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Erin Anderson and the Path Breaking Work of TCE in New Areas of Business Research: Transaction Costs in Action

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Abstract

This review article synthesizes Erin Anderson's academic contribution, with an emphasis on two path breaking aspects of her work, namely the operationalization of TCA in different contexts and the refinement of the theory. We review the measures that she developed to reflect key TCE constructs, and identify five contexts in which Erin Anderson's application of TCE concepts broke new paths. These are employee or representative salesforces, choice of foreign entry mode, new market entry and innovation, countertrade, and ethics. We highlight a number of ways in which her research integrates other theories to transaction cost economics, thereby deepening our understanding of key issues involving make or buy decisions. Finally, we draw attention to directions for future research identified through her work.
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Keywords: Erin Anderson; TCE; TCA; Transaction costs; Asset specificity

Erin Anderson, who passed away in 2007, felt immensely grateful towards Barton Weitz, her PhD advisor who set her on the path to discovering Williamsonian Economics. Williamson's transaction cost economics took her on a journey that became the thread of her academic career. Barton Weitz inspired her early research agenda and encouraged her research endeavors as her dissertation advisor and later on as a colleague at the Wharton School. It was also at the Wharton School that Oliver Williamson provided her with the intellectual stimulation that led to her extensive academic contribution.

Introduction

While Coase quipped that his 1937 article was "much cited but little used" (Coase 1988), the reverse could be said of transaction cost economics today. In their 2006 paper, Geyskens et al. underline the breadth and depth of literature which developed around TCE, stating that "few other organizational frameworks have been studied for a longer period of time or have been accorded as much scholarly attention as transaction cost theory". This statement certainly applied to Erin Anderson's work: throughout her career, she published 43 scholarly articles as well as 6 book chapters on transaction costs in action, and was nominated in ISI's top 0.5% most cited scholars in business and economics in 2003. This review article is an attempt to synthesize her contribution, with an emphasis on two path breaking aspects of her work, namely the operationalization of TCA in different contexts and the refinement of the theory.

Operationalizing transaction cost analysis in different contexts

Geyskens, Steenkamp and Kumar (2006) note that "efforts to subject transaction cost theory to empirical testing began shortly after the publication of Williamson's seminal book 'Markets and Hierarchies' and have continued unabated since then in a variety of disciplines". Erin Anderson was a pioneer of this trend within the field of management. She operationalized and tested the role of transaction costs in the make versus buy decision for contexts which have remained or become central to management issues today.

Measuring transaction cost constructs

By creating measures of the key TCE constructs, Erin Anderson's research contributed to the development of empirical work as well as the refinement of transaction cost economics.

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Appendix A recapitulates these measures. As the original articles do not always provide the full list of items, it is our hope that regrouping them here may foster additional research.

Transaction-specific assets

Transaction-specific assets are those which are tailored to the user. When they are present in a transaction, they eliminate competitive market pressures and therefore the superiority of the market over integrated governance structures. Transaction-specific assets are the main construct through which TCE explains the choice of governance structure. In conjunction with uncertainty (which introduces bounded rationality, or cognitive limitations, in the form of lack of information) and opportunism (or self interest seeking with guile-Williamson 1975), transaction-specific assets make it more likely that firms will integrate rather than use market mechanism for their transactions.

In her earliest work, Erin Anderson (1985, 1988c, Anderson and Weitz 1992) developed composite survey scales to measure the impact of key transaction cost constructs on manufacturers' choice of using integrated or independent sales forces. In these first empirical studies, she identified multiple dimensions of the general construct of asset specificity (TSA). In her analysis, transaction specificity of assets is composed of company and product nature, and the importance of confidential information and need to know accounts, customer complexity and loyalty, and key accounts. As depicted in the appendix, company nature is reflective of ten items which measure the importance for a sales agent's performance of having extensive experience within the company. Nature of products is reflective of product characteristics, such as level of sophistication, which make it essential for sales agents to gain extensive knowledge of the products. Confidential information corresponds to the difficulty of acquiring and impact of holding sensitive information. Agents may also need to get to know accounts very closely in order to perform well, customers can be more or less complex and their loyalty to the agent (as opposed to the product or manufacturer) can have an impact on sales. Potentially, sales can depend heavily on key accounts which an agent must give special attention to. Finally, one's own idiosyncratic (or transaction-specific) investments in the principal–agent relationship can be measured through 11 items of agreement with statements reflecting the extent to which the investment would be lost if the relationship was terminated. Perceptions of the extent to which one's partner has developed idiosyncratic investments in the relationship can be measured in turn by five items.

Internal and external uncertainty

Two types of uncertainty, internal and external, can have an effect on the decision to make or buy (Williamson 1975). From survey data, Erin Anderson (1988c) developed composite scales for both constructs. The former, which corresponds to the difficulty of evaluating an agent's performance, is measured by seven items which reflect the difficulty of measuring individual output on objective performance indicators. External uncertainty, on the other hand, corresponds to environmental unpredictability and can be measured by nine survey items which characterize the environment according to whether it is complex, stable, easy to monitor, and certain as well as the discrepancy between sales forecasts and realized sales. The items also include emphasis on new products and markets.

Opportunism

Erin Anderson (1988c) operationalized opportunism as a principal's perception that its agents sometimes distort information or behave dishonestly towards them. The set of nine survey items reflective of opportunism situate informants within different contexts and emphasize varying levels of dishonesty, from agents not being entirely candid with the principal because they feel that the principal in not entirely candid with them, to agents being ready to do anything to further their own interests.

Empirical testing of the transaction cost explanation in different contexts

We can identify five contexts in which Erin Anderson's application of TCE concepts broke new paths. These are employee or representative salesforces, choice of foreign entry mode, new market entry and innovation, countertrade, and ethics.

The role of human asset specificity in employee or representative salesforces

"*In spite of the importance of the rep-direct choice, little empirical research addresses the issue and no comprehensive model of rep-direct usage (...) exists. Even opinion on the question is difficult to come by; sales force texts give little mention to reps and opinion among managers is contradictory and ill codified*." – Anderson (1985)

In his analysis of transaction-specific assets, Williamson notes that these can be classified into categories according to whether they are location-specific assets, physical assets or human assets. The latter corresponds to "special-purpose knowledge and working relationships, which arise in a learning by doing fashion and create specific, rather than general, human capital" (Anderson 1985). Much of the early work in transaction costs focused on physical asset specificity (Williamson 1975), and numerous studies ensued in research on the multinational firm concerning location-specific assets (Buckley and Casson 1985). As highlighted by the introductory quote to this section, when Erin Anderson first began publishing there was very little understanding or interest in human asset specificity, in particular in examining manufacturers' choices of integrating or going through independent sales forces, or "reps" (manufacturers' representatives). Yet, of the three types of asset specificity, human asset specificity is the one less tied to technology and economies of scale. It therefore provides particularly rich opportunities for observing the phenomenon.

Throughout her career, Erin Anderson studied closely the role of transaction costs in manufacturers' choice of integrated or independent sales forces. She refined the concepts and provided better understanding of the different factors which make up human asset specificity in this context (Anderson and Schmittlein 1984; Anderson 1985). For example (Anderson

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Table 1
Modes of entry: summary of empirical findings.

