


Chapter 14
Organizational Buying Behavior
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14.1 Introduction

It is quite common to differentiate between models of consumer behavior and models of organizational buying that result from some key differences in the way individuals and organizations buy. First, organizational demand is derived demand. Products are purchased by organizations to meet the needs of their customers. Impulse buying is far less common in organizational buying and is clearly stated. Objective criteria such as meeting production needs and schedules with a minimum cost product (or “offering”) to include the combination of physical product and surrounding service) often drive the choice process.

Second, because more than one and often many individuals are involved in the purchasing decision process, purchasing managers rarely make a buying decision independent of the influence of others (stakeholders) in the buying organization. In addition, individuals outside the organization (in supplier firms, in other firms in the industry, in the supply chain and elsewhere) may influence the decision. Hence, the purchasing decision is made by a group, which is, in turn, embedded in a network of individual and organizational relationships.

Third, because of the (1) high dollar volume of the purchase, (2) the number of stakeholders involved and (3) the often complex, technical nature of the offerings under consideration, the purchasing process often takes a long time and may involve extensive bargaining and negotiations. The extended nature of the organizational purchase process (which can take months or years in some cases) and its interactive nature (involving multiple
individuals within both the buying and selling organizations) make it difficult to develop a functional relationship between the marketing effort of a supplier and the response of the buyer.

Fourth, as organizational buyers are more interested in satisfying a total need than in buying a specific product, the resulting offering can be quite complex, including such items as training, technical support, financing, delivery terms and the like, with neither the buyer nor the seller easily able to determine what offer is the best for the buyer.

Yet organizational buying and consumer buying have two attributes in common — a purchase is the usual outcome of the process and there is some form of process that leads to that outcome, and the consumer/organizational buying border is not at all clear. Hence, the marketing science developments in choice models and stochastic models of buyer behavior discussed in other chapters of the book (Fader, Hardie, and Sen, 2013; Russell, 2013) apply here as well. For example, Gensch (1984) used a multinomial logit model to determine the switchability (or customer loyalty) in the market for electrical equipment aimed at electric utility customers.

In this chapter, we will trace several streams of research on models of organizational buying behavior: large system models, models of group choice, bargaining and negotiation models, and relationship and network models. The developments in these domains have taken place largely in parallel, and independently as shown in the development timeline in Figure 14.1.

### 14.2 Large system and group choice models

The 1960s and 1970s displayed great interest in large scale system models of organizational buying behavior. The BUYGRID framework (Robinson, Paris, and Wind, 1967) serves as a seminal starting point for models of organizational buying. The authors divided the buying process into straight rebuy, modified rebuy and novel purchases. The more novel the purchase, the greater the degree of uncertainty and the more people involved in the purchase decision (the buying center). The buygrid framework, a conceptual model, has three key dimensions: (1) the buying situation (straight or modified rebuy and novel or new task), (2) the stages of the decision process (needs identification, establishment of specifications, search, evaluate alternatives, negotiate, buy, use and feedback) and (3) the roles of buying center participants (purchasing, user, specifier, finance, top management, etc.).

The 1970s saw publication of more than a dozen major articles on organizational buying (see Reid and Plank, 2000). Webster (1984) cited three that he felt were applicable to a wide spectrum of organizational buying contexts as they identified the most important variables in the process and the relationships between them: The Sheth (1973) model, the Webster–Wind Model (1972) and the Choffray–Lilien Model (1980).

Sheth (1973) adapted the Howard and Sheth (1969) model of consumer buying behavior for organizational contexts. The model posits three major elements in the organizational buying process: (1) the psychological world of the individuals involved, (2) the conditions that precipitate joint decision making and (3) the conflict resolution process for joint purchasing decisions. The model also identifies situational factors that influence the final choice of supplier or brand.
Webster and Wind (1972) view organizational buying as a special case of organizational decision making. They view the decision process as involving environmental factors (legal, cultural and economic that constrain action), organizational characteristics (technology, structure, goals and factors that determine the decision process and the actors involved), interpersonal characteristics (that describe the relationships between the actors in the buying center and individual characteristics (the personality and role-based variables that drive individual action). They also posit that many different decision models — conjunctive, disjunctive, lexicographic and compensatory — can be used in making multi-attribute decisions in a group context.

