Financial Decision-Making *in the* Foodservice Industry

Economic Costs and Benefits

Amit Sharma *Editor*

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Edited by

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Contents

CHAPTER 1

The ACE Trade-Off Model: A Cost–Benefit Perspective to Understanding the Process of Everyday Food Choice Transactions

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ABSTRACT

Everyday food choices in the foodservice system continue to be investigated extensively from varied perspectives. Economics of food decisions, one such perspective, can benefit from a guiding framework to enhance a deeper understanding of the principles guiding food choice decisions. An underlying unit of food choice analysis is the transaction of buying or selling food. Such transactions present the decision maker with choices. Therefore, food decisions are the result of tradeoffs that appear within such choices. These tradeoffs are based on the costs and benefits associated with transactions. In this paper, we present a framework that describes food decisions as a tradeoff of cost and benefits that the decision-maker must resolve. The framework also incorporates the approach decision-makers take for information processing. In doing so, we draw upon the theories of informed choice and bounded rationality. How we evaluate the food choice transaction can help us better understand food decision dynamics. The adoption of this framework in studies of food decision processes and outcomes can be informative to optimize individual outcomes (such as health, utility) and consequences that will impact the broader market.

1.1 INTRODUCTION

Food choice decisions are complex and consequential to well-being of individuals and families and profitability of businesses in the foodservice system.[1] For individuals, the complexity of food choices, particularly when eating away from home, have increased manifolds given the alternatives available, invariably the high speed of such transactions, and the continuously increasing expenditure on food away from home. Similarly, businesses operating in the complex foodservice system must constantly make choices that involve the supply chain and demand side stakeholders. The question is how do individuals make these decisions?

Theories of decision-making and choice processes are abundant, both from a positivist and a normative point of view. The normative analysis in the domain of food choices and decisions has received some focus, particularly in Frost et al. (1996). However, for the most part the analysis of foodservice system choices and decisions has happened on the crossroads of the larger decision analysis context. That is, decision analysis has largely focused on longer-term decisions such as retirement planning, fixed and financial asset investment analysis, and others. We could enhance our understanding of the shorter-term decisions, particularly those that involve day to day choices, and at a high frequency. Foodservice decisions fall in this category—as individual consumers; food choice decisions are frequent, over a shorter period of time. Similarly, businesses in the foodservice system need to make choices that are frequent. However, similar to less frequent decisions, consequences of food choices could be felt over the short and the long term. Therefore, while the day-to-day decisions involve higher frequency, they also inherently lead to both long and short-term consequences.

The seminal works of Daniel Kahneman and Amos Treversky in the analysis of decisions under uncertainty have enhanced our understanding of how the System 1 processes contribute to our decision making. While System 1 is reactive and less mindful, System 2 is deliberate and thoughtful. Given the consequences of food choices and decisions, System 2 ought to be the process that could help guide our actions. System 2 requires individuals to be deliberate with seeking and obtaining information, processing it, and

[1]Here the foodservice system broadly refers to the various segments of the foodservice industry, the associated industries along its supply chain, and the consumer behavior in food away from home environments.

then using it to make decisions. Not everyone is prepared or even trained for such processes. One of the significant challenges for enhancing our decision making is to gain a deeper understanding of how can individuals be better trained and educated to use the System 2 processes that would help guide more deliberate decisions, particularly in the context of food. Given the growing emphasis in eating away from home environments, we believe the System 2 impact on food choices would be of critical consequence to enhance individual well-being.

Indeed, the philosophical approach in this paper needs to be recognized. While there is value in the role of our reactive and less mindful actions play in decision making, there is also a need to balance these reactive approaches with the more methodical and systematic analysis of information. If the two proposed systems (Systems 1 and 2) were to be taken on face value to exist, then there is a reason for the two to exist: Each plays a role in our choices. Both together would likely enhance our decisions and choices more so than either of the two actings alone. There is, however, an imbalance in the way we allow the two systems to evolve over time. While System 1 benefits from repetitive reactive and responsive actions, System 2 may not necessarily benefit for such repeated actions. If anything, due to lack of use System 2 could stand the risk of deteriorating over time.

There are no straightforward answers on how we can enhance System 2 (Evans, 2003; Sinayev and Peters, 2015; Frederick, 2005; Sadler-Smith and Shefy, 2007; Samson and Voyer, 2012). One that most researchers agree upon is that System 2 needs to be constantly educated so that we become more aware of our decisions and choices (Viswanathan and Jain, 2013; Dansereau et al., 2013). While this sounds simple in a statement, acting upon it is another matter. We now also have this challenge of "scaling up" that has emerged in the recent past—how can we scale up our intervention for maximum impact. This further complicates the challenges of strengthening our System 2. However, that should not lessen our efforts to do so, in fact, it should increase our efforts to find ways that would enhance System 2, and help balance the synergies between these two Systems.

Food decisions are amongst the most essential, day to day choices we make on a repeated basis. Given the recent trends, we are also eating far more away from home than ever since such observable behavior has been recorded. Therefore, foodservice choice analysis could benefit from a more focused and systematic assessment of the manner in which

individuals make such decisions, and also help guide individual decision making to be more systematic and analytic, than just being reactive and responsive. In this paper, we present an approach to achieving this end and propose an analytical framework to understand the decision process within the domain of foodservice choices. The approach we take is that of a an transaction, one that involves an exchange of a good or service for cash or a promise to pay (credit). Defining such decisions as a transaction can help us systematically unfold the complex aspects involved in food decisions. Such a systematic approach would thereby help guide individuals' analytical decision making, to complement it with the more intuitive and reactive System 1 approach.

1.2 THE FOODSERVICE SYSTEM

What is the food choice system? It could be defined as the system within which an individual would make food choices. From a microeconomic perspective, and with the consumer at the center of this discussion, one way to define the food choice system could be to divide it into two key components: food at home, and food away from home. The foodservice system can be defined as the food away from home environment. This includes, and is not limited to, a supply of food for production and preparation in foodservice businesses, and the consumption of food by consumers either in these environments or in the extended foodservice environment that often includes their own homes.

The foodservice segments that could be classified in this system are varied and with a diverse set of goals (Reynolds and McClusky, 2013). Foodservice segments have traditionally been divided into commercial and noncommercial/nonprofit. That said, the lines a blurring along these traditional boundaries. For instance, corporate dining services are an interesting example of foodservice operations; while the corporation providing the foodservice is not intending to make a profit from selling that food to its employees, the foodservice company managing that unit on behalf of the corporation would have a profit objective.

Another way of segmenting the foodservice industry has been to place it distinctly different from food retail businesses. That boundary too is now increasingly blurring as grocery stores have developed their own foodservice outlets within the grocery store environment. The food delivery segment traditionally used to be an extension of the restaurants so

that their physical location would not be a constraint. However, now with the advent businesses offering 'ingredient and recipe' tool kits, the line separating delivery service from restaurants has become more distinct.

There also used to be a clear distinction between food away from home versus food at home. As one can imagine, that line too has significantly blurred in the recent past; largely because food prepared away from home can more conveniently be consumed at home. In fact, food away from home can be prepared at home for home consumption, despite not being from your own pantry. These are interesting trends shaping the foodservice system, and the phenomenon we have called food away from home.

As the context of the foodservice system evolves over time, the constant aspects of this system have been the stakeholders in the system, activities that create value and establish interaction between these stakeholders, and the inputs to generate these activities, and the outputs as the outcomes of these activities. While we will restrain from dwelling into the details of this systematic view, we highlight the key elements of each of these system components, through a transactional perspective. Stakeholders in the foodservice system include the growers and producers, wholesalers, and retailer markets both physical and virtual, suppliers and transporters, storage facilities, producers, servers, consumers, associations of each stakeholder, local, state and federal governments, and the global dimension of the foodservice system. The key activities that generate value across these stakeholders could be identified as follows: Growing and producing food, harvesting, packaging and marketing, supplying, transporting, storage, production, service, and consumption. While these activities mirror the stakeholders and are sequential, they could also be repeated along the chain. The inputs of the system could be classified into monetary and nonmonetary inputs, as follows: land for growing, seeds for producing, water, climate, fuel for production and transportation, markets and information sharing, storage facilities, production expertise, menu planning and offering, service acumen, and financial capital for organizations to create the food offerings. It also involves time and money for consumption. Finally, the association and government stakeholders require information for policy advice and development, and financial resources for funding and supporting the foodservice system. The outcomes of making choices in the foodservice system can be classified as decisions by foodservice providers, consumers, and government (policy makers); furthermore the outcome measures can also be classified as monetary or non-monetary.

While there has been an extensive reporting of classifying the foodservice segments, the linkages of these segments to the extended foodservice system have been less reported. The above-stated description of the foodservice system allows us to assess and evaluate these linkages, and therefore also inform us on how decisions might be made in establishing those linkages.

1.3 FOOD DECISIONS

Food is an essential aspect of our lives. What is so unique about choosing what to eat, whether it is at home or away from home? When this act of eating occurs several times in a day, it tends to lose the attention this topic may deserve. Similarly, what is the relevance and significance of understanding the food system decisions when the consequences are not always apparent and appear consequential in the near future.

