p. 57).

Society, on the other hand, refers to an arrangement of individuals or a broader platform or more concrete institutions such as economics, healthcare, educational institutes and so on, of which ‘culture’ is an integral part. The two identities of culture and society are defined separately, but in the real world they continually overlap and are interconnected in complex and contingent ways. The difficulty in defining the term ‘culture’ and the lack of common understanding shared by all disciplines has often led to the lack of cultural consideration in consumption and sustainability literature.

The following sections review the early discourse on sustainable consumption and highlight two distinct approaches to sustainable consumption. The last section briefly

discusses the goals of cultural sustainability and some of its advantages over earlier approaches.

DEFINING SUSTAINABLE CONSUMPTION

“Sustainability is an extraordinarily contested concept that is subject to multiple interpretations and meanings” (Schaefer & Crane, 2005, p. 77). Merriam-Webster’s dictionary defines sustainability as “using a resource so that the resource is not depleted or permanently damaged” or related to a “lifestyle involving the use of sustainable methods” (Merriam-Webster Dictionary, 2010).

The early definition of sustainability was provided by ‘The World Commission on Environment and Development’ (WCED) also known as the ‘Brundtland Commission.’ The commission defined sustainable development as ‘the ability of current generations to meet their needs without compromising the ability of future generations to meet theirs’ (The World Commission on Environment and Development, 1987). Schaefer and Crane (2005, p. 77) point out that the mainstream definitions of sustainability are rather narrow and described “mostly in terms of environmental stasis and system maintenance, as in ensuring that our actions do not impact on the Earth or the biosphere in such a way that its long-term viability is threatened.” Criticizing the early definition provided by WCED (1987), Schaefer and Crane (2005, p. 77) highlight some key shortcomings of this definition:

1. The ‘needs’ outlined in the definition are not explicitly defined. According to Dolan (2002, p. 175), “given that there are many cultural formations within any national society, any attempt at universalizing a set of human needs is immanently

and unavoidably ethnocentric.” He points out that universalizing human needs without considering their cultural context would be to “speak for other people in divergent cultural positions” (Dolan, 2002, p. 175).

2. The definition is also unclear about “whose needs take precedence in cases of conflict, and whether any genuine sacrifices in terms of lifestyle are required of the most well off part of the Earth’s population” (Schaefer and Crane, 2005, p. 77).

The early definition by WCED represents an objectivist approach to sustainability and consumption. Following this definition it is assumed that the human consumption levels are crossing some sort of level that needs to be controlled and reduced. The progress of humankind and consumption is seen as an adversary to the current carrying capacity of our planet. “Recently, in an effort to pinpoint a potential area of praxis, or transformative action, for the discourse of sustainable development (particularly of an ecological kind), the concept of sustainable consumption has been presented” (Dolan, 2002, p. 172). The concept of sustainable production and consumption was first defined at the Oslo Roundtable on Sustainable Production and Consumption (1994):

“ sustainable production and consumption [refer to] the use of services and related products which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations.”

This definition of sustainable consumption was an improvement over the earlier objectivist definitions for the following reasons (United Nations Educational, Scientific and Cultural Organization, 2005):

1. There was a close relationship between consumption and production,
2. There was an emphasis on ‘better quality of life’ in addition to less use of toxic material.
3. It included all stages of consumption and production (entire product life-cycle) and the mutual relationship between the producer and consumer.

Compared to the WCED definition of sustainability, this definition was more explanatory and comprehensive, and it explained different aspects of sustainability and consumption. This definition expands on the notion of ‘basic needs’ and studies ‘quality of life’ that includes consumption for pleasure, self-identity and social relationship between producers and consumers (see detailed explanation on p. 77). It shares the same ‘environmental concerns’ (reduced emission and use of less toxic materials) but extends to the entire life-cycle of the product.

In the essay, *Addressing Sustainability and Consumption*, Schaefer and Crane (2005), argue that the approaches to sustainable consumption are inherently linked to the understanding of consumption itself. The different approaches to consumption have led to diverse interpretations of sustainable consumption. The authors offer two distinct approaches to sustainable consumption: an individualized choice oriented perspective and a sociological or cultural perspective. The following section elaborates on the relationship between consumption and individual consumers from two distinct standpoints:

1. Choice or Information processing perspective: Following this perspective, consumption is defined in terms of the “individual psychological processes leading to particular consumption choices” (Schaefer and Crane, 2005, p. 79). Consumers are viewed as free, sovereign and rational actors who undergo a number of “cognitive and behavioral stages such as problem recognition, information searches, evaluation of alternatives, purchase decision, and postpurchase behavior” (Schaefer and Crane, 2005, p. 82). These rational actors are more often associated with ‘green consumption’ where consumers have a “propensity to choose less environmentally harmful products and consumption patterns if given sufficient choice and information” (Schaefer and Crane, 2005, p. 79). For example, LOHAS consumers (Lifestyles of Health and Sustainability) are a group of rational consumers who focus on “on health, the environment, social justice, personal development and sustainable living” (LOHAS Online, 2010). Founded in early 2000, this group of consumers supports a new green way of consuming healthier and greener product now account for almost 19% of adults in the United States. It follows that higher levels of sustainable consumption can be achieved only if more consumers demand environmentally benign products and services. According to Schaefer and Crane (2005, p. 82), this perspective places undue emphasis on individual consumers, hoping that their “values and attitudes, translated into behaviors such as demand for sustainable goods and services produced, distributed, and disposed of by sustainable processes.” The success of achieving sustainable consumption using this perspective would largely depend on “sufficiently large number of consumers employing a pro-environmental choice criterion so that predominantly environmentally benign products are offered in the market” (Schaefer and Crane, 2005, p. 82).

This approach has been supported by traditional psychologists, economists and marketing gurus who want to frame sustainability within existing models of marketing and economic strategies. According to Schaefer and Crane (2005, p. 82), as “mainstream marketing and consumer behavior research is steeped in the quantitative research tradition with its emphasis on measurability and reliability,” this approach has been popular within these disciplines. However, this has also been criticized as an “incremental”, “band-aid” or “green-wash” approach to sustainability. Schaefer and Crane (2005) call it an “inappropriate” or “deficient” approach as it over emphasizes consumption as a rational activity without considering its social and cultural context.

2. The Sociological and Anthropological perspective: In this approach the “emphasis is less on how people perceive, evaluate, and select different consumption options and more on the function that consumption has in their lives, both individually and as members of social groups” (Schaefer and Crane, 2005, p. 83). The emphasis is more on the sociological and anthropological understanding of consumption and its relationship with sustainability. From this perspective, consumption is “less rational, less choice and goal oriented, and less oriented toward objective product utility than the traditional account” (Schaefer and Crane, 2005, p. 83). In contrast to the information processing perspective, this approach acknowledges the changing image of consumer from a rational actor to a communicator where consumption is more than just satisfying basic human needs. The research on cultural sustainability follows the sociological and anthropological perspective of sustainable consumption.

The following section describes cultural sustainability in relation to the existing discourse on sustainable consumption. It aligns with the sociological and anthropological

perspective of sustainable consumption, understanding the act of consumption as a reflection of deliberate cultural choice.

Defining Cultural Sustainability. The first approach to sustainable consumption focuses on the choice or information processing and defines the consumer as free, sovereign and rational actor. The disciplines of psychology, marketing, and economics have supported this view of consumption and expressed sustainability in the existing models of marketing and economic strategies. In contrast, the sociological and anthropological approach focuses more on the social and cultural construction of consumption. This approach portrays consumers as communicators who consume beyond basic needs to create self and social identity. Modern consumption describes social relationships embedded in network of signs and symbols. Material objects go beyond satisfying needs and are seen as symbolic representations of social class. Having reviewed the current literature on sustainable consumption, this research follows the sociological and anthropological perspective and defines consumption as a social and cultural process.

Based on the definition provided by The World Commission on Environment and Development (1987), the Oslo Symposium on Sustainable Consumption (1994), and the review of work by scholars like Dolan (2002), McCracken (1988), Appadurai (1986), Giddens (1991), Schaefer & Crane (2005), Corrigan (1997) and others, culturally sustainable consumption can be defined as follows.

It is the acquisition and use of goods and services that involves the materialization and embodiment of cultural modes of thinking and behavior at an individual and societal

level sustaining and enriching a particular way of life (culture) while creating social and cultural identity for individuals and establishing differences between groups, accounting for impact of global forces resulting in cultural change, and minimizing environmental impact through cultural appropriateness, so as not to jeopardize the social, cultural, economic and environmental existence of future generations.

The goal of culturally sustainable consumption is to align the act of consumption with individual cultures thus encouraging culturally relevant consumption while leading to reduced environmental impact. Cultural sustainability can become the link to connect the micro-acts of consumption to the macro goals of achieving social, economic and environmental sustainability. The goal (see figure below) is to add a cultural dimension that balances the existing Triple Bottom Line (TBL) of sustainability.

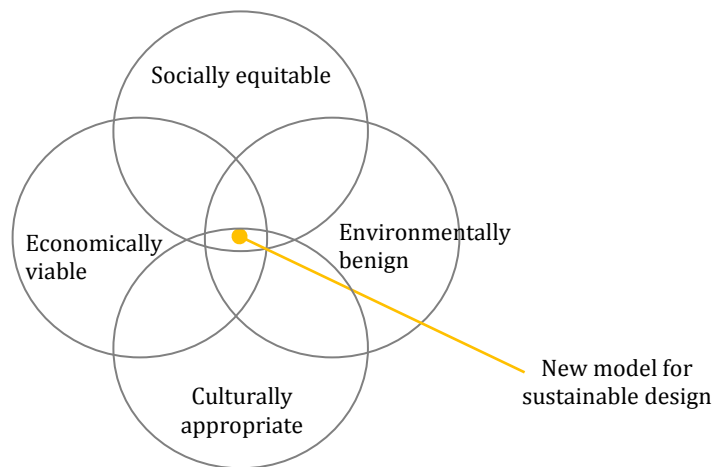


Figure 9. Proposed new model of sustainability

SIGNIFICANCE OF THIS APPROACH

Following are some salient characteristics that highlight the uniqueness of this approach and how it overcomes some of the shortcomings of existing approaches to sustainability:

1. Avoiding the dichotomy of real (basic) needs and false needs: The definition provided by ‘The World Commission on Environment and Development’ (WCED) does not clearly outline the definition of ‘needs.’ Those who follow the notion of real or basic needs assume consumers as rational actors engaging in the act of consumption for the satisfaction of basic needs. False needs (a term coined by Adorno and Horkheimer) on the other hand are created by the cultural industry to satisfy consumers with culturally standardized products. The consumer is manipulated into “false needs” through effective use of advertising and marketing.

Criticizing the definition by WCED (1987), Dolan (2002) raises some key questions: “how do we define proper needs (real needs) from false ones, and who will provide the definition?” or “On what basis do we classify a need as real or false?” He points out that universalizing human needs without considering their cultural context would be to “speak for other people in divergent cultural positions” (Dolan, 2002, p. 175).

This approach to cultural sustainability avoids the false dichotomy between real needs and false needs and includes the four major aspects of modern day consumption: consumption for pleasure, self-identity, establishing social relationships and communicating symbolic and cultural meaning. The earlier approaches to sustainability ignore the transformation of consumption and focus on the production vs. consumption

dichotomy. This new approach defines consumption as a conspicuous way for identifying and establishing culturally situated difference. Cultural differences are defined as the differences that “either express, or set the groundwork for, the mobilization of group identities” (Appadurai, 1996, p. 13). In the age of globalization, cultural consumption can be a way of understanding different global cultures and a tool for separating the core local embodied aspects from the global forces. Cultural products or objects then act as a force establishing boundaries between different groups or individuals. Situated difference between cultures represents the “difference in relation to something local, embodied, and significant” (Appadurai, 1996, p. 12). Cultural situated difference becomes a frame of reference for identifying different groups with cultural boundaries.

2. Avoiding the nature versus culture dichotomy: In his essay, *The Sustainability of "Sustainable Consumption"*, Dolan (2002, p. 172) points out the both nature and culture are equally involved in the creation of material objects. The author indicates that all material forms are first symbolically imagined - “in thoughts, feelings, and language—before becoming actual products in material form.”

This approach acknowledges the symbolic nature of objects in addition to their material properties that relate to utilization of natural resources. Cultural aspect of consumption can be a leverage to achieve higher environmentally sustainable consumption. Dolan (2002, p. 179), points out that “ultimately, people have to feel culturally aligned and connected with the meanings of nature.” Cultural appropriateness of objects will ensure that those objects have higher life-span, last longer, connect at an emotional level, and end up in landfills much later than other products. Consumers at a local level find it hard to relate their act of consumption to the macro impact on global

resources and burden on our planet. Expecting all consumers to act rationally and measure their consumption in relation to the overall global resources is an unreasonable expectation. By engaging consumers in culturally appropriate consumption, there is greater possibility of consumers relating to their local way of life (culture) and consuming in relation to their local environment or context. This model of cultural sustainability hopes to break environmental sustainability into smaller bite size pieces that can lead to collective good for our planet.

3. Sustaining and enriching cultures: Most popular definitions of sustainable consumption are restricted to sustaining resources for future generations. This is certainly a concern that cannot be refuted but the cultural model for sustainability also accounts for a better way of life for current and future generations. Culturally sustainable consumption can ensure that we not only sustain resources but also the cultural values and practices that will enrich lives of future generations. In the current approaches to sustainability, consuming environmentally benign products is over emphasized and is seen as a reflection of a better way of life. The social, cultural and economic aspects should be equally balanced with the environmental factors. In this cultural approach to sustainability, social and cultural practices are equally important to maintain for better standards of life for future generations. This model uses cultural factors as a force to balance and integrate the existing triple bottom line of sustainability, leading to an integrated approach to sustainable consumption. The new approach to culturally sustainable consumption focuses on the “(re)production of culture as well as commodities, and as everyday life becomes more aestheticized, the everyday commodity will become more a cultural and symbolic artifact” (Dolan, 2002, p. 180).

FRAMEWORK OF CULTURAL SUSTAINABILITY

The larger framework of cultural sustainability is constructed on the basis of the overlap between the areas of culture, the current forces of globalization (and the subsequent phase of glocalization) and changing patterns in consumption. The following diagram illustrates the three major areas that contribute to this study.

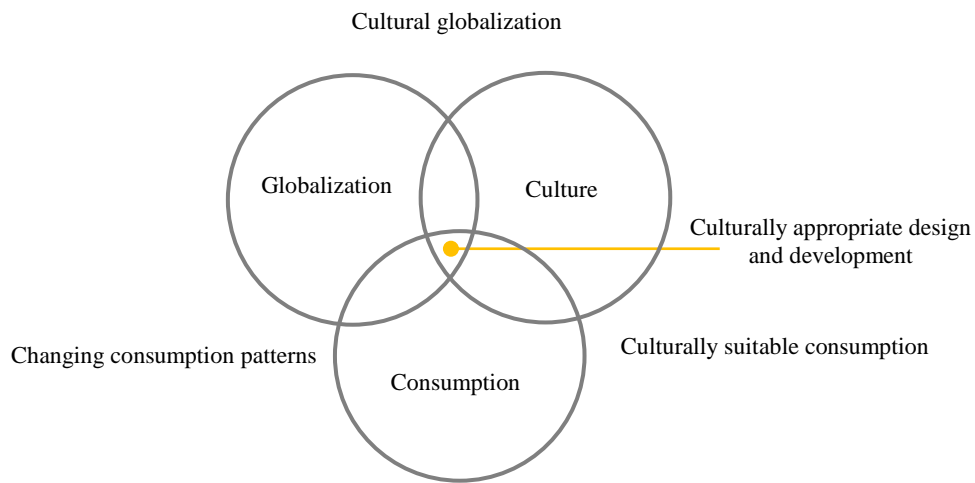


Figure 10. Theoretical framework of cultural sustainability

The discussion of cultural sustainability is further divided into three major sections. The first section discusses the evolution of consumption and the changing consumer-producer relationship. As designers, it is vital to understand the consumer-producer relationship so as to design culturally appropriate products and services. Cultural sustainability also embraces the newer scholarship on consumption and highlights four aspects of modern day consumption.

The second section provides a brief review of six different intellectual trends in socio-cultural anthropology that have influenced the definition of culture used in this

study. Key features from these intellectual trends are summarized in a succinct definition of culture.

The last section on globalization is directed towards understanding the macro forces that affect individual cultures. It discusses the effect of globalization on local cultures and the formation of a cultural hybrid: the glocal world.

SECTION 1: EVOLUTION OF CONSUMPTION

According to Aldridge (2003) consumption and consumerism have always been discussed in reference to the image of the consumer, which is determined by the relationship between the producer and the individual. However, this relationship between the producer and individual itself has changed over time, implying a changing image of the consumer. There were two major factors that affected the transformation of consumption:

1. Relationship between the producer and the individual, and
2. External factors influencing the producer-individual relationship. E.g. rise in technology, trade, advertisements and others.

The pre-industrialization era (prior to 1800) was marked by a strongly personal relationship between the customer and the producer. In this age of craft, the free needs of individuals were directly communicated and satisfied by the producer. For example, a craftsman constructed a table if there was a direct demand from a customer. A strong relationship existed between the craftsman and the individual as well between the craftsman and the table produced. The ‘customer’ was referred to as an individual with sovereign needs which were directly communicated and satisfied by the producer. Goods

were manufactured in response to customer demand, thereby lending them a position of power.

The rise in industrialization, emphasis on production and the onset of advertisement led to an increasing alienation between the customer and the producer. “Customer from the mid-fifteenth century implied a continuing personal relationship with a supplier was gradually replaced by a ‘consumer,’ an abstract figure in an impersonal market” (Aldridge, 2003, p. 2). According to Williams (1983), the rise of consumer as a predominant term was a creation of manufacturers and advertisements. Advertisement created new needs and wants that were satisfied by impersonal mass produced commodities. The age of mass production was supply- centric and the producers (with the help of advertisements) dominated the markets for financial profits. The social relationship between the producer and the individual was now marked by the social relationship between goods. Multinational corporations dominated the world scene with mass produced goods leading to increasing homogeneity. Cultures across different countries consumed similar mass produced goods, i.e. concurred to a similar way of life.

The rapid rise of emerging markets, technological developments and increasing global trade marked the age of globalization (See figure number?). Tomlinson (1999, p. 1) points out that globalization is a complex process that involves social changes occurring simultaneously in different dimensions - in the world economy, in politics, in communication, in the physical environment and in culture- and each of these transformations interacts with the others. The early phase of globalization (also known as cultural imperialism, Americanization or McDonaldization) was dominated by western multinational corporations introducing mass produced goods that disregarded the unique

needs of local cultures. Globalization pushes local cultures to replace their native traditions with the more popular and ubiquitous global practices and habits. The growing global trade led to increasing homogenization of the world; a world with similar standards and similar ways of life.

Cultural imperialism or westernization dominated the world consumption for more than a decade. Nederveen Pieterse (2006), Ritzer (2006), Tomlinson (1999) and Nisbett (2003) have indicated that local cultures are now rejecting the global mass produced goods in an attempt to safeguard their local traditions. As Ritzer (2006) advocates, rather than replacing local culture with a homogenized (global) culture we need to exercise selective borrowing and transformation. The present age of glocalization (See figure 11) calls for an integration of local and global culture to create a unique hybrid culture that transcends both. Global organizations expanding their business across international boundaries are now cognizant of local needs and are designing for the new glocal customer. The advertising that was essentially used to create and address similar needs with homogenized goods is now acknowledging individual differences. Organizations are working hard to bring back the personal relationship between the maker and the user by emphasizing individuality in an increasingly homogeneous world. In the age of glocalization, we find consumers rejecting mass produced goods and demonstrating an eagerness to establish a personal relationship with the producers. E.g. Nike has designed NikeiD, a service that enables users to design shoes based on their individual needs. Operating at a global scale, Nike is striving hard to establish a personal relationship with its customers all over the world.

The following figure summarizes the changing relationship between the producer and the individual consumer.