Building on this work, Choffray and Lilien (1980) develop an operational model that deals with three major elements of organizational buying once a set of feasible alternatives has been identified: (1) the elimination of alternatives that do not meet organizational requirements, (2) the preference formation process for individuals in the buying center and (3) the formation of an organizational preference and choice function. Their model also deals with basic market identification (including macro and micro-segmentation to identify organizations most likely to find an offering attractive) and forecasting and diffusion models to project long-term sales (Figure 14.2).

The Choffray-Lilien model is comprised of five submodels: an awareness model, a feasibility model, an individual choice model, a group choice model and a growth model. Stated analytically, the probability that a product \( a_0 \) in evoked set A is an organization's choice at time \( t \) (given that the organization is in the market to purchase a product in the class) can be written as

\[
p(a_0 = \text{organizational choice}) = p(a_0 = \text{group choice} | \text{interaction, feasible, evoked}) \times p(a_0 = \text{feasible} | \text{evoked}) \times p(a_0 = \text{evoked}).
\]

Johnston and Lewin (1996) integrated the perspectives of Robinson, Faris, and Wind (1967), Webster and Wind (1972), and Sheth (1973) and added some additional variables, including decision role and role stress (see Figure 14.3). However, the development of large scale, largely
conceptual models of organizational buying appears to have been largely abandoned by then in favor of more operational, empirical work as noted below. [See Reid and Planck (2000) for a comprehensive review up to that date and Johnston and Chandler (2013) and Spekman and Thomas (2011) for more recent reviews].

The large system models above all highlighted group choice (within a buying center) as a key modeling issue for organizational buying. Economists have focused on the important social welfare question: How should individuals with different preference structures put their preferences together to form a group rank ordering of alternatives (group social welfare function). Arrow (1963) proved that, in general, no such group ordering, consistent with five reasonable assumptions, exists. That result has been used to conclude that knowledge about group structure (hierarchy, dictatorialship, power levels and communication patterns) is needed to develop a group welfare function. Hence, predicting group choice from individual measurements (what buying centers actually do, not what they should do) requires models calibrated to the specifics of the actors and the situation the group faces.

There was a flurry of work in the late 1980’s and early 1990’s looking at various group decision models and when they could be most appropriately applied (Cordman and Lehmann, 1987; Steckel, 1990; Rao and Steckel, 1991; Cordman and Gupta, 1993). Most of these models fall into one of three categories: (1) non-quota schemes, where there is no pre-specified minimum number of group members who must favor an alternative for it to be selected (weighted probability model, equi-probability model, voting model and preference perturbation model), (2) agreement quota schemes, where the group deliberates until a (pre-specified) number or proportion of the group selects a given choice (majority rule model and the unanimity model) and (3) an individual decision scheme (autocracy model), where one group member chooses for the group. These models are specified as follows:

In the weighted probability model, the assumption is that the group, as a whole, is likely to adopt a given alternative, say $a_j$ in the choice set $A$, proportionally to the relative importance to the members who choose it. Let

$$P_G(a_j; A) = \text{probability that the group chooses } a_j, \ j = 1, \ldots, k$$

alternatives, and

$$w_i = \text{relative importance, on the average, of decision participant } i, \ i = 1, \ldots, r$$

in the choice process.

Hence

$$\sum_{i=1}^{r} w_i = 1.$$ 

Then the weighted probability model postulates that

$$P_G(a_j; A) = \sum_{i=1}^{r} w_i P_i(a_j; A), \ j = 1, \ldots, k. \quad (14.1)$$
The equiprobability model takes follows from Eq. (14.1) with \( w_i = 1/r \) for all \( i \).