This is to state that indeed food choice decisions are complex, and consequential to well-being of individuals and families, even though these consequences are not always apparent in the short term. Therefore, it is no surprise that the inquiry on food choices has received extensive attention from researchers from varied fields of studies, including but not limited to nutrition (Cowburn and Stockley, 2005; Worsley, 2002), food science (Wilcock et al., 2004; Lytle, 2009; Jensen and Sandøe, 2002), food technology (Siegrist, 2008; Cardello et al., 2007), economics (Drewnowski and Darmon, 2005; French, 2003), psychology (Köster, 2003, 2009; Shepherd and Raats, 2006), biological sciences (Drewnowski and Kawachi, 2015; Prescottand Logan, 2017), neuropsychology (Roitman et al., 2004; Volkow et al., 2003; DiLeone et al., 2012; Lepping et al., 2015; Doucerain and Fellows, 2012), and many others. In diverse ways, this literature has investigated the core question of how do individuals make food choices? As one would expect, the answer is not a simple one. In fact, the response to this question is context-specific, and furthermore, involves both individual and environmental traits of particular food choices. We do not see this negatively, or as a challenge. On the contrary, this wide breadth and depth of investigations have begun to paint a colorful picture of food choices. However, pushing forward the research agenda to comprehensively understand food choice aspect, now more than ever, requires a cohesive and directed approach.

The purpose of this paper is to attempt to build on these findings from the literature into a food choice decisions model that could provide a cohesive approach to understanding how we make food choices. As in any other research endeavor, there is bound to incompleteness in our approach. We, therefore, hope future research will build on these initial attempts.

Integrating ideas requires identification of a common link across them. This is no trivial task, and certainly not one without the risks of alienating certain other perspectives. Therefore, even though this effort aspires to integrate ideas of our current understanding of how individuals make food choices, there is a risk of marginalizing certain others, simply by the approach selected for this purpose. However, we would propose that this by itself would be an invitation to the reader to contribute to this discussion, by further enhancing its cohesiveness.

In identifying the common links across our current understanding of food choices, we refer to the anatomy of the concept of inquiry: Food choices. In essence, choices assume the presence of alternatives. Therefore, choices also involve selecting from these alternatives. The presence of alternatives can be the function of factors that are within an individual's control, and others that are not. Selecting from these alternatives assumes that individuals would adopt criteria to select and evaluate or assess that criterion. Food then simply becomes the overarching context across these constructs linking our current understanding of how individuals make food choices.

In the rest of this paper, we will develop this idea of an integrated approach to understanding food choices. We propose the following as a normative model of food choice decisions and one based on our current and existing understanding from studies on food choices. The hope is that this model will provide direction for enhancing this understanding of this phenomenon. The gains to theoretical understanding of human choices and ways to inform practice and policy discussions can be significant through a cohesive approach. Overall, the mission is still to enhance the well-being of individuals and families through better food choices.

1.4 ECONOMIC ANALYSIS OF FOOD CHOICES AND INDIVIDUAL REASONING

The construct of food choice has been extensively studied. One of the early models describing the food choices process was by Frost et al.

(1996). In this model, the authors articulated a constructionist's perspective. Frost et al. (1996) described the process of influences in food choices as those from ideals, personal factors, resources, social framework, and food contexts. These influences were then described to be acting on the personal system. Through this personal system, the decision-maker would make value negotiations. These value negotiations were based on sensory perceptions, monetary considerations, convenience, health and nutrition, managing relationships, and quality. Eventually, these negotiations would lead to strategies that would inform food choices. This early work has been beneficial in articulating a set of influences and a process to guide food choices. Other food choice processes have been recommended (for instance see, Furst et al., 1996; Marcum et al., 2018). One of the challenges of process models is to balance the complexity of underlying relationships, while still being descriptive of the sequential interactions. Greater clarity in these sequential relationships could enhance understanding of the process and also allow for these sequential relationships to be explicitly investigated. What binds these sequential relationships, then becomes an important component of the process thinking. Can the process being described be contextualized in an argument? Or is the process being governed by an overarching principle that would guide the successive or sequential relationships?

The idea of food choices is strongly embedded within the social context of individuals. Food is a strong element/component of our day-to-day lives. Often times, studying food choices can present challenges. First, food is a life necessity, and therefore almost taken for granted. Not eating is not an option. Therefore, the study of food choice cannot be between the presence and absence of food. The choice is between a better or a worse option. Second, the ideas that define a better or a worse option, or preferences, can be influenced by numerous factors. Many of these are in the social context of an individual. Sociology of food choices is a critical element of studying food, its history, trends that have led to its current evolution and future anticipated changes in the production, distribution, and consumption of food (Devine, 2005; Marty et al., 2018). While the sociology of food provides an important perspective on our understanding of the broader forces driving change of this phenomenon, the research so far has focused more on the broader and macrolevel analysis. Microlevel, individual social analysis, or also called microsociology, focuses on studying individual social interaction,

and social behaviors (King et al., 2004; Cruwys et al., 2015). Such interpretive analysis using phenomenological and grounded theory approaches have much opportunities to contribute to our understanding of food choices at the individual level.

A supplementary approach to understanding food choices is through the lens of microeconomic theory. Here our interest is in understanding the procedural aspect of food choices and decisions. The microeconomic theory focuses on the choices that individuals and households make in the process of utility maximization (Taylor and Adelman, 2003). Particular emphasis is placed on the allocation of scarce resources in this utility maximization process (Birch and Gafni, 1992; Frederiks et al., 2015). Allocation of scarce resources is a central element of choices and decisions that individuals and households make. However, an underlying assumption for the need for resource allocation is the existence of a transaction (Becher, 2007; Macher and Richman, 2008). The logic here is that in the absence of a transaction (due to a need for the demand and supply of goods/services) the necessity for resource allocation would not arise.

The transactional focus of economic thinking goes back to the early part of the 20th century. John R. Commons (1931) elaborates on the essential aspects of the transaction; how a transaction represents the "smallest unit" of economic activity from an institutionalist perspective. A transaction is further described as the precedents of any exchange of commodities "before labor can produce, or consumers can consume, or commodities be physically exchanged." Given its origins in institutional economics, the theories and investigations of a transaction have been developed in the context of the firm as the basis of these transactions. Amongst the most well recognized and extensively studied aspects of institutional transaction is transaction costs (Williamson, 1981), a termed that was originally coined by Coarse (1937), and formally studied in the latter part of the last century.

However, individual-level transaction analysis could also present opportunities to understand individual choices and decisions (Delgado, 1999). Our approach in this paper is based on the individual level transaction analysis to understand the process of food choices and decisions, an approach that is deeply rooted in the theories of economic transactions. The perspective of this analysis is that individuals engage in a transaction that eventually leads to a choice, or usually a tradeoff. Understanding this transaction could better help us understand the choice and the decision process. Based on transaction theories, we could begin with the assumption

that a transaction involve costs (Williamson, 1981). These could be categorized into search and information, bargaining, and policing and enforcement costs. Conversely, transactions also represent potential benefits. The framework for analyzing transaction benefits remains incomplete. Further, there is recognition that transaction cost–benefit analysis has the potential for us to better understand the choice and decision processes (Boudreau et al., 2007).

Our approach and proposed model leverage the idea that transaction costs also have associated benefits. The eventual choices made by individuals are based on tradeoffs between these costs and benefits in the decision transaction. The process of conducting these transactional tradeoffs is the focal interest of our approach. Therefore, the core element of the proposed approach is to understand the tradeoffs that individuals make in balancing the costs and benefits of the underlying transaction. In the following section, we review the cost–benefit analysis process, as this would be able to enhance our perspective of the proposed model.

1.5 THE PROCESS OF COST–BENEFIT ANALYSIS

Cost–benefit analysis (CBA) is grounded in the theory of welfare economics (Boadway, 1974; Birch and Donaldson, 1987), and has mostly been used as a decision process for public investment projects. While there are generally agreed principles of conducting CBA, certain variations exist (Kornhauser, 2000; Coates IV, 2014). Still, there continue to exist methodological challenges in this process. Traditionally, CBA has been extensively used for policy decision purposes, that involve large public utility projects (Damart and Roy, 2009; Feuillette et al., 2016). Often times the idea of CBA is also used in private businesses, with the objective of selecting projects that have the maximum net benefit (Birch and Donaldson, 1987; Nickel et al., 2009, June). The general process of conducting CBA can be identified as follows (Cellini and Kee, 2010; King and Schrems, 1978):

1. Identification of alternatives, and stakeholders
2. Assessment of cost–benefit measures
3. Predicting cost–benefit outcomes

4. Discounting future cost–benefits
5. Assessment of net benefits
6. Sensitivity or with/without project analysis
7. Making choices

1.5.1 Governing Principles of the CBA

The cost–benefit approach provides the key elements of the ACE (Alternatives, Criteria, Evaluate) model later introduced in this paper. However, the process is also guided by certain principles or guidelines for conducting the CBA process. Here are the eight principles identified by Griffin (1998):

Principle 1: Economically acceptable projects are defined as those that have benefits exceeding their costs.

Principle 2: Changes in welfare are evaluated as differences between scenarios with and without the project.

Principle 3: Measurement of costs are based on the idea of social opportunity costs.

Principle 4: Benefits to the producer are measured as changes in producer surplus.

Principle 5: Benefits to the consumer is measured as consumer surplus.

Principle 6: Zero-sum transfers of costs or benefits need to be ignored (Griffin, 1998, pp 2067).

Principle 7: Cost or benefits occurring over time in the future that require aggregation would need to employ time discounting.

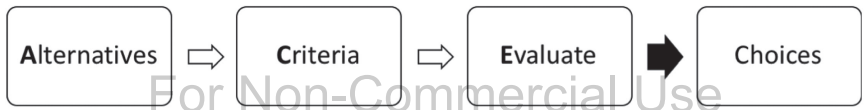
Principle 8: Welfare changes that cannot be monetarized need to be disclosed.