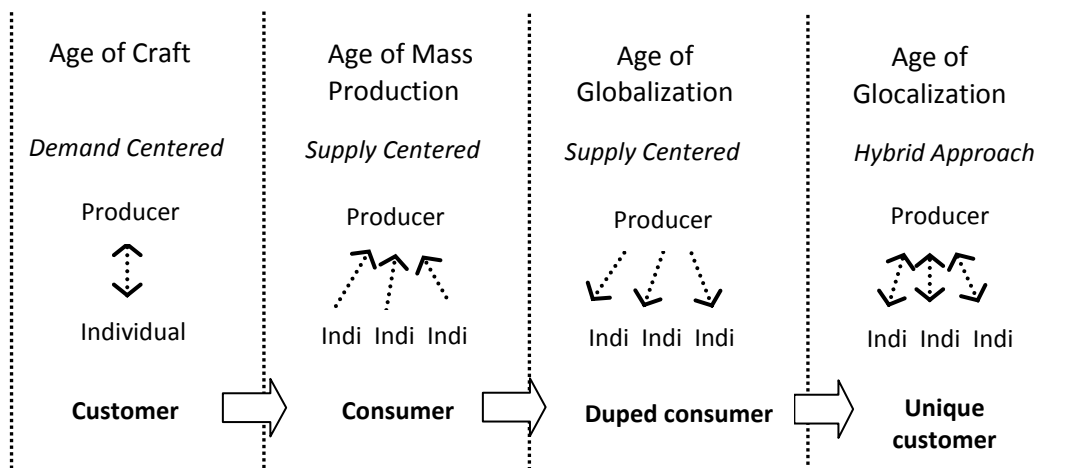


Figure 11. Transformation of the producer-consumer relationship

The changing producer-consumer relationship has resulted in the changing image of consumer from a rational actor to a communicator where consumption is more than just satisfying basic needs. According to Schaefer and Crane (2005, p. 83) consumption now includes self-identity, consumption for pleasure, establishing social relationships and communicating symbolic and cultural meaning. These four aspects of modern day consumption are further elaborated:

Romanticism: The romantic notion of ‘self’. Corrigan (1997) refers to the idea of romanticism as a historical irony during the late eighteenth century. “Romanticism actually began as a reaction against industrial society and all it stood for, including

materialist and rationalist philosophies and the reason and science that were so important during the period of the Enlightenment” (Corrigan, 1997).

Campbell (1995) credits the creation of the ‘new’ individual to the romantics’ notion of ‘self.’ They described the new individual as autonomous and unique rather than generalizable and a part of the larger society. The pre-romantic individual was a part of the larger society and emphasized the idea of commonality of humankind. Individual behavior was shaped and controlled by larger societal forces. Romantics, on the other hand, emphasized an opposition between the individual and society. The individual became understood as someone divorced from society whose major ambition became establishing a unique identity within the society (Corrigan, 1997). To establish uniqueness, the romantic individual rejected societal constraints and embraced diverse experiences. The notion of ‘self’ as an expressive, unique, pleasure seeking and rebellious individual began to take shape. This forced individuals to seek more diverse forms of self-gratification—events that were to shape the image of the modern consumer.

Traditional consumption was fixed and individuals were limited to satisfying their needs and wants within the social structure. Forms of consumption that extended beyond accepted societal boundaries was considered evil and dangerous. Individuals functioned within and for the commonality of humankind. This changed drastically after the onset of romanticism and the rise of the ‘new’ individual. Individuals were engaged in consumption that contradicted society and emphasized self-identity.

To explain the impact of romanticism, Corrigan (1997) uses Campbell’s example of the modern artist. Romanticism completely changed the way art was perceived later in the century. “Pre-Romantic art was supposed to draw moral lessons from the work (that

is, something not really tied to the person of the artist but to more general social meaning)” (Corrigan, 1997). In contrast, the Romantic consumer was engaged in recreating experiences created by the artist in his or her work. And one of the ways of experiencing something different was to engage in consumption of cultural products (Corrigan 1997). Corrigan (1997) presents the rebellious notion of the ‘self’ where “commodity consumption came to offer opportunities for self-transformation, for the construction, deconstruction, and reconstruction of personal identity” (Dolan, 2002, p. 178). The author also points out that the “problems of self-identity have become progressively more acute in the twentieth century” as and when “the construction of identity became a modern cultural imperative” (Dolan, 2002, p. 178). Through the act of consumption, consumers have not only created individual identities but also highlighted social and cultural difference. Establishing cultural differences based on consumption choices is an integral part of implementing cultural sustainability.

Consumption for pleasure: Beyond basic needs. This approach criticizes the choice or information processing approach to consumption and discusses consumption as an act of communication. In his book, *The Consumer Society*, Jean Baudrillard (1968-1970) delinks the free play of consumer desire and psychological processes and explains consumption from a capitalist point of view. For Baudrillard, there is an underlying structure of power (controlled by production) for every rational explanation of consumption: for identity, pleasure, psychological need, status, prestige, utility and others. He considers, “the legitimacy of production rests on a *petitio principii*, i.e., that people discover a posteriori and almost miraculously that they need that is produced and offered at the market place (and thus, in order

that they should experience this or any particular need, the need must already exist inside people as a virtual postulation)” (Baudrillard, 1969, p. 64). These needs are situated by the influence of marketing and advertisements. As Corrigan (1997, p. 19) summarizes this protectionist power, “it is not a question of market reacting to the expressed desires – the sovereign needs – of the consumer; it is rather that manufacturers deliberately attempt to shape consumer behavior through advertising.” Schaefer and Crane (2005, p. 83) believe that the “benefits of hedonistic consumption for the individual seem to lie in the act of purchase and the possession of objects rather than, or in addition to, their use or actual consumption.”

Consumption and communication. Baudrillard presented consumption as a form of communication that establishes social relationships through a system of objects interpreted as system of signs. He argued that economists, sociologists and others have explained the objects-subject relationship only in terms of adequation – a functional response (Baudrillard, 1969, p. 63). Baudrillard situates ‘needs’ in a larger system of objects that cannot be reduced to either a concrete object or to an individual’s desire for individual object (Corrigan, 1997). Expression of objects in terms of subject and vice versa is a gigantic tautology and needs for individuals are produced at a part of the larger system of objects (Baudrillard, 1969).

Baudrillard also dismisses the empirical nature of objects. Objects are not only consumed to satisfy basic and singular needs but account for diverse wants and desires. “The empirical “object,” in its contingency of form, color, material, function, and discourse (or, if it is a cultural object, in its aesthetic finality) is a myth” (Baudrillard,

1969, p. 57). E.g., an individual's act of buying a car is not for the sole purpose of mobility but could be related to other needs of status or identity.

Emphasizing the role of consumers as communicators, for Baudrillard (1969, p. 61), objects do not just acquire meaning through use or exchange but through comparison with other objects. This comparison is interpretation of sign value associated with the object of consumption, which for Baudrillard is exclusively a function of the logic of significations. "An object is not an object of consumption unless it is released from its psychic determinations as symbol; from its functional determinations as instruments; from its commercial determinations as product; and is thus liberated as a sign to be re-captured by the formal logic of fashion, i.e. by the logic of differentiation" (Baudrillard, 1969, p. 61). The object as a sign is not necessarily in relation to the individual or the surrounding but is a part of a larger system of signs. According to Dolan (2002, p. 177), the flow and flux of consumer meanings are located within a system of signs and not within a network of people as actual embodied actors that use objects for various purposes."

Consumption and social relationship. The role of consumption in maintaining social relationships and distinctions was discussed in detail by Thorstein Veblen and Pierre Bourdieu. Veblen (1899) in the book, *Theory of Leisure Class*, offers a model for social structure and social distinction based on the display of pecuniary strength. Individuals organize themselves in different social classes based on their ability to display wealth. There are three different ways individuals can display their wealth: 1) Conspicuous leisure, 2) Conspicuous consumption and 3) Conspicuous waste.

Conspicuous leisure is defined as the consumption of unproductive time (Baudrillard, 1969, p. 69). It should also not be confused with the current understanding of leisure i.e., the need for leisure. Time for Veblen is not free and needs to be wasted for acquiring social status and distinction. Leisure time thus becomes an important part of social time and a key indicator of social status. Conspicuous leisure can also be interpreted in terms of activities that are beyond 'needs' and have no economic basis. For example, Veblen (1899, p. 191) explains how the custom of gatherings as a part of religious festivals was later seen as necessary for satisfying higher level of needs of recreation and conviviality. The participation in these festivals was then considered the yardstick for pecuniary strength; i.e., social class.

Conspicuous leisure was also interpreted as abstaining from labor or work. According to Corrigan (1997), labor was then seen as dishonorable and indecent. He provides an example how the birth of tennis or cricket separated the players from the gentlemen based on their participation in that particular sport (Corrigan 1997, p. 22). During this period the leisure class was occupied with consumption of special or unique goods that extended beyond basic needs. Consuming items of specialty involved learning on the part of the leisure class. The leisure class had to spend time (conspicuous leisure) in acquiring the right norms and manners appropriate to the class.

Conspicuous consumption was an alternative way of displaying wealth and achieving higher social standing. According to Corrigan (1997, p. 23), "in Veblen's model, consumption of goods by the lower classes is supposed to be merely for their continued reproduction, while only the upper classes can consume for reasons that go far beyond subsistence, consuming conspicuously in order to indicate their qualities to the

world.” Individuals were seen buying new, exotic and unique goods to display their pecuniary standing. As more and more wealth was accumulated, these individuals engaged in sports, entertainment, feasts and other forms displaying their social status. As the upper class engaged in more and more buying it was emulated by the middle or lower middle classes. Status was equated to materialistic standing and every class wanted to emulate the higher class. Veblen concludes that the observance of these standards, in some degree of approximation, became incumbent upon all classes lower in the scale (1899, p. 195).

Conspicuous consumption became more instrumental than conspicuous leisure. Conspicuous leisure was suited for close-knit societies with higher interaction between individuals. Display of leisure was a localized phenomenon and was limited to display within a particular society. Conspicuous consumption on the other hand could spread well beyond the local society and could be a social indicator across different societies.

Veblen also discusses the common thread between conspicuous leisure and conspicuous consumption; the element of waste. For leisure, it was the waste of time and effort and for consumption was the waste of goods. Conspicuous waste was a form of displaying pecuniary strength and achieving higher social status. “No merit would accrue from the consumption of the bare necessities of life, except by comparison with the abjectly poor who fall short even of the subsistence minimum; and no standard of expenditure could result from such a comparison, except the most prosaic and unattractive level of decency” (Veblen 1899, p. 202). For any individual to achieve higher class the expenditure should be beyond the necessities. The purpose of consumption was to display pecuniary strength that established social distinction.

Veblen's class structure was based only on the display of economic capital. In his book (translated by Richard Nice), *Distinction: A Social Critique of the Judgment of Taste*, Bourdieu (1984) supplements Veblen's work and distinguishes capital into two major types: economic capital and cultural capital. Economic capital refers to Veblen's idea of pecuniary strength and acquisition of wealth. Cultural capital refers to the values, social and educational status. As Corrigan (1997) points out, the major difference between the two capitals is the idea of education. Bourdieu (1984) ranks certain professions like teachers and technicians higher in the social distinction based on the knowledge acquired. In Bourdieu's scheme, "certain professions, such as teachers or college lecturers, are accorded a higher status in society than their pay and consumption patterns would suggest" (Paterson, 2006, p. 43).

Based on both economic and cultural capital, Bourdieu argues that the consumption patterns for different social groups can be predicted. For example, the consumption of cars can be predicted as the individuals move from lower economic capital to higher or the taste of music can be predicted as they move from lower to higher cultural capital. Corrigan (1997, p. 27) states that it is not only the pattern of consumption that determines the social class but it combination of specific practices associated with it. Bourdieu argued that social classes use aesthetical dispositions as tools for creating and maintaining class distinctions. Bourdieu defines this aesthetical sense as the 'taste' that classifies social class. He defines "taste (i.e. manifested preferences)" as "the practical affirmation of an inevitable difference" (Bourdieu, 1984, p.205). Individuals based on their particular 'taste' of commodities maintain their social class. Bourdieu's contributions presented a new sociological perspective on consumption and social

distinction. His ideas of cultural capital, taste, and habitus laid the foundation for sociologist to investigate into areas of identity, choice and lifestyle.

The following section reviews the second most important aspect of cultural sustainability: understanding culture. This section on culture, review six intellectual trends in socio-cultural anthropology and provides a succinct definition of ‘culture’ used for this study.

SECTION 2: CULTURE

The study of culture is a vital part in understanding and defining the notion of cultural sustainability. The uncertainty over cultural sustainability is compounded because of a lack of clear distinction between the meanings of culture and society. In this section, I attempt to build a comprehensive definition of culture applicable to this research. The following section examines the changing theoretical, epistemological and methodological understanding of ‘culture’ starting with classical cultural evolutionism in late eighteenth century and leading up to the most recent globalization theories.

The definition of culture for this research is based on six major intellectual trends in socio-cultural anthropology. These six different movements (divided into three sections) in socio-cultural anthropology represent the three areas of culture, consumption and globalization relevant for this study. Figure 12 illustrates the six underlying trends in socio-cultural anthropology (arranged within three areas of research) that shape the understanding of culture for this study.

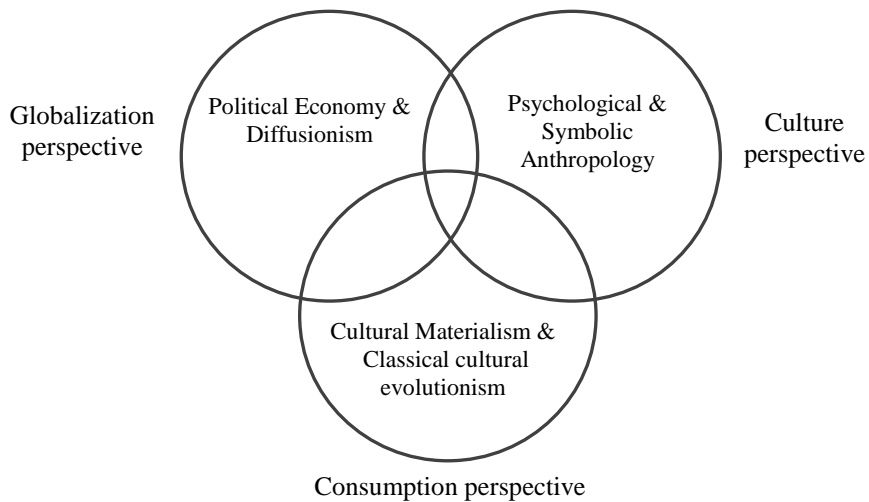


Figure 12. Six different schools of thoughts that shape the understanding of culture

Culture is considered as one of the most difficult terms (or ideas) to define in the English language. According to Raymond Williams (1976), culture is one of the four or five key concepts important to modern social knowledge. The term culture was first associated with cultivation of plants or animals. For example, the term agri-culture was used in reference to growing or developing plants. From this point of reference the term ‘culture’ was generically applied to the process of human development. During the end of nineteenth century the term culture was associated with people or nations with particular distinction. Culture then meant ‘a way of life’ for particular individuals, groups or nations. This definition laid the groundwork for the more social and contemporary understanding of culture. As defined by Williams (1976), culture is a “description of a particular way of life which expresses certain meanings and values not only in art and learning but also in institutions and ordinary behavior.”

There are many major intellectual trends in sociocultural anthropology that shaped the meaning and understanding of culture. Starting from the early grand objective theories like classical cultural evolutionism, diffusionism, structuralism to the mid-nineteenth century theories of psychological and symbolic anthropology, leading up to the most recent anthropological trends like political economy, practice theory and globalization theory, have all shaped the understanding of culture.

These theories in sociocultural anthropology can be subdivided into two major trends. At one end of the spectrum lie the broad objective, grand explanatory theories that provided a holistic understanding of cultures. Historical particularism, diffusionism, structural functionalism and structuralism, are examples of objective theories explaining culture. At the other extreme are descriptive, subjective theories that completely disregard objectivity (structure) and focus on methodological and epistemological aspects of individual cultures. Excessively focused on description of individual cultures, these theories could not provide broad theoretical explanations and cross-cultural comparisons. This research discusses both the explanatory and descriptive theories and how they contribute to our current understanding of culture.

The review of six key intellectual trends is further divided into three sections. The first section summarizes early grand objective theories of classical cultural evolutionism and historical particularism or diffusionism. The second section discusses mid-nineteenth century theories of psychological anthropology, symbolic anthropology and cultural materialism. The psychological and symbolic anthropological theories deal with the construction of culture as a relationship between individuals as a part of a society, the role of each individual and the different manifestations of culture. The psychological

perspective emphasizes culture as both a mental and physical phenomenon that is acquired by individuals as a part of the society. Symbolic anthropology, on the other hand, proposes that all human experiences are mediated by culture which represents a shared system of meanings and interpretations. The cultural materialists expressed culture in terms of material forms and processes and believed that cultural meanings are embedded in objects and in the interaction with users.

The last section discusses the most recent anthropological trends of political economy and world systems theory. These theories explain interaction between different cultures and the diffusion of cultural traits. In the age of glocalization, the political economy and diffusionist perspective explain the interaction of global forces with individual cultures.

Classical Cultural Evolutionism. Classical cultural evolutionism, an extension of the Enlightenment Era, was one of the major anthropological theories that flourished during the late eighteenth century. The Enlightenment Era, also referred to as the age of reason, was the time in early eighteenth century that provided a rational approach to understating human behavior. This approach challenged the prevailing customs and religious beliefs while providing an alternative and rational explanation of human existence. According to Erickson and Murphy (2006), the Enlightenment Era was one of grandest theoretical frameworks that provided two major contributions to the discipline of anthropology: progress and culture. “By joining the concepts of progress and culture, Enlightenment thinkers came up with theoretical frameworks that foreshadowed later

cultural evolutionism” (Erickson & Murphy, Readings for a History of Anthropological Theory, 2006).

Classical cultural evolutionism was focused more on the pre-historic era - the era before writing. It expanded on the limitations of archeology with the use of ethnography. Known as the comparative method, this methodological approach explained cultural resemblance by comparing the material culture of the present (using ethnography) to the material culture of the extinct (using archeology). This was a major methodological contribution that was later criticized for being overly speculative and based on secondary data. In contemporary culture, as the influence of global political and economic forces increases on local cultures, it is important to embrace the methodology provided by the classical cultural evolutionists. Current cultural studies focus more on using ethnography to study the material culture of the present and often overlook the cultural past of a society. The theoretical framework of “culturally situated difference” adopted in this study is based on a cultural evolutionary thinking that compares global cultural trends with the local and the embodied.

One of the major contributions from this era was the definition of ‘culture’ provided by Edward Burnett Tylor. Edward Tylor, a leading cultural evolutionist, also known as the ‘father of cultural anthropology’ in Britain, provided the first definition of culture: “Culture or Civilization, taken in its wide ethnographic sense, is that complex whole which includes knowledge, belief, art, law, moral, custom, and any other capabilities and habits acquired by man as a member of society” (Erickson & Murphy, Readings for a History of Anthropological Theory, 2006).

This broad definition describes ‘culture’ as a complex whole that is acquired as a member of the society. Tylor emphasizes culture as acquired and learned by the process of socialization and not transmitted through heredity. The contemporary understanding of culture retains two most important factors highlighted by Tylor: 1) culture is acquired as a part of a society and 2) culture is a learned behavior through interactions, rituals, habits and behaviors. Tylor’s holistic definition of culture provided a starting point for anthropologists to further investigate and contribute to the understanding of this term.

Historical Particularism/ Diffusionism. Franz Boas (1858-1942) known as the ‘father of American Anthropology’ was the first to set anthropology in a culturally relativist direction. In contrast to his predecessors, Boas was a strong advocate and practitioner of ethnographic fieldwork. Franz Boas, a trained physicist, geographer and anthropologist, called for a ‘four field’ approach to anthropology that encompassed archaeology, linguistics, physical anthropology and cultural anthropology. Boas attributed cultural change to diffusion and opposed the savage, barbarian and civilized stages of societies proposed by the early cultural evolutionists.

Boas heavily criticized the cultural evolutionists for their ethnocentric, culturally biased and unilinear explanations to cultural change. He was against universal theories that supported explanatory generalizations and instead advocated an idiographic approach to achieving particular descriptions of individual cultures. Boas considered diffusion as an alternative explanation to cultural change. For Boas, cultural traits diffused from one geographical location to another by virtue of human migration, borrowing and assimilation (Erickson & Murphy, Readings for a History of Anthropological Theory,

2006). “His approach to anthropology has been called historical particularism – “historical” because he described the present in terms of the past and “particular” because he considered the history of each culture to be unique” (Erickson & Murphy, *The History of Anthropological Theory*, 2006).

This was the first time any theory had acknowledged the interaction between different cultures and the diffusion of cultural traits. Contemporary cultures are all shaped by global forces (economic, social, political, and technological), and the interaction between the local and global has resulted in formation of new cultural hybrids. This theory had a significant effect on understanding interaction between cultures, and the effects of global forces on culture.

Boasian thinking also had an impact on studies involving the origin and distribution of cultural traits. In addition to the historical connection, Boas strongly considered environmental and psychological factors that affect cultural change. Boas proposed an alternative method to study different cultures (geographically distributed) and compare their cultural traits to arrive at generalizations about the process of development. In contrast to the cultural evolutionist methodology, the method proposed by Boas focused on understanding the process behind the customs and beliefs within individual cultures. In his book, *Race, Language, and Culture*, Boas (1940), outlines three key benefit of this method (p. 276):

1. This method reveals the environmental factors affecting cultural change,
2. This method surfaces any psychological factors that affect culture, and
3. This method highlights any historical connections that might influence cultural change.