The voting model states that the probability that the group will choose alternative \( a_j \) is equal to the probability that \( a_j \) is selected by the largest number of decision participants. I.e.,

\[
X_{ij} = \begin{cases} 
1 & \text{if individual } i \text{ chooses } a_j \\
0 & \text{otherwise}
\end{cases}
\]

Then,

\[
Pr(X_{ij} = 1) = P_i(a_j; A).
\]

Let,

\[
Z_j = \sum_{i=1}^{r} X_{ij},
\]

then

\[
P_G(a_j; A) = Pr[Z_j = \max(Z_k)]. \quad (14.2)
\]

In the preference perturbation model, the assumption is that if a group does not reach unanimous agreement, it is most likely to choose the alternative that “perturbs” individual preference structures least. Let,

\[
\theta_{iw} = \text{event that individual } i \text{ has preference ordering } w, i = 1, \ldots, r; w = 1, \ldots, k!, \text{ where a preference ordering means, e.g., } a1 \gg a2 \gg a3 \text{ and } \gg \text{ means “is preferred to”;}
\]

\[
\lambda_{\mu} = \text{set of preference ordering across decision participants } = \{\theta_{1w1}, \theta_{2w2}, \ldots, \theta_{rw}\}, \text{ where } w_i = 1, \ldots, k! \text{ for } i = 1, \ldots, r \text{ and, hence, } \mu = 1, \ldots, rk!;
\]

\[
Q(a_j | \lambda_{\mu}) = \text{“perturbation” associated with the set of preference ordering } \lambda_{\mu}; \text{ i.e., the sum of the number of preference shifts that are required to make option } a_j \text{ the first choice of all decision participants.}
\]

To see how \( Q \) evolves, consider a two-person, three-product decision, with

\[
\lambda_{\mu} = (\theta_{1w1}; \theta_{2w2}) = [a0 \gg a1 \gg a2; a2 \gg a0 \gg a1].
\]

Here \( Q(a_0 | \lambda_{\mu}) = 1, Q(a_1 | \lambda_{\mu}) = 2, Q(a_2 | \lambda_{\mu}) = 2 \) (i.e., \( a_0 \) must move from second to first choice for participant 2 to give \( Q(a_0 | \lambda_{\mu}) = 1; a_1 \) must move from second to first for participant 1 and move from third to first for participant 2 for \( Q(a_1 | \lambda_{\mu}) = 3 \), and so on).

Assuming that individual preference distributions are mutually independent,

\[
Pr(\lambda_{\mu}) = Pr(\theta_{1w1}, \theta_{2w2}, \ldots, \theta_{rw}) = \prod_{i=1}^{r} Pr(\theta_{iw}), \quad \mu = 1, \ldots, rk!, \quad (14.3)
\]

where the \((i, w_i)\) are suitably mapped to the appropriate \( \mu \). The model postulates that the ratio of probability of group choice equals the ratio of needed preference perturbation to achieve first preference within the group

\[
P_G(a_j | \lambda_{\mu}) = \frac{Q(a_e | \lambda_{\mu})}{Q(a_j | \lambda_{\mu})}. \quad (14.4)
\]

Moreover, if \( Q(a_e | \lambda_{\mu}) = 0 \), then \( P_G(a_e | \lambda_{\mu}) = 1 \) and \( P_G(a_j | \lambda_{\mu}) = 0 \) for \( j \neq e \) (this is a case of unanimous first preference).