Construct	Effect
TSA	
R&D/Sales	+
Advertising/Sales	+
External Uncertainty	
Country Risk	−
TSA × External Uncertainty	+
Internal Uncertainty	
International Experience	+
Socio-cultural Distance	−

1985) manages to distinguish between customer specificity (the need to get to know complex customers) and account specificity (the need to get to know complex accounts). Therefore although a relationship with the customer might be relatively straightforward, the salesperson may still develop a high level of asset specificity related to the complexity of that customer's account, and vice versa.

The role of transaction costs in foreign entry mode choice

Anderson and Gatignon (1986) propose a transaction cost framework to bring together the large and eclectic literature on modes of foreign entry. The transaction cost analysis of this particular internal management decision allows the authors to unify many influencing factors into a few groups of variables linked together by a parsimonious explanatory mechanism. An empirical test of the transaction cost explanation is provided in Gatignon and Anderson (1988) using a large data set on entries by US multinational manufacturing firms, from the Harvard Multinational Enterprise data base. R&D to sales ratios and advertising to sales ratios are used as indicators of transaction-specific assets. Country risk is considered to represent external uncertainty. International Experience is believed to decrease internal uncertainty while socio-cultural distance should increase it. The results support the relevance of the transaction cost explanation when considering the choice between a wholly owned subsidiary and a joint venture. Table 1 summarizes these findings. The two sources of transaction-specific assets – the ratios of R&D and advertising to sales – are positively associated with the probability of entering a new country as a wholly owned subsidiary. External uncertainty (represented by country risk) has a positive effect when associated with highly specific investments (a positive interaction) but has a main negative effect when asset specificity is low. Internal uncertainty, whether due to low international experience of the entering firm or due to high socio-cultural distance with the country it is entering, leads to a less integrated choice involving a partner. This study was the first empirical support of the transaction theoretic framework in the international business entry mode literature. The utility of this framework in this context was recognized by the Academy of International Business' 1996 decade award from the Journal of International Business Studies. Still today, international business scholars expand this original framework, building on the transaction cost factors beyond those evaluated purely from the multinational enterprise's perspective (Hennart 2009).

The role of transaction costs in new market entry and innovation

Firms can create new markets through either the distribution of existing products or the development of innovations. In addition to studying the former extensively, Erin Anderson also investigated new markets which are born and grow through new products. Developing new products and services but also targeting new market segments require an appropriate marketing strategy. Based on an extensive literature review drawing on new product development (NPD), economics and marketing, Anderson and Gatignon (2005) take a transaction cost economics view of the choices made by firms concerning innovation development and innovation marketing. They identify fundamental TCE concepts that play a central role in these areas of management. Starting with the premise that firms are bounded in their abilities, they discuss the role of opportunism, asset specificity, environmental uncertainty and internal uncertainty in explaining how firms develop new products in the hope of creating new markets, and how they form relationships with economic actors (such as distributors) that are vital to the product's success.

New product development (NPD) requires that firms make deep investments that are highly specific to the company. The role of NPD teams and their composition has received much attention (Moorman 1995); in particular the "economics of atmosphere" (Williamson 1996) can be critical to elicit employees' loyalty and trust vis-à-vis their employer through "clan" structures. The cohesion of team members and their experience, in particular, have been considered as specific assets. However, it appears that these idiosyncratic investments can become "core rigidities" (Leonard-Barton 1992) when a team works together too long (Brown and Eisenhardt 1995).

The transaction cost perspective has also been tested in the context of whether new product development should be developed internally or if the firm should rely on third parties (Robertson and Gatignon 1998). Teece (1996) identifies a number of properties attached to innovation that contradict standard economic theory and which involve key concepts of transaction cost economics. Serendipity and luck follow from the fundamental uncertainties surrounding innovation activities. New product development requires cumulative efforts where investments depend on past outcomes. But the choice of direction in which the firm invests may be irreversible in that it may close off alternative paths. For example, the choice of investing in a particular technology may prevent the firm from developing another technology which may turn out to be more promising along the way. These cumulative investments in proprietary assets are however critical to developing competitive capabilities. Teece concludes that these properties of innovations should lead to internal development rather than acquisition of new products, in spite of the difficulties of doing so on one's one. Nevertheless, a significant portion of the firms surveyed in Robertson and Gatignon (1998) report partnering with another firm. Those firms which do form alliances to develop new products are found

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to be less committed to product category-specific assets, face markets with high technology uncertainty and are better able to measure innovation experience. These results fit the thesis of TCE. Nevertheless, the hazards of cooperation are high when partners co-invest in idiosyncratic assets (Williamson 1996). Anderson and Gatignon (2005) call for additional research to better understand how firms can manage the hazards of cooperation and point in particular to the role of exchanging hostages as it occurs in the pharmaceutical industry across markets.

Having a new product or service is not sufficient to create a market. Customers must buy the product or service. The way in which an innovation is brought to market is critical for the creation of a new market. The adoption and diffusion of an innovation depends on critical factors that relate to TCE concepts, especially as the benefits of an innovation are uncertain for the customer who may fear small numbers bargaining and being locked in. Anderson and Gatignon (2005) discuss how the strategic marketing decisions of the firm (the choice of the market segment(s) to target, the order of entry, announcements prior to entry, the extent of market commitment and marketing mix decisions, especially distribution) are involved in that process.

Applying transaction cost analysis to countertrade contexts

Countertrade affects a number of practices in international trade. Hennart and Anderson (1993) mention six types: barter, clearing arrangements, switch trading, buy-back, counterpurchasing and offset. These arrangements can be considered to be instances of nonstandard forms of contracting as discussed by Williamson (1985). Most of these activities are explained by specificities of the markets involved in the trade, especially lack of confidence in the country currency. However, on top of these explanations, Hennart and Anderson (1993) introduce the notion of high transaction costs (small-numbers conditions and uncertainty leading to potential for opportunism) as an explanation for why firms would engage in countertrade (given that creating a wholly own subsidiary, i.e., a MNE, or vertically integrating would be impossible, in general due to host country regulations). The hypotheses tested by Hennart and Anderson provide indirect support for the TCA explanations. The potential for additional tests of the explanatory mechanisms remains an interesting avenue for future research.

The role of transaction costs in enforcing ethical behavior within the firm

Using the sales force context, Robertson and Anderson (1993) study how the firm's control system (i.e., methods of monitoring, supervising and compensating) affects employee ethical behavior. Applied to the broad-based area of ethics, TCE provides a paradigm that is parsimonious but powerful enough to explain human behavior. The similarities between opportunistic and unethical behavior provides a basis to develop TCE theory further in this new domain. Building on her work with Richard Oliver on behavior-based control systems versus outcome-based control systems (discussed further below), Erin Anderson and Diana Robertson study the reactions of salespeople to scenarios involving degrees of unethical behavior. Output-based control systems signal that benefits (commission) resulting from unethical behavior are high and risks of being caught are low. They also find that Output-based control systems generate less involvement of the employee. Therefore, unethical behavior which results from a calculated expectation of payoffs versus risks is similar to opportunism. It can be controlled by behavior-based control systems, which are the appropriate form of governance structure in this case as they correspond to the integrated governance mode.

In addition, Vosgerau, Anderson and Ross (2008) investigate the role played by the employee's concern for the partner's welfare (which they call mutuality), a concept that shares a moral concern with the concept of ethical behavior. This concern is embedded within the relational characteristics between parties such as the commitment to the relationship and the trust that each party has for the other. It differs, however, by its nature which has more to do with emotions than with the calculative rationale. They further investigate the effect of the asymmetries in the employee's own mutuality versus their perception of the mutuality of the other party. This constitutes one of the components of the misperceptions which are analyzed to explain the employee's behavior. Therefore, this research expands the usual notion of TCE in two directions: it adds a moral/ethic component and it points to the importance of the asymmetries in perceptions to explain behavior.

