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**Companies No One Leaves:
Discovering a Win-Win Management Paradigm**

Doctoral Dissertation

**Drew L Harris
Management Department
Stern School of Business
New York University
44 W. 4th Street Room 7-153
New York, NY 10012-1126
(212) 998-0219**

December 11, 1994

**Dissertation Committee:
William Starbuck, Chair
Roger Dunbar
Randall Schuler**

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Companies No One Leaves: Discovering a Win-Win Management Paradigm

Abstract

In a time when high levels of voluntary and involuntary turnover seem commonplace, an unusual set of companies show very low levels of total turnover. Previous models of turnover seem inadequate for explaining these "companies no one leaves." Applying grounded theory techniques to these firms and to a matched set of higher turnover firms revealed a complex but efficient group of practices that differentiates the very low turnover firms from the higher turnover firms. These practices include voice systems, multi-dimensional learning, employee ownership proxies, signals of employment security, structural equality and functional equity. These practices apparently contribute to very low turnover through organizational productivity, employee anchoring, avoiding internal provocations, and buffering the organization and employees from external jolts.

In their classic work Glaser & Strauss (1967) talked of developing theory grounded in secondary data. While they offered an example, very little social science has followed their suggestion. Consequently, most researchers think of grounding theory with first hand observation, mixing the problems and advantages of the data collection technique with the issues of theory building. This dissertation explores the advantages and disadvantages of one source of secondary data, case surveys, for theory development. It explains some practical steps in analyzing data to make it useful in developing theory.

Stimulated by the CNOL and holes in the turnover literature, the dissertation develops a theoretical model suggesting involuntary turnover (ITO) causes voluntary turnover (VTO). Employees' affective and cognitive responses mediate this response. An array of organizational and environmental factors moderate the strength of responses to ITO. The model suggests a research agenda that could provide advances in turnover research, where empirical results have proven weak and sometimes elusive.

This research signals new processes for managers that may lead to improved, long-term organizational performance. The model of CNOL and the model linking ITO to VTO suggest that the systems managers put in place determine the cost and other consequences of turnover. Managers need not accept the inevitability of turnover, and they can actively control turnover while successfully managing their firm's future.

**Companies No One Leaves:
Discovering a Win-Win Management Paradigm**

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The process of pursuing a doctorate degree and writing a dissertation demonstrates a candidate's ability to conduct independent, scholarly research. However, no adventure of this magnitude can be completed alone. I have been very fortunate to have three helpful, dedicated, accomplished scholars advise me through this process. Roger Dunbar, Randall Schuler, and Bill Starbuck provided guidance, encouragement, and discipline (though I probably could have used more discipline). I appreciate their help and their patience.

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Completing this work required stamina and resources beyond my sole possession. My brothers - Laine, Chris and Matt - and my mother, Edna, provided emotional and material support that sustained me through the process. They and my friends and former work associates also provided practical sounding boards for my ideas; if nothing else, I hope this study makes sense to people at work.

I would not have undertaken this course of study had it not been for the late Dr. W. Edwards Deming; my only regrets in completing this dissertation are that he and my father are not alive to share this success. In March 1987, Dr. Deming told me: "Drew, you ought to get your Phd. You have something to offer." I hope that in some small way this lives up to his expectation.

Chapter 1

Introduction: Lessons from Studying Companies No One Leaves

This study looks at a set of unusual companies. These companies have, over a long period of time, sustained extraordinarily low total turnover among their employees. They defy conventional wisdom about turnover. Their turnover rates lie outside the ranges of experiences typically reported in academic studies of turnover. As a group they appear as outliers, and this leads one to suspect that their management practices must be unusual, too.

Studying a group like this provides chances to see distinguishing traits and perhaps causal processes more clearly. Yet, because they appear so different, researching them using traditional, theory-testing methodologies would obscure and probably lose many of the interesting discoveries available. Instead, the nature of the companies and their experiences suggested using grounded methods for theory development (Glaser & Strauss, 1967). Grounded methods allow researchers to discover and use the richness of unusual circumstances.

The nature of these companies also provided another research opportunity. -Their unusually low turnover seems to correlate with a profile of performance and social responsibility that makes these firms interesting to write about. The abundance of secondary data, case write-ups, on these companies suggested the possibility of making meaningful discoveries without going to the field. This study shows that secondary data can provide grounding for theory.

Using grounded theory methods with secondary data led to a descriptive model of

Companies No One Leaves (CNOL). By comparing CNOL with other similar companies that had higher turnover, the model provides strong differentiating capability (i.e., the model easily separates CNOL from non-CNOL firms.) The organizational practices that distinguish CNOL from non-CNOL firms include employment security, ownership proxies, dense voice systems, high levels of functional equity and structural equality, and dense, multi-dimensional learning processes. By extending Lee & Mitchell's (1993) turnover model, these process can be seen as providing performance, anchoring, and buffering that keep employees from drifting away from the company or being jolted out by internal or external forces.