As the total number of possible preference shifts is fixed, these conditional probabilities are uniquely determined. Hence, the unconditional probabilities of group choice are given by

\[
P_G(a_j; A) = \sum P_G(a_j | \lambda_{\mu}) Pr(\lambda_{\mu}). \quad (14.5)
\]

The majority rule model is a special case of the voting model when a quota (say 50% or more) of the group is required to agree for an alternative to be chosen. Formally, we have

\[
P_G(a_j; A) = Pr[Z_j = \max(Z_k | Z_k > r/2)]. \quad (14.6)
\]

The unanimity model is another special case of the voting model with

\[
P_G(a_j; A) = Pr[Z_j = \max(Z_k | Z_k = r)]. \quad (14.7)
\]
The autocracy model uses the most influential decision participant's preferences as those of the group

\[ P_G(a_j; A) = \omega_{i*}(a_j; A), \quad (14.8) \]

where \( \omega_i \) is the index representing that individual for whom \( w_{i*} = \max(w_i) \).

The group choice or organizational buying model challenge, then, became to determine which of these models (or others) best predicts group choice under what circumstances. Wilson, Lilien, and Wilson (1991) found that a "key information" (an individual whose preferences could be used to predict organizational preferences and choice) only exists in what Robinson, Faris, and Wind (1967) called a straight rebuy situation. That finding -- that the way individuals combine individual preferences to form a group preference depends on the type and riskiness of the task (at least) -- has proven to be both an opportunity and a challenge for researchers and practitioners alike. As with Arrow's impossibility theorem, it appears that no single combining rule from individual preferences exists that will be robust in predicting group or organizational choice. As noted below, this domain is in need of additional modeling and empirical generalizations.

### 14.3 Bargaining and negotiation models

Given the central nature of bargaining in organizational buying process, it should not be surprising to find much research on the topic. The early work in the area was mainly normative, relying on equilibrium concepts (Nash, 1950) with utility maximizing agents on both sides (Keeney and Raiffa, 1976). Yet as Eliashberg, Lilien, and Kim (1995) report in a review of 293 academic research articles and 97 real cases, there was (and remains) a large gap between theory and practice. The very messy nature of real bargaining situations within an organizational buying context (Raiffa, 1982) involves multiple participants, multiple issues and unclear or evolving preference structures amongst buying team members. Hence, normative concepts like the Nash Bargaining solution have had limited predictive ability (Neslin and Greenhalgh, 1986).

Eliashberg, Lilien, and Kim (1995) provided a time trend of issues addressed in academic articles on business marketing negotiations, beginning pre-1970 and continuing through the 1990s, showing more work emerging on multiple party, multiple agent, repeated multiple issue negotiations. That work involves bargaining models that are more realistic representations of real organizational buying behavior. Yet, through the 1990s at least, the amount of work involving, personality, power, venue, culture and learning was vanishingly small and with no noticeable upward trends.

In addition, most of the early analytical work focused on equilibrium outcomes, while (in line with the discussions above) models were needed for the negotiation process. A pioneering model of this type by Balakrishnan and Eliashberg (1995), building on Puit's (1981) work, incorporates power, concession points, aspiration level and timer pressure and is able to predict likelihood of agreement and the pattern of offers and counter-offers.

Analytically, their model has a seller \((i = 1)\) making price offers in periods with an odd index and the buyer \((i = 2)\) making (counter) offers in periods with an even index. The seller's problem is to maximize the price offer, \(X_t\) subject to

\[ \rho_1(X_t) - \phi(X_t) = 0, \quad (14.9) \]

(resistance curve, \(\rho\) is in balance with concession curve \(\phi\) and

\[ \mu_1 \leq X_t \leq \tau_1, \quad (14.10) \]

(offer must be between the reservation price \(\mu\) and aspiration level \(\tau\).)