Refining transaction cost analysis through different theoretical lenses

In his 1975 seminal work on 'Markets and Hierarchies', Oliver Williamson concludes his chapter on the limits of vertical integration and firm size by stating that "the difficult cases, of course, are those where markets experience defects of intermediate proportions. An examination of the frictions of both market and organizational types is then indicated, but the current state of the art hardly permits a refined net evaluation to be made". In her original notes, Erin Anderson penciled in that this was 'the next step' to be made. She pursued this theme throughout her career, and her research ultimately sheds light on the complex question of how transaction costs play out in a world filled with friction. She did this by drawing on a number of other theories to deepen our understanding of internal uncertainty and opportunism - both key issues for transaction cost analysis. These theories are shown on the top row of Fig. 1. They include organizational ecology, relationship marketing, social psychology, cognitive psychology, agency theory and organizational theory. She also examined intermediate forms of governance. Neither market nor hierarchy, these are found along a continuum from make to buy. They can also be hybrid forms of governance, i.e., dual or balanced control systems in which switching costs play a role. These forms are portrayed in the governance mode box at the bottom of Fig. 1. The text in italics reflects the explanatory mechanisms, as we discuss below. Finally, she brought transaction cost analysis from a prescriptive posture to a descriptive stance by bringing in perspectives from organization ecology. She studied whether firms do what TCE tells us they should do, and what happens in a dynamic world where market relationships evolve and confront transaction cost constructs time after time.

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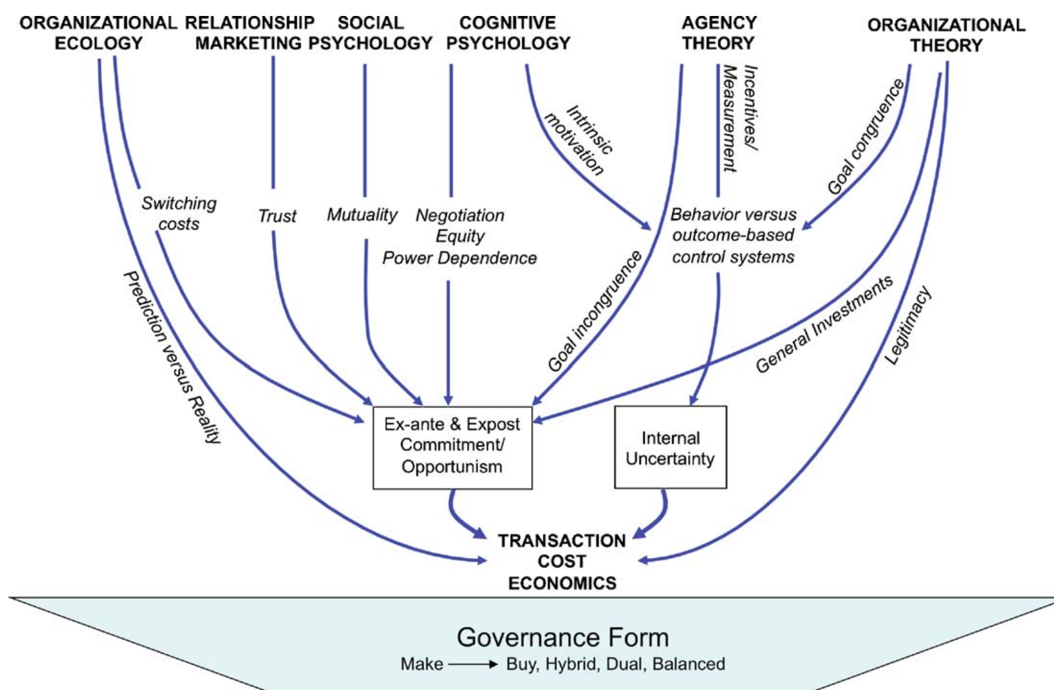

Fig. 1. Erin Anderson's integration of other theoretical approaches to TCE.

Integration of other theoretical approaches to the transaction cost explanation of make versus buy

In her empirical tests of transaction cost analysis, Erin Anderson systematically found a strong impact of two factors – internal uncertainty and the potential for opportunism- on the make versus buy decision. These two concepts are central to transaction cost analysis, yet a number of other theories can provide complementary insights as to how they affect the make versus buy decision. In her work, Erin Anderson studied this question by integrating transaction cost analysis with approaches from organizational ecology, relationship marketing, social and cognitive psychology, agency theory and organizational theory (see Fig. 1).

Dealing with internal uncertainty through behavior- or outcome-based control systems

In her empirical tests of transaction cost economics, Erin Anderson found that internal uncertainty – or the ability to control inputs and measure outputs – had a strong impact on manufacturers' decision to integrate or outsource the sales function. In order to better understand their choices, she first needed to understand how effective different control systems could be in mitigating internal uncertainty. Anderson and Oliver (1987) found that, all else being equal, transaction cost economics tended to prefer outcome-based control systems (which monitor the final outcomes of a process). These were seen as having the same competitive virtues as market-contracting, namely eliminating suboptimal processes through customer choice. Yet Anderson and Oliver realized that, according to the tenets of transaction costs analysis, behavior-based control systems (which monitor individual stages in the process) should perform better in certain situations. This should be the case not only when it is impossible to measure outcomes, but also when high environmental volatility is found in conjunction with transaction-specific assets in the form of highly specialized sales representatives or sales reps that have a lot of experience of the firm. Anderson and Oliver drew on agency theory, organizational theory and cognitive psychology in order to understand this question better.

At the same time as Williamson's 'Markets and Hierarchies' was published, agency theory was focusing on the role of monitoring, measuring and incentives in overcoming internal uncertainty (Alchian and Demsetz 1972; Jensen and Meckling 1976). As Anderson and Oliver noted, this theory's central premise is that 'principals and agents have divergent goals' (1987). It therefore becomes necessary for the firm to devise control systems which realign their agents' incentives in order to ensure that they behave in the firm's best interests. The choice between outcome- and behavior-based control systems, according to this literature, depends on the type of information available at least cost and the type of uncertainty that the firm is faced with. Outcome-based control systems are chosen when measuring outcomes is cheaper than measuring inputs and in contexts with low levels of environmental uncertainty. When the reverse is true-where measuring inputs is cheaper than measuring outcomes and when there are high levels of uncertainty for the salesperson-firms should choose behavior-based control systems. Agency costs therefore contributes to our understanding of how internal uncertainty can be mitigated. Although both agency theory and TCE share a cost-based focus, the former sheds light on the mechanisms that deal with the differences between agents and principals' objective functions.

Organizational theory and cognitive psychology, on the other hand, take a different approach. Organizational theory predicts that the best control systems should be those which manage to create goal congruence between principals and agents

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(Eisenhardt 1985). As detailed in the appendix, goal congruence can be measured by the feeling that principals and agents work for the same goals and objectives, that agents identify with the company, and that there is a sense of team effort and loyalty (Anderson 1988c). However, organizational theorists also recognize that adequate input and/or output measures are not always available and do not always help managers identify the best sales strategy, even when they can be obtained (Eisenhardt 1985; Ouchi and Maguire 1975). Behavior-based control systems should be preferred when firms can identify the processes that they need to promote, but where this is impossible or measuring these is difficult, firms should resort to outcome-based control systems. Organization theory takes the opposite premise of transaction cost, in viewing behavior control systems as the preferred default option. This provides a deeper understanding of the antecedents of organizational control, based on the social components of the firm.