This was a major methodological advancement as the study of culture was now studied from an environmental (context), psychological and historical perspective. Boas was a strong advocate of cultural relativism: “any cultural phenomenon must be understood and evaluated in terms of the culture of which it forms part” (Kroeber, *The Nature of Culture*, 1952). The methodology of studying environmental, psychological and historical aspects is pertinent to the nature of contemporary cultural studies.

Psychological Anthropology. The school of American Psychological Anthropology was formulated by two noteworthy students of Franz Boas, namely, Margaret Mead (1901-1978) and Ruth Benedict (1887-1948). Although Boas himself offered limited agency to individuals, he strongly advocated the interpretation of culture as a mental phenomenon. Continuing in a culturally relativist direction, both Mead and Benedict focused on the psychological processes of individuals exploring the relationship between culture and personality. According to Erickson and Murphy (2006, p. 79), “early psychological anthropologists were curious about the relationship between culture and personality, namely, how individuals contribute to culture and how, through enculturation, culture shape individuals” (p. 79). These anthropologists were interested in studying psychological processes, socialization patterns and psychological development of different societies or cultures. Psychological anthropologists investigated whether these psychological processes were universal or culturally relative.

Mead studied the effect of culture on individuals while Benedict was more focused on understanding the personality of cultures as a whole. Influenced by Louis Kroeber, Benedict, in her famous book *Patterns of Culture* (1934), compared three American Indian communities and determined their cultural personality. She described

the three cultures as, 'Dionysian', 'Apollonian' and 'Paranoid'. For Benedict, culture affected individual behaviors and shaped personalities. The relationship between culture and individual is harmonious and "it is not possible to discuss patterns of culture without considering specifically their relation to individual psychology" (Benedict, 1934, p. 131). Comparable to Malinowski, Benedict too considered culture to be a raw material that shaped an individual's life. Benedict's portrayal of the harmonious relationship between culture and personality was in sharp contrast to the Freudian theory of a conflicting relationship. Psychological anthropologists were also criticized for their lack of fieldwork research and stereotyping cultures based on accounts provided by other ethnographers.

Later psychological anthropologists were influenced by Freud's theory of universal processes of psychological development. Following Freudian philosophy, Abram Kardiner (1891-1981) and Melford E. Spiro led psychological anthropology in a less culturally deterministic direction. Melford Spiro was a psychoanalytical anthropologist who strongly debated and opposed the culture-personality dichotomy in anthropology. He believed that individuals internalize culture in two different ways: 1) Culture can be inherited from parents or other family members and 2) through active interaction (socialization) with other individuals within the culture. The school of psychological anthropology explained the relationship between individuals as a part of a larger society and the role of each individual in shaping that culture (Spiro, 1951).

Following the Freudian principle, Spiro characterized the relationship between culture and personality as incongruous. Individuals only inherit a part of their culture and therefore the personality of an individual is a subset of its culture. There is a constant conflict between what an individual 'wants to do' (personality) versus what an individual

‘must do’ (his or her culture). Individuals constantly negotiate their wants against acceptable cultural norms. The degree to which an individual can negotiate this gap accounts for the variation in personalities within a culture. Mead and Benedict perceived culture and personality to be in such harmony that they went to the extent of equating culture to personality. The harmonious relationship proposed by earlier psychological anthropologists did not account for any cultural variation.

In a fast changing world of global changes, Appadurai (1996), points out that the interaction between the local and the global forces has lead to a glocal hybrid where individuals are now powered by imagination. The notion of something purely ‘local’ is now turning to be a myth. With the growing political, economic, technological and cultural connectedness, ethnography “needs to find new ways to represent the links between the imagination and social life” and “redefine itself as that practice of representation that illuminates the power of large-scale, imagined life possibilities over specific life trajectories” (Appadurai, 1996, p. 55). In a Freudian extrapolation, ethnography needs to explore the incongruous relationship between individual’s imagination and local cultural reality. It needs to examine the constant conflict between ‘what is possible’ in individual imagination (powered by media, migration, technology, and economics) and what is ‘suitable’ for the local social and cultural reality (see figure 13). In the process of cultural hybridization, individuals and societies are trying to maintain local identities along with selective universal inclusions. An individual’s constant negotiation between what is possible (by imagination) and what is acceptable by local cultural norms accounts for cultural variation of particular culture.

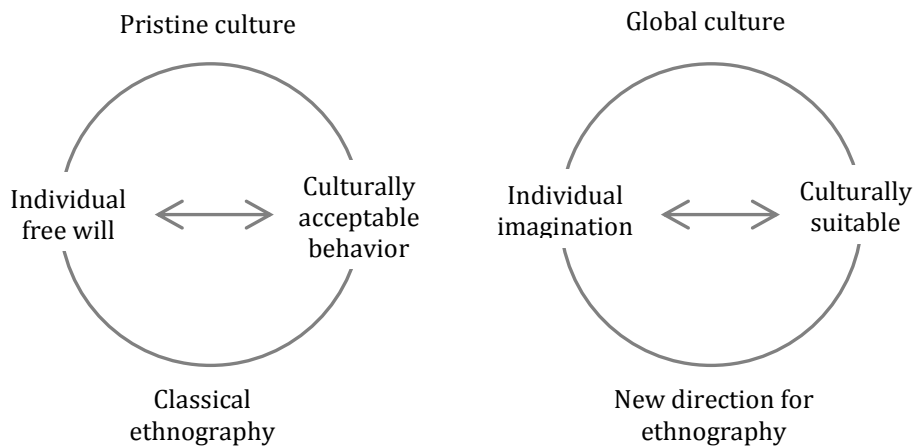


Figure 13. Comparison between pristine and global cultures

Symbolic Anthropology. During the 1960s and 1970s the rise of symbolic anthropology was seen as a reaction to the materialist and utilitarian understanding of culture. Symbolic anthropologists proposed that all human experiences and behaviors are mediated by culture, which represents a shared system of meanings and interpretations. The study of culture was then seen as a humanistic and interpretive rather than a scientific or objective endeavor. Symbolic anthropology (a term favored in England) was also known as interpretive anthropology in the United States. Eminent anthropologists associated with this school of thought include: Marshall Sahlins, David Schneider, Clifford Geertz, Mary Douglas and Victor Turner.

In United States, this interpretive intellectual trend was led by renowned anthropologist Clifford Geertz (1926–2006). Known as the father of interpretive anthropology, Geertz criticized utilitarian theories of culture and directed anthropology into the field of semiotics. In his famous book, *The Interpretations of Culture*, Geertz

(1973, p. 319) describes the human being as “an animal suspended in webs of significance he himself has spun,” and describes culture to be those webs, thus defining anthropology as “not an experimental science in search of law but an interpretive one in search of meaning.” This was the most important influence that shaped our current understanding of culture. Following the Geertzian notion of ‘web of meanings,’ culture today is essentially defined as a shared system of meanings and interpretations that are internalized by individuals. While the psychological anthropologist confirmed the mental and behavioral manifestation of culture, the symbolic anthropologist provided an overarching system of meanings for all individuals of a society. Symbolic anthropology provided the ‘interpretive spin’ to the understanding of culture.

Cultural Materialism. Marvin Harris (1927–2001) was a famous American anthropologist who established and led the school of cultural materialism. Harris was a controversial anthropologist who reverted to the nomothetic understanding of culture and expressed it in terms of material forms and processes. The work by Harris established the notion of culture manifested in material forms and processes.

Harris was well known for his famous distinction between behavior and mental aspects of human life. This distinction is one of the major methodological contributions that have shaped the field of design research and the use of rapid ethnography in design. According to him, the most important part of any cultural analysis is to explore the “relationship between what people say and think as subjects and what they say and think and do as objects of scientific inquiry” (Harris, *The Epistemology of Cultural Materialism*, 1979, p.278). This is a notion now echoed by all leading design research

firms and contemporary experts like Liz Sanders, Tim Brown, Richard Buchanan, Nigel Cross and others. The study of behavior refers to understanding how people act and behave in their daily life. The mental aspect refers to the study of what people think. Harris believed that behavior is a manifestation of mental thoughts and clearly favored understanding of meaning of actions or behavior over mental thoughts and processes.

As an epistemological contribution, Harris provided distinction between the observed (emic) or native's point of view and the observers (etic) or anthropologist's point of view. His distinction between emic and etic was inspired from an American linguist and anthropologist Kenneth Pike. In an emic inquiry "the observer attempts to acquire knowledge of the categories and rules one must know in order to learn" (Harris, *The Epistemology of Cultural Materialism*, 1979, p. 280). In this case the anthropologist uses native categories and explanations to describe a culture. In an etic inquiry, the anthropologist uses Western or outsiders' categories to explain culture. "Etic operations have as their hallmark the elevation of observers to the status of ultimate judges of the categories and concepts used in description and analyses" (Harris, *The Epistemology of Cultural Materialism*, 1979), p. 280). The following diagram outlines the epistemological distinction proposed by Harris. Emic/behavioral refers to the native's point of view while etic/behavioral is the anthropologist's understanding of the culture. Emic/mental reflects the native's thinking. Harris discounts studying etic/mental as it would be inappropriate to read native's mental thinking. The current cultural studies focus more on the etic/behavioral providing only an outsider's overview of the culture. A robust cultural study should include the understanding of emic/behavioral and emic/mental (participants thought process) along with the etic/behavioral.

	Emic	Etic	
Behavioral	1	2	1. Emic/ Behavioral 2. Etic/ Behavioral
Mental	3	4	3. Emic/Mental 4. Etic/Mental

Figure 14. Epistemological distinctions between the emic and the etic

Political Economy and World Systems Theory. The rise of the political economy was seen as a combination of cultural materialism and Marxist political economy. It was also influenced by Frankfurt School’s ‘critical theory’ that studied the negative aspects of capitalism. The work of economist Andre Gunter Frank, sociologist Immanuel Wallerstein, and anthropologists Eric Wolf and Sidney Mintz placed anthropology onto a global platform of capitalist economic systems.

Core to the political economist agenda was to study the spread of capitalism as a process of creating unequal social and political relationships between societies. Political economists criticized earlier anthropologists for ignoring the effects of capitalism and colonization of individual societies. Earlier anthropologists were known for studying local, isolated, pristine cultures within a selective time period using ethnographic fieldwork. World famous ethnographic studies by anthropologists like Radcliffe-Brown, Malinowski, Mead and Benedict provided detailed accounts of isolated, primitive societies but failed to account for effects of global economic and political systems.

In his famous book, *Europe and the People Without History*, Eric Wolf (1982) points out that all primitive societies (studied by earlier anthropologists) were affected by global economic and political systems. He proposed a new anthropological approach that

studies the spread and effect of capitalism on individual societies and how these societies in turn affect these global systems. Wolf defines society as “an empirically verifiable cluster of interconnections among people, as long as no evaluative pre-judgments are added about its state of internal cohesion or roundedness in relation to the external world” (Wolf, 1982, p. 381). The political economist described the local cultures in context of a larger frame of reference that includes political and economic forces. This is relevant to the understanding of current local cultures. Even today, “little of the local remains that has been untouched by the global” (Ritzer, 2003, p. 207). It is important for designers to acknowledge global penetration and its influence on local cultures while developing products for global markets. Political economists provided a vital framework by which to understand local cultures as a part of a global system. The following table provides a comparison between political economist theory and earlier anthropological approaches. Contemporary cultural studies follow the political economist agenda.

Table 5

Comparison between political economist theory and anthropological approaches

Political Economy	Earlier Anthropology
Studies effect of capitalism on local societies	Ignored effects of global systems
Study of society within the larger global context	Study of isolated societies and cultures
Geographically spread	Geographically isolated
Methodologically unfeasible to study and compare different cultures	Methodologically feasible to study one isolated culture
Inclusive of local and global histories	Historical accounts ignored/speculative history

Political economists set out to study societies as a part of the larger economic and political system. This new direction of anthropology was led by two eminent authors: Andre Gunter Frank (1925-2005) and Immanuel Wallerstein. Frank proposed a theory of “international relations in which “developed” nation-states controlled and exploited ‘underdeveloped’ ones” (Erickson & Murphy, Readings for a History of Anthropological Theory, 2006, p. 238). According to him, as capitalism spread from western developed nations, it created smaller satellites that were exploited by metropolitan centers. This was known as the ‘development of the underdevelopment’ theory; it was based on the ‘dependency theory’ provided by social scientists. Similar to Frank’s satellite-metropolis comparison, Wallerstein proposed a core-periphery comparison of countries based on wealth and power. Known as the ‘world systems theory,’ Wallerstein divided the world into powerful, wealthy, advanced ‘core’ countries that subjugated the less developed and poor ‘peripheral’ countries. This initial categorization provided by Frank and Wallerstein accounted for effects of global economic and political systems on individual societies. Globalization theory followed the same categorization and included the social and cultural penetration in addition to the political and economic connectedness.

The review of these key theories provides a changing theoretical, methodological or epistemological understanding of culture. The definition of culture for this research is shaped by theories of classical cultural evolutionism, historical particularism or diffusionism, psychological anthropology, symbolic anthropology, cultural materialism and political economy. For designers developing products and services for different cultures, following are the three most important aspects of culture:

1. Culture is essentially a shared system of meanings and interpretations that are internalized by individuals through the process of learning and is expressed in material forms and processes.
2. Culture is both a mental and a behavioral phenomenon that is manifested in daily rituals, processes, interactions, beliefs, customs, art, knowledge and habits acquired by individuals as a part of the society.
3. Cultural traits diffuse over geographically dislocated regions as a result of constant interaction within different cultures and with different global political and economic forces consequently leading to formation of new cultural hybrids.

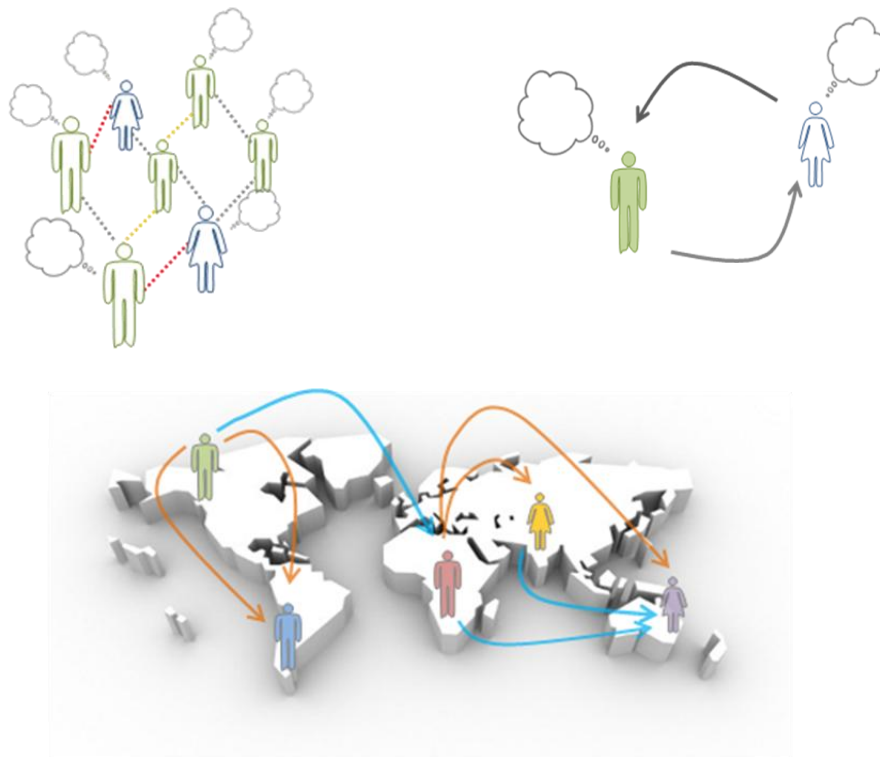


Figure 15. Visual representation of three aspects of culture

Having summarized the changing nature of consumption and different intellectual trends in socio-cultural anthropology, the following section highlights the impact of globalization on culture. Three different conditions are presented in relation to effect of global factors on local cultures.

SECTION 3: GLOBALIZATION

Globalization refers to a complex process that involves rapid social changes that are occurring simultaneously across a number of dimensions –in the world economy, in politics, in communication, in the physical environment and in culture- and each of these transformations interact with the others (Tomlinson, 2006, p. 1). Globalization refers to both a process and a condition. The process of globalization refers to the way in which media, capital, technology, goods, social groups and individuals are moving across the world in large numbers. Held and McGrew (2003, p. 3) refer to this as the material manifestation of globalization that can be identified by the “flow of trade, capital and people across the globe.” This process of globalization is supported by physical (institutions, world systems), normative (trade laws) and symbolic infrastructure (common languages like English) (Held and McGrew, 2003). The condition of globalization refers to the convergence of human activities and the creation of a homogenized world. It refers to the “growing magnitude or intensity of global flows such that states and societies become increasingly enmeshed in worldwide systems and networks of interaction” (Held and McGrew, 2003, p. 3). The new global cultural forces interact with the local embodied elements to create a new cultural hybrid: a glocal condition. Expressed as both a process and a condition, globalization broadly represents a

change in scale, greater connectedness, growing magnitude of global forces and the creation of a new cultural hybrid.

With increasing technological, political, economic, social and cultural connectedness, the presence of world systems, global financial institutions, dominance of mass media and the increasing migration of individuals and goods has lead to greater interest in both the process and the condition of globalization. Following the collapse of state socialism and the consolidation of capitalism worldwide, academic and public discussion of globalization has intensified dramatically (Held and McGrew, 2003). In the last two decades, there has been an increasing public reference to globalization (Held and McGrew, 2003). Although the reference to globalization has been recent, the core concept of globalization should not be misunderstood as recent or newly emerging. Globalization can be traced back to the early 1960s and 1970s. According to el-Ojeili and Hayden (2006, p. 28) globalization should not be interpreted as a “completely unique moment of transformation, dynamism and novelty.” Advocating a historical perspective, they offer to study globalization in the light of relationships and processes from earlier periods. The first reference to globalization can be traced back to Marshall McLuhan’s concept of the ‘global village.’ In his book, *The Gutenberg Galaxy: The Making of Typographic Man*, McLuhan studied the immergence of electronic media and the effects on oral culture and print media. He proposed that with the rise of electronic media, individuals will now be a part of a ‘global village’ with greater connectedness and a collective identity. McLuhan was the first to refer to the increasing connectedness, growing sameness and cultural homogeneity.

The following section reviews different interpretations of the term. Globalization is both a complex process and condition that has been studied from various perspectives. The complex nature of the phenomenon makes it challenging to provide a holistic definition that recognizes and includes all perspectives. It is often observed that only one particular aspect (either economic, social, political, cultural or others) is privileged while defining globalization, often providing a one-sided and unbalanced understanding of the term (el-Ojeili and Hayden, 2006). For example, a political economist perspective defines globalization as the spread of capitalism through a process of unequal social and political relationships between nations and states. This definition only acknowledges the economic and political aspect of globalization but ignores the cultural elements of the process. Appadurai (1996, p. 482) clarifies that “globalization is not simply about the spread of capitalism or markets or enhanced trade” but is a much more “broader, deeper and more complex phenomenon, involving new forms of communication and innovation.”

Merriam-Webster’s Dictionary (2010) defines globalization as “the act or process of globalizing.” Globalizing is defined from an economic standpoint as “the development of an increasingly integrated global economy marked especially by free trade, free flow of capital, and the tapping of cheaper foreign labor markets”(Merriam-Webster, 2010). This definition includes political, economic and socio-cultural perspectives. From an anthropological perspective, Erickson and Murphy (2006, p.170) argue that globalization theory is not “merely a set of objective social, economic, or political relationships between people who are geographically distant from one another” but also looks at the “subjective dimensions of this process: how does a growing local awareness of global connections and identity both inspire and lay the foundation for new forms of

consciousness, cultural meaning, and social practice?” As a broader approach, globalization theory is seen as a constant tussle between world-systems theory and capacity of individual and communities to socially construct their own cultural world (Erickson & Murphy, *The History of Anthropological Theory*, 2006, p. 169). From an purely cultural materialist perspective, Robertson (1992, p.168) describes the phenomenon of globalization as “an etic ‘compression of the world’ through processes of increased technological, economic, and cultural interdependence, and an emic awareness of the transformations stimulated by this interdependence – what he calls an ‘intensification of consciousness of the world as a whole’.” The etic compression of the world refers to the observer’s view about globalization while the emic awareness refers to the individual’s consciousness about living in and interacting with the global connectedness of the world.