Similarly, the buyer tries to minimize his buying price offer, \(Y_t\) is subject to

\[ \rho_2(Y_t) - \phi_2(Y_t) = 0, \quad (14.11) \]

\[ \tau_2 \leq Y_t \leq \mu_2. \quad (14.12) \]

where

\[ X_t, Y_t = \text{offers made by seller/buyer, respectively, in period } t \]

\( \phi = \text{party i's concession curve (i = 1 is the seller, i = 2 is the buyer)} \)

\( \rho_i = \text{party i's resistance curve} \)

\( \tau_i = \text{aspiration level for party i (target point)} \)

\( \mu_i = \text{reservation price for party i} \).
The authors propose the following functional forms for the $\rho_i$ and $\phi_i$ curves:

$$\rho_{1,i} = \Pi_1 (r_1 - X_i),$$  
(14.13)

$$\rho_{2,i} = \Pi_2 (Y_i - r_2),$$  
(14.14)

$$\phi_1 = \alpha_1 (X_i - \beta_{1,i}),$$  
(14.15)

$$\phi_2 = \alpha_2 (\beta_{2,i} - Y_i).$$  
(14.16)

Equations (14.13)–(14.16) introduce the focal point, $\beta_{i,t}$, for both the buyer and seller. The authors interpret this quantity as $\beta_{2,i}$ — party i’s projection of j’s ultimate offer, given what has occurred up until time i and model it recursively as

$$\beta_{1,2t} = \beta_{1,2t-2} + \theta_{1} (Y_{2t-1} - Y_{2t-3}),$$  
(14.17)

$$\beta_{2,2t+1} = \beta_{2,2t-1} + \theta_{2} (X_{2t} - X_{2t-2}),$$  
(14.18)

where

$$\theta_{1} = \text{the coefficient of party i’s tendency to reciprocate } (-1 \leq \theta_{1} \leq 1)$$

and

$$Y_{2t-1} - Y_{2t-3}; X_{2t} - X_{2t-2} = \text{most recent concessions made by the buyer and seller, respectively.}$$

Note that if $\theta_{1} < 0$, the bargainer is acting in a reciprocative manner (tit-for-tat) while if $\theta_{1} > 0$, the bargainer is attempting to exploit concessions of the other party.

Note also that the time indices in Eqs. (14.17) and (14.18) suggest that party 1 acts during periods with an even-numbered index while party 2 acts during periods with an odd-numbered index. After some algebra, Eqs. (14.13)–(14.18) yield

$$X_{r+2} - (K + 1)X_{r+1} + KKX_{r} = 0,$$  
(14.19)

where

$$K = \frac{\alpha_1 \alpha_2 \theta_1 \theta_2}{(\Pi_1 + \alpha_i)(\Pi_2 + \alpha_2)}.$$  
(14.20)

Equation (14.19) is a second-order difference equation with solution

$$X_r = \frac{X_1 - KX_0}{(1 - K)} - K' \left[ \frac{X_0 - X_1}{1 - K} \right],$$  
(14.21)

where $X_0$ and $X_1$ are the seller’s first and second offers, respectively.

An equation similar to (14.21) holds for $Y_r$, and an agreement is said to occur at the first time, $t$, where $Y_{r+1} > X_t$ (that is, where the buyer is willing to meet the seller’s demanded price). By studying the individual — and dyadic — level dynamics associated with Eq. (14.21), the model predicts if and when an agreement will take place and what the pattern of offers and counter offers looks like.

The Balakrishnan and Eliashberg (1995) model allows predictions of (a) the conditions under which offers oscillate, (b) when no agreement will take place, (c) what the agreement point is likely to be and (d) when (at what iteration in the bargaining process) that agreement will take place. The authors report encouraging results on the predictive validity of the model in a lab experiment and a field study. The model and empirical analysis suggests that it is possible to model and at least partially control the nature and dynamics of the bargaining process.

During the last decade and a half, researchers have focused on addressing issues associated with multiple issues and multiple agents. Multiple issue negotiations can be categorized into two types: independent issues and dependent issues. Independent issue negotiations are simple extensions of single issue negotiations with a unique optimal solution. Interdependent issues the utility functions for buyers and sellers can be quite complex, with multiple local optima. Hence, research has focused on mechanisms to address the interdependency issue, including the possible role of a mediator. For example, Ehtamo, Kettunen, and Hamalainen (2001) propose a model with the mediator (human or machine) which learns buyer and seller preferences from previous offers and suggests offers closer to the efficient frontier.