The ACE choice model proposed in this paper is motivated by these key elements of the cost and benefit assessment process. The other

motivation for the ACE remains the early work for Frost et al. (1997). The choice influences of the Frost et al. (1997) model stresses the availability of alternatives. These alternatives can emerge from various stimuli. The alternatives then must be evaluated. This overall evaluation system has been conceptualized as the personal system of the decision-maker that conducted structured analysis. However, in our view, this personal System 2 remains a black box of sorts. Eventually, the negotiations through the personal systems would lead to food choices.

While the context and purposes of the C-B framework and food choice model of Frost et al. (1997) are distinct, the motivational elements are observably similar. The presence of alternatives is critical in both approaches. Being based on personal factors and evaluations, the food choice model is less richer in its description of the particular factors that would lead to these alternatives. On the other hand, the personal system in the food choice model, while proposes an interaction of various components from varied domains, this interaction is not explicitly defined. From that perspective, the C–B framework tends to provide more specificity of elements that might be involved in the negotiation process, as proposed by the food choice model. Similarly, the selection of strategies in the food choice model does not provide explicit processes that might be involved in developing these strategies. While the C–B framework suggests ways in which this might be achieved, we believe even the C–B approach falls short in this area.

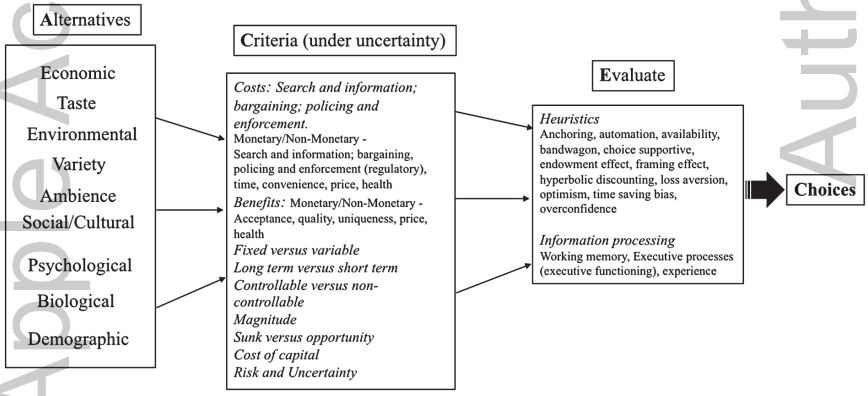
The merging of these approaches provides several benefits. We are able to draw from the richer description of factors in the food choice model that might provide choices for the decision-maker. On the other hand, we are able to draw upon the C–B framework for the specificity of factors that might be involved in the value negotiation processes, and the strategy selection process of the decision-maker. In the merging of these two approaches, one from the notion of food choice processes, and another from the institutional economic idea of decision making, the overview of the ACE model can be presented as follows:



We build on those previous efforts to further elaborate on the process that individuals may or may not be accessed in food decisions. In particular, we hope that the ACE model will enhance our understanding of the food choice decisions individuals make through the lens of balancing the costs and benefits. This approach also highlights the importance of referring to these decisions as discrete transactions. Therefore, the underlying unit of analysis in the proposed model is the transaction.

Given that any transaction would have associated costs and benefits, the proposed model could enhance our understanding of how individuals would make these tradeoffs associated with costs and benefits. Given these tradeoffs, how would individuals' choices be impacted? The proposed linearity and sequence of the model elements bring together the anticipated structure of the transaction. We do not expect this structure to be stable, or even exist in its entirety. However, the model provides a basis to begin understanding various permutations and combinations of transactional analyses that individuals engage in, while making food choices. Stability of choice over time and/or the impact on choices over time would be of central interest as the potential outcomes of understanding the choice process.

1.5.2 The ACE Model



1.5.3 Alternatives

The presence of food in several aspects of our lives means that food also has a different meaning for us, from each of these perspectives. This

is particularly true in the foodservice context. As discussed earlier, the foodservice environment where we usually have several choices or alternatives to pick what to eat, when to eat, with whom, for what purpose, and most importantly where to eat. All these alternatives to food are what make the food decision process unique, and yet complex. The following is a discussion of the factors that stimulate the motivations of our food choices. While some are individual-focused, others are in our environment, whether physically observable or policy and regulation-driven.

1.5.3.1 Economic

There are several potential economic motivations that influence the food choice alternatives we are faced with. Food prices are amongst the most critical economic influences on food choices (Dimitri & Rogus, 2014). In general, the law of demand and supply will also impact food choices in foodservice environments. However, in certain cases though price levels can also act as quality signals, whereby the consumers' decisions are impacted if certain preferences are evoked (Alfnes & Sharma, 2010). For the most part though, income plays an important role in context of price levels – prices become a key determinant in food choice decisions when faced with income constraints (Burns, Cook, & Mavoa, 2013). That said, economic factors need to be considered from a broader perspective, one that goes beyond monetary factors (such as income and prices) to one that also incorporates cost, accessibility, education, skills, time, and other non-monetary indicators of economic status (Firoozzare & Kohansal, 2018).

Do economic factors simply indicate how much food we will choose to purchase? Research suggest that even the quality of our food choices and decisions can be influenced by monetary factors (Lazaridis & Drichoutis, 2005). In fact, if budgetary factors are relaxed, then sensory appeal can become the more prominent determinant of food choices (Birkenhead & Slater, 2015). In other words, under budgetary constraint, the quality of food chosen is different than if the budgetary constraints are removed. How are costs and benefits assessed when budgetary constraints are changed or are different from one time period to another? Do choices continue to be made on the previous decision-process path even when the context defining factors (such as income, access, or time available) change? Can information pertaining to costs and benefits influence incremental changes

in the choice structure? These are others are some of the questions that emerge and can help us better understand how we view food choices in context of economic factors. For the reasons already noted in extant literature, and additional questions that continue to emerge related to the role of economic factors on food choices, economic influences also play a significant role in the overall wellbeing associated with the idea of food choice decisions (Bublitz, Peracchio, Andreasen, Kees, Kidwell, Miller, & Vallen, 2013). A clearer understanding on how food wellbeing can be promoted from the economic context will likely yield positive individual health and wellbeing, and environmental sustainability outcomes.

1.5.3.2 Taste

Food taste can be seen both as a precursor to food choices based on preferences, but can also be viewed as post hoc validation of food choices. As a precursor, it is worthwhile to note that food taste can be motivated by a variety of social, economic, and political contexts. The idea of taste being impacted by cultural norms, and social class status has been extensively explored by Bourdieu (1984), and since then has inspired several investigations in this area of research. For instance, food taste can be motivated by sociological and historical perspectives. While culture and social norms can impact taste, so can other life contexts whether macro or micro, such as religion, globalization, and economic status of the individual (Wright et al., 2001).

For instance, Prasad (2006), describes an example of focus on gastronomy for community in the Eastern state of India (Bengal) to recognize its social dominance. The Bhadra Lok community is threatened in its social significance due to the evolving cultural, social, and economic climate. Slowly their social and economic significance is marginalized in comparison to other demographic shifts in one of the largest urban centers, Calcutta. At that point, and in order to regain their social dominance and create social capital, the community focuses on its gastronomic roots as a central method to identify formation. The author argues that food taste is not simply need-based, but also strongly driven by the historical perspectives of social and cultural life.

Taste can be leveraged as a precursor to food choices. Food companies have perfected the science of stimulating consumers by adding subtle

taste-related information on food items. Taste and healthfulness perceptions of individuals can influence their food choice decisions (Howlett et al., 2009; Raghunathan et al., 2006). Therefore, when consumers are made to believe that food is healthy and tastier, then it does influence their consumption experiences. Therefore, there is a reason to believe that such messaging would impact their food choice decisions. On the other hand, there is also evidence to suggest that such subtle messaging can also impact postconsumption experience. In a study, Vadiveloo et al. (2013) found that post taste consumption of foods is impacted that are marked as "heaty" and 'healthy,' and that the level of satiety is influenced by the respondents' importance for taste.

Taste as an attribute in food choice has also been pitted against nutrition fact seeking. Food choices and exposure can though also modify and hence determine taste (Pilner, 1982; Birch & Marlin, 1982). Mai and Hoffman (2012), in their study, found that individuals who prefer taste and price of food, care less about nutrition facts. On the other hand, those individuals more concerned about health consciousness, care more about nutritional facts when making food choice decisions. In fact, this latter group of individuals seems to be exerting more cognitive effort than do consumers who prefer taste and price attributes. The health-conscious individuals consider more health-related attributes than consumers that had lover self-efficacy scores for nutrition.

1.5.3.3 Environmental Factors

There is extensive literature on the impact of environmental factors on food choice. While certain environmental conditions are directly aimed at influencing food choices, for instance, variety and the amount/portion of food offered, others are less explicit, such as the ambiance. In either case, though, there is increasing evidence to suggest that individual's food choice decisions are impacted by environmental influences. Therefore, the environment could alter the composition of food alternatives, or at least as perceived by the decision-maker.

Food portion sizes can be an influence on food choice decisions. In fact, as Rils (2014) points out, portion options can be leveraged to influence food choices, given how such decisions can be challenging for consumers. While several strategies can be implemented in leveraging

portion sizes, such efforts could impact the profitability of foodservice businesses, both from the revenue and from the cost perspectives. These are important considerations for the businesses to ensure portioning of food remains a sustainable approach to support individual efforts to make more responsible food choices.

While there remain barriers for businesses to implement food portioning strategies, individuals themselves need to be enticed to make appropriate portion size decisions. In their experimental study, Reimann et al. (2015) found that offering small, uncertain, nonfood incentives could motivate individuals to choose smaller portion sizes. Such influences on choice decisions have been argued as emerging from the theory of reasoned choice, and from the motivational determinants to the choice decisions. Reimann et al. (2015) also argue that food choice motivations could be replaced with nonfood incentives such as money. Therefore, assess how food and money substitute for each other is a fruitful area of future investigations. Furthermore, it is also interesting to note that food choice decisions could encapsulate the cost and benefit motivations for the individual. Therefore, understanding these mechanisms and correlations between them could be beneficial in assessing food choice processes.