Other definitions of globalization are expressed in terms of the relationship between the local and the global. Giddens (1990, p. 68) expresses globalization as the “intensification of world-wide social relations which link distant localities in such a way that local happenings are shaped by events occurring miles away and vice versa.” From a purely economic standpoint, Robertson (1992, p.9) classifies globalization as a stage where “investment funds and businesses to move beyond domestic and national markets to other markets around the globe, thereby increasing the interconnectedness of different markets.” For Appadurai (1996), globalization is the continuous interaction between global forces (political, economic, social and cultural) and local forms to create new hybrid forms that cannot be reduced to either local or global entities. He asserts that globalization has “shrunk the distance between elites, shifted key relations between

producers and consumers, broken many links between labor and family life, obscured lines between temporary locales and imaginary national attachments” (Appadurai, 1996, p. 10). Kearney (1995, p. 548) reiterate Appadurai’s view and broadly defines globalization as “social, economic, cultural and demographic processes that take place within nations but also transcend them, such that the attention limited to local processes, identities and units of analysis yields incomplete understanding of the local.” Held and McGrew (2002, p. 1) refer to globalization as “the expanding scale, growing magnitude, speeding up and deepening impact of interregional flows and patterns of social interaction.” In the book, *Critical Theories of Globalization*, el-Ojeili and Hayden (2006, p.14), summarize four key aspects that emerge from the different interpretations of globalization:

1. Stretched social relations: This refers to Giddens’ ‘intensification of world-wide social relations where events from one part of the world are affected by other parts of the world. The increased social connectedness suggests that individuals, societies, states and nations are now affected by global events.
2. Intensification of flows: This factor refers to the growing economic, political and technological interconnectedness between different parts of the world.
3. Increased interaction: Increased intensification of social relations and growing interconnectedness has resulted in different cultures interacting with each other. The interaction of the local culture with the global culture has resulted in the formation of a new hybrid culture that cannot be reduced to either local or global.

4. Global infrastructure: Growing technological developments, international trade, aviation, global media and global economic institutions are providing an infrastructural platform for different nations to interact with each other.

The four aspects highlighted by el-Ojeili and Hayden (2006) can be further categorized into two major elements: social/cultural penetration and technological, political and economic connectedness. These are the two major elements that influence today's global world.

The first and third aspects summarized by el-Ojeili and Hayden (2006) refer to the social and cultural relationships between individuals and societies. How have global systems affected the relationships between individuals and societies around the world? Are individuals and societies seen as separate units within a global world (heterogeneity) or is the world transforming into a single homogeneous unit? This axis reflects (see figure 16) the micro scale of globalization by investigation the social and cultural relationships between individuals and societies. The second and fourth aspects summarized by el-Ojeili and Hayden (2006) refer to the technological, political and economic connectedness between nations and states. Technological advancements, political relationships and economic institutions are providing a sound platform for different nations to interact with each other. This axis reflects the macro scale of globalization by investigating the technological, political and economic connections between institutions, states and nations.

The intricately woven fabric of the global world is shaped by different interlacing and overlapping elements. The social, cultural, technological, political and economic elements certainly cannot be studied in isolation. The characterization of these elements

into two major axes (micro and macro) should not be merely interpreted as a reductionist argument of globalization. The following diagram illustrates the image of the global world based on social/cultural penetration and technological, political and economic connectedness. The three major approaches to globalization (Cochrane and Pain, 2000) are mapped on the following 2 X 2 matrix. The low social/cultural penetration with less technological or political/economic connectedness represents heterogeneous societies that ignore the effects of globalization. Focused more on the local and the customary, this traditionalist approach rejects the influence of the global economy and politics on local societies and states. The high social and cultural penetration with extremely high connectedness represents the globalist perspective. Globalists argue that all nations, states, organizations and individuals are now parts of larger interconnected networks (the global world). Those who adopt this perspective believe that the local societies and cultures will have to adopt or finally adapt to global pressure. The third perspective seeks for a balance between extreme homogeneity and heterogeneity. The transformationalists envision the world as a hybrid combination of the local and global systems: the glocal world.

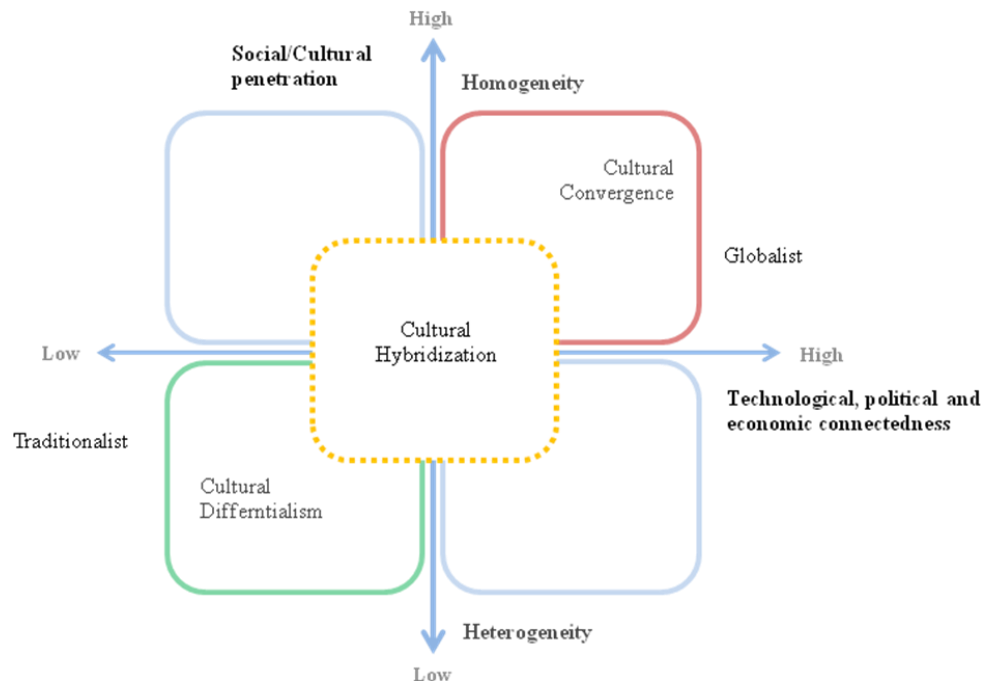


Figure 16. Image of the global world based on two major aspects

CULTURAL GLOBALIZATION

The complex process of globalization involves interaction between global forces and local cultures. These interactions between the different dimensions can be classified into two major categories: system integration and social/cultural integration. Robertson (1992) defines system integration as interdependence on a global scale. It is the interaction between nations or states that includes technological, political and economic aspects. In contrast, social or cultural integration concerns normatively binding relationships among people and societies across the world (Robertson, 1992). Thus the complex process and/or condition of globalization can be interpreted both as an economic system or a social/cultural phenomenon. The interplay between the economic and cultural aspects makes globalization a complex and diverse phenomenon.

Economic developments provide the basis for many of the key developments in global culture, opening up certain possibilities and closing off other cultural possibilities (du Gay, 1997, p. 13). An economic relationship between nations renders 'culture' as a secondary phenomenon. Robertson (1992) describes two contrasting sides of the economic phenomenon: the supply side and the demand side (see figure 7). The supply side refers to the "organization and work which goes into the production and offering for sale of economic goods" (Robertson, 1992, p. 44). An excessive focus on the supply side has resulted in the secondary consideration of culture. The advent of critical theory and inclusion of 'modern society' in sociological and anthropological studies marked a new approach that focused on the 'demand side' of the equation. This new approach transformed culture from an epiphenomenal status to an infrastructural one (Robertson, 1992). Robertson (1992, p. 4) points out that while the "economic matters are of tremendous importance in relations between societies and in various forms of transnational relations; those matters are considerably subject to cultural contingencies and cultural coding." The infrastructural status of 'culture' has signified the importance of cultural aspects of globalization. These cultural aspects are in turn affecting economic growth and business development. Cultural questions are central and pressing in the discussion of globalization: as Tomlinson (1999, p.1) argues, "Globalization lies at the heart of modern culture; cultural practices lie at the heart of globalization."

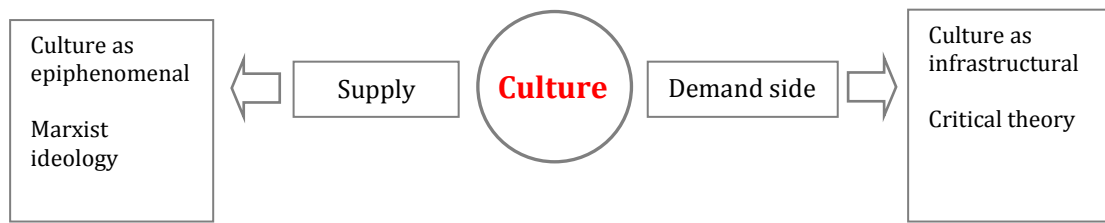


Figure 17. Role of ‘culture’ in the economic understanding of globalization

The term ‘culture’ has been used in both analytical and critical ways. In its analytical form, culture has been used for explanatory and/or interpretive purposes (Robertson, 1992). Early anthropologists and sociologists who studied pristine, isolated, timeless societies (heterogeneity) used culture as a tool to explain or interpret social systems. Following this trend will “allow culture (as frequently conceived as a realm of values, beliefs and symbols) into the analytical picture only as a way of explaining social phenomena or as explainable by them” (Robertson, 1992, p. 37). In its critical form, culture has been used for diagnostic and/or praxiological reasons (Robertson, 1992). According to Robertson (1992, p. 37), the discipline of sociology has largely followed the critical use of culture, “largely because of its greater exposure to apparent homogeneity.” The understanding of ‘culture’ itself has undergone a lot of change in the past few centuries (see review of culture in previous section).

In an uncomplicated description, cultural globalization can be fundamentally understood as an interaction between its elements: culture and globalization. Jan Nederveen Pieterse (2006) explains the relationship by identifying three different perspectives that highlight the effect of globalization on local cultures:

1. Cultural Differentialism: Those who adopt the paradigm argue that there are lasting differences among cultures that are largely unaffected by globalization. This perspective insists that “local cultures are not passively overwritten by or dissolved within that unidirectional, apparently unstoppable, global steamroller known as Western industrial capitalism” (Erickson & Murphy, Readings for a History of Anthropological Theory, 2006, p. 170). This paradigm acknowledges the effects of globalization on culture, but argues that the core of the culture remains unchanged. Global processes, events, products and/or services are strongly resisted or rejected for cultural unsuitability.

2. Cultural Convergence: This perspective supports Marshall McLuhan’s idea of a ‘global village’: a world with increasing homogeneity. It is also interpreted as cultural imperialism, Americanization or McDonaldization. McDonaldization is the notion of homogenization of the world through multinational corporations or by promoting similar standard procedures or a way of life (Ritzer, 2006). This is the perspective that encourages increasing sameness in the world. Those who adopt this paradigm believe that local cultures and individuals need to adapt to the increasing homogenization of the world. Globalization is forcing local cultures to replace their local culture with the more popular and ubiquitous global culture. According to Friedman (2005, p. 477), cultural convergence seems “inevitable and unstoppable” leading to a homogenized global culture.

3. Cultural Hybridization: This paradigm emphasizes the idea of a ‘cultural mix’ through the integration of local and global cultures resulting in a new and unique hybrid culture that transcends both. It is the integration of McDonaldization with local realities to produce new and distinct hybrid forms (cultural pluralism) that indicate continued

heterogenization rather than homogenization. This cultural hybrid is a result of pluralist ideas, increasing cosmopolitan development and intensifying interaction between local and global cultures.

According to Ritzer (2006), globalization has moved into a new phase of glocalization – “a process of selective borrowing and transformation between local and global cultures resulting in the production of a cultural hybrid.” Increasing glocalization and the emergence of the new hybrid culture has influenced the way in which we communicate, the way we eat, the information we access, the fashion that we follow, the entertainment we like, the products we buy and so on. The following figure illustrates different aspects of glocalization.

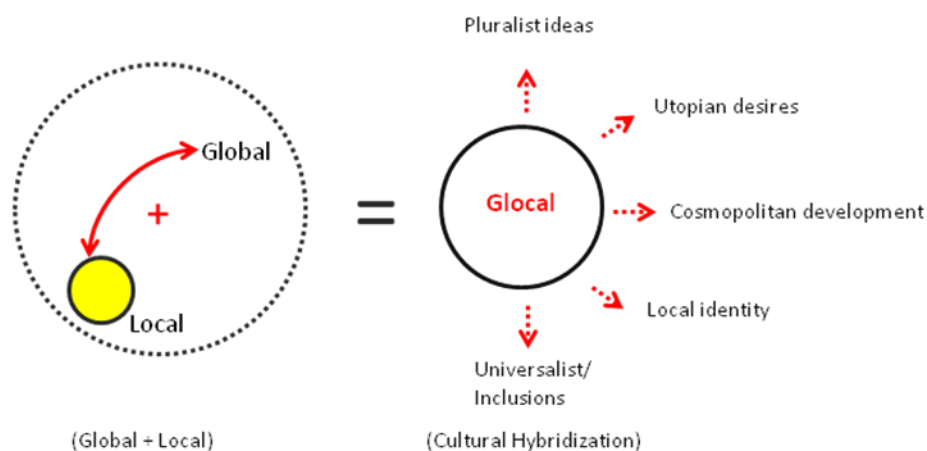


Figure 18. Glocalization (Cultural hybridization)

DIRECTIONS FOR FUTURE

Understanding the relationship between globalization and individual cultures is vital for achieving culturally sensitive development. The theoretical model presented in this study is based on the direction provided by Arjun Appadurai (1996) in *Modernity at Large: Cultural dimensions of globalization*. First and foremost, he opposes the noun

form of culture where culture is defined as a substance or entity having an independent existence. The work by earlier anthropologists and sociologists focused on the noun form of culture positioning culture at the center of every inquiry. Describing culture as an evolving entity, the classical cultural evolutionists proposed a grand unilinear theory for evolution of cultures through different stages of savagery, barbarism, and civilization. Following the historical particularists perspective, Boas attributed cultural change to diffusionism and emphasized that each culture is independent of the other in its evolution and embedded in its local histories. Kroeber extended the noun usage of the term by defining culture as ‘superorganic,’ an overarching, autonomous identity that controls individuals and their behaviors. It wasn’t until the rise of psychological and symbolic anthropology that culture was used in its adjective form. Psychological anthropology was the first school to investigate the relationship between culture and personality. Culture was then seen as a supporting phenomenon that affected personality. Symbolic anthropology defined culture as one of the subjective dimension that mediated human experience and behavior. It was then that culture was seen as one of the dimensions of a phenomenon rather than the only factor explaining a phenomenon.

According to Appadurai (1996, p. 13), “stressing the dimensionality of culture rather than its substantiality permits our thinking of culture less as a property of individuals and groups and more as a heuristic device that we can use to talk about difference.” He lays emphasis that the noun form of culture seems to “carry associations with some sort of substance in ways that appear to conceal more than they reveal,” but the adjectival usage of culture becomes a force to understand cultural differences, or comparisons (Appadurai, 1996). Cultural differences are defined as the differences that

“either express, or set the groundwork for, the mobilization of group identities” (Appadurai, 1996, p. 13). Cultural differences can be a way of understanding different glocal cultures and a tool for separating the core local embodied aspects from the global forces. Culture then acts as a force that decides the boundaries between different groups or individuals. Situated difference between cultures represents the “difference in relation to something local, embodied, and significant” (Appadurai, 1996, p. 12). Cultural situated difference becomes a frame of reference for identifying different groups with cultural boundaries. Appadurai (1996, p. 12) underlines the contrastive use of culture rather than understanding it as a substantive property of a thing or phenomenon. Understanding culture as a “dimension that attends to situated and embodied difference” presents a new direction to uncover the local entity of a glocal phenomenon. Understanding and designing for ‘situated differences’ can lead to the development of culturally appropriate products and services that are globally situated but culturally appropriate.

Chapter 4

ANALYSIS AND RESULTS

INTRODUCTION

This study focused on three different stages of FFV commodity exchange: production processes, distribution practices and consumer experiences. This chapter presents results from fieldwork conducted in Pune, India. To understand the entire process of FFV exchange, consumers, retailers, wholesalers, commission agents and farmers were recruited for the study. The snowball sampling technique was used to recruit participants from the city of Pune.

This study was limited to six different retail/wholesale formats including (see p. 16 for a detailed description) pushcart vendors, street vendors, street retail shops, city retail markets, the district wholesale market and modern retail outlets. To understand the FFV distribution and exchange network, wholesalers, commission agents and retailer were recruited for this study. Interviews with wholesalers and producers were conducted at the district wholesale market in Pune. All interviews were audio recorded, transcribed, translated and analyzed for patterns. To gain multiple perspectives on the FFV system, wholesalers of various different commodities like potatoes, onions, lemons, fruits and leafy vegetables were recruited for interviews. This study was limited to understanding the overall value chain for FFV and did not include commodity specific value chains. Interviews with pushcart vendors, street vendors, street retail vendors and retailers at the city market were also conducted. To understand consumer experiences, FFV buyers were engaged in a logbook assignment, shop-along method and semi-structured interviews. To

understand consumer preferences for shopping layouts, participants were engaged in a participatory design activity, layout evaluation task and focus groups.

The results presented in this chapter are divided into two main sections. The first section discusses the different value chains currently used for distribution of FFV. The term value chain refers to supply chains where ‘value’ is added at every stage of the exchange. For example, the farmer-wholesaler-retailer-consumer exchange stream is a supply chain. Value chains aim at understanding how value is added at every stage of this exchange. Through such processes as sorting, auctioning, negotiating, grading, packaging, loading, transportation and other similar activities, value is added to commodities. Three key value chains are described based on interviews conducted with retailers, wholesalers and commission agents. For each value chain, the relationship between the different players, key advantages and construction of value is discussed. This section concludes by briefly discussing the challenges faced by farmers and the changing nature of production practices.

The second section focuses on consumer shopping experiences and interactions at different retail shopping formats. This section compares key advantages and points of attraction for different retail formats. To understand consumer preferences for shopping layouts, results from the participatory design activity are discussed. Based on layouts designed by participants, a comprehensive ethnographic decision model is presented that summarizes key consumer preferences. This section concludes by discussing results from layout analysis technique and focus group.

DISTRIBUTION AND EXCHANGE PRACTICES

The following two questions focused on understanding different FFV distribution channels and practices.

- a. What are the different distribution and exchange practices used by wholesalers and retailers? How are these practices different or similar and how can they be categorized?
- b. What is the pattern of authority among different players within the distribution network? How do different players negotiate power and authority?

The following section summarizes the results from semi-structured interviews conducted with wholesalers, commission agents, retailers and farmers. Four different FFV distribution channels were identified. Each distribution channel (value chain) is briefly summarized below.

Value Chain #1: Famer – Commission Agent – Wholesaler/retailer – Consumer. Traditionally, this is the most commonly used supply chain in Pune and other parts of Maharashtra. In this supply chain, famers bring their produce to the wholesale district market located typically around city outskirts. The wholesale market acts as a collection and distribution center for the entire city. The wholesale district market consists of smaller stalls (commonly known as galas) provided to commission agents (also wholesalers) for trading vegetables and fruits to wholesalers, traditional city retailers, modern retailers and consumers.

Famers typically hire independent transporters to carry FFV from farms to wholesale district markets. In some cases, farmers pool money together and collectively

hire an independent transporter. Commission agents can also help farmers to transport FFV. Overnight, trucks start arriving and unloading FFV at the district market. All trucks, typically accompanied by farmers, are lined up outside the district market before 4:00am, and the doors open at 5:00am for trading.

Commission agents estimate the available supply of vegetables for that day and organize labor required for measurement, unloading and sorting. FFV are unloaded at the stall (commonly known as *galas*) where the commission agent facilitates an open auction between the farmer and the buyer. Buyers are typically wholesalers or retailers. Modern retailers also participate in these open auctions. Depending on the grade, few bags of vegetables are opened. Based on the quality, buyers (retailers or wholesalers) raise or lower the bet and bid for vegetables. After a satisfactory rate is reached the highest bidder is assigned that lot of vegetables. The same bidding process continues for all three grades (high, medium and low) of vegetables and fruits.

After the open auction, farmers typically return back to their farms. Commission agents prepare final bills and keep record of transactions. A 6-10% commission charge (depending on the type of FFV), 8% transportation charge, 1% service charge is deducted from the final bill. The final bill has to be approved by the district market committee that ensures fair trade, accurate measurement and appropriate prices. After the transaction is completed, wholesaler and retailer transport FFV to other part of the city. Push cart vendors, street vendors, street retail shop vendors, city retail market vendors and modern retailers typically participate in this value chain.

Relationship between different players. In this traditional value chain, the relationship between buyers and farmers, a delicate affair, is negotiated by the

commission agent. The relationship between farmers and commission agents is based on mutual trust and dependency. Commission agents have to negotiate price with buyers to ensure that farmers are rewarded with a good price for their produce. By consistently negotiating good prices, a commission agent ensures that farmers return to his store on a daily basis. According to a commission agent, “the open auction helps to keep the trade transparent, farmers can know the final price negotiated at the auction....transparency is better to gain their [farmers’] trust.”