Cognitive psychology focuses on the determinants of motivation. It predicts that the best control systems should be those which create and build on agents' intrinsic motivation, i.e., where individuals feel that they are responsible for determining their activities (Deci and Ryan 1985; Sujan 1986; Weiner 1980). Behavior-based control systems should lead to more intrinsic motivation than outcome-based ones, because they rely on more subjective performance evaluations. These in turn allow the firm to provide feedback which is informational and non-controlling, and helps the agent to improve his or her performance.

Based on these considerations, Anderson and Oliver (1987) develop a framework which brings these theoretical approaches together. It accounts for the ways in which behavior- and outcome-based control systems affect "the thoughts, feelings and behaviors" of salespeople. In a series of follow-up articles, Oliver and Anderson (1994, 1995) develop this framework further and test their hypotheses. They find that the choice of control system strongly influences the "atmosphere" of the firm as well as "how people think and feel about their jobs": behavior-based systems were found to "foster greater attention to company and product knowledge, greater affect (...) towards the firm and acceptance of company procedures, greater levels of intrinsic (...) motivation". Ultimately the type of control system even impacts "how people act and how well they perform", although the authors refrain from drawing generalized performance implications for one control system or the other because these depend on "idiosyncratic variables which will moderate the effectiveness of any one system" (Oliver and Anderson 1995). Ultimately, these two authors demonstrated that a complex analysis of the available control systems can have a decisive impact on levels of internal uncertainty when deciding whether to make or buy.

Fighting opportunism with 'soft' weapons-the effect of trust, goal congruence, mutuality and interdependence

Another important element which Williamson predicted would lead to integration is the potential for opportunism- or self-interest seeking with guile (1975, 1985). Erin Anderson's earlier work (1988a, 1988c) explored and tested the role of transaction-specific or idiosyncratic investments as determinants of opportunism in integrated and independent sales forces. Yet from the outset she noted that "the notion of opportunism has attracted empirical attention in marketing (John 1984; Phillips 1982) and theoretical attention in organization studies (Butler and Carney 1983; Jones 1984)". Having confirmed organizational theorists' predictions that goal congruence would depress opportunism (Ouchi 1981, 1979), Erin Anderson decided in her later work to explore the range of factors which could mitigate opportunism in principal–agent relationships. Drawing on concepts from relationship marketing, social and cognitive psychology, and agency theory, she was able to determine the role of 'soft weapons', such as trust, mutuality and power dependence in overcoming opportunism (see Fig. 1).

Williamson predicts that in situations requiring transaction-specific assets, principals will integrate to avoid being locked into the relationship (1975). But there can also be a positive side to transaction-specific assets: if *both* sides make these 'pledges', they signal their mutual and credible commitment to their relationship, thereby improving both parties' performance (Anderson and Weitz 1992; Anderson, Ross and Weitz 1998; Williamson 1983, 1985). An example of these kinds of pledges is mutual selectivity and territoriality in industrial distribution channels, whereby manufacturers concede the right of exclusive representation to an independent sales force over a given territory and sales agents refrain from carrying competing brands in a product category (Fein and Anderson 1997). This type of analysis brings trust into the make versus buy decision. This conception of trust is rooted in institutional economics, rather than sociology. This view considers trust as the outcome of a calculative process, yet it rests on *perceptions* that it is in the other party's interest to cooperate (Anderson and Weitz 1992; Vosgerau, Anderson and Ross 2008). Because these perceptions are influenced by numerous factors, understanding how they affect the choice of make versus buy requires integration of TCE with other theories. A first set of factors which influence perceptions of the other party's commitment are related to emotions and feeling. These are referred to as "mutuality" – i.e., the commitment level or concern for the partner's welfare-and depend on mechanisms analyzed through theories of social psychology (Vosgerau, Anderson and Ross 2008). As detailed in the appendix, feelings of mutuality imply emotional concern and a sense of responsibility for the partner's performance. Mutuality-inducing factors include the history of the relationship (Blau 1968; Dwyer, Schurr and Oh 1987), as well as the level of communication among partners (Anderson and Narus 1990; Anderson and Weitz 1989; Dwyer, Schurr and Oh 1987; Mohr and Nevin 1990). These elements introduce a certain level of uncertainty in evaluating mutual commitment, though. Vosgerau, Anderson and Ross find that perceptions of the other party's commitment can often be quite far from reality, and are most often downward-biased (2008). Ross, Anderson and Weitz (1997) explore an additional facet of the role of perceptions on opportunism and commitment. They draw on theories of negotiation, equity and power dependence to study the effect on performance of asymmetric perceptions of commitment in principal–agent relationships. The authors propose that perceptions of asymmetric commitment are based on actual level of commitment, dependence and communication levels.

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They test their hypotheses on survey data from principal–agent dyads from the insurance industry, which measure dependence, communication levels and each partner's level of commitment and perceptions of the other partner's commitment, through an eight-item scale developed by Anderson and Weitz (1992). Thus one's own commitment as well as one's perceptions of the other partner's commitment to the relationship can be measured through composite survey scales with ten items (see Appendix A), reflecting a sense of loyalty, patience, dedication and long-term vision for the relationship (Anderson and Weitz 1992). Their findings indicate that firms which believe that they are more committed than their counterpart tend to feel that they derive fewer benefits from the relationship. The reverse is true for firms which believe they are less committed than their counterpart. This corresponds to transaction cost considerations of the dangers of asymmetric commitment (Heide and John 1988; Williamson 1985). Although perceptions of asymmetric commitment are generally closely linked to reality, the more one is dependent on the other, the less one perceives the relationship to be asymmetric. Higher communications levels can also decrease the perception that one is more committed than one's partner. Finally, perceptions of commitment asymmetry have a strong effect on real performance: believing (correctly or not) that one is overcommitted has a negative impact on the partnership's performance, while the more committed one is to the relationship, the more benefits one derives from it. This last finding raises a number of questions on how organizations can safeguard their relationships. The authors discuss the potential effects of signaling one's commitment (whether genuine or not), or of increasing one's commitment. They conclude that "there is a risk in any relationship in which at least one party faces barriers to exiting the relationship. How to manage such systems is a major managerial challenge".