One of the first challenges to consider in portioning of food is whether individuals understand portion sizes. In their study, Rizk and Treat (2015) found that individuals' sensitivity to food portion sizes varies.

The sensitivity is higher when presented with low to medium portion sizes. However, this sensitivity decreases as the portion sizes increase to larger levels. Furthermore, their study also found that individuals who already consume healthier foods such as fruits and vegetables tend to be more sensitive to portion sizes than those that do not. The effect of portion sizes, though, could be altered or manipulated as suggested by the study conducted by Davis et al. (2016). The researchers found that smaller portion sizes were less noticeable when presented on a relatively larger table size than when presented on smaller table size. In essence, the contrasting effect of the table size impacts the food choice decision of individuals. Even though in general studies have found support for offering small unit sizes, contrasting effect on small unit sizes could further reduce consumption thereby reducing the calorie intake. However, these results have not been conclusive in the literature. In fact, Reily and Vartanian (2016) were unable to show that contextual reference could be effective in impacting consumption through portion size manipulation. While the

impact of portion sizes on food choice decision is less in question, it is unclear how we might mitigate these effects (Steenhuis and Poleman, 2017). One thing is for certain, more education is needed for all types of consumers across demographic categories (Guthrie, 2017), so that individuals are more aware of the impact of portion sizes on their food choice decisions.

1.5.3.4 Variety

Research suggests that food variety impacts food choices in often complex ways. The influence of food variety begins from a very young age of individuals and likely changes over the course of the lifetime. For instance, research shows that variety in food choices can be observed as early as in children aged 2–3 years old (Nicklaus et al., 2005). In this particular age group, the research found that while variety varied during the study period, certain factors, such as breastfeeding, month of the year, and gender, impacted the preference for variety. The study also found that while there may exist an optimal point in time during early years to expose children to variety, over time there appeared to be an observable decrease in preference for variety. Other research also suggests how variety might be stimulated amongst individuals, particularly children (Epstein et al., 2010). The emphasis on variety is due to the potentially positive benefits it has on individuals' diets. For instance, research shows that indicators such as food variety scores (FVS) and diet diversity scores (DDS) can be used to measure the impact of food variety on individual health (Steyn et al., 2006). The research also found that higher FVS and DDS scores were associated with more adequate nutrition among children ages 1–8 years of age. However, while there are clear benefits of increasing food variety in the individual diet, the concern is that increased variety could also stimulate food consumption thereby increasing the risk of obesity, particularly among children (Nicklaus, 2009). There is a need for us to better understand the tradeoffs between these two aspects of food variety—the cost–benefit tradeoffs. However, this requires a better observation of food variety preferences at the individual levels. Despite the importance of this issue, there is relatively less research in this area, and could primarily be attributed to the lack of individual-level observations (Weiss, 2010). While the actual food consumption data is restricted, researchers have been also interested in investigating the food choice process leading to variety from

the perspective of food sourcing in the eating away from home activity (Jung et al., 2015). In their research, the authors found a stronger preference for food quality than other dimensions of the food consumption experience such as service. Food quality might also be a leverage point to incentivize consumers to reduce their preference for greater variety of foods (Loh, 2014) given that increased variety, as pointed out earlier, may not be a positive influence on nutritional well-being, and may also lead to other externalities such as food waste, and food sourcing pressures on the food system.

1.5.3.5 Ambience

Sensory, physiological, and psychological stimulation is an intrinsic aspect of food choices (Gibson, 2006). The physical, physiological, and psychological components of food are essential elements of the experience food choices, decisions, and the ultimate consumption of food hinges upon. As a matter of fact, research suggests that aligning these aspects could encourage individuals to improve their food choice decisions. Therefore, the sensory aspects of food choice have been extensively discussed in the literature. There are also approaches that researchers are utilizing to create interventions that would enhance food decisions by focusing on the sensory aspects. For instance, Terzimehic´ et al. (2018) propose four situations when interventions focusing on the sensory aspects of food could be introduced to enhance food choices: (1) lack of alternatives, (2) unawareness of alternatives, (3) evening cravings, and (4) social pressure. In fact, the sensory food aspects have developed sufficiently that an interdisciplinary approach would like to yield a more holistic understanding of this phenomenon and its impact on food choices than doing so in disciplinary compartments (Giboreau, 2017). We note the extensive literature on sensory aspects of food and its impact on food choice decisions and restrain from attempting a comprehensive literature review in this section.

1.5.3.6 Social and Cultural Factors

The social aspects of food cannot be ignored when discussing food choices and decisions. Despite the changes in or lifestyle, where we live, and work, the occasional determinants of food choice and decisions remain an

important influence of what and how we choose to eat (Marshall, 1993). To the extent, the structure of our meals, what is offered and eaten at these meals, how we consume the meals, and what those meals mean to us are highly driven by the social occasion. Emotion and food choices have also shown to be associated, where positive and negative emotions may be associated by certain and different types of food-choice responses (Dube et al., 2006). There would also be associations between social elements and emotional responses. Therefore, the social and emotional impacts on food choice and decisions remains an interesting area to study so that we may better understand our motivations for food decisions. The cultural aspects of food choice have also been explored in the literature though we are only beginning to understand these relationships and how they come to exist (Rozin, 2006). The complex set of influences through social and cultural norms are several, and we are only now beginning to unfold these to understand food choice behavior.

1.5.3.7 Psychological Factors

The formation of preferences is a function of several aspects such as experiences, social and cultural background, and evolutionary development. The study of these in the context of food choices continues to be of importance as we learn how and why we eat what we do (Rozin, 2006). Preferences may not be stable over time, and as they change it could impact food choices. The changing aspect of preferences also implies that individuals need to understand how to manage their own preferences. Self-control, therefore, becomes an important aspect of food choice behavior (Sharma, 2017). As we uncover the increasing diversity of preferences, the motivations behind those preferences, and the limitations in behavioral mechanisms to manage these preferences, the associated links of these ideas to food choice, we believe, is becoming increasingly meaningful for the health and well-being of individuals. For a more detailed and comprehensive link for the psychology perspectives in food choice, see Sheperd and Raats (2006).

1.5.3.8 Biological Factors

The biological aspects of food choices have been discussed in two ways: The first aspect is the physiological mechanisms of food and energy

intake. The second biological aspect in the context of food choices is the understanding of how the brain receives information on the metabolic aspects of food and how that impacts food choice (Rozin, 2006). In more recent literature, there is growing evidence related to how the human gut microbiome could play a critical role in the physiological and the "brain impulse" connectivity of food choice behavior (Perez-Burgos et al., 2014).

1.5.4 Criteria to Evaluate Associated Benefits and Costs

The approach being proposed here through the ACE model is that of treating our food choice decisions as discrete transactions, albeit with a dependence structure. Then, from a transactional perspective, the choice and decision process is being articulated as one that would require identification of transactional costs and benefits, and an evaluation of these costs–benefits to eventually make choices. We began with a discussion of the various factors that would provide alternatives for such transactions. See earlier sections. In the following sections we discuss how the various costs and benefits could be identified, observed, and potentially measured. This provides the basis for the next stage of the process, that is, evaluation.

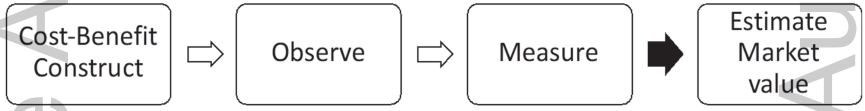
Williamson (1981) articulated the transaction cost (TC) approach to understanding the economics of business organizations. The transaction cost theory and analysis of such costs are a field of study in microeconomics literature, however from the perspective of an organization. We believe there is potential to leverage the underlying principles of this theory into individual and household decisions as well. Therefore, the first contribution that the ACE model proposes is to leverage the TC approach into understanding the economics of individual and household food decisions. Another aspect that has received relatively less attention in the literature is to evaluate transactional costs and benefits as a balanced approach to understanding decisions. Therefore, another contribution we propose of the ACE model is to take the approach of transactional analysis by evaluating the tradeoffs that may exist between costs and benefits. We further argue that benefit structure at the individual and household level provide opportunities for us to enhance choice and decision-making processes and eventual actions.

1.5.4.1 Uncertainty in Cost–Benefits

Cost and benefits are not always certain, in fact, there is sufficient evidence to suggest that uncertainties surround such measures of to the extent that even the traditional use of cost–benefit analysis needs to incorporate bounds to rational assessment (Cuéllar and Mashaw, 2017). Deterministic nature of cost–benefits measures, therefore, is a strong assumption in such analyses. Relaxing those assumptions presents opportunities to explore how individuals perceive such costs and benefits and incorporate them in choices and decision making. In the event, such deterministic assumptions of cost and benefit estimates are relaxed, or in other words, we can incorporate the possibility of uncertain estimates, individuals' risk preferences would also need to be included in our analytical framework.

1.5.4.2 Monetary and Nonmonetary

The reference to costs and benefits usually are associated with monetary measures of these constructs. However, the monetary measures usually imply that the underlying construct is observable, and therefore potentially measurable. Furthermore, it implies the measures have a market-based value and, therefore, can be translated into monetary values. See figure below.