The relationship between commission agents and buyers (could be wholesalers, retailers or modern retail agents) is heavily based on credit. After interviewing commission agents and retailers/buyers, it was observed that credit played a crucial role in trading. According to one commission agent, “I offer one day or one week credit to buyers...so if I sell today, I bill them tomorrow...this ensures that they have to come back to buy some more FFV on the following day.”

It is the task of the district market committee to ensure that transactions are completed and documented on a daily basis. This market committee has to approve all daily transaction that includes details about produce, rate, commission rate, labor charge and other relevant details. Although the required document is meticulously completed commission agents were seen offering daily and weekly credits to buyers.

Constructing the value of the commodity. This value chain is facilitated and negotiated by the commission agent/middleman. The pricing of FFV is heavily dependent on daily supply of vegetables and the corresponding daily demand. Cost of trading for farmers includes cost of production, cost of transportation and commission fees. For the

buyers it includes cost of the commodity and transportation. Following are some limitations of this value chain:

1. Middleman conundrum: For the farmer, the middleman ensures that his produce is sold at an acceptable price. Acknowledging the role of commission agents, one farmer insisted that, “we [farmers] get better rates [prices] and consistent buyers because of commission agents... they do the public relations job for us... pricing is transparent in open auction, billing is on a daily basis... we can usually collect money at the end of two weeks or at the end of the month.”

This quote reflects the dependency of farmers on commission agents. Agents offer public relations (PR) service to farmers, complete necessary receipts for transactions, provide storage space for farmers and maintain monthly billing records. However, this value chain adds more intermediary agents, which reduce profitability for farmers. Farmers have to bear the cost of production, transportation, commission fees, labor fees and other indirect charges (market committee transaction fees, etc).



Figure 19. Value Chain for Traditional Retailing

Value Chain# 2: Farmer – Wholesaler – Retailer. This is an alternative value chain in which wholesalers or retailers buy produce directly from farmlands. This involves direct trading between the buyer and the farmer. Farmers can save on transportation cost and commission fees. One farmer pointed out that in some cases, “retailer cut fruits from trees, sort it into grades and then transport it.” This saves farmers the cost and labor for sorting, loading and transportation. In addition, the biggest advantage of this chain is that farmers can continue to work on their farms and simultaneously earn good prices for their FFV.

Relationship between different players. In this value chain, farmers and buyers (retailers or wholesalers) share a direct relationship. Retailers have the opportunity to choose from a wide range of grades available on the farm. Retailers can take additional time to sort and load FFV. According to a farmer, “My first preference is for direct selling. This way I can sell without moving away from my farm. I can always sell remaining produce at a district market.”

Constructing the value of the commodity. In this value chain, the cost of trading favors the farmers. Farmers have to only bear the cost of production. Farmers get higher value for FFV, avoid commission fees, transportation cost and can spend productive time on their farms. From a retailer’s perspective, retailers can pick and choose higher grade FFV directly from farms. Retailers can ensure that delicate FFV are delicately transported under good supervision. This value chain is the most favorable for farmers. In spite of this, this value chain is not very popular for the following reasons:

1. Lack of consistent demand: Farmers have to personally cultivate contacts to ensure that they have a steady flow of retailers buying from their doorstep. Not all farmers are well networked and can lose clients.

2. Higher grade of FFV: Farmers indicated that retailers buying directly from farms are interested in higher grade of FFV. This means that farmers are left with medium and low grade of produce that has to be transported to markets.

According to one farmer, “it is better to sell mixed grade vegetables at the district market instead of just selling high grade vegetables to retailers.”



Figure 20. Alternative Value Chain for Traditional Retailing

Value Chain# 3: Famer – Free Market – Retailer (Consumer). This value chain is an alternative that facilitates direct buying and selling between retailer/consumers and farmers. The city municipal corporation provides necessary infrastructure where farmers can sell their produce directly to consumers. These are typically known as farmers’ markets.

Famers typically transport their own FFV to the famers’ market. In group interviews, farmers also suggested that “if we [farmers] have to sell the same vegetable or

fruit, we then pool our money together and transport FFV to the market.” In this market, farmers directly sell their produce without any middleman/commission agent. Farmers markets typically deal in retail quantities (typically less than 10kg) and transactions are limited to cash-only exchanges. Farmers’ markets are a viable alternative for farmers as they can save on fees of the commission agent, measurement cost, transportation cost and they can also maintain the required cash flow. Street vendors, pushcart vendors, retailers and consumers commonly buy FFV from these farmers’ markets.

Producer



Retailer



Consumer

Figure 21. Value Chain for Farmers Market

Relationship between different players. In this value chain, farmers and buyers (could be consumers, retailer or wholesalers) share a direct relationship. In the absence of a middleman, rates are directly determined by farmers and negotiated by buyers. Farmers usually pre-sort, transport, unload and sell their own FFV. After the sale is completed buyers are responsible for transporting their goods.

Constructing the value of the commodity. In this value chain, the cost of trading for farmers and buyers is similar. Farmers have to bear the cost of production and

transportation (including sorting). In this value chain, farmers get higher value for FFV, avoid commission or fees, control price negotiation and receive immediate cash payment.

Similarly, buyers have to bear cost of purchase and cost of transportation. In return, buyers can directly negotiate with farmers, ensure reasonable rates, avoid credit transactions and reduce trading time. In spite of the advantages, there are some key limitations to this value chain:

1. Quantity: Farmers' markets can only trade in retail quantities. Comparing the farmers' market to the district wholesale market, a commission agent pointed out: "... the farmers' market is not for farmers with big quantities... the market does not provide any storage or overnight stay for farmers."
2. Trading risk: In this value chain, the burden of selling is entirely on the farmer. Farmers have to personally engage in selling FFV. The lack of storage at farmers' markets forces them to sell FFV at a brisk pace. Farmers felt that the responsibility of trading keeps them busy during the day and does not allow them to return to their farms.
3. Lack of credit: All transactions at the farmers market are cash-only. From a buyer's perspective, farmers cannot offer credit. Small buyers are in need of daily or weekly credit. Typical small scale retail buyers like pushcart vendors and street vendors prefer the district market over the farmers' market for the lack of credit.

Value Chain# 4: Farmer – Collection Centers/Warehouses –Retailer – Consumer. This value chain is most commonly used by modern retailers. There are two ways modern retailers secure FFV:

1. Wholesale district market: Modern retailers participate in open auctions at wholesale district markets. Along with other city vendors and retailers, modern retail agents participate and bid for FFV. After the bidding, FFV are transported to their main distribution center, unloaded, sorted, packed into different grades and finally transported to different retail locations within the city.
2. Direct procurement from farms: Modern retailers also buy FFV directly from farmers. Typically modern retail agents visit the farm, assess quality of produce and determine pricing. This value chain eliminates the middleman (commission agent) and reduces cost of transportation for farmers. When asked to compare the district market and modern retailers, farmers preferred the modern retailers as it reduces the cost, time and effort of transporting FFV. In an interview, a farmer suggested that: “If they [modern retailers] get vegetables directly from my farm, it’s better than the district market. I can at least save some money on transportation.”

On the down side, farmers said that they have to send their produce to a distribution center for quality check and testing. Modern retailers typically test the quality of produce before the purchase and after completing the transactions. Many farmers first sell their produce to modern retailers (thus reducing transportation cost) and then transport the remaining produce to the district market for open auction. Participating in both chains reduces transportation cost and labor cost for farmers.

Relationship between different players. In the first scenario, where modern retail agents participate in open auction at the district market, the relationship between buyers and farmers, a delicate affair, is negotiated by the commission agent.

One commission agent commented on this balancing act that safeguards the interest of both farmers and buyers: “I cannot increase the rate of FFV just so that I make more commission out of the sale... that will benefit the farmers for sure... but then I have also consider the buyer... the buyer should also get a reasonable rate so that he comes back to me.”

In the second scenario, some modern retailers prefer to buy produce directly from farms. In this value chain, there is a direct relationship between the farmer and the modern retailer. Farmers are aware of the quality and packaging requirements for modern retailers. In absence of a middleman, rates, quality, packaging and transportation requirements are directly negotiated with farmers.

Constructing the value of the commodity. This value chain favors the farmers. Modern retailers are responsible for sorting, loading and transportation. This relieves farmers of additional labor and transportation cost. For modern retailers, picking up produce from farms ensures quality control, safe transportation and no dependency on middleman.

The modern retail chain is becoming popular among farmers. Following are some limitations of this value chain:

1. Quality Check: Modern retailers typically have high standards of quality control, and they typically only procure higher grade of FFV. This means that farmers have to transport medium and low quality produce to city markets.
2. Fixed rates: Modern retailers typically contract farmers for a fixed price. The price of produce is dependent on quality. This value chain is rigid and retail prices do not fluctuate based on demand and supply. Although it is a fixed and assured

income for farmers, this system does not allow for increased rates based on high demand. In contrast, the pricing at a district market is purely based on daily demand and supply. In case of higher demand, farmers are offered higher and profitable rates. This flexibility of pricing is absent in the modern retail chain.

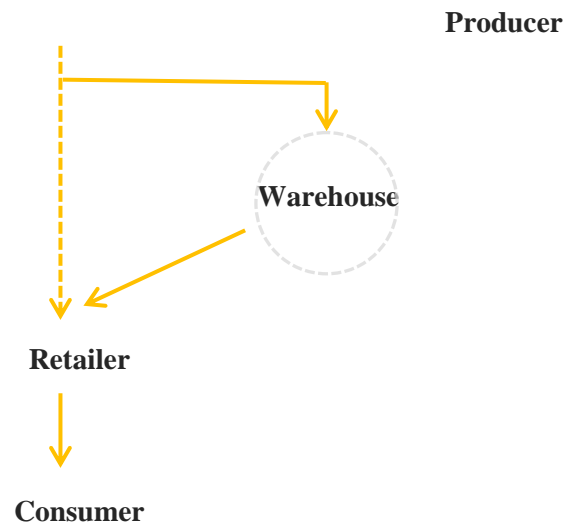


Figure 22. Value Chain for Modern Retailing

The following figure summarizes the different FFV distribution channels.

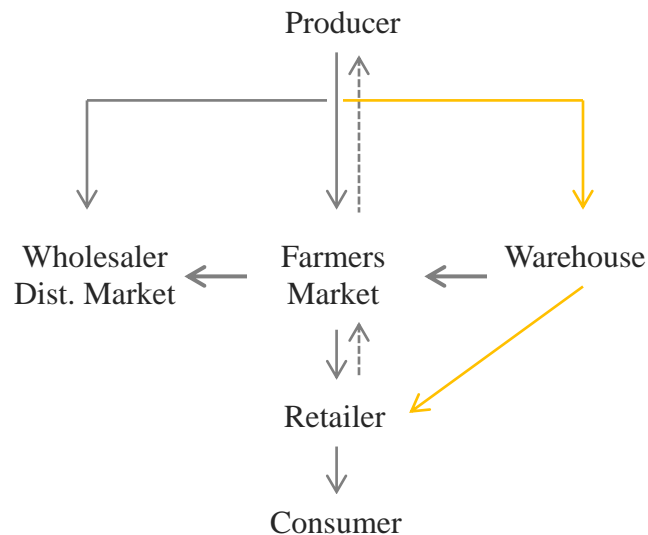


Figure 23. Four different channels for FFV exchange

PRODUCTION PROCESSES

The following section focuses on understanding the farmers' perspective on distribution channels and production practices used for FFV. The study was guided by the following research question: How have distribution practices and consumer demands affected production practices? The following section summarizes key results from interviews conducted with farmers.

Participating in multiple value chains. The traditional value chain of farmer-commission agent-wholesaler-retailer was the most popular among farmers. As an alternative, the government has provided infrastructure for free farmers' markets that encourages direct trading between farmers and buyers. This value chain is popular among farmers dealing in smaller FFV quantities. Participating in farmers' markets reduces the over dependence on commission agents. Farmers indicated that the modern retail chain (buying directly from farmers) has provided a competitive alternative to the traditional value chain. For the farmer, direct trading at farms saves transportation, sorting and labor cost. It also provides valuable uninterrupted time on farms for day-to-day work. Farmers felt that farmers' markets and modern retailers engaging in direct trading has considerably reduced over dependence on the traditional value chain.

Multiple roles. Interviews with farmers suggested that the changing nature of FFV exchange had forced them to play multiple roles. Apart from farming, they were involved in local retailing and transportation of FFV. Farmers indicated that they were more inclined to sell their own produce at local farmers' markets. One farmer added, "I

don't sell my vegetables at the district market because of transportation, measurement cost ... it's better to directly sell FFV in our local market." Some farmers indicated that they visited the district wholesale market as retail buyers. As buyers, farmers trusted the traditional retail system (with commission agent). But in sharp contrast, farmers were not willing to sell their own produce at these district markets.

To ensure steady cash flow for farming activities, farmers were seen to engage in retail activities. Retailing was seen as a filler activity before harvesting. Farmers who had crop patterns based on monsoon rains were also engaged in retail and transportation activity. According to a farmer, "retailing is a joint business, in addition to our farming. We do not have irrigation for 12 months and we have to wait for monsoon rains. We do retail business in the mean time." Other farmers felt that a "joint business" like retailing was required to compensate for the fluctuation of prices at the district market. District market rates are purely based on daily supply and demand. There are low demand days, when farmers are offered lower prices. Having a steady (cash oriented) retail shop was essential to compensate for any losses.

Changing production practices. Reflecting on the changes in production practices, a farmer said: "the biggest change is the crop cycle. Five years back, we used to have one big crop cycle (three months). Now we have one big cycle and three short crop cycles." For example, farmers used to only cultivate rice for three months. This meant that farmers had to wait for three months for cash flow and hope for the best price at the end of the cycle. Farmers now are cultivating vegetables like tomatoes (in addition to rice) as tomatoes can be harvested on a daily basis for three months. A farmer added, "after you harvest the first 30 tomatoes, more can grow, giving you more tomatoes every

other day for three months. This will give you a cash flow and the rate for tomatoes is twice in comparison to rice or wheat.” Shorter crop cycles that result in regularly harvested produce was preferred over longer crop cycles.

CONSUMER EXPERIENCES

The following section summarizes results from semi-structured interviews conducted with 16 consumers. Participants selected for this study represented a broad demographic with varied income type, employment status and family structure. Semi-structured interviews were conducted after each participant had maintained a logbook of their shopping activities for a span of two weeks. The logbook assignment was an important warm-up exercise as it made participants deliberately think and record their shopping choices. Three main topics were discussed during interviews: 1) consumer experiences of shopping at different retail formats, 2) points of attraction for each format, and the 3) factors that contributed towards creating a culturally relevant shopping experience.

The following two questions focused on understanding consumer experiences when shopping at different retail environments and the nature of interaction between consumers and retailers.

- a. What are the different retail environments preferred by shoppers and how is the experience of shopping for fresh fruits and vegetables (FFV) at different retail outlets?
- b. What is the nature of interaction between different consumers and retailers (or wholesalers)?

Participants shopped at six different retail formats (see page 16 for detailed description) including: pushcart vendors, street vendors, street retail shops, city retail market, wholesale district market and modern retail stores. It was noted that participants had an experience of shopping at different retail formats but usually preferred one retail format as their primary source for FFV. The primary retailer was defined as the retail format most commonly used by participants for their daily/weekly shopping needs. Interviews focused more on understanding consumer experiences at these primary retail formats. Traditional retail formats were the most popular among participants. Ten out of 11 participants preferred traditional shopping formats as their primary source of FFV. A total of seven participants preferred traditional street vendors for their daily shopping needs. The city retail market was preferred by three participants. One participant preferred shopping at the district wholesale market. The modern retail store was chosen by only one participant as their primary source of FFV. The following table summarizes the primary retail formats preferred by participants.

Table 6

Primary retail formats used by participants

	Push cart vendor	Street vendor	Street retail shop	City market	Wholesale market	Modern retailer
P1		x				
P2	x					
P3		x				
P4		x				
P5					x	
P6				x		
P7	x					
P8						x

P9				x		
P10			x			
P11		x				
P12		x				
P13			x			
P14				x		
P15		x				
P16		x				

Based on the methodological model developed for this research (see page 37), consumer experience was divided into consumer-retailer interaction, retail environment and the artifact (FFV) of exchange. The experience of shopping at six different formats was grouped into three main categories. The first category included traditional retailers like pushcart vendors, street retailers, and street shop retailers. The second category included city retail and wholesale market, and the third category included modern retail stores.

The Traditional retail experience. Shopping at traditional retail outlet was considered a daily activity. Participants preferred to shop at least 3-5 times a week for fresh FFV. A majority of participants (eight out of nine) walked to different retail stores. Shopping was considered an extension of exercising and/or socializing. Participants explored different retail formats but preferred shopping at one primary retailer. They expressed that unlike shopping at a modern retailer, shopping at traditional retailers was exploratory and social experience, often leading to serendipitous encounters. It was a non choreographed activity resulting in good exercise, socializing and unexpected purchases.



Figure 24. Examples of traditional street vendors (from left: pushcart, street vendor and street retail store)

Nature of interaction. Participants were seen to have a personal relationship with their primary retailers that included informal conversation. Consumers expect retailers to pay personal attention and provide necessary information about FFV. This includes providing information about grade of vegetables, pesticides used on produce, day/time of harvest and specific location of farms. Proving information about FFV was considered a sign of trust and transparency. Bargaining was also an imperative part of consumer-retailer interaction. One participant in her interview said that “bargaining for vegetables was a way to gain personal attention and to feel noticed by vendors.”

Shopping environment. The street vendor and street shop environments were considered “busy but social.” Street vendors usually organize FFV in a spread, providing easy access to customers. According to participants, street vendors and shops had an “approachable” and “negotiable” environment.

FFV Value chain. In comparison to the modern retailers, FFV displayed by street vendors were considered more fresh. In reality, the modern retailers have better infrastructure for cleaning, sorting, refrigerating and transporting FFV. But the long process of procuring produce, sorting (twice) and transportation meant that FFV had a delayed presence (minimum one day) in stores. In comparison, the traditional supply

chain was short and only spanned over four-six hours. For consumers, a shorter supply signified “fresh.” Participants were completely unaware of the supply chain used by modern retailers. Traditional retailers were popular because their supply chain was known to consumers and that it ensured a good quality product.

City Market Experience. These government regulated markets included the city retail market and the wholesale district market (see page 16 for a detailed description). Unlike street vendors these markets trade in higher volumes and can offer cheaper rates to customers. Participants used scooters or cars to visit city markets, making this activity a well organized and planned event. Considering the cost of transportation, the time required for shopping and quantity of purchase, this was a less frequent activity accomplished once every two weeks.



Figure 25. Examples of city markets (from left: city retail market, wholesale market)

Nature of interaction. In spite of the large number of vendors at city markets, participants expected personal attention. Not unlike their expectations with street vendors, participants preferred particular vendors at city markets. At the district market, regular customers were not considered a priority because these environments are typically designed for buyers who are interested in bulk quantities.

Shopping environment. The large footprint and number of vendors at these markets provided an ideal environment for exploratory shopping. Participants felt that they could walk around and explore. One participant felt that “the city market was clean and provided a wide range of vegetables at cheaper rates.” As these markets were higher up in the supply chain, consumers felt assured about the quality and freshness of FFV.

FFV Value chain. Farmers transport their FFV directly to the district market. The district market is a hub for providing FFV to the city market, wholesalers, retailers, and consumers. Only one participant preferred the district market as primary source of FFV. This was primarily because of a large family, economic constraints and lack of time for frequent shopping. City markets were considered if the high quantities of FFV were required for parties or special events.

Modern Retail Experience. Modern retail stores were not considered for daily shopping needs. Only one participant considered modern retail store as her primary retail store for daily shopping. Shopping at modern retail stores was preferred for non-FFV items and it was considered a onetime planned event.



Figure 26. Example of a modern retail outlet

Nature of interaction. Participants felt that the nature of communication with modern retailers was detached and impersonal. Employees were considered unapproachable and unable to provide information about FFV. Services like complementary/sample vegetables, temporary credit and providing items based on customer demand are not provided by modern retailers. Complaining about it, a participant said: “they [modern retailers] are not willing to fulfill your demands...the street shop retailer will get your vegetables on demand.” For better communication, one participant suggested a radical idea: “I feel the modern retailers should lease out their space to street vendors or at least employ some of them at their place...so that they can talk, communicate correctly about vegetables...I feel it will be good for both...they can use a street retailer instead of a public relations officer at the mall.”

Shopping environment. Modern retail stores devote special attention to the organization of store, display, sorting of vegetables, lighting and other aspects to create an enjoyable and inviting environment for their customers. Stores are divided into sections, each arranged according to specific commodities. The display of items allows customers to touch and feel the produce. In spite of all the efforts, participants in this study perceived the modern retail environment to be dull, cold, up-class, confusing, dry, non-negotiable and uninviting. According to a participant, “Modern retailers should have easily accessible display...people like to shop in chaos....I don't understand why they what to build an order into it...there is no need for sections...so that consumers can buy in their own order.”