Sandy Jap and Erin Anderson jointly took up this challenge, studying the effect of different types of safeguards on principal–agent relationships. Wathne and Heide's classification of relationship safeguards distinguishes between incentive-based and socialization mechanisms (Wathne and Heide 2000). Jap and Anderson (2003) studied how well these mechanisms complement each other to mitigate opportunism, and which are most effective. They studied the effect on partnership performance and longevity of bilateral idiosyncratic (or transaction-specific) investments as an incentive-based mechanism. Drawing on agency theory and relationship marketing, they also studied mechanisms inducing goal congruence and interpersonal trust. The former predicts that opportunism should be curbed by perceptions of compatible (though not identical) objectives between principals and agents (Eliashberg and Michie 1984; Schmidt and Kochan 1977). This effect should become stronger as opportunism increases because common objectives can be used to evaluate each partner's performance and induce cooperation. Following Mayer, Davis and Schoorman (1995), Jap and Anderson considered trust as "the willingness of a party to be vulnerable to the actions of another party, based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party". At low levels of opportunism, trust should therefore safeguard the partnership. However the trust may become eroded rapidly if it is abused, and come to have little effect where opportunism levels are high. In order to test their hypotheses, the authors asked buyer – principal dyads from four Fortune 50 manufacturing companies to report on their counterpart's ex-post opportunistic behavior. They found that goal congruence is particularly effective in mitigating high levels of opportunism, whereas it fades into the background at lower levels. Interpersonal trust, on the other hand, seems to function the opposite way, as hypothesized: it is highly effective in maintaining relationships given low levels of opportunism, but erodes very fast when levels of opportunism rise. Bilateral idiosyncratic investment, however, appeared to maintain a strong effect on partnership performance and longevity, at all levels of opportunism. Other types of investments can also have an effect on reducing opportunism, though: beyond idiosyncratic investments, firms which make general (i.e., redeployable) investments in their agents get positive effects on turnover in turbulent industries (Galunic and Anderson 2000). These investments can be measured by the extent to which principals help their agents run their business in terms of providing advice or covering certain general expenses, as detailed in Appendix A (Galunic and Anderson 2000). They do not create lock-in effects through calculative mechanisms as idiosyncratic ones do, but rather they improve commitment towards the firm. General investments have a positive effect on employee commitment because (1) they add value to the employee on the job market and (2) they signal concern for the employee on the part of the firm. This creates a sense of obligation for the employee and therefore a desire to reciprocate. Consequently, the employee agrees to invest in the relationship.

Another factor which contributes to the explanation of make versus buy, and is complementary with but not included in the transaction cost framework, is legitimacy. Institutional theory posits that organizations' decisions are influenced by the environment in which they evolve, and in particular by a desire to increase their legitimacy (DiMaggio and Powell 1983). Weiss and Anderson (1991) note that, although appealing, this theory has rarely been adequately tested. They apply the theoretical constructs of institutional theory to study organizations' decisions to change from an independent to integrated sales force. They adopt a conception of legitimacy very close to that developed by Meyer and Scott (1983), whereby the term refers to "the extent that relevant constituents assess the firm as well established, appropriate, and superior to alternatives" (Weiss and Anderson 1991). The authors argue that, because "a firm's sales force is the face of the company to what is arguably its most important group of constituents: the firm's customers", the firm's need for legitimacy may be an additional element in the make versus buy decision. Their results confirm this hypothesis, demonstrating that legitimacy concerns affect not only the decision of whether or not to integrate but also the decision to switch sales representatives. They also illuminate some of the mechanisms underlying institutional theory. Firms are preoccupied with preserving their perceived levels of legitimacy, rather than compensating for their perceived legitimacy deficiencies: those which believe direct sales increase legitimacy tend to integrate in

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the first case but not in the second. Although firms do not appear to take into account their own lack of legitimacy, their decision to integrate is affected by their perceptions of their sales representatives' lack of legitimacy. Most interesting are the contingency conditions uncovered by the authors, which reconcile rational actor and institutional models of decision-making. They find that in uncertain environments firms tend to choose governance modes which they believe will increase their legitimacy. Where they are resource-constrained, firms will tend not to integrate. Although TCE does not explicitly consider the need for legitimacy as a determinant factor of this decision, the two theories are not in direct opposition. Integrating legitimacy considerations can therefore bring more accuracy to TCE predictions of when firms will integrate and when they will resort to market mechanisms.

Theoretical and empirical examinations of intermediate governance forms

> "*Early versions of transaction cost economics focused on the binary choice of market and hierarchy (...). Middle-range solutions (...) were thought to be unusual, inferior and unstable. Over time, TCE has been revised to reflect the empirical reality that middle-range solutions are actually more common than hierarchical solutions (Williamson 1991)*" – Bensaou and Anderson (1999)

Erin Anderson's research examined these middle-range solutions from three different vantage points. She first apprehended the choice of make versus buy as a continuum from integrated to independent entry modes (Anderson and Gatignon 1986; Gatignon and Anderson 1988). She then studied the use of balanced sourcing approaches (Chatterjee, Hyvönen and Anderson 1995). Finally, she focused on hybrid control modes, midway between outcome- and behavior-based systems (Oliver and Anderson 1995).

As described in the first section of this article, choice of foreign entry mode can be modeled in function of transaction cost constructs (Anderson and Gatignon 1986; Gatignon and Anderson 1988). One of the main factors which influence this decision is the degree of control over foreign subsidiaries offered by different governance modes. High levels of control are deemed desirable, because they allow firms to capture returns, but also because they are necessary in order to "coordinate actions, carry out strategies, revise strategies, and resolve the disputes that invariably arise when two parties to a contract pursue their own interests" (Anderson and Gatignon 1986). However higher levels of control entail higher levels of resource commitment, and thus of exposure to risk. Tradeoffs thus exist between more control and higher costs as well as the inability to exploit subsidiaries' local knowledge for example. These are continuous tradeoffs rather than discrete choices, leading the authors to model the entry mode decision along a continuum from more to less integrated options. This type of framework can be applied to a wide range of literature from international business which proposes a number of different classifications of foreign entry modes. Although the different categories and their designations vary according to author, most of the literature on this topic concurs that a number of entry modes exist which can be organized according to the levels of control provided and of resource commitment required. Table 2 compares the classification made by several authors according to three levels of control (high, medium and low).

In their article on concentrated versus balanced sourcing arrangements, Chatterjee, Hyvönen and Anderson (1995) demonstrate that the choice of an integrated or independent governance structure does not have to be binomial. In fact retailers search for a balanced sourcing arrangement with both integrated and independent sales forces. This can be interpreted as an attempt to get "the best of both worlds" and avoid being locked into one type of relationship. However, Sa Vinhas and Anderson (2005) show that this strategy can also occur unintentionally as both channel types contact the same customers or customers set them in competition against each other. They also highlight the potential destructive nature of balanced sourcing under these circumstances.

As seen above, control systems can be another effective way of avoiding opportunism. These can be either outcome-based or control-based, each of which has both advantages and drawbacks and may be more appropriate to some settings rather than others (Anderson and Oliver 1987; Oliver and Anderson 1994). Consistent with Jaworski (1988) and Ouchi (1979), Ouchi and Maguire (1975), Oliver and Anderson (1995) go on to explore another important dichotomy, that between pure-form (either outcome- or behavior-based) and hybrid control systems. Rather than correspond to a mid-range solution along a continuum from outcome- to behavior-based control systems, these hybrid forms operate under a mix of supervision, evaluation and compensation schemes which are taken from both outcome- and behavior-based control forms. The authors find that, although salespeople operating under hybrid control systems evaluate their work environments as bureaucratic and spend a greater proportion of time on planning, they are motivated by intrinsic job satisfaction and perform better than those under pure-form control systems. It may be that "over-management" can lead to better results, but it seems more likely that different offices or business units are subject to diverse mixes of control systems which are individually adapted to their salespeople. Oliver and Anderson also question the underlying reason for which firms adopt different control systems. They suggest that self-selection may operate, whereby salespeople are employed by firms whose control systems are best adapted to their work style, and indicate that future research should provide deeper insights as to different hybrid forms and how to optimize them.

From a prescriptive to a descriptive approach

Mapping TCA onto reality: do firms do what they should do?

Despite its premise of bounded rationality, transaction cost economics, as most economic models of human behavior, assumes that actors do what they should do. In other words, given limited information and uncertain conditions, economic actors choose the course of action that will maximize their returns. Thorngate's (1976) evaluation of theoretical models is based on three elements: generality, simplicity and accuracy. As seen

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Table 2
Foreign entry mode classifications along a control continuum.