An important problem with multiple issue negotiations is the procedure for determining how the issues will be settled. Fatima, Wooldridge, and Jennings (2006) model three types of processes: package deals, simultaneous (where issues are settled simultaneously but independently) and
sequential. They show how time constraints and the form of utility functions lead to different optimal procedures.

Particularly with the advent of team buying in the 1990s, more and more firms began readjusting their organizational structures to formalize cross-functional team buying procedures. Morgan (2001) found that over 70% of the firms he sampled used team buying and sourcing methods. This observation has begun to spawn modeling and analysis focusing on agenda strategies with buying teams dealing with multiple issues. (See Patton and Balakrishnan, 2012, for an example.) Yet it is clear that there is potential for far more work in this important area.

14.4 Relationship and network models

While this chapter focuses on organizational buying models, the nature of business marketing suggests that a relationship or network focus (looking at linkages that cross-organizational boundaries) may be most appropriate. Nearly 10% of the more than 2100 articles in business marketing that Reid and Planck (2000) reviewed covered relationships in some manner. Research in this domain has used different theoretical perspectives including agency theory (Bergin, Dutta, and Walker, 1992), transactional cost analysis (Lothia and Krapfel, 1994), equity theory (Lucas and Bush, 1983), social psychology (Bonomo and Johnston, 1978), and network theory (Hutt and Reingen, 1987).

Bonomo and Johnston (1978) argued that a dyadic or systems approach to examining organizational buying behavior would provide more insight into the process and likely outcome of an organizational buying process than segregated view of buyers and sellers. They also argued that previous research had overlooked critical social variables in models of organizational buying. Wilson (1978) provided a dyadic model and argued that in order to understand buying centers, one must understand the interactions within the buying center as well as interactions with sellers. Other authors such as Bonomo, Baggezi, and Zaltman (1978), Hakansson and Wootz (1979), and LaGarce and Prell (1978) provided alternative dyadic models.

Research in this domain has provided considerable insight into the factors that promote continuity in a given relationship, such as social and structural bonds (Berry, 1995), relationship quality (Crosby, Evans, and Cowles, 1990), satisfaction (Fornell, 1992), and service quality (Ostrom and Iacobucci, 1995). Different variables are conjectured and integrated to contribute to successful relationships. Morgan and Hunt (1994) argued that commitment and trust are the major variables that affect the relationship between different parties involved in marketing exchanges. Wilson (1995) developed an integrative relationship model in which more variables are included: commitment, trust, cooperation, mutual goals, interdependence and power, performance satisfaction, structural bonds, comparison level of alternatives, adaptation, non-retrievable investments, shared technology, and social bonds.

While more recent work on buyer–seller relationship still focuses on the factors that affect the dynamics of buyer–seller relationships, much of that work (e.g., Heide, Wathne, and Roll, 2007; Palmatier, Dant, and Grewal, 2007; Jap and Haruvy, 2008; Wang, Kayande, and Jap, 2010) has adopted longitudinal study designs (more appropriate for modeling dynamics than historical cross-sectional approaches). In addition, some of the work has focused on new marketing issues such as online auctions, customizing complex products, and service management from the perspective of buyer–seller relationships (Ghosh, Dutta, and Stremersch, 2006; Jap and Haruvy, 2008; Roels, Karmarkar, and Carr, 2010).

Critics of basic relationship models argue that, while those models focus on two business partners (e.g., buyer–supplier), they neglect the environment (the network of personal and business connection) in which the relationship is housed (Achrol, 1997; Snow, 1997; Walker, 1997; Ehret, 2004; Kamp, 2005; Johanson and Vahlne, 2011). In spite of the challenges of using a network perspective to study organizational buying behavior, the approach allows researchers to examine the interdependencies of the firms and individuals in a scope beyond dyads (Wasserman and Iacobucci, 1988; Wuyts et al., 2004; Freytag and Ritter, 2005).