The billing system employed at these retail stores was considered one of the biggest drawbacks. Over dependence on check-out kiosk was perceived as the major

reason for longer waiting and billing time. In view of a participant, “The time required to bill [in modern retail stores] is much more than traditional vendors...the person behind the counter changes all the time... so we do not have a personal relationship with them... no personal rapport is created.” Participants also suggested creating multiple counters with both manual and digital check-out systems to ensure hassle free check-out.

FFV Value chain. Consumers were unaware of the supply chain implemented by modern retailers to procure FFV. Information regarding harvesting, source of vegetables, transportation, grading and sorting was considered important to gain customer trust.

RETAIL ATTRACTION

This section summarizes key results for the following research question: What is the primary reason for shopping with specific retailers? What are the points of attraction that attract consumers to different retail formats?

Traditional retailers were clearly more popular among participants. Ten out of eleven total participants preferred traditional retail formats for their daily shopping needs. Participants were asked to list three key reasons for shopping at traditional retail formats. From all the reasons listed, key words were sorted and the following comparative table was created. This table summarizes key words used by participants as reasons for shopping at traditional retail stores. For each participant, the top three reasons (key words) are used in the table. Aspects like personal relationship with consumers, fresh quality of FFV, variety and display of FFV, service to consumers, and reasonable pricing were frequently repeated.

Table 7

Points of attraction for traditional retailers

Participants	P1	P2	P3	P4
Priority 1	fresh quality	personal relationship	display	fresh quality
Priority 2	personal relationship	smaller quantity	fresh quality	less distance
Priority 3	reasonable price	complementary vegetables/service		
Participants	P5	P6	P7	P8
Priority 1	fresh quality	variety of vegetables	personal relationship	less distance
Priority 2	less quantity	price	less distance	fresh quality
Priority 3	complementary vegetables/service	experience	service	service
Participants	P9	P10	P11	P12
Priority 1	fresh quality	personal relationship	personal relationship	variety
Priority 2	display/touch/feel	temporary credit	display	price
Priority 3	social environment	service		personal relationship
Participants	P13	P14	P15	P16
Priority 1	fresh quality	personal relationship	Fresh quality	fresh quality
Priority 2	variety	fresh	personal relationship	display/touch/feel
Priority 3	display	display	reasonable price	social environment

Based on interviews and analysis of key words (from the table above), three key aspects emerged from the data. These were three key reasons listed by participants for choosing traditional retail formats over modern retailers. As consumers, following were the top three attributes participants were looking for in a consumer-retail relationship:

Personal relationship and communication. According to participants, cultivating personal relationships with FFV vendors was an important part of their shopping activity. Shopping at a street vendor or a street retail shop can be a very chaotic and busy activity. The shopping environment is informal and busy with no formal queues. Consumers gather around a vendor and can touch and feel the vegetables. In spite of the rush, participants expected street vendors to personally know their consumers. According to a participant, “I expect my vendor to know me personally...I select my vegetables...but he remembers me if there is a long queue...but he will remember all clients by the order they come.”

Participants expected the vendors to be courteous and provide personal attention to each customer. It was observed that all participants had a separate and specific vendor to shop for vegetables and fruits. In most cases, participants were aware of the vendor’s personal life and had a personal attachment to them and their family members. As one participant recalls, “for the last several years we have been shopping with him [vendor]... I have continued to shop at this vendor for years now ... in fact... this has been continuing from my father’s generation. My father use to buy vegetables from his father.” Participants had shopped with specific vendors for decades because of their personal relationships.

Street vendors remembered all specific shopping needs of their customers. Based on their needs, vendors suggested new variety of FFV to customers. Cultivating personal relationships and having informal communication with vendors was a vital part of shopping activity. Modern retailers were criticized for not engaging in conversation, not providing information on FFV, and not developing a personal relationship. Participants

felt that modern retailers did not provided enough information regarding FFV. For building a good rapport with consumers, it was considered vital for retailers to engage in informal conversation and communicate necessary information about FFV. Comparing communication skills between traditional and modern retailers, one participant felt that, “employees working at these modern retail stores do not approach or talk to you first....they stand and will provide you information if required. This is exactly opposite of what a street vendor does.” After conducting interviews with modern retailers, it was learned that this behavior from employees at a modern retail store was a part of the customer communication protocol. One participant felt that these employees lack necessary understanding of the entire FFV supply chain. She added, “employees who work at these modern retail places have no idea about the details of any vegetables displayed... the tone of conversation is not correct... they feel lost.” Street vendors on the other hand personally procure FFV from the wholesale market and hence are able to provide detailed information about different FFV.

Freshness, display and quantity. Compared to modern retailers, participants felt that traditional retailers had better display and quality of FFV. The assurance that street vendors pick-up vegetables from the district market on a daily basis was important to consumers. It meant that vegetables were fresh, sorted and immediately transported and sold to consumers. In case of modern retailers, participants were unsure of the supply chain, source of produce and the time lost in sorting and transportation. Street vendors procure vegetables at 4:00am in the morning and are ready for sale before 6:00am. Therefore, consumers are sure that they are getting fresh produce from the district

market. Modern retailers open for business after 9:00am. According to one participant, the timing of modern retailers is too late for typical Indian consumers. She added, “they [modern retailers] get fresh produce at 10:00am. I cannot go because at that time I have already started with my breakfast and lunch preparations. We cannot leave the house at 10:00am, our domestic help usually comes around that time.”

Participants also emphasized the importance of a well spread out and sorted display of FFV. Having a wide range of well displayed vegetables was vital in making a better sale and saving valuable billing time. Quantity was also a point of comparison between traditional and modern retailers. Traditional vendors are willing to sell smaller quantities. As one participant pointed out, “we are a small family, just the two of us... we need to buy very small quantities of vegetables.” Street vendors are willing to sell smaller quantity to consumers. In comparison, modern retailers are known to discourage small quantity sales.

Service and Trust. Participants felt that personal communication, service and trust were important aspects of consumer-retailer relationship. Service from vendors included:

1. Complementary produce: It was a common expectation, that vendors should offer additional complementary produce. For example, it is a common practice to offer complementary ginger and chilies to consumers. Participant felt that offering complimentary produce was important to cultivate personal relationships, and that modern retailers should also offer similar services.

2. Items on demand: Participants request specific seasonal items from their local vendors. It is a common practice for consumers to request specific items or to request higher quantity of FFV. For example, participants suggested that they request high quantity of vegetables when preparing for a birthday party or a special event. One participant said, “I request special items [off-season items] from my vendor... I expect him to call me and inform me when these items are available... For example, items like brown chilies are only available in specific months.”

3. Trust: Participants felt that the best way to establish trust with consumers was to ensure that vendors accurately weigh produce. Street vendors use traditional weighing machines like balances. With non-digital machines, there is a higher possibility of misleading consumers with inconsistent weighing. Use of digital machines in modern retail store was probably the only aspect praised by consumers.

ETHNOGRAPHIC DECISION MODELING

To understand consumers’ attitudes towards FFV shopping, buyers were recruited for logbook assignment and shop along method. After carefully reviewing the details from logbooks, each participant was engaged in a 30 minute long semi-structured interview. Semi-structured interviews provided an opportunity to know more about consumers’ attitudes and preferences towards shopping. The key themes that emerged from interviews are discussed in the previous section (see page 136-138).

During these interviews, participants expressed strong disconnection with modern retailers in terms of store layouts, billing process, maintenance, quality of produce, store timings, information and other relevant issues. To understand aspects of an ideal shopping experience, 11 participants were recruited for a participatory design activity. These participants were randomly chosen from the 16 participants already recruited for semi-structured interviews. The goal of the activity was to encourage participants (using props) to design a layout that accurately reflects the needs of Indian consumers.

For this activity (see page 42), each participant was given an architectural model (to-scale) of a typical store layout (designed by researcher) and pictures (small cut-outs) of vegetables, fruits and groceries (see Appendix E). Participating in this exercise helped subjects articulate their preferences towards shop layouts and services.

This design activity was followed by a short interview that recorded the rationale behind their design decisions. The participatory design activity was video recorded. Final designs were photographed. The follow-up interview was audio recorded, transcribed and analyzed using ethnographic decision modeling. Ethnographic decision modeling as a method was first popularly used by Christina Gladwin (1987) and then has been consistently used in sociology and medical social science. According to Russell and Ryan (2006, p. 103), ethnographic decision models (EDMs) are “qualitative, causal analyses that predict real, episodic behaviors, rather than –as does so much social research –the intent to behave in certain ways.”

Ethnographic decision models can be represented in two different forms: 1) Tree diagrams that present participants’ decision-making processes or 2) If-then statements that outline the conditions, rules and outcomes for every decision.

Based on the nature of this study, an if-then model was considered suitable for analyzing the design layouts developed by participants.

ANALYTICAL FRAMEWORK

The analytical framework for EDM was based on three distinct aspects. Each layout was analyzed based on these three aspects:

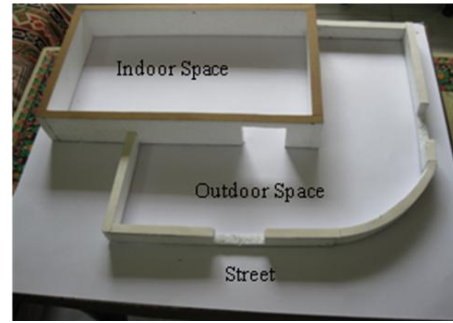
1. Design Condition (parameters/condition considered important by participants)
2. Rules (rationale behind design choices)
3. Design Choice/outcome (resulting design)

Design Conditions. These were the design constraints that participants used as key conditions that dominated the design outcome. After analyzing all layouts and the corresponding interviews, three key conditions emerged from the data:

Parking. Participants used parking as key criteria that influenced their design decisions. The model layout provided to participants include both indoor (covered and air-conditioned) and outdoor retail space. The following figure illustrates the model (image on right) and pictures (small cut-outs)(image on left) of vegetables, fruits and groceries provided to participants.



Set of 14 items/images used for activity



Architectural model for design activity

Figure 27: Tools for participatory design activity

Three parking conditions emerged from data:

1. Indoor parking: In the indoor parking condition, participants preferred to use the open outdoor space for two wheeler (scooters, motorcycles and bicycles) and four wheeler (car) parking. As the outdoor space was assigned for parking, this resulted in an exclusively indoor arrangement of vegetables, fruits and groceries.
2. Outdoor parking: In the outdoor parking condition, participants used streets for parking. This was a layout where participants used the outdoor retail space for leafy vegetables and fruits. It was evident from the layouts that participants were attempting to re-create the street vendor atmosphere by using outdoor retail space for vegetables and fruits. In comparison to the indoor parking condition, these layouts were more pedestrian friendly.
3. Indoor and outdoor parking: In this parking condition, part of the outdoor space was used for vegetables and fruits and the other half was used for parking or as a loading zone. In these layouts, participants were attempting to cater to both pedestrian and vehicular customer traffic.

Perishability. This was the second key condition that participants thought about when designing a culturally relevant retail layout. Perishability of FFV or groceries was categorized into three parts:

1. Perishable in less than one day: These items were primarily leafy vegetables or seasonal fruits that have a shelf life of one day.
2. Perishable in less than three days: These items include other vegetables and fruits that have a shelf life of three to five days.
3. Perishable in 15 or more days: These items were primarily groceries that have a longer shelf life (from 15 days to few months). Items included, rice, wheat, cereals, flour and other condiments.

Weight. The third key condition that dominated the design outcome was weight. Commodities were divided into light, medium and heavy weight. Participants arranged commodities based on weight. For example, heavier commodities (like rice) were arranged farthest from store entrance.

Rules. Rules represent the ‘if’ part of the if-then statement in an ethnographic decision model. A rule represents the logic or rationale that resulted in a particular design choice. For example:

Rule: If the parking was outdoor (design condition) and perishability of commodity was less than 1 day (design condition) then participants used leafy vegetables and fruits as a point of outdoor attraction (resulting design outcome).

Based on design conditions, different rules were formulated for each layout. Rules for all layouts were then consolidated into six key rules that summarize logical thinking for all participants.

Design Choices/Outcome. These were the resulting design choices that participants made which contributed towards designing an ideal shopping experience for consumers. For each layout, based on the design condition and rules, design choices were noted. All design outcomes were categorized into three major design themes (indoor, outdoor and indoor-outdoor layouts). This was followed by a consolidated ethnographic decision model that summarizes all three conditions.

Design conditions and rules for each condition were analyzed and the resulting design choice was noted. This was done for all layouts. Following are examples of individual ethnographic decision models created for three distinct design conditions: indoor, outdoor and indoor-outdoor parking.

Design layout #1 Indoor Parking. The following image illustrates an example of an indoor parking layout. In this layout, the participant used the open retail space for two wheeler and four wheeler parking.



Figure 28: Layout designed by participant

Justifying the need for using open retail space for parking, one participant indicated: “ that outdoor space should be used for parking, vegetables get dirty if kept outside... it is also easy to maintain vegetables inside.” Convenience of parking, inviting vehicular traffic, easy unloading of vegetables were other factors that supported the use of outside space for parking. Using the outdoor space for parking meant that participants had to create a layout that was strictly limited to indoor arrangement of FFV.

Essential to non-essential arrangement: Within the indoor space, participants created different rows or sections that were arranged on the basis of vegetables required on a daily, weekly and bi-weekly basis. Leafy vegetables and fruits were closer to entrance and acted as points of attractions for consumers. According to participants, leafy vegetables, ginger and chilies were items required on a daily basis. These items were placed closest to the entrance. This was followed by vegetables like onions and potatoes

that are required on a weekly basis (better shelf life). All grocery items that are usually required on a bi-weekly basis were arranged farthest from the entrance.

Based on parking conditions and perishability and weight of commodity, the following ethnographic decision model was developed. As an example, this model only represents decisions made by one participant. Similar models were created for all layouts with similar design conditions.

Table 8

Individual Ethnographic Decision Model for indoor parking

		Rule 1	Rule 2
Design Condition	Parking	Indoor	Indoor
	Perishability	<1 and <3 days	>15 days
	Weight	Light, medium	Heavy
Design Outcome	Essential FFV placed closet to entrance	X	
	Leafy vegetables and fruits used as indoor attraction	X	
	Heavy groceries farthest from entrance		X

Design layout #2 Outdoor Parking. The following image illustrates an example of a layout that utilizes street parking. In this layout, participants used the outdoor retail space for displaying leafy vegetables and fruits.

Pedestrian friendly arrangement: According to participants, using the outdoor space for vegetable and fruits was the best way to engage pedestrian shoppers. This research indicated that shopping for FFV was primarily seen as a pedestrian activity. Interviews with consumers indicated that women tend to shop for fresh vegetables on a

daily basis. By using the outdoor retail space for FFV, participants were replicating the traditionally popular street vendor arrangement. By arranging vegetables that can be quickly accessed from outdoor space, participants felt that they could cater to pedestrian shoppers. In addition, a participant indicated: “I choose to use the outdoor space for FFV... why waste retail space when we have free street parking. Green leafy vegetables can be inviting for consumers and quick and easy buy for pedestrians.”

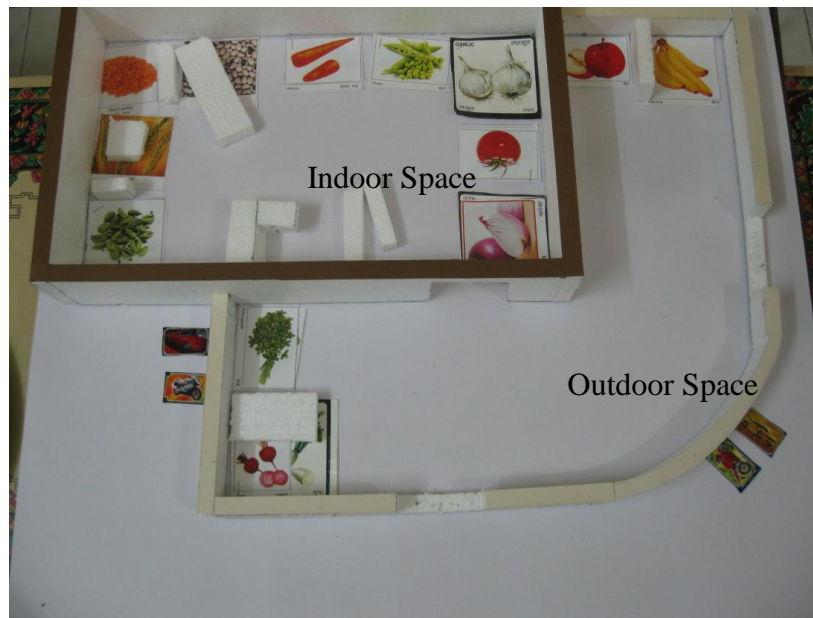


Figure 29: Layout designed by participant

Based on parking conditions and perishability and weight of the commodity, the following ethnographic decision model was developed. In this layout, either leafy vegetables or fruits were used as outdoor attractions. In this pedestrian friendly layout, commodities with less shelf life were placed outside replicating the popular street vendor arrangement.

Table 9

Individual Ethnographic Decision Model for outdoor parking

		Rule 1	Rule 2
Design Condition	Parking	Outdoor	Outdoor
	Perishability	<1 and <3 days	>15 days
	Weight	Light, medium	Heavy
Design Outcome	Essential FFV placed outside	X	
	Leafy vegetables and fruits used as outdoor attraction	X	
	Heavy groceries farthest from entrance		X

Design layout #3 Indoor-Outdoor Parking. In this layout, participants partially used the open retail space for parking and partially for displaying leafy vegetables and fruits.



Figure 30: Layout designed by participant

Pedestrian + vehicular arrangement: These layouts illustrated design decisions that could potentially attract both pedestrian and vehicular traffic. Participants partially used outdoor retail space for displaying fresh leafy vegetables and fruits. According to a participant: “some of my customers want to only buy daily leafy vegetables... this layout is convenient for them. Leafy vegetables have shorter life, it’s better if they are sold at a fast pace.” Perishability was not seen as a limitation but was used as a point of attraction. By having some part of outdoor space used for parking, one participant felt that “it’s also inviting for consumer who want to shop for a longer time or want to shop for heavier items or groceries.”

In this pedestrian and vehicular friendly layout, commodities with less shelf life were placed outside to invite pedestrian customers. Participants used the side entrance for vehicular traffic providing parking space for customers.

Table 10

Individual Ethnographic Decision Model for indoor-outdoor parking

		Rule 1	Rule 2
Design Condition	Parking	Indoor-Outdoor	Indoor-Outdoor
	Perishability	<1 and <3 days	>15 days
	Weight	Light, medium	Heavy
Design Outcome	Essential FFV placed outside	X	
	Leafy vegetables and fruits used as outdoor attraction	X	
	Heavy groceries farthest from entrance		X

CONSOLIDATED ETHNOGRAPHIC DECISION MODEL

Based on follow-up interviews conducted with each participant, an ethnographic decision model was developed for all layouts. This includes consolidated conditions, rules (rationale behind design) and the design choices made by each participant. This model was an effective way to predict consumer choices regarding retail spaces. This consolidated model included a total of three design conditions, six rules and six design choices.

Table 11

Consolidated Ethnographic Decision Model for all layouts

Rules		R1	R2	R3	R4	R5	R6
Design Condition	Parking (Indoor-outdoor (I/O)), (Indoor (I)), (Outdoor (O))	I/O	I/O	I	I	O	O
	Perishability <1,<3,>15 days	<1,<3	>15	<1,<3	>15	<1,<3	>15
	Weight Light (L), Medium (M), Heavy (H)	L,M	H	L,M	H	L,M	H
Design Outcome							
	Essential FFV placed outside	X				X	
	Leafy vegetables and fruits used as outdoor attraction	X				X	
	Heavy groceries farthest from entrance		X		X		X
	Essential FFV placed closet to entrance	X		X			
	Leafy vegetables and fruits used as indoor attraction	X		X			

LAYOUT EVALUATION METHOD AND FOCUS GROUP

The goal of the participatory design activity was to capture (through design) and understand (through interviews) the various factors (access, circulation, billing and others) that can contribute towards an ideal shopping experience. Layouts designed by participants accurately reflected the needs of Indian consumers. The participatory design activity was an effective medium to understand individual responses on aspects related to FFV shopping.

Following the participatory design activity, participants were engaged in a layout evaluation technique and a focus group. Four participants were randomly selected (one male, three female participants). These participants were provided with an evaluation template (See Appendix F) to review and evaluate all layouts.