	High control	Medium control	Low control
Anderson and Gatignon (1986), Gatignon and Anderson (1988)	Dominant equity interests	Balanced equity interests	Diffused interests
Root (1987), Erramilli and Rao (1993)	Wholly owned operations	Joint venture	Contractual transfer
Kogut and Singh (1988)	Greenfield/acquisitions	Joint venture	
Hill, Hwang and Kim (1990)	Wholly owned subsidiary	Joint venture Equity/non equity	Licensing/franchising
Kumar and Subramaniam (1997) and Pan and Tse (2000)	Greenfield investments/acquisitions	Joint ventures	Exporting/contractual agreements

in our first section, TCA can and has been applied to a wide variety of contexts; it is therefore general. It can and has been used to explain complex organizational decisions on the basis of a few crucial concepts such as asset specificity, uncertainty and opportunism; it is therefore also relatively simple. As a predictive theory, however, is it accurate? As early as 1988; Erin Anderson addressed this question, drawing strategic implications from an application of Darwinian economics to the choice of integrated or independent sales force. Darwinian economics is based on the premise that markets force optimal behavior even if actors are guided by behavioral assumptions which differ from the market-based model (Hirshleifer 1977, 1985). Very much in line with evolutionary theory, the approach considers that "wrong" decisions-those which do not correspond to the economic model of optimal behavior-will be selected out. Based on this approach, Erin Anderson used a difference in differences methodology to compare the efficiency (or sales/cost ratio) of manufacturers who conform to the industry rule with those who don't. Given the Darwinian approach, this should be equivalent to comparing firms which make the "correct" choice between independent and integrated sales forces as predicted by TCE with those who do not. Through this approach, Erin Anderson therefore sought to determine whether in fact "prevailing practice represents 'good' decisions" (Anderson 1988b). Based on her model of industry practice (Anderson 1985), she estimated the degree of conformity to that model through an index of observance which represents the strength of the industry's "recommendation" (Anderson 1988b). She finds that in predictable environments, firms can improve on the industry rule because they can develop in-depth knowledge of these environments and therefore a sense of where they can profitably deviate from the norm. However in uncertain environments, she finds that conformity to the industry norm does indeed improve efficiency, even if it might not represent the best possible rule (Kunreuther 1969).

A decade later, Bensaou and Anderson (1999) decided to confront the concept of asset specificity with reality. Transaction-specific assets are the centerpiece of TCE (Williamson 1985). As detailed in previous sections of this article, asset specificity can be both a curse and a blessing, potentially creating contractual hazards on the one hand, but also providing a source of competitive advantage on the other (Ghemawat 1991). To what extent do firms manage this tradeoff and how? Bensaou and Anderson (1999) study the circumstances under which automobile manufacturers decide to make transaction-specific investments, and whether this conforms to theoretical predictions from TCE. They find that manufacturers use transaction-specific, or idiosyncratic, investments as coping mechanisms in unpredictable environments characterized by fast-paced technological change. They also resort to idiosyncratic investments when they need to manufacture customized, technologically complex components. Finally, they employ specific assets in cases where there is a shortage of qualified principals or where they wish to bind a specific principal's competencies into their product, especially when the principal is relatively obscure. These findings suggest that manufacturers are indeed aware of the two faces of asset specificity, and carefully manage the tradeoffs involved. Because the authors compare American and Japanese auto manufacturers, they can also provide advice as to how these tradeoffs could be managed better. In particular, they found that Japanese manufacturers were better able to avoid setting up expensive governance structures to manage their dependency on their principals.

The dynamics of governance

Switching costs. For the most part, the transaction cost literature views the decision of make or buy as a static choice made ex ante. Principals compare the costs and benefits of initiating an integrated versus independent governance structure, before making a permanent choice between the two. Although managers do in fact consider converting from one mode to the other after having made their initial choice (Corey, Cespedes and Rangan 1989), this decision is rarely considered from a theoretical viewpoint. Weiss and Anderson (1992) ask when it is that managers reconsider their choice of governance mode, and whether the factors which weigh on their choice are different ex ante and ex post. The authors' premise is that the decision to integrate the sales force is an evolutionary one, and the appropriate governance mode varies along with changes in the firm and its environment (Guiltinan 1974). In order to understand when and why manufacturers may be reluctant to switch to the appropriate governance mode, the authors introduce friction to the transaction cost model. This friction exists in the form of (real or perceived) switching costs – or the expenditures related to switching from one governance mode to the other (Gilbert 1989) – which are generally viewed as prohibitively high (Anderson and Gatignon 1986). The research design thus integrates TCE with insights from organizational ecology (Hanan and Freeman 1984). Ex post, principals are subject to opposing forces, an impetus for change on the one hand which can be explained by transaction cost factors, and structural inertia on the other which can be apprehended through the ecological lens of organizational theory. The first approach leads

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the authors to identify firm's dissatisfaction with their sales representative and internal uncertainty as factors which create an impetus to switch from an independent to an integrated sales force. The second approach helps to explain why manufacturers tend to resist this impetus. Manufacturers are significantly more reluctant to integrate their sales forces when they perceive high switching costs, even if they are dissatisfied with their current sales representatives. Their perceptions of switching costs are influenced by a number of factors. They perceive high switching costs associated with setting up a new governance structure, but largely ignore those associated with dismantling the existing one. One explanation for this may be the difficulty of evaluating the latter as they consist of intangible costs such as "antagonizing one's other (sales representatives), jettisoning experience or violating a contract" (Weiss and Anderson 1992). Possibly because of the difficulty of evaluating switching costs, manufacturers resort to heuristics. Chief among these is post-decision rationalization, whereby actors first decide whether to change governance structures and then fit their estimation of the switching cost to justify their choice. Thus, manufacturers perceive lower switching costs once they have decided to integrate whereas they perceive higher costs after deciding to maintain the existing governance structure. A closely related mechanism, that of psychological reactance, explains why manufacturers perceive lower switching costs when they anticipate a negative reaction to the decision on the part of their sales representatives: threats to their freedom of action may lead them to downplay the extent of that constraint (Brehm 1966; Petty and Cacioppo 1981). As the first empirical analysis of switching costs in managerial decision-making, Weiss and Anderson's study confronted transaction cost analysis with a dynamic reality; one where managers' rationality is truly bounded as they make difficult decisions in changing – and therefore uncertain – circumstances. Integration with organizational ecology, in turn, led to critical insights about how managers make these decisions and a better understanding of how firms evolve.