The study then has three important lessons. Chapter two focuses on developing the model of the CNOL. While it gives an overview of methods and data, the main focus is on grounding the categories of the model and demonstrating that the model effectively differentiates the CNOL from non-CNOL firms. The model extends prior turnover models and suggests a management paradigm that combines long-term performance with employment stability.

Chapter three focuses on a lesson for researchers. It highlights the methods and advantages of using case survey data for developing grounded theory. The main advantages include making the process visible and containing costs. From these advantages flow better understanding, critique and acceptance of case-based theory, and the ability to cast a wider net when looking for comparative data. The disadvantages appear not so different from the potential disadvantages of field research - occasional blocked access, finding the right sample unit, and knowing when to bring closure.

The last lesson explores the possibility that involuntary (employer initiated) turnover might cause voluntary (employee initiated) turnover. The CNOL have very low levels of both,

but they have formal policies restricting involuntary turnover. Their context of employment security may make their efforts to retain employees much more effective than other firms' efforts. Chapter three explores theoretical arguments for why this might be so.

For management, this study suggests a paradigm that stands in the face of current thinking. Employers can offer employment security and experience high levels of organizational performance, if they pursue a system of practices that support both. The CNOL provide a model of such a system of practices. Perhaps this discovery will provide the beginning of a new, general approach for other firms.

For research, this represents beginnings, too. The model of CNOL and the theoretical exploration of linkages between involuntary turnover and voluntary turnover suggest many projects for substantive research. The demonstrated effectiveness of case survey data for grounding theory opens possibilities for other researchers who have neither the time nor other resources to go to the field and develop theory. They can follow this path for many topics.

Hopefully, readers will find the Companies No One leaves and the methodology used to explore them interesting and worth pursuing. So, let the lessons begin. . .

Chapter 2

Companies No One Leaves:

A Grounded Theory of Organizational Turnover

Chapter Abstract

In a time when high levels of voluntary and involuntary turnover seem commonplace, an unusual set of companies show very low levels of total turnover. Previous models of turnover seem inadequate for explaining these "companies no one leaves." Applying grounded theory techniques to these firms and to a matched set of higher turnover firms revealed a complex but efficient group of practices that differentiates the very low turnover firms from the higher turnover firms. These practices include voice systems, multi-dimensional learning, employee ownership proxies, signals of employment security, structural equality and functional equity. These practices apparently contribute to very low turnover through organizational productivity, employee anchoring, avoiding internal provocations, and buffering the organization and employees from external jolts.

**Companies No One Leaves:
A Grounded Theory of Organizational Turnover**

Since 1991 twenty-five companies eliminated jobs for over 9000 employees each with the largest cutbacks eliminating over 80,000 jobs (Byrne, 1994). In the last quarter of 1993 alone, fifteen large companies announced cuts of over 5% of their work forces totalling 88,000 jobs (Holusha, 1993). IBM and DEC have abandoned their venerable "no layoff" policies and laid off tens of thousands of employees. Not even outstanding performance assures continuing employment; firms like Goldman Sachs and Kellogg laid off large portions of their work forces in the face of record profits (Levering & Moskowitz, 1993). The Bureau of Labor Statistics (BLS) reported average involuntary (employer initiated) turnover rates ranging from 10.8% to 43.2% per year for manufacturing firms between 1936 and 1988. Perhaps Leana and Ivancevich (1987) were correct when they said that involuntary unemployment was an inescapable fact of life for many in the labor force.

Price (1977) reported the lowest median voluntary (employee initiated) turnover rate by type of organization was 21% and the lowest average voluntary turnover rate by occupation was 6%. He reported voluntary turnover rates typically range from 10% to 60%. The Bureau of National Affairs (BNA) reported average industry-level voluntary turnover ranging from 12% to 80% per year for the last fifty years. Small wonder executives complain about disloyal, transitory workers (e.g., Zinober, 1992).

Whether from firings, layoffs, workforce reduction, downsizing, rightsizing,

reengineering or just plain quits, turnover and unemployment extract high costs for employees and employers (Gardner, 1986; Mobley, 1982; Price, 1977). Employers bear the acquisition, learning, and separation costs of turnover (Flamholtz, 1974). For employees, the costs include financial distress, emotional stress (Holmes & Rahe, 1967), hostility (Estes, 1973), depression (Little, 1976), anxiety (Donovan & Oddy, 1982), decreased self-esteem (Cohn, 1978), health problems (Layer, 1982), and even suicide (Rhine, 1984). Employers also suffer stress, hostility, depression, anxiety, and fear from ITO (Byrne, 1994; Stuart, 1992).