A break in this sequence would imply that even though the cost–benefit construct exists, it may not have a market-based measure. Therefore, we propose that the absence of market-based measures (such as in market-based monetary currencies) should not be deterrence from incorporating those in our analyses of choice and decision-making. Despite, and possibly due to, the omnipresence of food in our lives, the attention on the non-monetary aspects of costs and benefits remains nascent. Meanwhile, there is sufficient discussion in the literature of the existence of such monetary costs and benefits (Dinsmore et al., 2016). Incorporating these into our analytical approach, we believe, would be of value in enhancing food choices and decision-making.

The more observable and measurable costs and benefits have been extensively discussed in the literature, although from a business perspective. The individual and household level perspectives on these costs and benefits still allude us. We propose that understanding those perspectives, and incorporating them in the proposed ACE model could enhance our understanding of the analytical aspects of choice and decisions, particularly from in context of food. In the following section, we provide a brief overview of several such perspectives that have the potential of being reformulated and reframed.

1.5.4.3 Transaction Costs and Benefits

From the perspective of business economics, transaction cost and benefit (TCB) has received much attention. Erramilli and Rao (1993) investigated the transaction costs in context of the company's choice of entry mode into foreign markets. Brouthers (2002) also investigated foreign entry modes based on transaction costs of businesses, and also how the various approaches impacted firm performance. From a broader point of view, Leiblein (2003) incorporated the transaction cost approach with the resource-based view and the real options analysis to understand the impact of organizational governance structure on the creation and appropriateness of economic value. In context of the food supply chain, Boger (2001) investigated the marketing arrangements between hog producers and buyers in context of transaction costs.

As mentioned earlier, much of the literature on TCB resides in the sphere of business decision-making. There have been however relatively scattered attempts to incorporate TC at the individual or the household level. For instance, Ekehammar (1978) applied cost–benefit analytical constructs to understand how individuals make career choices. Amongst other findings, this study also found a possible gender difference in how the TCB was incorporated into career choice by men and women respondents. Ratchford (1982) proposed an economic framework for the assessment of cost and benefits in the context of consumers' information seeking for decision making. The framework this study proposed focuses on consumers' information gathering and its impact on choice. In a follow-up study, Moorthy et al. (1997) further investigated the implications of such costs on consumer decision making and also how various factors interacted with each other to

impact consumer choices. In another influential study, Larrick et al. (1993) articulated three underlying principles to guide individual cost–benefit analytical thinking: (1) The net-benefit principle. The action that has the greatest expected net-benefit should be chosen from a set of possible actions. (2) The sunk cost principle. Only future benefits and costs should be considered in current decisions. Past costs and benefits are not relevant unless they predict future benefits and costs. (3) The opportunity cost principle. The cost of engaging in a given course of action is the loss of the benefits of the next-best course of action. The approach to analyze cost and benefits has been discussed by McIntosh (2006) by proposing the incorporation of these tradeoffs in choice experimental designs. This is a valuable perspective in enhancing our understanding of CBA in the food context given the relatively underdeveloped dimensions and measures of costs and benefits. The flexibility of the proposed approach and incorporation of sensitivity analysis should be encouraging for our future research efforts.

An important aspect of cost and benefits is the information, a topic addressed later in our discussion, reflective of these constructs. In an interesting study of this aspect, Marette et al. (2008) investigated how consumers respond to the costs and benefits associated with the choice of fish species. What they found was that consumer preferences were dependent on the sequencing of information presented to them. In other words, value of information provided for making choices was perceived differently when the order of this information presentation was modified. Risk and benefit assessment have been investigated relatively more frequently in context of individuals' medical decisions.

The value associated with costs and benefits could also impact choices. In their study, Van Houtven et al. (2011) investigated choice preferences of medical treatment options by presenting different benefit and risk structures. The authors find that risk tolerances for 2 of the 3 risks presented to the respondents have a highly non-linear structure. Understanding the structural relationship between risk and benefit functions, as the authors point out, could be more relevant for policy and practical implications. More important, such evidence highlights the nonlinear nature of preferences in context of cost–benefit analyses. Lamberton and Diehl (2013) also investigated the value assigned to benefits in contrast to product attributes and associated these preferences with the construal cues. Their study found a significant impact of construal level cues on the valuation of product preferences.

Another way that costs have been associated in the analysis of choices and decisions is by incorporating the cost of transactional choice. While there are several aspects to this issue, Janczyk et al. (2015) assessed the time cost of choices from alternatives when under free choice or forced-choice conditions. The study found performance differences and attributed it to perceptual processing in those two conditions. The choice process could also be seen from the perspective of a business owner. For instance, Ndoro et al. (2015) investigated whether transaction costs impacted the farmers' decisions to choose a particular marketing channel versus another. Some of the interesting findings of this study suggest that marketing channel choice not only depended on market conditions, such as market uncertainty but also on the owners' knowledge of the market and their age. Outsourcing is another business decision where transaction cost and benefits have been evaluated. Schermann et al. (2016) review the extensive literature that has investigated the technology outsourcing decision using the transaction cost approach. The authors highlight a critical issue surrounding TC approach in general: operationalization of transaction cost needs to be enhanced. Furthermore, we would add that such enhancements also need to consider the context of TC given the nuances that are prevalent in transactional attributes.

Having provided a brief overview of the current issues associated with costs and benefits in our proposed analytical model, we now review the thinking around the evaluation of these costs and benefits. In this, we take an inclusive approach, rather than limiting ourselves with strong assumptions around the rationality appearance of individuals. We explain more in the following section.

1.5.4.4 Evaluation of Costs and Benefits

Evaluation and assessment of costs and benefits can be a complex process. The context of evaluation could further increase complexities in this phenomenon. While traditionally we have assumed individuals are capable of making unbiased, and rational decisions, for the most part, there is now agreement that such may not be the case, or at least always. At the least, there is general agreement that it would be naïve to assume that such processes are conducted in a perfectly rational manner, all the time, by all of us. In other words, there are bounds to our rationality. Our bounds to rationality are particularly evoked by the less rational aspects of

our decision processes, mostly associated with our beliefs, and heuristics and perceptions to the rational information presented for decision-making.

In fact, even when we make decisions based on our beliefs, research shows that we are often not well aware of our own beliefs and can often become confused (Alcott, 2010). Such subjectivity of beliefs has indeed been linked to food choices and preferences (Grankvist and Biel, 2001; Lusk et al., 2013; Wardle et al., 2014). There is more that can be understood on how certain factors can predict or describe our beliefs about food and, in turn, guide us in understanding how we make food choice decisions (Bell et al., 1981).

Another manner in which individuals evaluate the information for making choices and decisions is through the use of simple heuristics or rules of thumbs. These can be considered as shortcuts to evaluating and decision making. Heuristics have attracted much attention of researchers. There is a fair amount of argument for and against them. Irrespective, heuristics are real, or at least so far as we understand the decision-making phenomenon. Biases can also emerge in choices and decision making, often due to the use of heuristics or simply through other triggers or influences, whether internal or environmental/external.

The literature in the area of heuristics is extensive and ever-expanding. There is evidence to suggest that heuristics could be an automated phenomenon, less in our control, and more implemented as default choices in our decision process (Frederick, 2002). Often times these decision rules can also be triggered by external influences such as those persuading one to make certain type of choices (Whittler, 1994). Whether through internal mechanisms or through external influences, several heuristics and biases have been identified in the literature. Here are a few that particularly concern us in food choice decisions, and those that would be fruitful foci for future research efforts to help us better understand the food choice and decision process: Anchoring, automation through habits, availability, bandwagon, choice supportive, endowment effect, framing effect, hyperbolic discounting, loss aversion, optimism, time saving bias, and overconfidence.[2,3]

Not all choices and decisions require the use of heuristics. Where we can, could we provide the sufficient skills, knowledge, ability, motivation for individuals that would facilitate food choices and decision-making with intent rather than through heuristics? On the other hand, can heuristics take

[2]https://en.wikipedia.org/wiki/Heuristic
[3]https://en.wikipedia.org/wiki/List_of_cognitive_biases

a more legitimate and justifiable role in our food choices and decisions? Can individuals be intentional in even choosing the decisions that could require heuristics rather than a structural process of making decisions? If so, what might that process be?

Evaluation of costs and benefits and other information is not the least bit a given process. We have discussed that measures might be imprecise, uncertain, and often may not even exist. The evaluation process itself could be less versus more rational. These several, often confounding dimensions of the evaluation process could impact choices. Better understanding the evaluation process, and how it impacts choices, remains an interesting research pursuit, particularly in the context of food choice decisions.

1.6 INFORMATION PROCESSING

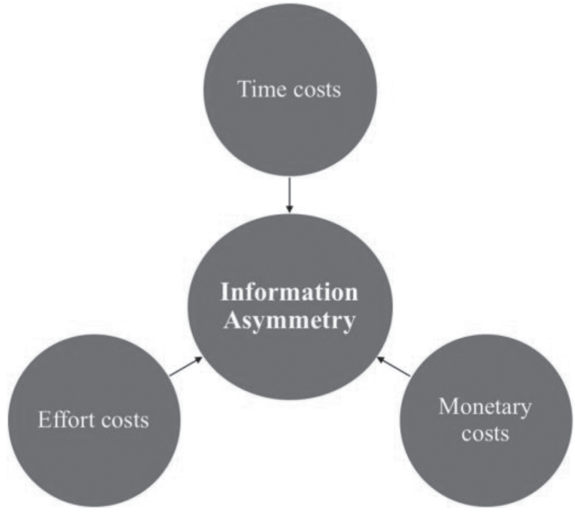
Information asymmetry (IA) in assessing tradeoffs, by using cost–benefit analysis could exist in several forms. The procedural aspects of CBA could involve IA at each stage of the process. Identification of alternatives and stakeholders in the process of making food choices is not always

1.6.1 Information Asymmetry

Tradeoffs would result in acquiring and understanding the information needed to make certain choices. This decision process could essentially reduce the information gap that might exist to make such choices. Or in other words, trade-off analysis could reduce information asymmetry in such transactions. Information asymmetry in a transaction occurs when one party has more or better information than another. This could negatively impact the transaction and lead to inappropriate consequences. The most obstructive consequence of IA would be a market failure of some sorts. However, without even getting as far as market failure (whether partial or complete), at the individual level IA could lead to adverse selection, moral hazard, and information monopoly (De Meza and Webb, 1990; Bawden and Robinson, 2009). Each of these could negatively impact the food choices and associated damaging consequences of such choices. Clearly then reducing information asymmetry could enhance the decision-makers' ability to conduct cost–benefit tradeoffs, and thereby improve the resulting food choices.