A life-cycle approach to market relationships. Erin Anderson's joint work with Sandy Jap also integrates transaction cost analysis with organizational ecology, but provides a dynamic view of how principal–agent *relationships* evolve. After examining the relationship safeguards which can mitigate opportunism and promote relationship continuity (Jap and Anderson 2003), the authors focused on how cooperative interorganizational relationships change over time (Jap and Anderson 2007). They studied the effect of idiosyncratic investments, goal congruence and interpersonal trust over the relationship life-cycle. They also empirically tested propositions from two different life-cycle theories of interorganizational relationships, by Dwyer, Schurr and Oh (1987) and Ring and Van de Ven (1994). The first approach consists in five stages which succeed each other slowly but occur only once from relationship formation to decline or dissolution. The second is composed of five activities from initial negotiation to reassessment and potentially discharge, which occur cyclically within each of Dwyer et al.'s phases. Jap and Anderson's analysis demonstrates the validity of Dwyer, Schurr and Oh's life-cycle theory, although a simplified four-stage model closer to Rousseau et al.'s (1998) model is appropriate. Consistent with Cannon and Perreault (1999), they find that relationships perform at least as well in the build-up phase as in the mature phase. Information exchange norms and goal congruence, which are necessary to relationship continuity, peak in the build-up phase before (sometimes suboptimal) routines take over in the mature phase. The authors also find support for Ring and Van de Ven's model insofar as declining relationships can linger for a long time. This is especially the case in the presence of idiosyncratic investments which are difficult to divest. This tendency to linger is especially problematic as relationships are not very resilient and at any point in time a break-down of information exchange norms or goal congruence inflicts lasting damage. Finally, decline is also the phase where actors search the most for alternative partners, although relationships which are terminated before they reach maturity receive better evaluations. Actors therefore remain boundedly rational and unaware of other cooperative possibilities until they must actively search them out. As "the first large-scale empirical analysis of evolving cooperative relationships over time", Jap and Anderson's article substantially improves our understanding of this phenomenon, but also points to multiple areas where future research could make valuable contributions. In particular, the article indicates that issues of when and how to revive or terminate relationships are fertile ground for further exploration.

Conclusion

Erin Anderson launched her academic career at a time when Williamson's work had just started taking root. For over thirty years, she operationalized, tested, applied and refined the implications of his theory in the field of management. She did this by creating new measures of fundamental constructs, applying the theory to crucial contexts and phenomena, and integrating a broad range of complementary theories to transaction cost analysis. Throughout her work, she addressed most of the critiques thrown at transaction cost economics (Geyskens, Steenkamp and Kumar, 2006). She countered Zajac and Olsen's (1993) claims that TCA focuses only on single party cost-minimization, by studying the different ways in which relationship continuity and performance can be enhanced by combinations of transaction cost and relational factors. Contrary to Noorderhaven's (1994) claims, she studied the role of trust and the evolutionary nature of the decision to make or buy. Finally, she explicitly and very early on addressed Ghoshal and Moran (1996) and Dyer's (1997) issues concerning the empirical validity of transaction cost explanations. She was truly a pioneer in the path breaking research project that transaction cost economics has undertaken. Her research also opens up new horizons for transaction cost analysis in the future. Her research on the role of transaction costs in new market entry and innovation (Anderson and Gatignon 2005) or in enforcing ethical behavior within the firm (Robertson and Anderson 1993) is ample confirmation of the theory's continued relevance today. Erin Anderson repeatedly predicted that Oliver Williamson would one day receive the Nobel prize. She would have been proud to see her prediction come to pass.

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Appendix A. Measures of key TCE constructs used in Erin Anderson's research

Asset specificity:

Nature of company	*From Anderson (1988c)* 1. Here, it's hard for a new agent to get something done for an account-expediting shipments, arranging credits, getting damaged merchandise replaced, and so on. (7-point Likert scale) 2. In our company it helps an agent tremendously to have been around awhile to know who to see to get something done. (7-point Likert scale) 3. It is vital that an agent build strong working relationships within our company. (7-point Likert scale) 4. Our ways of doing things are rather complicated from the agent's point of view. (7-point Likert scale) 5. It's difficult to learn all the ins and outs of our company that an agent needs to know to be effective. (7-point Likert scale) 6. A newcomer to our firm has to learn our "language" our own words for various things. (7-point Likert scale) Consider those operating methods of our company that affect the agent (for example, procedures for getting a quotation, getting approval of a sale, arranging for delivery, etc.). How would you describe your company's procedures relative to the industry? (7-point semantic differential scale) 7. Complex _____ Simple (reversed) 8. Fast _____ Slow 9. Common _____ Unusual 10. Streamlined _____ Bureaucratic
Nature of products	*From Anderson (1988c)* On each scale below, please circle the most appropriate rating for your product line taken as a whole (7-point semantic differential scale) 1. Technical _____Nontechnical (reversed) 2. Low engineering content _____High engineering content 3. Fast changing _____ Slowly changing (reversed) 4. Unsophisticated _____ Sophisticated 5. Commodity _____ Customized 6. Unique _____ Common (reversed) 7. Complex _____ Simple (reversed) 8. How long would it take for the new agent to learn your product line thoroughly? ___ weeks 9. What percentage of your dollar volume is of customized products? ___ % 10. A new agent coming to us with experience in our product class still needs a lot of training. (7-point Likert scale) 11. Our customers and prospects view our product line as similar to the competition's. (7-point Likert scale) (reversed) 12. It takes very little time for most agents to learn our product line. (7-point Likert scale) (reversed)
Confidential information	*From Anderson (1988c)* 1. When an agent quits, how extensive are the security procedures your firm institutes (for example, limiting the agent's access to his/her office until s/he leaves)? 0 = no security problem, otherwise 7-point semantic differential: Minimal _____ Extensive. 2. An experienced agent's inside information could do us a lot of damage if it got out. (7-point Likert scale) 3. Our agents aren't in a position to learn much information of a confidential nature. (7-point Likert scale) (reversed)
Need to know accounts	*From Anderson (1988c)* 1. To be effective, the agent has to take a lot of time to get to know our accounts. (7-point Likert scale) 2. Our accounts have unusual needs. (7-point Likert scale) 3. Our agents can't make the grade unless they invest a lot of time and effort to build a relationship with an account. (7-point Likert scale)
Customer complexity	*From Anderson (1988c)* How would you describe a typical customer or prospect in your territory? (7-point semantic differential scale) 1. Unsophisticated _____ Sophisticated 2. Complex _____ Simple (reversed)
Customer loyalty to agent	*From Anderson (1988c)* 1. In our business, the accounts don't care if I replace our agent as long as the new ones are capable. (7-point Likert scale) (reversed) 2. If our agents quit, they would take our best customers with them. (7-point Likert scale) 3. Personal relationships between our agents and accounts have little influence on sales of our product line. (7-point Likert scale) (reversed) How would you describe your typical customer or prospect in your territory? 4. Impersonal _____ Personal. (7-point semantic differential scale)
Importance of key accounts	*From Anderson (1988c)* 1. On average, how many different accounts does your typical *agent* handle per year in this territory? ___ accounts (reversed) 2. What percentage of your accounts regularly receive special attention (expediting shipments, giving special consideration to requests, developing special arrangements or procedures for the account, and so forth)? ____ % 3. What percentage of your accounts do you consider to be "priority accounts," that is accounts to which you give special attention? ____ %

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Appendix A (*Continued*)

Own (agent/principal) idiosyncratic investments in the relationship	*From* Anderson and Weitz (1992) 1. If we switched to a competitive line (agent), we would lose a lot of the investment we've made in this principal's line (agent). (7-point Likert scale) 2. It would be difficult for us to recoup investments made in this principal's line (agent) if we switched to a competitive line (agent). (7-point Likert scale) 3. If we decided to stop representing this principal (using this agent), we would have a lot of trouble redeploying our people and facilities presently serving this principal's line (agent). (7-point Likert scale) 4. If we decided to stop representing this principal (using this agent), we would be wasting a lot of product knowledge that's tailored to their brands (methods of operation). (7-point Likert scale) 5. We have made a substantial investment in personnel dedicated to this principal's product line (agent). (7-point Likert scale) 6. We give extensive training to our customers on how to use this principal's product. (7-point Likert scale) 7. We have gone out of our way to align ourselves with this principal (agent) in the customer's mind. (7-point Likert scale) 8. We have invested a great deal in building up this principal's (agent's) business. (7-point Likert scale) 9. We have made a substantial investment in facilities dedicated to this principal's product line (agent). (7-point Likert scale) 10. We have made a substantial investment to create a reporting system that is similar to this principal's (agent's). (7-point Likert scale) 11. We get a significant advantage from being located near this principal's (agent's) facility. (7-point Likert scale)
Perceptions of partner's (principal/agent) idiosyncratic investments in the relationship	*From* Anderson and Weitz (1992) 1. This principal (agent) has gone out of its way to link us with their product line (business). 2. This principal (agent) has made significant investments in training our people (customers). 3. It would be difficult for this principal (agent) to recoup its investment in us if they switched to a new agent (principal). 4. This principal (agent) does a lot to help us become a more effective agent (principal), such as providing management training (customer training and service). 5. This principal (agent) puts on helpful programs that are designed to enhance our overall business.