At the firm level, buying firms form alliances and collaborative relationships with suppliers, channel members, and clients and even competitors. Hence, there are interfirm networks in which a buying firm and its connections form a small part of a complex and dynamic network: within the buying firm, a cross-functional intrafirm network of managers and the members of the buying center are embedded in the network of the entire buying
firm and they all interact with the networked sales team from the selling firm. The complexity of the network and the associated measurement difficulties provide formidable research challenges (Borders, Johnston, and Ridgon, 2001).

One challenge of the network paradigm is to account for the effects of agents not directly connected to the focal firm. One approach to address this challenge involves modeling techniques to analyze the (incomplete) dyadic network data, such as exponential random graph models, latent space models and the multiple regression quadratic assignment procedure (Ansari, Koenigsberg, and Stahl, 2011). Another approach is to expand the unit of analysis to be triads. Wuys et al. (2004) investigate buyer–vendor–supplier triads and test how buyer’s preferences on vendors are affected by second-order ties. Wathne and Heide (2004) investigate customer–manufacturer–supplier triads and show how governance mechanisms (supplier qualification and incentive design) affect the nature and uncertainty of the manufacturer–supplier relationship. Choi and Wu (2009) consider triads of one buyer and two suppliers and model relationship dynamics under conditions of both balanced and unbalanced triadic states and triads with structural holes. These studies show the importance that network structure and the location of the buyer (and its agents) in that network plays in understanding organizational buying behavior.

A second challenge in applying network concepts to organizational buying involves relationship multiplexity: the number of diverse types of ties between two firms arising from different modes of interaction or because of different roles firms/individuals play within a network setting (Van den Bulte and Wuys, 2007). Much the same way that traditional organizational buying models viewed the buying center as composed of numerous roles (gatekeeper, purchasing agent, financial analyst, etc.), the nature of the relationship between various agents in the buying and selling firm (joint problem-solving/R&D links, price negotiation links, service management links, etc.) should be considered to properly characterize the interfim relationships. Multiplexity not only contributes to the total strength of a tie but also increases the number of ways in which resources flows through the networked firms (Van den Bulte and Wuys, 2007).

Tuli, Bharadwaj, and Kohli (2010), shows that multiple types of ties between a buyer and a supplier are valuable resources for increasing multiplexity in relationships, leading to an increase in sales and to a decrease in sales volatility.

A third challenge in applying network concepts to organizational buying arises from the dynamics of relationships and the individual linkages that comprise those relationship, necessitating the collection of associated data and analytic procedures. Dwyer, Schurr, and Oh (1987) proposed a fixed order life-cycle theory of the development of relationships between organizational buyers and organizational sellers. They proposed that a relationship passes through five stages: awareness, exploration, expansion, commitment and dissolution; relationships without high overall dependence are either at early stage or about to dissolve. Ring and Van de Ven (1994) proposed a cyclical theory of relationship development where the steps (negotiation, commitment to an agreement, execution of the agreement, assessments, terminating the relationship) repeat within each of the five phases. Due to the challenges of tracing ongoing relationship, there has been limited empirical work to analyze relationship life-cycle theories. Jap and Anderson (2007), test the propositions in Dwyer Schurr and Oh (1987) and Ring and Van de Ven (1994), beginning the process of putting dynamic relationship and network ideas into practice. Although the unit of analysis in relationship life-cycle studies and longitudinal relationship studies has been independent dyads to date, the findings from these studies suggest that both the types and the strength of the ties connecting firms change over time; different ties are driven by different forces and exhibit different evolutionary properties.

The application of network models (especially those that involve dynamic, evolving networks) should be a fruitful research domain for organizational buying models in the years to come.