IA associated with cost and benefit analysis of decisions have been referred to, but there is an opportunity to better understand what these information gaps are, and how they might be reduced, or removed. Efforts to inform and educate individuals that would reduce IA, and enhance the cost–benefit tradeoff process have been received with mixed success. Several challenges exist when attempting to reduce IA at the individual level. Information asymmetry of costs and benefits or the lack of knowledge of this information is closely associated with the type of information that is consumed. What is not available and/or consumed eventually becomes the source of IA. While information availability is of concern, that area of inquiry falls into the policy environment. At the individual level then, we are left primarily with the challenge of cost–benefit information that could be accessible, but often gets ignored or unattended due to individual preferences.

The context of this information, food choices along the supply and demand continuum in the foodservice environments, may also play a role in this process. Undoubtedly, food is an intricate part of our existence. From a consumer perspective, some of our food preferences are a product of influences of our social and cultural environment, while others have become habits over years of acting in a certain manner, due to individual choices. The supply chain aspects of the foodservice system continue to be in flux, driven by the tradition of historical perspectives, and contemporary trends. Therefore, the educational or informational interventions to reduce cost–benefit IA often have to counter these influences to engage individuals in enhancing food choice decisions. Stemming from these issues is the fact that mass attempts to reduce IA alone may not always work for everyone. Certain level of customization would be required, given the particular contextual and other factors impacting ones' choices. This is no different than the customized approaches being adopted in other spheres of life, such as education and medicine. Whether the mass-produced or customized, individuals would need to be receptive to reducing cost–benefit IA. This brings us to the two key elements of the cost–benefit process as discussed in this paper in context of food choices: The ability to predict consequences, and the willingness to evaluate them based on the costs and benefits assessed.



(See color insert.)

The information would be assessed only after it is accessible. How information might get ignored or is inaccessible in the choice and decision process? One proposition for the reason that this information gets ignored could be viewed from a resource allocation perspective. How might the allocation or thereof resource allocation could impact information asymmetry. We propose that transactional costs, such as time, effort, and money, could influence informational asymmetry, particularly at the individual level.

Understanding this process of how individuals would engage in tradeoffs in a food choice transaction, we believe, could significantly enhance our approaches to ensure better food choice decisions along all aspects of the food choice system. Furthermore, understanding how individual-level processes such as working memory, executive processes (executive functioning), and experience might enhance such individual-level tradeoffs in context of information, could also provide valuable insights into the food choice and decision-making phenomenon.

1.6.2 Information Asymmetry in the Information Age

Tabarrok and Cowen (2015) recently argued that in this age of information, the idea of asymmetric information may not exist. This, however,

assumes that individuals are able to access that information at relatively minimal or no transaction costs. Furthermore, it assumes this information would be processed at relatively minimal or no costs, and furthermore would lead to enhanced choices through a better decision process (Shiffrin and Schneider, 1977). In fact, there has been a relatively scattered investigation of this phenomenon: How transaction costs could influence the access of relevant information, the ability of individuals to process information in the presence of transaction costs, and impact on their choices through an informed decision process. There are other concerns/issues associated with the apparent abundance of information. Researchers have argued that more information could also lead to information overload (Bawden and Robinson, 2009). Information overload could disrupt any stage of information processing, thereby reducing or nullifying the benefit of information availability. If the availability of more vegetables and fruits could help us eat healthier than salad bars would be an answer to all our unhealthy eating worries. Another challenge associated with an abundance of information is verifying information credibility (Metzger et al., 2010). All information may not be trustworthy. Abundance of information along with the implications of unreliable information sources could further overburden the decision-maker. Therefore, while the availability of information could be perceived as reducing the risks of information asymmetry, several other aspects of information access and processing need to be incorporated before leading to this conclusion.

1.7 CONCLUDING REMARKS

In this paper, we present the ACE food choice model that focuses on foodservice decisions from a transactional perspective. There are several aspects to the transaction. Foremost is the availability of potential alternatives. These alternatives can be derived from several sources. Once available, the alternatives would need to be evaluated using a multitude of criteria. Despite the terminology used, such criteria are not always precise and even absolute. The evaluation of criteria itself presents challenges for individuals, even within the often unassuming food contexts. Together the alignment or lack thereof of these constructs could define and impact food choice decisions.

The transactional approach in developing the ACE model has been that of leveraging the cost–benefit viewpoint. The balance of those two ideas, costs and benefits, we believe could encapsulate the critical perspectives to enhance an effective approach to optimizing food choice decisions. Why do we care? Theoretically, food choices represent a critical and interesting day-to-day decisions that individuals make, repeatedly. Therefore, understanding the processes that govern our repeated decisions would be critical from a social behavioral point of view. Short term choices lead to long term decisions. Therefore, this understanding of repeated choices in the short term could also give us a view of the mechanisms that eventually begin to influence long term decisions.

Much has been written and explored on the topic of decision making, and this by no means will be the last of those perspectives. The reason choice and decision making attract so much of our attention is because of their importance in our lives, and also in the complexity of the phenomenon. Food choices in away from home environments are untrivial. Individual food choices have potential impact on health and well-being. Coupled with other decisions, such as those related to financial well-being, could have broader impacts on individuals and households. The broader societal aspects of food away from home, associated with food security, access, consumption, waste, and the issues related to our global food supply chain are enormous. It behooves us to not trivialize food choices and decisions. As we propose the ACE model, we do so with the hope that these guiding principles will provide us an overarching evaluative framework in this pursuit.

KEYWORDS

- **food decisions**
- **transaction cost economics**
- **cost–benefit analysis**
- **information asymmetry**
- **foodservice system**

REFERENCES

Alfnes, F.; Sharma, A. Locally Produced Food in Restaurants: Are the Customers Willing to Pay a Premium and Why? *Int. J. Revenue Manag.* **2010,** *4* (3–4), 238–258.

Allcott , H. Beliefs and Consumer Choice. Manuscript: New York University, 2010.

Bawden, D.; Robinson, L. The Dark Side of Information: Overload, Anxiety and Other Paradoxes and Pathologies. *J. Inform. Sci.* **2009,** *35* (2), 180–191.

Becher, S. I. Behavioral Science and Consumer Standard Form Contracts. *La. L. Rev.* **2007,** *68*, 117.

Bell, A. C.; Stewart, A. M.; Radford, A. J.; Cairney, P. T. A Method for Describing Food Beliefs which may Predict Personal Food Choice. *J. Nutr. Edu.* **1981,** *13* (1), 22–26.

Birch, S.; Donaldson, C. Applications of Cost-benefit Analysis to Health Care: Departures from Welfare Economic Theory. *J. Health Econ.* **1987,** *6* (3), 211–225.

Birch, S.; Donaldson, C. Cost-benefit Analysis: Dealing with the Problems of Indivisible Projects and Fixed Budgets. *Health Policy* **1987,** *7* (1), 61–72.

Birch, S.; Gafni, A. Cost Effectiveness/Utility Analyses: Do current Decision Rules Lead us to Where we Want to be? *J. Health Econ.* **1992,** *11* (3), 279–296.

Birkenhead, K. L.; Slater, G. A review of factors influencing athletes' food choices. Sports medicine, *45* (11), 1511–1522.

Boadway, R. W. The Welfare Foundations of Cost-Benefit Analysis. *Econ. J. 84* (336), 926–939.

Boger, S. Quality and Contractual Choice: A Transaction Cost Approach to the Polish Hog Market. *Eur. Rev. Agri. Econ.* **2001,** *28* (3), 241–262.Boudreau, M. C.; Watson, R. T.; Chen, A. J.; Greiner, M. E.; Sclavos, P. The Benefits of Transaction Cost Economics: The Beginning of a New Direction. In *ECIS;* 2007; (pp 1124–1135).

Brouthers, K. D. Institutional, Cultural and Transaction Cost Influences on Entry Mode Choice and Performance. *J, Int. Bus. Stud.* **2002,** *33* (2), 203–221.

Bublitz, M. G.; Peracchio, L. A.; Andreasen, A. R.; Kees, J.; Kidwell, B.; Miller, E. G.; Vallen, B. Promoting positive change: Advancing the food well-being paradigm. Journal of Business Research, **2013,** *66* (8), 1211–1218.

Burns, C.; Cook, K.; Mavoa, H. Role of Expendable Income and Price in Food Choice by Low Income Families. *Appetite*, *271*, 209–217.

Cardello, A. V.; Schutz, H. G.; Lesher, L. L. Consumer Perceptions of Foods Processed by Innovative and Emerging Technologies: A Conjoint Analytic Study. *Inn. Food Sci. Emer. Technol.* **2007,** *8* (1), 73–83.

Cellini , S. R.; Kee, J. E. Cost-effectiveness and Cost-benefit Analysis. *Handbook of Practical Program Evaluation;* 2010; Vol. 3.

Coates IV, J. C. Cost-Benefit Analysis of Financial Regulation: Case Studies and Implications. *Yale LJ* **2014,** *124*, 882.