It appears that even though both types of turnover hold substantial negative consequences for organizations, managers, employees, and their communities, companies cannot escape from significant levels of turnover. Yet, two field experiences by the author suggested an alternative to this apparent inevitability. The first study examined management practices in a small (300 person) firm that manufactured electronic, musical keyboards. The firm was pursuing a Deming-style, continuous quality improvement effort. For the three years prior to the study, the firm experienced less than 1% *cumulative* turnover. This firm provided significant task autonomy, employee participation in production decisions, profit sharing, few work rules, published commitments to employment stability (including no managerial discretion in firing employees), and a dense sharing of corporate information with employees. Schuler & Harris (1991) provide a more complete description of this firm and its practices.

The second study looked at a small (450 person) printing and binding company. This firm brought the idea of a "company no one leaves" into focus. The company was 100% employee owned. Of the three hundred employees that initiated the purchase in 1986 only two had left - two retirements - by 1993. Among its management practices, the company had many formal and

informal lines of internal communications including an open door policy for everyone, few formal distinctions of rank, and commitments to employment security.

Both firms were proud of their turnover record, but neither expressed low turnover as an explicit goal. Both firms had small (one person) personnel functions; executive committees decided most personnel policies, and production line managers put the policies into practice. While neither firm was the most (financially) successful in their industries, each had survived rough times and was expanding when studied. The instrument company was expanding through technology-related product diversification while the printing company had acquired a bindery in another part of the U.S..

These firms raised the desire leading to the current study. Their experiences raised questions: Are there enough firms with unusually low turnover to study them as a group? Would these firms show convergence around practices and practice outcomes or would they have markedly different practices? Both firms were small manufacturing firms; would one find low turnover only in manufacturing firms? Historically manufacturing has had lower average turnover than service industries (Price 1977; Mobley 1982). Would companies no one leaves be small firms?

This research seeks out companies no one leaves (CNOL) and examines their philosophy, policies, and processes to see what might account for their rare presence in a world dominated by high turnover. For reasons discussed below, the study applies grounded-theory methods (Glaser & Strauss, 1967) to explore four questions: 1. What accounts for these outlying organizations? 2. What do these organizations have in common? 3. How do they differ from other organizations? 4. What do these outliers tell us about current turnover theories?

To address these concerns, the paper begins with a brief discussion of the turnover literature. It then focuses on the grounded-theory methodology and the data used to develop an explanation of CNOL. A model, developed from the data, explains the CNOL in terms of practices that differentiate CNOL from other firms; the CNOL model suggests a more general model explaining organizational turnover. A discussion comparing the CNOL to more average firms suggests that researchers may have been too quick to generalize their thinking about the costs and benefits of turnover. While commonly used micro-economic assumptions may hold for average firms, the CNOL show these assumptions do not hold universally.

TURNOVER RESEARCH

Despite the over-1500 articles written related to turnover (Muchinsky & Murrow, 1980), reviewers agreed that researchers have found little compelling evidence explaining variations in turnover (Baysinger & Mobley, 1983; Hom, Caranikas-Walker, Prussia & Griffeth, 1992; Hom & Griffeth, 1991; Lee & Mitchell, 1994; Lee & Mowday, 1987; Mobley, 1982; Price, 1977; Webster & Starbuck, 1988). Empirical testing of models linking cognitive and affective antecedents with voluntary (employee initiated) turnover (VTO) have only produced correlations in the order of 0% to 18% (Hom et al., 1992; Lee & Mitchell, 1994; Webster & Starbuck, 1988). Turnover process models that theorize on the decision process an employee goes through regarding stay/leave choices (Mobley, 1982; Staw, 1984) show slightly better results with correlations of 5-30% (Hom & Griffeth, 1991; Lee & Mowday, 1987). Correlational studies linking VTO with macro-economic variables have proved an exception to this pattern: Hulin (1979) found -.81 correlation with unemployment rates; Roberts, Hulin & Rousseau (1978) found .50 correlation with expansion of labor markets.

Most reviews lamented the lack of explanatory effectiveness in this massive amount of research, and most agreed on the reasons for the lack of generalizations. Explanatory models do not include enough variables (Mobley et al. 1979; Price & Mueller, 1981; Mowday, Porter & Steers, 1982). Yet, Cotton & Tuttle (1986) found 26 variables statistically related to turnover, and Mathieu & Zajac (1990) found 28 antecedents related to turnover; perhaps too many variables correlate with turnover and each other for even multivariate models to explain very much. Mobley (1982) argued that researchers focused too much on static, correlational models. Researchers have paid too little attention to result of research findings in other fields (Forrest, Cummings & Johnson, 1977; Price & Mueller, 1981). Too often researchers have confused levels of analysis mixing individual, organizational, and societal forces (Baysinger & Mobley, 1983; Price, 1977). Muchinsky & Tuttle (1979) and Peters & Sheridan (1988) suggested methodological limitations as hindering turnover research results; they each proposed a new statistical technique (survival analysis) for use in the traditional hypothesis testing. Unfortunately, their proposed change in methodology, really just a different tool in the same methodology, does not answer any of the other limitations cited by other reviewers of the turnover literature.