Internal uncertainty:

Difficulty of evaluating performance	*From Anderson (1988c)* 1. What percentage of your dollar volume comes from team sales (sales jointly made by two or more agents)? ____ % 2. We can get a very accurate measure of each agent's sales. (7-point Likert scale) (reversed) 3. It is very difficult to measure equitably the results of individual agents. (7-point Likert scale) 4. Our sales and cost figures for each agent have no serious accuracy problems. (7-point Likert scale) (reversed) 5. No one really knows who is responsible for many of our sales. (7-point Likert scale) 6. A territory sales agent supervisor will do a poor job of evaluating an agent's performance using only cost and sales figures. (7-point Likert scale) 7. We can fairly evaluate our agents just on sales and cost measures. (7-point Likert scale)

External uncertainty:

Environmental unpredictability	*From Anderson (1988c)* How would you describe the market for your product line? 1. Complex _____Simple. (7-point semantic differential scale) 2. Stable _____Volatile. (7-point semantic differential scale) 3. Easy to monitor _____ Difficult to monitor. (7-point semantic differential scale) 4. Certain _____ Uncertain. (7-point semantic differential scale) 5. Consider the best forecast you feel could be made (by any means) of next year's sales in your territory. When the forecast is compared to actual sales, how close would you expect it to be? Within (plus or minus) ____ % of actual sales. 6. What is the relative emphasis your firm places on growth in new product sales in your territory? (maximum 100 points allocated among 6 goals) 7. What is the relative emphasis your firm places on entering new markets in your territory? (maximum 100 points allocated among 6 goals) 8. New products are a minor part of our company sales effort. (7-point Likert scale) (reversed) 9. It is important to us that agents emphasize new products to the customer. (7-point Likert scale)

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Opportunism:

Perceived opportunism	*From* Anderson (1988c) 1. Our agents feel the company isn't always completely candid with them, so they are not always completely candid with the company. (7-point Likert scale) 2. Our agents feel they sometimes have to alter the facts slightly in order to get what they need from the company. (7-point Likert scale) 3. Sometimes our agents present facts to the company in such a way that they look good. (7-point Likert scale) 4. Our agents feel that complete honesty does not pay when dealing with the company. (7-point Likert scale) 5. Our agents feel they sometimes have to exaggerate their needs in order to get what they really need from the company. (7-point Likert scale) 6. Our agents always provide the company a completely truthful picture of their activities. (7-point Likert scale) (reversed) 7. Our agents feel that it is all right to do anything within their means to further their own interests. (7-point Likert scale) 8. On occasion, our agents distort information to the company about certain things in order to protect their interests. (7-point Likert scale) 9. Our agents sometimes promise the company they will do certain things without actually doing them later. (7-point Likert scale)

Commitment:

Own agent/principal commitment to the relationship	*From* Anderson and Weitz (1992) 1. We defend this principal (agent) when others criticize the company. (7-point Likert scale) 2. We have a strong sense of loyally lo this principal (agent). (7-point Likert scale) 3. We are continually on the lookout for another product to add to or replace this principal for this product type (agent to replace or to add in this agent's territory. (7-point Likert scale) (reversed) 4. We expect to be distributing this principal's products (using this agent) for some time. (7-point Likert scale) 5. If another company offered us a better product line, we would most certainly take them on, even if it meant dropping this principal (agent). (7-point Likert scale) (reversed) 6. We are not very committed to this principal (agent). (7-point Likert scale) (reversed) 7. We are quite willing to make long-term investments in selling this principal (agent)'s line. (7-point Likert scale) 8. Our relationship with this principal (agent) is a long-tem alliance. (7-point Likert scale) 9. We are patient with this principal (agent) when they make mistakes that cause us trouble. (7-point Likert scale) 10 We are willing to dedicate whatever people and resources it takes to grow sales of this principal's products (agent) (7-point Likert scale)
Perceptions of partner's (principal/agent) commitment to the relationship	*From* Anderson and Weitz (1992) 1. This principal (agent) defends us when others criticize us. (7-point Likert scale) 2. This principal (agent) has a strong sense of loyalty to us. (7-point Likert scale) 3. This principal (agent) is continually on the lookout for a distributor to replace us. (7-point Likert scale) (reversed) 4. This principal (agent) expects us to be distributing their products for a long time. (7-point Likert scale) 5. If another agent (principal) offered better sales effort (support), this principal (agent) would most certainly take them on, even if it meant dropping us. (7-point Likert scale) (reversed) 6. This principal (agent) is not very committed to us. (7-point Likert scale) 7. This principal (agent) is quite willing to make a long-term investment in helping us. (7-point Likert scale) 8. This principal (agent) sees our relationship as a long-term alliance. (7-point Likert scale) 9. This principal (agent) is patient with us when we make mistakes that cause them trouble. (7-point Likert scale) 10. This principal (agent) is wilting to dedicate whatever people and resources it takes to grow our sales. (7-point Likert scale)

Goal congruence:

	From Anderson (1988c) 1. Our agents strongly feel that they and the company work for common goals and objectives. (7-point Likert scale) 2. Our agents strongly identify with the company. (7-point Likert scale) 3. There is a strong sense of team effort between my company and its agents. (7-point Likert scale) 4. Our agents feel highly loyal to the company. (7-point Likert scale) 5. Our agents feel the goals of them and the company are fundamentally incompatible. (7-point Likert scale) (reversed)

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Mutuality (concern for partner's welfare):

Own mutuality	*From Vosgerau, Anderson and Ross (2008)* 1. We would feel badly if this agent (producer) did not do well financially. (7-point Likert scale) 2. We are basically concerned with maximizing our company's profits, not the agent (producer)'s profits. (7-point Likert scale) 3. We want to make sure that both our company and the agent (producer) make money. (7-point Likert scale) 4. We both take responsibility for the health of the relationship. (7-point Likert scale)

Company's general investments in agent:

From Galunic and Anderson (2000)
1. This company gives me useful assistance when it comes to running my business. (7-point Likert scale)
2. This company has been genuinely helpful in showing me how to grow my business. (7-point Likert scale)
3. I have used this company's advisory services to help me grow my business. (7-point Likert scale)
4. This company gives me good advice about how to make my business grow. (7-point Likert scale)
5. I have used this company's advisory services to help me operate my business. (7-point Likert scale)
6. This company subsidizes a good deal of my office expenses. (7-point Likert scale)
7. I get no help from this company to cover my expenses. (7-point Likert scale) (reversed)
8. This company offers to subsidize my automation. (7-point Likert scale)
9. This company is willing to subsidize automation if you ask(7-point Likert scale)

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