Cowburn, G.; Stockley, L. Consumer Understanding and Use of Nutrition Labelling: A Systematic Review. *Public Health Nutr.* **2005,** *8* (1), 21–28.

Cox Jr, L. A.; Popken, D. A.; Sun, R. X. Improving Individual, Group, and Organizational Decisions: Overcoming Learning Aversion in Evaluating and Managing Uncertain Risks. In *Causal Analytics for Applied Risk Analysis;* Springer, Cham, 2018; pp. 457–492.

Cruwys, T.; Bevelander, K. E.; Hermans, R. C. Social Modeling of Eating: A Review of When and Why Social Influence Affects Food Intake and Choice. *Appetite* **2015,** *86*, 3–18.

Cuéllar , M. F.; Mashaw, J. L. *The Oxford Handbook of Law and Economics;* Public Law and Legal Institutions, 2017; Vol. 3p 59.

Damart, S.; Roy, B. The Uses of Cost-benefit Analysis in Public Transportation Decision-making in France. *Transport Policy* **2009,** *16* (4), 200–212.

Dansereau, D. F.; Knight, D. K.; Flynn, P. M. Improving Adolescent Judgment and Decision Making. *Prof. Psychol. Res. Pr.* **2013,** *44* (4), 274.

Davis, B.; Payne, C. R.; Bui, M. Making Small Food Units Seem Regular: How Larger Table Size Reduces Calories to be Consumed. *J. Assoc. Consum. Res.* **2016,** *1* (1), 115–124.

De Meza, D.; Webb, D. Risk, Adverse Selection and Capital Market Failure. *Econ. J.* **1990,** *100* (399), 206–214.

Devine, C. M. A Life Course Perspective: Understanding Food Choices in Time, Social Location, and History. *J. Nutr. Edu. Behav.* **2005,** *37* (3), 121–128.

DiLeone, R. J.; Taylor, J. R.; Picciotto, M. R. The Drive to Eat: Comparisons and Distinctions Between Mechanisms of Food Reward and Drug Addiction. *Nat. Neurosci.* **2012,** *15* (10), 1330.

DiLeone, R. J.; Taylor, J. R.; Picciotto, M. R. The Drive to Eat: Comparisons and Distinctions Between Mechanisms of Food Reward and Drug Addiction. *Nat. Neurosci.* **2012,** *15* (10), 1330.

Dimitri, C.; Rogus, S. Food choices, Food Security, and Food Policy. *J. Int. Aff.*, **2014,** 67(2), 19.

Doucerain, M.; Fellows, L. K. Eating Right: Linking Food-related Decision-making Concepts from Neuroscience, Psychology, and Education. *Mind Brain Edu.* **2012,** *6* (4), 206–219.

Drewnowski, A.; Darmon, N. Food Choices and Diet Costs: An Economic Analysis. *J. Nutr.* **2005,** *135* (4), 900–904.

Drewnowski, A.; Kawachi, I. Diets and Health: How Food Decisions are Shaped by Biology, Economics, Geography, and Social Interactions. *Big Data* **2015,** *3* (3), 193–197.

Dubé, L.; LeBel, J. L.; Lu, J. Affect Asymmetry and Comfort Food Consumption. *Physiol. Behav.* **2005,** *86* (4), 559–567.

Ekehammar, B. Psychological Cost-benefit as an Intervening Construct in career Choice Models. *J. Vocat. Behav.* **1978,** *12* (3), 279–289.

Epstein, L. H.; Robinson, J. L.; Roemmich, J. N.; Marusewski, A. L.; Roba, L. G. What Constitutes Food Variety? Stimulus Specificity of Food. *Appetite* **2010,** *54* (1), 23–29.

Erramilli , M. K.; Rao, C. P. Service Firms' International Entry-mode Choice: A Modified Transaction-cost Analysis Approach. *J. Marketing* **1993,** 19–38.

Evans, J. S. B. Two Minds: Dual-Process Accounts of Reasoning. *Trends in Cognitive Sciences* **2003,** *7* (10), 454–459.

Feuillette, S.; Levrel, H.; Boeuf, B.; Blanquart, S.; Gorin, O.; Monaco, G.; ..., Robichon, S. The Use of Cost–benefit Analysis in Environmental Policies: Some Issues Raised by the Water Framework Directive Implementation in France. *Environ. Sci. Policy* **2016,** *57*, 79–85.

Firoozzare, A.; Kohansal, M. R. Applying Multinomial Logit Model for Determining Socio-Economic Factors Affecting Major Choice of Consumer s in Food Purchasing: The Case of Mashhad, 2018.

Frederick, S. Automated Choice Heuristics. In *Heuristics and Biases: The psychology of Intuitive Judgment;* Gilovich, T., Griffin, D., Kahneman, D., Eds.; Cambridge University Press: New York, NY, 2002; pp 548–558.

Frederick, S. Cognitive Reflection and Decision Making. *J. Econ. Perspect.* **2005,** *19* (4), 25–42.

Frederiks, E. R.; Stenner, K.; Hobman, E. V. Household Energy Use: Applying Behavioural Economics to Understand Consumer Decision-making and Behaviour. *Renew. Sustain. Energy Rev.* **2015,** *41*, 1385–1394.

French, S. A. Pricing Effects on Food Choices. *J. Nutr.* **2003,** *133* (3), 841S–843S.

Furst, T.; Connors, M.; Bisogni, C. A.; Sobal, J.; Falk, L. W. Food Choice: a Conceptual Model of the Process. *Appetite* **1996,** *26* (3), 247–266.

Giboreau , A. Sensory and Consumer Research in Culinary Approaches to Food. *Curr. Opin. Food Sci*. **2017**.

Gibson, E. L. Emotional Influences on Food Choice: Sensory, Physiological and Psychological Pathways. *Physiol. Behav.* **2006,** *89* (1), 53–61.

Gustafson, A.; Christian, J. W.; Lewis, S.; Moore, K.; Jilcott, S. Food Venue Choice, Consumer Food Environment, but not Food Venue Availability Within Daily Travel Patterns are Associated with Dietary Intake Among Adults, Lexington Kentucky 2011. *Nutr. J.* **2013,** *12* (1), 17.

Guthrie, J. F. Integrating Behavioral Economics into Nutrition Education Research and Practice. *J. Nutr. Edu. Behav.* **2017,** *49* (8), 700–705.

http://dx.doi.org/10.1017/CBO9780511808098.032.

Janczyk, M.; Dambacher, M.; Bieleke, M.; Gollwitzer, P. M. The Benefit of no Choice: Goal-directed Plans Enhance Perceptual Processing. *Psychol. Res.* 2015; *79* (2), 206–220.

Jensen, K. K.; Sandøe, P. Food Safety and Ethics: The Interplay Between Science and Values. *J. Agri. Environ. Ethics* **2002,** *15* (3), 245–253.

Jung, J. M.; Sydnor, S.; Lee, S. K.; Almanza, B. A Conflict of Choice: How Consumers Choose Where to go for Dinner. *Inter. J. Hosp. Manag.* **2015,** *45*, 88–98.

King, J. L.; Schrems, E. L. Cost-benefit Analysis in Information Systems Development and Operation. *ACM Computing Surveys (CSUR)* **1978,** *10* (1), 19–34.

King, S. C.; Weber, A. J.; Meiselman, H. L.; Lv, N. The Effect of Meal Situation, Social Interaction, Physical Environment and Choice on Food Acceptability. *Food Qual. Prefer.* **2004,** *15* (7–8), 645–653.

Kornhauser, L. A. On Justifying Cost-benefit Analysis. *J. Legal Stud.* **2000,** *29* (S2), 1037–1057.

Köster, E. P. The Psychology of Food Choice: Some Often Encountered Fallacies. *Food Qual. Prefer.* **2003,** *14* (5–6), 359–373.

Köster, E. P. Diversity in the Determinants of Food Choice: A Psychological Perspective. *Food Qual. Prefer.* **2009,** *20* (2), 70–82.

Lamberton, C. P.; Diehl, K. Retail Choice Architecture: The Effects of Benefit-and Attribute-based Assortment Organization on Consumer Perceptions and Choice. *J. Consum. Res.* **2013,** *40* (3), 393–411.

Larrick, R. P.; Nisbett, R. E.; Morgan, J. N. Who Uses the Cost-benefit Rules of Choice? Implications for the Normative Status of Microeconomic Theory. *Organiz. Behav. Human Decis. Process.* **1993,** *56* (3), 331–347.

Lazaridis, P.; Drichoutis, A. C. Food Consumption Issues in the 21st Century. The Food Industry in Europe, 2005, 21–33.

Leiblein, M. J. The Choice of Organizational Governance Form and Performance: Predictions from Transaction Cost, Resource-based, and Real Options Theories. *J. Manag.* **2003,** *29* (6), 937–961.

Lepping, R. J.; Papa, V. B.; Martin, L. E. Cognitive Neuroscience Perspectives on Food Decision-Making: A Brief Introduction. *J. Agricul. Food Indus. Organiz.* **2015,** *13* (1), 5–14.

Loh, J. The Possibilities of Reducing Food Choice to Improve the Economical (profits), Nutritional/Psychological (people) and Environmental (planet) Performance of University Residential College Foodservices. Doctoral Dissertation, University of Otago, 2015.

López-Ospina, H. A.; Martínez, F. J.; Cortés, C. E. Microeconomic Model of Residential Location Incorporating Life Cycle and Social Expectations. *Comput. Environ. Urban Syst.* **2016,** *55*, 33–43.

Lusk, J. L.; Schroeder, T. C.; Tonsor, G. T. Distinguishing Beliefs from Preferences in Food Choice. *Eur. Rev. Agricul. Econ.* **2013,** *41* (4), 627–655.