Using the evaluation technique, each participant carefully evaluated different aspects of each layout. A five point Likert Scale was used to record participant responses. The layouts evaluated by participants had no personal identification information. As illustrated in Table 12, questions 1 to 5 evaluated the following layout attributes: accessibility of FFV, efficient circulation, billing convenience, parking facility and pedestrian friendliness. Question 7 was used to record the overall effectiveness of the layout. Question 6 was subdivided into five sub-questions. These sub-questions were essentially similar to questions 1 to 5 but re-worded so as to ensure appropriateness and validity of responses. For all 11 questions, participant responses were recorded using an Excel spreadsheet. Mean and SD for each question was calculated. The following table illustrates all responses for Layout 1. In the example below, for question 2, all

participants recorded a high score of 4 (out of 5), indicating easy accessibility of fruits in layout 1.

Table 12

Participant responses, mean and standard deviation for Layout 1

Layout 1	Rating for each question (from 1 to 4)						
According to you, rate the following aspects of this layout that contribute towards creating an ideal shopping experience for users: (0 = least suitable, 5 = most suitable)	0	1	2	3	4	5	Average Stdev
1. Rate the following layout for quick and easy way in & way out of the store:			1	1	2		3.25 0.957427
2. Rate this layout for easy access to fresh fruits:					4		4 0
3. Rate this layout for easy access to fresh vegetables:				1	2	1	4 0.816497
4. Rate this layout for efficient circulation (movement in the store):					4		4 0
5. Rate this layout for overall billing convenience:	1	1		2			1.75 1.5
6. Rate the overall consumer satisfaction for this layout:				1	3		3.75 0.5
For the following layout, rate the following "points of attraction" that can compel you to shop at this store: (1 = least attractive reason to shop, 5 = most attractive reason to shop)	0	1	2	3	4	5	Average Stdev
7. Parking			1	2		1	3.25 1.258306
8. Outdoor display of fresh vegetables/fruits				2		2	4 1.154701
9. Convenient billing		2	1	1			1.75 0.957427
10. Easy access to fresh vegetables/fruits					4		4 0
11. Convenient for pedestrians		1	1	1	1		2.5 1.290994

As illustrated above, question 10 was a re-worded question that was similar to questions 2 and 3. Mean and standard deviation scores for these questions were almost identical, indicating high consistency of reporting from participants. Using re-worded questions was an effective way to ensure that participants understood the survey questions and answered with good consistency.

Similarly, to understand overall billing convenience of layouts, question 9 was reworded and compared to question 5. The following graph indicates average values for question 5 and question 9. Except layout 4 and layout 6, all other layouts show high

correlation between values. This indicated that participants were consistent with their evaluation of questions.

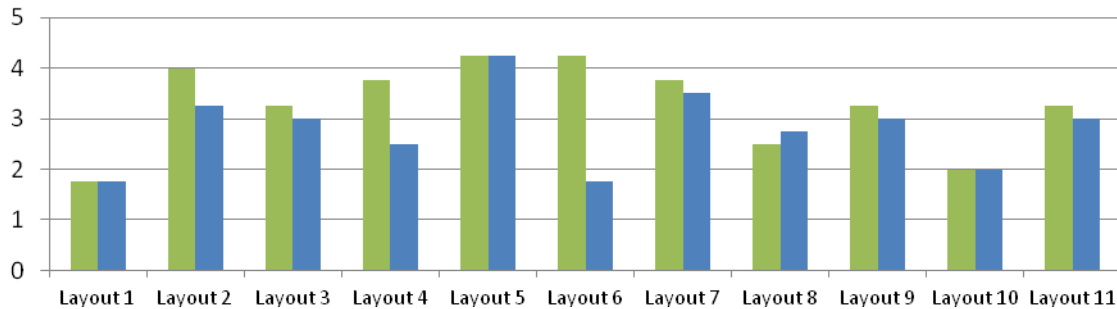


Figure 31: Average score comparison for billing convenience

KEY FINDINGS

After the evaluation exercise, four participants were engaged in a 30 minute long focus group study. In this focus group, participants were asked to shortlist two layouts that represented the most suitable retail environment for Indian consumers. This was a way to understand different aspects identified by the group to shortlist layouts. The results from evaluation templates and focus groups were compared. Based on the comparative analysis of all 11 layouts and key topics discussed in the focus group, participants identified three key aspects that contributed to a culturally relevant retail environment. According to participants, 1) accessibility of FFV, 2) efficient store circulation and 3) billing convenience were the top three features of a culturally relevant retail environment. These three aspects are discussed further.

Accessibility. The issue of accessibility was discussed from two different perspectives: 1) Accessibility to store: This included evaluating layout primarily based on parking and entry/exit locations. As discussed earlier in the ethnographic decision model,

parking was one of the most important design considerations. According to one participant, “modern retailers have indoor parking spaces with parking tickets...so you are effectively spending Rs 10/- more on parking every time you shop at these stores.” Eight out of 11 total participants recruited for the participatory design activity indicated higher priority to pedestrian accessibility. These eight layouts designed by participants provided separate priority access to pedestrians. In follow up interviews, participants emphasized the need for separate pedestrian and vehicular access. According to a participant, “modern retailers should not always think of people with cars but also people who walk... women like me who cannot drive.”

The following figure indicates three possible parking options designed by participants. In the first option (3 out of 11 layouts), indoor retail space was used for parking. Parking was considered as a point of attraction. One participant suggested, “if you want a good shopping experience, then you have to have sufficient parking space.” According to the three participants, designing a good parking space was important for creating a good impression on customers, avoiding traffic jams and protecting vegetables from outdoor pollution.



Option 1(indoor parking) Option 2 (street parking) Option 3 (indoor and street parking)

Figure 32: Accessibility for retail store

The second option (three out of 11 layouts) was designed with parking outside the retail premise. All three participants wanted to utilize the outdoor retail space for selling leafy vegetable and fruits. In their opinion, there was abundant free parking on streets. The layouts designed by these participants heavily favored pedestrian traffic. Layouts replicated the locally ubiquitous ‘street vendor’ way of selling FFV.

The third option (five out of 11 layouts) was a combination that provided equal access to pedestrian and vehicular traffic. Keeping in mind the traditional practice of shopping, separate pedestrian access was provided. In addition, some parking space was also provided for shoppers who preferred using vehicles for shopping. Explaining this balancing act, one participant suggested that “I would keep the main entrance for pedestrian and the side entrance can be used by vehicles. It’s better to have separate entry points for people and vehicles.”

2) Accessibility of vegetables and fruits: This included evaluating the layout for easy accessibility of vegetable and fruits. Figure 33 compares the average score for accessibility of FFV for all 11 layouts. The layouts that preferred using outdoor space for selling fresh leafy vegetables or fruits scored a higher average value. The analysis of layouts indicated that only three participants (three out of 11 total layouts) had designed retail layouts with indoor parking facility. The layouts (3, 5 and 10) with indoor parking facility scored the least in terms of accessibility. This was a clear indicator that participants preferred using streets for parking. Outdoor retail space was best used for selling leafy vegetables or fruits. Layouts that replicated the ‘street vendor’ pattern were considered more successful. Participants also discussed the need for accessing leafy vegetables or fruits from outdoor space without needing to enter the store. Criticizing the

modern retailers, one participant commented: “you have to go inside a modern retail shop to buy everything... I have to park and go inside even if I have to get my daily vegetables.”

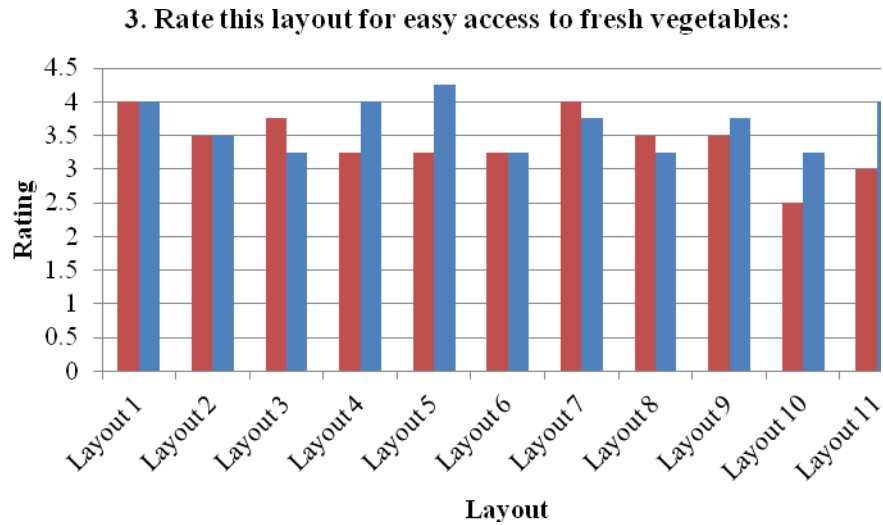


Figure 33: Average score comparison for store accessibility

Participants preferred layouts that were pedestrian friendly. Shopping for FFV was essentially seen as a pedestrian activity. Participants used cars or bikes for shopping only if they had to buy heavy grocery items.

As the ethnographic decision model indicated, leafy vegetable and fruits were used as points of outdoor attractions to lure customers for shopping. One participant indicated that “leafy vegetables are very soothing to the eye, they make you feel refreshed; it’s a different feeling, so having leafy vegetables in outdoor space is visually important. It is used as a way to attract people.”

The use of outdoor space for FFV was also related to perishability of items. Leafy vegetables were considered the most common and popular item. Considering that leafy vegetables perish within a day, these were placed outside so as to encourage quick sale.

Less perishable items were not seen as liability but as an opportunity to attract more customers to the store. This is in contrast with the modern retailer perspective, where leafy vegetables are preserved in air-conditioned indoor environments to preserve and extend life. One participant suggested that “At a modern retail store vegetables are inside and they smell a lot... the indoor space can smell even if one vegetable goes bad... so in my design [layout], leafy vegetables are outside next to the entrance for quick sale.”

Store Circulation. According to participants, a good store layout should replicate the order in which commodities are arranged in a shopping basket. Reflecting on her shopping behavior, one participant added, “Baskets should be arranged by heavy items on the bottom and lighter items on the top... so I have placed fresh vegetables closer to the exit. You can pick-up leafy vegetables on your way out.” Arrangement of commodities in a shopping basket should be reflected in a store layout. This meant that participants arranged heavier grocery items farthest from the entrance. The more delicate, perishable and frequently sold items were arranged outside or closer to the entrance. According to participants, with this arrangement, daily buyers can quickly access vegetables and fruits. The sequence of buying FFV and the corresponding layout was crucial for consumers. According to one participant:

“The sequence of buying is important because it is easy to arrange it in my house or my refrigerator. So if I don't get time to arrange it and the vegetables stay in the bag for one day, lemon/leafy vegetables should not be kept in the bag for too long. So those vegetables that need most attention or need to be sorted should be on top of the basket. If

potatoes remain at the bottom of the basket..., it is fine for me... even if I delayed to arrange it ..., so I arranged my basket from heavy to light items.”

Participants were seen to arrange vegetables, fruits and groceries into specific groups. These groups were created on the basis of weight of the commodity, perishability and frequency of use. For example, participants arranged potatoes and onions together as these items were heavy, have similar shelf life and are often bought together by consumers. Lintels, rice, flour, cereals, pulses were grouped together. These items are not frequently purchased and need little maintenance. Items like ginger, garlic and chilies were grouped together as these were the most common items required in Indian cooking. The following figure compares average scores for effective store circulation for all layouts.

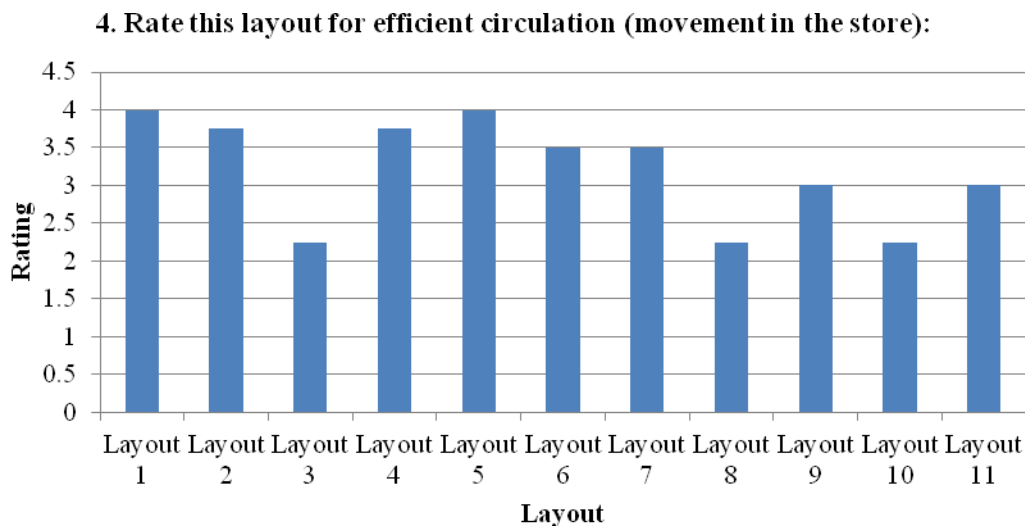


Figure 34: Average score comparison for effective store circulation

Billing Convenience. Participants heavily criticized modern retailers for inconvenient billing systems and longer wait time at billing counters. According to a participant, modern retailers lacked adaptability in their billing systems. She added,

“there cannot be only one counter for all commodities, instead they [modern retailers] should separate counters by items. e.g. separate counters for vegetables, fruits, groceries, and other commodities.”

All participants felt a need to add more counters as a way to reduce wait time for customers. In a follow-up interview, one participant added, “all stores should have two-three cash counters to save time and increase efficiency... customers should not have to wait a long time for billing.” Participants also expressed the need for hierarchical billing counters depending on quantity of purchase. Customers buying daily vegetables and fruits should not be waiting behind customers with monthly groceries. Arranging separate billing counters for separate commodities and quantities was an important design suggestion. Criticizing the modern retailers, one participant added, “the main reason I do not like going to modern retailers is... even if buy one item... I have to wait a long while for my billing... it’s a waste of time... so cash counters need to be arranged separately by section.”

The use of computers and bar codes for vegetables was also criticized by participants. According to one participant, “these days modern retailers use computers for billing... but many times they have problems and items have to hand-billed... when the system fails it takes a longer time.” The ability of store workers to manually compute and bill vegetables was considered a important part of customer service. Participants felt the over-use of computers was resulting in longer wait time at counters and lesser conversations. Having informal conversations and building rapport with sales representatives in a retail store was considered an important aspect of shopping. The

over-use of technology at modern retail stores was considered a hindrance for informal conversation between retailers and customers.

The following figures compares average scores for billing convenience for all layouts. The layouts (2, 5, and 6) with highest scores included the following features for billing:

1. Multiple counters to reduce billing time.
2. Separate counters for indoor and outdoor commodities. Outdoor counters designed for pedestrian traffic.
3. Strategically placed counters to avoid long queues at exit.

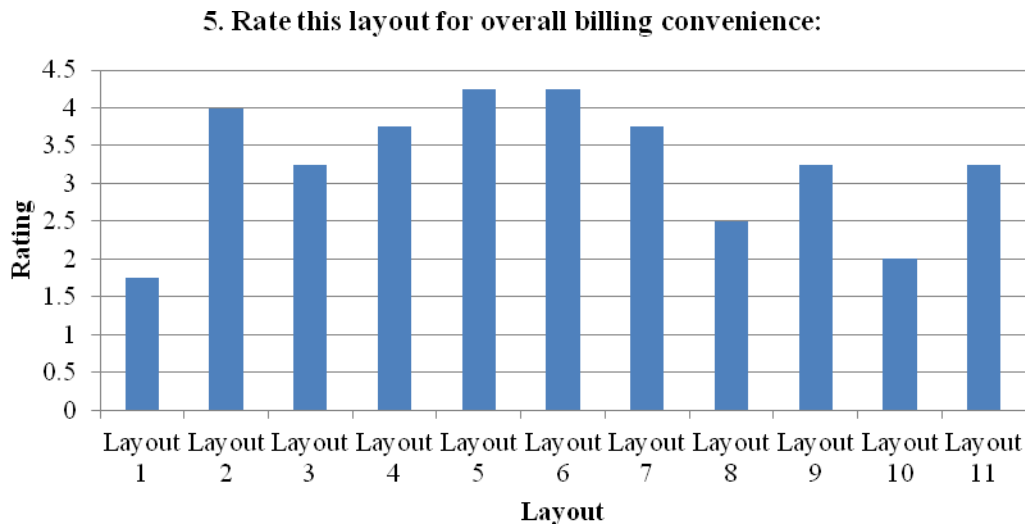


Figure 35: Average score comparison for billing convenience

INTERNAL VALIDITY

An evaluation template (See Appendix F) was used by participants to validate layouts. This likert scale questionnaire had seven major questions. Question 1 to 5 focused on evaluating: store accessibility, accessibility of FFV, efficient circulation and

overall billing convenience. In question 6, participants were asked to rate the ‘points of attraction’ for individual layouts. Question 6 (with 5 sub-questions) was a re-worded question that included all aspects covered in questions 1 to 5. Re-wording of questions was done to ensure consistency in evaluation and to increase internal validity of the measurement instrument (template).

Inter-item correlation and Cronbach’s Alpha. The template used for this method focused on six key aspects: store accessibility, accessibility of fruits and vegetables, efficient circulation, billing convenience and overall satisfaction for a layout. Four participants evaluated a total of 11 layouts. Evaluations of each participant (for all layouts) were recorded using Excel spreadsheet. A total of 44 entries were recorded.

Two internal consistency reliability indicators were calculated to ensure internal validity of data. Using SPSS 19 statistical software, Cronbach’s alpha was calculated as an indicator of internal consistency reliability. In social science research, Cronbach’s alpha is a commonly used tool for measuring internal validity of questionnaires. It was a way to understand the inter-item correlation between different aspects included in the template. The SPSS output provides two key outcomes:

1. Reliability statistic or Cronbach’s alpha score: This score provides the internal consistency reliability of scores reported by participants. According to Nunnally and Bernstein (1994), an alpha score of 0.70 is acceptable for social science research. Cronbach’s alpha score for six aspects was 0.767, suggesting a high inter-item correlation. An alpha score of 0.767 indicates that 76% of variance for six items included

in the study can be considered as internally consistent variance. Table 13 summarizes the outcome.

Table 13

Cronbach's alpha score

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.767	.793	6

2. Inter-item Correlation Matrix: Table 14 illustrates a positive inter-item correlation among six aspects considered in this study. This matrix is a mechanism by which to understand the inter-relationship between store accessibility, accessibility of FFV, efficient circulation, billing convenience and its effect on overall satisfaction. Correlations score above 0.30 is considered a viable correlation. For example: a high correlation of 0.646 can be seen between store accessibility and overall satisfaction. This indicates that participants considered accessibility as one of the major factors contributing to overall satisfaction. Similarly, store circulation had a high correlation (0.624) with overall satisfaction. Billing (score 0.561) was the third most important factors affecting satisfaction followed by accesses to FFV (0.506 and 0.398). Billing convenience and accesses to fruits were the least related items with a low score of 0.114.

According to the inter-item correlation matrix, accessibility, circulation and billing convenience were the most inter-related aspects. This was consistent with the

findings derived from the ethnographic decision model, focus groups and follow-up interviews conducted with participants after the participatory design activity.

Table 14

Inter-Item Correlation Matrix

	Easy store accessibility	Easy access to fruits	Easy access to vegetables	Efficient circulation	Billing convenience	Overall satisfaction
Easy store accessibility	1.000	.372	.217	.458	.366	.646
Easy access to fruits	.372	1.000	.278	.253	.114	.506
Easy access to veget..	.217	.278	1.000	.353	.277	.398
Efficient circulation	.458	.253	.353	1.000	.430	.624
Billing convenience	.366	.114	.277	.430	1.000	.561
Overall satisfaction	.646	.506	.398	.624	.561	1.000

Chapter 5

CONCLUSIONS

INTRODUCTION

To demonstrate the theoretical and methodological applicability of cultural sustainability, I conducted a thorough cultural analysis of the vending of fresh fruits and vegetables (FFV) in India. Using ethnographic research methods, this case study presents specific insights into FFV exchange in India, and this chapter briefly summarizes key findings. The following section connects the insights gained from this cultural inquiry to the field of design. The last section discusses limitations of this study and explores opportunities for future research.

RESEARCH QUESTIONS

This study is focused on understanding the role of consumers, retailers, wholesalers, commission agents (pre-harvest contractor) and producers in the entire FFV supply chain. Research questions for this study were divided into three major sections: consumer experiences, distribution practices and production processes. The following section presents key insights for each research question.

Consumer Experience. a. What are the different retail environments preferred by shoppers and what is the nature of the experience of shopping for FFV at different retail outlets?