14.5 Looking ahead

The complexities of organizational buying noted above have limited the amount of attention marketing scientists have paid to the area. Indeed,
it seems that interest in some of what once appeared to be quite promising areas for marketing science has waned. To a large degree, marketing scientists, like academic researchers in many fields, suffer from the “search under the lamp-post” syndrome,\(^1\) researching where there is a large volume of readily accessible data. Organizational buying behavior takes place in domains that often do not readily generate large amounts of data (far fewer, more complex transactions of much higher economic size than in the consumer marketplace) and hence has seen far less scrutiny by marketing scientists than have consumer behavior models.

To put things into perspective consider the following (US-centric) facts:

1. According to the most recent Department of Commerce Statistics (www.census.gov/econ/estats/2010), B2B transactions account for US$10.7 trillion of the US$25.7 trillion or over 40% of the transactions that comprise the US economy. All those B2B transactions involve organizational buying.

2. According to the same Department of Commerce report, 89.7% of all electronic transactions take place on the B2B side, which means that organizational buying accounts for the overwhelming majority of all electronic transactions, a major and under researched area of organizational buying.

3. The 2013 budget for the US Department of Defense (http://comptroller.defense.gov/budget.html) amounts to more than $800 Billion. And that amount is a small fraction of the total spending for federal, state and local governments. Hence, governments, non-profits and non-government organizations (NGO’s) account for an enormous amount and variety of organizational buying activity, yet there is minimal research into how these organizations buy.

These US facts are representative of situations elsewhere in the world and lead to the following five domains in need of more attention from marketing scientists\(^2\):

1. Better predictive models of organizational choice. In spite of the work of Wilson, Lilien, and Wilson (1991) and others cited above, standard organizational buying research still involves seeking a “key informant” who will complete some questionnaire and/or trade-off task to assess organizational preferences. We need robust, operational models of the organizational buying process that can be calibrated in a cost-effective manner, can predict what organizations will buy and what the key factors are that will influence those purchases. This topic was also one of the two most pressing issues cited by Wiesema (2012) in the recent, inaugural report of the B2B Leadership Board.

2. Models of government buying. Governments at all levels make purchases using rules and processes that have different objectives and constraints. As Krug and Weinberg (2004) point out in the context of non-profits, the different goals, objectives and constraints of non-profits lead to drastically different optimal behaviors that for profits. Hence, both descriptive and normative models of organizational buying applied to governments and nonprofits are sorely needed.

3. Operational network models of organizational buying. The previous section noted a number of benefits and key challenges associated with applying network models and methods to organizational buying problems. Challenges at least include dealing with incomplete data on network structure, multiplexity and the dynamics of network provide rich avenues for research and methodological advances.

4. Models of electronic commerce in the B2B domain. While not a traditional organizational buying topic, given that nearly 90% of the economic value of electronic transactions takes place between organizations, it is surprising that the domain has not attracted researchers. Following Rust (1997), we need a theory and models of computer buying behavior in the context of organizational purchasing.

\(^{1}\)A drunken man is crawling around on his hands and knees under a lamp-post. His friend asks him “what are you doing crawling around under that lamp-post?” The drunk responds that he has lost his keys and is looking for them. His friend responds “your car is over here, you have not been near that lamp-post”. The drunk responds “it is very dark and this is the only place where there is some light”.


\(^{2}\)See Johnston and Chandler (2013) and Spelman and Thomas (2011) for other look-aheads in this field.
5. Realistic models of bargaining and negotiations. As noted above, the gap between academic research in bargaining and negotiations and its practice in an organizational buying context is large. There is need for marketing science work seeking empirical generalizations about bargaining processes and strategies and work that does not assume away the complexity of bargaining in a multi-agent, multi-attribute environment.

While there are more challenges in the organizational buying domain, those cited above have great managerial relevance and provide fertile ground for scholars wishing to tackle difficult but important problems.

Acknowledgments
I would like to thank Huanhuan Shi, a PhD student at Penn State, who provided outstanding support in compiling and helping to summarize the material in this chapter.

References


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