Lytle, L. A. Measuring the Food Environment: State of the Science. *Am. J. Prevent. Med.* **2009,** *36* (4), S134–S144.

Macher, J. T.; Richman, B. D. Transaction Cost Economics: An Assessment of Empirical Research in the Social Sciences. *Bus. Politics* 2008, *10* (1), 1–63.

Mai, R.; Hoffmann, S. Taste Lovers Versus Nutrition Fact Seekers: How Health Consciousness and Self-efficacy Determine the Way Consumers Choose Food Products. *J. Consum. Behav.* **2012,** *11* (4), 316–328.

Marcum, C. S.; Goldring, M. R.; McBride, C. M.; Persky, S. Modeling Dynamic Food Choice Processes to Understand Dietary Intervention Effects. *Annals Behav. Med.* **2018,** *52* (3), 252–261.

Marette, S.; Roosen, J.; Blanchemanche, S.; Verger, P. The Choice of Fish Species: An Experiment Measuring the Impact of Risk and Benefit Information. *J. Agricul. Res. Econ.* **2008,** 1–18.

Marshall, D. Appropriate meal Occasions: Understanding Conventions and Exploring Situational Influences on Food Choice. *Int. Rev. Retail Distribut. Consum. Res.* **1993,** *3* (3), 279–301.

Marty, L.; Nicklaus, S.; Miguet, M.; Chambaron, S.; Monnery-Patris, S. When do Healthiness and Liking Drive Children's Food Choices? The Influence of Social Context and Weight Status. *Appetite* **2018,** *125*, 466–473.

McIntosh, E. Using Discrete Choice Experiments within a Cost-benefit Analysis Framework. *Pharmacoeconomics* **2006,** *24* (9), 855–868.

Metzger, M. J.; Flanagin, A. J.; Medders, R. B. Social and Heuristic Approaches to Credibility Evaluation Online. *J. Commun.* **2010,** *60* (3), 413–439.

Ndoro, J. T.; Mudhara, M.; Chimonyo, M. Farmers' Choice of Cattle Marketing Channels Under Transaction Cost in Rural South Africa: A Multinomial Logit Model. *Afr. J. Range For. Sci.* **2015,** *32* (4), 243–252.

Nickel, J.; Ross, A. M.; Rhodes, D. H. In Comparison of Project Evaluation Using Cost-benefit Analysis and Multi-attribute Tradespace Exploration in the Transportation Domain. In 2nd International Symposium on Engineering Systems, 2009, June.

Nicklaus, S. Development of Food Variety in Children. *Appetite* **2009,** *52* (1), 253–255.

Perez-Burgos, A.; Mao, Y. K.; Bienenstock, J.; Kunze, W. A. The Gut-Brain Axis Rewired: Adding a Functional Vagal Nicotinic "Sensory Synapse." *The FASEB J.* **2014,** *28* (7), 3064–3074.

Prasad, S. Crisis, Identity, and Social Distinction: Cultural Politics of Food, Taste, and Consumption in Late Colonial Bengal. *J. Historical Sociol.* **2006,** *19* (3), 245–265.

Prescott, S. L.; Logan, A. C. Each Meal Matters in the Exposome: Biological and Community Considerations in Fast-Food-Socioeconomic Associations. *Econ. Human Biol.* **2017,** *27*, 328–335.

Ratchford, B. T. Cost-benefit Models for Explaining Consumer Choice and Information Seeking Behavior. *Manag. Sci.* **1982,** *28* (2), 197–212.

Reily, N. M.; Vartanian, L. R. The Portion Size Effect on Food Intake is Robust to Contextual Size Information. *Appetite* **2016,** *105*, 439–448.

Reimann, M.; Bechara, A.; MacInnis, D. Leveraging the Happy Meal Effect: Substituting Food with Modest Nonfood Incentives Decreases Portion Size Choice. *J. Exp. Psychol.: Appl.* **2015,** *21* (3), 276.

Rizk, M. T.; Treat, T. A. Sensitivity to Portion Size of Unhealthy Foods. *Food Qual. Prefer.* **2015,** *45*, 121–131.

Roberto, C. A.; Larsen, P. D.; Agnew, H.; Baik, J.; Brownell, K. D. Evaluating the Impact of Menu Labeling on Food Choices and Intake. *Am. J. Public Health* **2010,** *100* (2), 312–318.

Roitman, M. F.; Stuber, G. D.; Phillips, P. E.; Wightman, R. M.; Carelli, R. M. Dopamine Operates as a Subsecond Modulator of Food Seeking. *J. Neurosci.* **2004,** *24* (6), 1265–1271.

Sadler-Smith, E.; Shefy, E. Developing Intuitive Awareness in Management Education. *Acad. Manag. Learn. Edu.* **2007,** *6* (2), 186–205.

Samson, A.; Voyer, B. G. Two Minds, Three Ways: Dual System and dual Process Models in Consumer Psychology. *Ams Rev.* **2012,** *2* (2–4), 48–71.

Schermann, M.; Dongus, K.; Yetton, P.; Krcmar, H. The Role of Transaction Cost Economics in Information Technology Outsourcing Research: A Meta-analysis of the Choice of Contract Type. *J. Strategic Inform. Syst.* **2016,** *25* (1), 32–48.

Sharma, A. Self-Rationing Efficiency of Repeated Eating-Out Expenses: Does Experience Matter? *J. Hosp. Tour. Res.* **2017,** *41* (3), 259–277.

Shepherd , R., Raats, M., (Eds.; *The Psychology of Food Choice;* 2006; Vol. 3. Cabi. http://ssu.ac.ir/cms/fileadmin/user_upload/Mtahghighat/taghzie_imani/book/The-Psychology-of-Food-Choice.pdf#page=30

Shiffrin, R. M.; Schneider, W. Controlled and Automatic Human Information Processing: II. Perceptual Learning, Automatic Attending and a general Theory. *Psychol. Rev.* **1977,** *84* (2), 127.

Siegrist, M. Factors Influencing Public Acceptance of Innovative Food Technologies and Products. *Trends Food Sci. Technol.* **2008,** *19* (11), 603–608.

Sinayev, A.; Peters, E. Cognitive Reflection vs. Calculation in Decision Making. *Frontiers Psychol.* **2015,** *6*, 532.

Steenhuis, I.; Poelman, M. Portion Size: Latest Developments and Interventions. *Curr. Obes. Reports* **2017,** *6* (1), 10–17.

Steyn, N. P.; Nel, J. H.; Nantel, G.; Kennedy, G.; Labadarios, D. Food Variety and Dietary Diversity Scores in Children: Are They Good Indicators of Dietary Adequacy? *Public Health Nutr.* **2006,** *9* (5), 644–650.

Tabarrok , A.; Cowen, T. The End of Asymmetric Information. *Cato Unbound*.

Taylor, J. E.; Adelman, I. (Agricultural Household Models: Genesis, Evolution, and Extensions. *Rev. Econ. Household* **2003,** *1* (1–2), 33–58.

Terzimehić, N.; Schneegass, C.; Hussmann, H. In *Towards Finding Windows of Opportunity for Ubiquitous Healthy Eating Interventions*. In International Conference on Persuasive Technology, April, 2018, Springer: Cham, pp 99–112.

Tiu Wright, L.; Nancarrow, C.; Kwok, P. M. Food Taste Preferences and Cultural Influences on Consumption. *Br. Food J.* **2001,** *103* (5), 348–357.

Vadiveloo, M.; Morwitz, V.; Chandon, P. The Interplay of Health Claims and Taste Importance on Food Consumption and Self-reported Satiety. *Appetite* **2013,** *71*, 349–356.

Van Houtven, G.; Johnson, F. R.; Kilambi, V.; Hauber, A. B. Eliciting Benefit–risk Preferences and Probability-weighted Utility Using Choice-format Conjoint Analysis. *Med. Decis. Mak* **2011,** *31* (3), 469–480.

Verbeke, W.; Vackier, I. Individual Determinants of Fish Consumption: Application of the Theory of Planned Behaviour. *Appetite* **2005,** *44* (1), 67–82.

Viswanathan, V.; Jain, V. A Dual-system Approach to Understanding "generation Y" Decision Making. *J. Consum. Market.* **2013,** *30* (6), 484–492.

Volkow, N. D.; Wang, G. J.; Maynard, L.; Jayne, M.; Fowler, J. S.; Zhu, W.; Pappas, N. Brain Dopamine is Associated with Eating Behaviors in Humans. *Int. J. Eating Disorders* **2003,** *33* (2), 136–142.

Wardle, J.; Haase, A. M.; Steptoe, A.; Nillapun, M.; Jonwutiwes, K.; Bellisie, F. Gender Differences in Food Choice: The Contribution of Health Beliefs and Dieting. *Annals Behav. Med.* **2004,** *27* (2), 107–116.

Weiss , C. R. Consumer Demand for Food Variety. In *The Oxford Handbook of the Economics of Food Consumption and Policy;* 2011.

Whittler, T. E. Eliciting Consumer Choice Heuristics: Sales Representives' Persuasion Strategies. *J. Personal Selling Sales Manag.* **1994,** *14* (4), 41–53.

Wilcock, A.; Pun, M.; Khanona, J.; Aung, M. Consumer Attitudes, Knowledge and Behaviour: A Review of Food Safety Issues. *Trends in Food Sci. Technol*. **2004,** *15* (2), 56–66.

Worsley, A. Nutrition Knowledge and Food Consumption: Can Nutrition Knowledge Change Food Behaviour? *Asia Pacific J. Clin. Nutr.* **2002,** *11*, S579–S585.

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