Research indicated that participants shopped at different retail formats including: pushcart vendors, street vendors, street retail shops, the city retail market, the wholesale district market and modern retail stores. Different retail formats were preferred by participants for diverse needs and reasons. For example, the wholesale market was preferred for buying large quantities of FFV. In contrast, street vendors and street retail stores were the most preferred destinations for daily shopping needs. Participants were seen to shop at different retail formats but usually preferred one retail format as their primary source for FFV.

Traditional retail formats like pushcart vendors, street retailers and city retail markets were the most popular among participants. For consumers, shopping for FFV was a daily activity. Shopping was considered a non choreographed activity often resulting in exercising, socializing and accidental purchases.

b. What is the nature of interaction among different consumers and retailers (or wholesalers)?

Traditional retail environments were considered “busy but social.” In most cases, participants had a personal attachment to vendors and their family members. Vendors provided personal attention to each consumer. Informal communication, personal relationship and bargaining played a vital role in gaining consumer trust.

Participants in this study perceived the modern retail environment to be dull, cold, up-class, confusing, dry, non-negotiable and uninviting. Consumer-retailer interactions were considered detached and impersonal. Over dependence on computerized check-out kiosks was perceived as one of the major limitations of modern retailers. Manual billing

and informal communication were preferred over computerized check-out systems. The computerized check-out system was also considered as a major barrier for cultivating personal relationship with modern retailers.

c. What is the primary reason for shopping with specific retailers? What are the points of attraction that attract consumers to different retail formats?

Traditional retailers were clearly more popular among consumers. Aspects like personal relationship with consumers, fresh quality of FFV, variety and display of FFV, service to consumers, and competitive pricing were the top reasons for shopping at traditional retail stores.

Participants preferred traditional retail formats over modern retailers for three key reasons. Personal relationship and communication with vendors was a primary reason for shopping at traditional retail formats. Street retailers were perceived as courteous and provided personal attention to all consumers. Access to information regarding FFV (grade, harvesting, use of pesticides, transportation) was considered necessary as a way of gaining consumers' trust.

Participants emphasized the importance of a well spread and sorted display of FFV. Customer service and trust were important aspects of the consumer-retailer relationship. Customer service included providing complementary produce, being open to bargaining, providing special items on demand and ensuring accurate weighing of FFV. Flexible and negotiable return policies offered by traditional vendors was considered a point of attraction.

d. What are the factors that contribute towards creating an ideal shopping experience for consumers?

This research identified three key aspects that contributed to a culturally grounded shopping experience. Store accessibility, accessibility of FFV, efficient store circulation and billing convenience were the top features of a culturally grounded retail environment.

Shopping for FFV was primarily a pedestrian activity. Pedestrian accessible stores were preferred over vehicular accessible stores. Stores replicating the locally popular ‘street vendor’ way of selling FFV were considered accessible. This included providing outdoor accessible retail space for fresh leafy vegetables or fruits. Consumers emphasized the need for accessing fresh leafy vegetables or fruits without needing to enter stores.

Consumers emphasized that the arrangement of commodities in a shopping basket should be reflected in a store layout. The arrangement of commodities in a store should reflect the sequence of buying and stacking FFV. Heavier groceries (arranged at the bottom of basket) should be farthest from the entrance. Delicate, perishable and frequently sold items (arranged on the top of the basket) should be arranged closer to entrance.

Shorter billing time and overall billing convenience were considered top priorities. The ability of vendors to manually compute and bill for the vegetables was an important part of customer service. Modern retailers were heavily criticized for their over dependence on computerized billing system. The over-use of technology at modern retail stores was considered a hindrance for informal conversations between retailers and customers.

Distribution and exchange practices. a. What are the different distribution and exchange practices used by wholesalers and retailers? How are these practices different or similar and how can they be categorized?

Four key FFV distribution channels were identified. In the traditional value chain, farmers and buyers (wholesaler, retailers) participated in an open auction mediated by a commission agent. In the modern value chain, farmers sold their produce directly to retailers. FFV were transported to collection centers and then distributed to individual stores. Two alternative supply chains were identified that facilitated direct buying/selling between farmers and buyers. In the first value chain, buyers (wholesalers or retailers) directly bought FFV from farmlands. In the second value chain, farmers transported their produce to a farmers' market. In this market, farmers directly sell their produce without any middleman.

b. What is the pattern of authority between different players within the distribution network? How do different players negotiate authority?

In the traditional chain, the commission agent plays a vital role. Commission agents have to delicately balance the needs of farmers and buyers. To gain trust of farmers, agents have to consistently negotiate good prices for FFV. The relationship between commission agent and buyers is heavily based on credit. Agents engage in credit so as to ensure that buyers return to their store for future purchases.

The modern value chain, equally benefits the farmers and the buyer. In the absence of a middleman, farmers can directly negotiate prices for FFV and can save on

transportation cost. Modern retailers directly buy produce from farmlands, saving farmers time, labor and transportation cost.

At the farmers' market, farmers and buyers share a direct relationship. In the absence of a middleman, prices are directly negotiated by farmers. In this value chain, farmers are in total control of their transactions. Direct transactions ensure steady cash flow for farmers.

Production processes. a. How have the distribution practices and consumer demands affected production practices?

The changing nature of FFV exchange had forced farmers to play multiple roles. Apart from farming, they were involved in local retailing and transportation of FFV. Retailing was seen as a filler activity before harvesting. To ensure a steady cash flow, farmers with no irrigation facilities had to engage in retailing and transportation of FFV. According to farmers, the changing distribution practices and consumer demands have resulted in shorter crop cycles. Shorter crop cycles that results in regularly harvested produce are now preferred over longer crop cycles.

IMPLICATIONS FOR DESIGN

How do these cultural insights relate to the field of design? How do the culturally embedded rituals and practices impact product design and consumer research? How can the methodological framework presented in this study assist design researcher for conducting in-depth cultural inquiries. The following section connects the cultural

insights gained in this study to the field of design. The following section presents some key implications for design.

The current understanding of sustainability in design acknowledges the Triple Bottom Line (TBL) and primarily focuses on balancing the economic, environmental and social aspects. Theoretically, this research situates cultural sustainability within the existing discourse of sustainability and design. It discusses the current approaches to sustainability in design and highlights the need for understanding the cultural aspects of consumption.

This dissertation also offers a succinct definition of cultural sustainability, uniqueness of this approach and its applicability in design. The theoretical model for cultural sustainability is based on the review of three major areas of study—culture, consumption and globalization. This research presents academically diverse literature from design studies, design research, anthropology, cultural studies, consumer research and sustainability.

This approach to cultural sustainability provides a new theoretical direction and situates consumption in a social and cultural context. This new approach defines consumption as a conspicuous way for identifying and establishing culturally situated difference. Situated difference between cultures represents the “difference in relation to something local, embodied, and significant” (Appadurai, 1996, p. 12). In the age of glocalization, culturally situated difference can serve as a mechanism by which to understand global cultures and their relationship to local embodied practices. Culturally situated difference can provide ethnographic practitioners and design researchers a

methodological framework for examining the culture of products, understanding culturally embedded rituals and gauging their impact on consumer behavior.

The use of ethnography and other anthropological methods is certainly not new to the field of design. Industrial design in particular has always embraced this methodology that has now become an essential part of the “fuzzy front end” of new product development. During this phase, ethnography is popularly known as “applied ethnography.” Scholars in the field of design are now arguing that applied ethnography is excessively object-specific focusing majorly on user emotions, product attributes and immediate context.

But in a world of growing technological, political, economic and social convergences, these dimensions are insufficient to comprehensively describe a user experience. Applied ethnography has often ignored the social and cultural factors that shape the user-product interaction. In the fast changing world where the local cultures are influenced by global forces and transformed into glocal realities, applied ethnography in design needs to widen its reach. The new changing cultural context demands addition of new dimensions to the scope of applied ethnography. For design researchers, this study provides a methodological framework (and a toolkit) for in-depth cultural inquiries and for designing and developing culturally appropriate products.

Moreover, the framework of cultural sustainability can be used as a yardstick by designers and corporations to gauge cultural appropriateness of their products. This study draws attention to the cultural aspects of human-product interaction and calls for a more culturally sensitive approach to product design and development. This study paves the

way for corporations around the world to acknowledge the importance of cultural sensitivity towards developing and marketing products for different cultures.

For designers and sustainability experts, sustainability implemented from a cultural perspective can be new direction for reducing waste and ensuring greater product retention. Cultural appropriateness of products will ensure that products have higher life-spans, better emotional connection with users and less wasteful. By engaging consumers in culturally appropriate consumption, there is greater possibility of consumers relating to their local way of life (culture) and consuming in relation to their local environment or context. The cultural aspects of sustainability can be leveraged to achieve higher environmental sustainability.

LIMITATIONS OF THE STUDY

For this study, participants were recruited for five different methods: shopping logbook assignment, shop-along visits semi-structured interviews, participatory design activity and layout evaluation and focus groups. The entire data collection process was designed for a span of four-five weeks. Participants were carefully screened to ensure appropriateness and willingness to participate for a span of four weeks. Participants felt that completing five methods within a span of four weeks was time consuming. Many participants dropped out of the study. Some participants were non-responsive or deviated from protocol resulting in inconsistent data. Looking back, I feel that the research design for this study could be consolidated to reduce participation time. This could have resulted in better percentage of participation and greater consistency in responses. Offering

incentives for participation could have helped in retaining participants for a longer duration.

The shopping log book assignment was initially designed as a photo-journal assignment. Participants were encouraged to maintain a daily written log (see Appendix D) that included, date, time, primary reason for shopping, type (format) of retailer/wholesaler, amount of money spent, shopping interactions and impression after each shopping visit. In addition to written notes, all participants were provided cameras for taking pictures of different retail/wholesale environments.

This method was designed as a preparatory exercise for participants to think, reflect and document their shopping behavior. I was hoping that the pictures and notes taken at different formats could provide valuable material for engaging conversations with participants. After a week of maintaining photo-journals, participants felt that talking pictures while shopping for FFV was a challenging task. Shopping at traditional retailers can be busy and chaotic. Participants felt that talking pictures delayed their shopping activity and attracted unwanted attention from other shoppers. Carrying a camera during a busy shopping activity was considered 'risky.' Some participants reported that modern retailers did not allow the use of cameras in their facility. After a week of trial, requirement of taking pictures was then made optional for all participants. As a researcher, I had to adapt and modify the requirements for this method. Looking back, I felt that conducting a pilot study was essential to test the effectiveness of the photo-journal template. It was vital to test the template in Indian conditions to understand and foresee the challenges faced by participants.

Semi-structured interviews were conducted with retailers and wholesalers to understand the entire FFV distribution network. The familiarity participants have had with different retailers was leveraged to gain access for in-depth interviews. Traditional retailers and wholesalers enthusiastically participated in this study. In contrast, modern retailers were unwilling to participate. In spite of assuring complete anonymity, only three modern retail stores agreed to participate in this study. Managers indicated that the protocol was stringent and non-negotiable. As a result, the modern retail practices are underrepresented in this study. Interviews conducted with retailers and wholesalers focused more on understanding the distribution channels used for FFV exchange. This study does not study the economic aspects associated with the distribution of FFV. Some basic information about the rates of vegetables, commission rates for different commodities, transportation and labor cost were obtained. This information was used as background information for understanding different distribution practices. The system of monetary exchange was not explicitly analyzed.

GENERAL RECOMMENDATIONS

Based on the results from this study, the following broad guidelines can act as guiding principles for corporations wanting to launch products and services into a new context.

1. Need for grounded ethnographic systems research: For any corporation to be successful in a new context, it is vital to undertake extensive ethnographic research. Typically, using ethnographic methods, corporations focus on understanding user needs within a particular culture. The ethnographic research

aspect should be extended to learning the entire supply chain and qualitatively understand different steps of commodity exchange. Grounded understanding of the entire supply chain can be crucial for culturally acceptance.

2. Appropriate use of technology: Multinationals or global corporations entering new cultures are economically, technologically and infrastructurally well supported. But for culturally acceptance, it is important to gauge the appropriate use of technology. Using technology to replace people or culturally grounded rituals can be counterproductive and prove fatal for organizations. Technology should be used as a way to assist and maintain effective exchange practices and not to jeopardize human connection and social interaction.

3. Embedding local language, knowledge and labor: Using local language and culturally specific vocabulary can be vital to gain local trust. To be culturally sensitive, global corporations should adapt their systems and involve local labor into their business practices. Using local labor, experience and knowledge can provide the much needed grounded understanding of local context for successfully introducing new products and services.

4. Extending the scope of ethnographic user research: The involvement of users in ethnographic research is often limited to the data collection phase. Users are typically engaged in ethnographic research methods such as interviews, participant observations or participatory co-design activities. The data collected from different methods is then analyzed and acted upon by the research team. Participants are seldom involved in the sense-making (analysis) phase. To gain a grounded understanding of user needs and rituals it is important to involve users

into the data analysis process. Users should work with the design research team as cultural experts providing valuable understanding of the context.

FUTURE RESEARCH

The theoretical and methodological framework used in this study will certainly open new avenues for similar studies. For example, in-depth cultural inquiries can be conducted to understand the impact of coffee, tea, music, entertainment, and fashion on local cultures. The framework of culturally situated difference can serve as a mechanism by which to understand global cultures and their relation to local embodied practices.

This case study only includes specific cultural insights into FFV exchange in India. Similar studies in other parts of the world like Australia, England, Japan, and United States would help understand the impact of globalization on local food systems. A cultural understanding of different food systems can shed light on the impact of global economics, politics and policy on local cultures. Comparing food systems across different cultures will provide valuable insights into culturally grounded ways of shopping, distribution and production of commodities. These cross-cultural studies could pave the way for corporations around the world to acknowledge the importance of cultural sensitivity towards developing and marketing products for different cultures.

Due to lack of participation, modern retail practices are highly underrepresented in this study. Although the focus of this study was to understand traditional retail practices, the modern retail system also demands equal attention. A follow-up study focusing on modern retail practices would further strengthen this study. Future research

studies could explicitly focus on measuring the impact of modern retail chains on traditional retailers.

This research is unique in adapting social science research methods like ethnographic decision model (EDM) for analyzing participatory design activity. The use of analysis techniques like EDM in design research remains an uncharted territory. From a methodological perspective, more research and analysis is required to validate the use of this technique in design. In this research, EDM was used to predict consumer choice for design retail environments. Similarly, in future studies, EDMs could be used to predict consumer choices for city markets, wholesale markets and farmers' markets. In this study, the participatory design activity was only limited to consumers. Future studies should engage farmers, wholesalers, retailers and modern retailers in similar participatory activity and analysis.

Interviews with consumers indicated that vegetables transported through a shorter supply chains were perceived as "fresh." This study did not explicitly calculate food miles' or food kilometers.' Food miles refer to the distance travelled by food from farms to the consumer's plate. Further research can be undertaken to understand the impact of 'food miles' on consumers and business.

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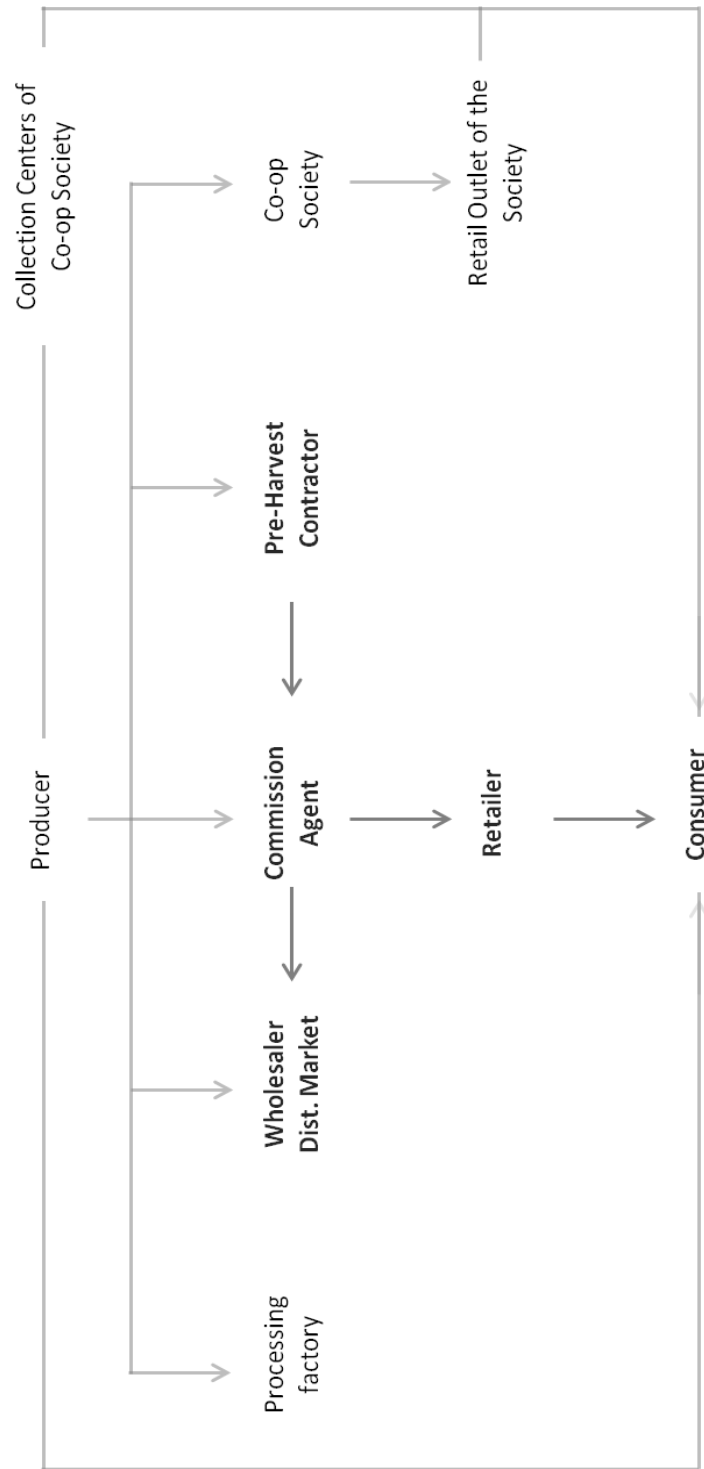
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APPENDIX A

VEGETABLE DISTRIBUTION NETWORK IN INDIA



APPENDIX B

SUMMARY OF KEY THEORIES IN AGRIFOOD COMMODITY ANALYSIS

Theory/Approach	Key Authors	Theoretical concept	Criticism
Commodity Systems Analysis (CSA)	William H. Friedland	The methodology for studying a specific commodity from its origins in production to consumption.	Omission of consumption practices or the consumer.
Systems of Provisions (SOPs)	Ben Fine, Ellen Leopold	Vertical analysis of particular commodities in the context of the chain of horizontal factors	Over-emphasized verticality. Predisposition towards human agency
Actor-network Theory	John Law, Stewart Lockie, Simon Kitto	The social role of an individual is not necessarily limited to interacting with humans only but also includes the material environment	Over-emphasized non-human aspect of networks.
Cultural Economy Model	Jane Dixon, Arjun Appadurai, Daniel Miller	Economies as they are embedded in and constructed by cultural systems and social interactions	Over-emphasized consumption aspect. Ignorance towards production practices.

APPENDIX C

TEMPLATE FOR PHOTO-JOURNAL ASSIGNMENT

APPENDIX D

EVALUATION TEMPLATE

According to you, rate the following aspects of this layout that contribute towards creating an ideal shopping experience for users:

1. Rate the following layout for quick and easy way in & way out of the store:



2. Rate this layout for easy access to fresh fruits:



3. Rate this layout for easy access to fresh vegetables:



4. Rate this layout for efficient circulation (movement in the store):



5. Rate this layout for overall billing convenience:



6. For the following layout, rate the following “points of attraction” that can compel you to shop at this store: (1= least attractive reason to shop, 5= most attractive reason to shop)

Parking

Outdoor display of fresh vegetables/fruits

Convenient billing

Easy access to fresh vegetables/fruits

Convenient for pedestrians

7. Rate the overall consumer satisfaction for this layout:



APPENDIX E
HUMAN SUBJECT

Your study "A Cultural Analysis of Food Systems" was determined to be exempt in accordance with Federal Regulations 45CFR46.101(b)(2)



Office of Research Integrity and Assurance

To: Prasad Boradkar
AED

From: Mark Roosa, Chair *SM*
Soc Beh IRB

Date: 05/02/2011

Committee Action: Exemption Granted

IRB Action Date: 05/02/2011

IRB Protocol #: 1104006312

Study Title: A Cultural Analysis of Food Systems

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2).

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

BIOGRAPHICAL SKETCH

I am a doctoral student in the Herberger Institute of Design and the Arts at Arizona State University. As a design researcher I am interested in developing research methodologies and tools for designing culturally appropriate products. Apart from my interest in design research, I am very passionate about films and cricket!