This lack of good findings suggested that the CNOL fit Eisenhardt's (1989) qualification as a topic for grounded theory; current perspectives on organizational level turnover seem inadequate to explain the CNOL. Turnover theories appear to have each of the four problems Van Maanen (1979) described as plaguing the current logico-deductive, theory-testing, quantitative methods that monopolize academic research on organizations - the distance between generalized principals and contextual experiences, the gap between theoretical constructs and

data available to test those constructs, increased sophistication and complexity in data manipulations governed by strict assumptions while interpretation frameworks have become more open-ended, fluid and contingent, and the increasing skepticism for conventional data collection techniques. These all point to grounded-theory development as an appropriate alternative for investigating the CNOL.

GROUNDED METHODS

This study uses grounded-theory development (Glaser & Strauss, 1967) to explain these unusual companies. It starts by looking at total turnover (drawing no *a priori* distinctions between VTO and ITO) and organization-level issues (i.e., this is not about individual motivations, cognitions, or processes.) This research hopes to add value to our understanding of organizational level turnover by following Baysinger and Mobley's (1983) suggestion of treating the organization as a causal context. This requires controlling for economic, demographic, and social variables. If convincing, the results should point the way to an explanation of organizational level turnover that fits well with reality.

The essence of grounded theory (Glaser & Strauss, 1967) lies in developing theory that fits real world situations because it arises from those situations. Rather than fitting the world to logically deduced theories, sometimes badly distorting the world in the process, grounded techniques adjust the theory to the conditions found empirically. This adjustment does not take place with each nuance or anomaly, but through the systematic gathering and analysis of data. Once theorists deduce categories and relationships they only reluctantly give them up, and they give them up only to categories and relationships that provide superior explanation or description.

Grounded-theory methods involve six basic processes: problem definition, sampling, coding and analysis, unfolding prior literature, developing and checking hypotheses, and drawing boundaries. Theory development will not necessarily follow these processes in a rigid sequence; the data and the researchers' intuition rarely allow such linear development. In particular, regular interplay and looping from one step to another allow the researcher to develop and check ideas that should result in theory that is grounded in reality. Developing grounded theory shares the same issues in problem and boundary definition as deductive theory development. However, sampling, developing and checking hypotheses, and the use of prior literature proceed differently enough to warrant discussion.

Sampling to develop grounded theories differs from sampling for hypotheses testing in two important ways. First, the sampling process does not strive for equal or complete covering of a sampling frame. This is because grounded methods do not aim for probabilistic inferences about the sampling population. Sampling in grounded methods seeks information on which to build theory about a particular phenomenon. In this regard, replication and wide coverage only help to the point of adding no more theoretically relevant information. For theory development, examining one hundred cases adds no more information than examining one case if the one hundred cases do not vary on some theoretically important dimensions.

Secondly, random sampling, important in drawing inferences about sampling populations, has less than no value in theory development. Sampling and analysis are expensive; why look at sample units unless one expects to find some meaningful additional information from them? Glaser and Strauss went further when they suggested that even accurate evidence plays a less critical role:

A single case can indicate a general conceptual category or property: a few more cases can confirm the indication. ... Generation by comparative analysis requires a multitude of carefully selected cases, but the pressure is not on the [researcher] to "know the whole field" or to have all the facts "from a careful random sample." His job is not to provide a perfect description of an area, but to develop a theory that accounts for much of the relevant behavior. His job and his training are to . . . generate categories and their properties for general and specific situations and problems. (1967:30)

Hypotheses generated through grounded techniques should find support when formally tested. While traditional formal testing attempts to deny (or confirm) hypotheses developed *a priori*, methods in grounded-theory emphasize developing hypotheses to generate understanding and guide further exploration. The researcher checks tentative hypotheses, either formal or informal, against data for their reasonableness, credibility, completeness, and generalizability. The researcher may compare hypotheses and data with qualitative or quantitative tools. The comparisons aim to clarify understanding, to improve models, not to support or deny a tentative idea.

Prior literature plays its most important role here serving as a check on emergent hypotheses. If an emergent theory corresponds with prior research, the researcher may feel greater confidence in the theory. If emergent theory contradicts given theory, the researcher searches for possible flaws in the theory and stronger evidence from the data along with ways to reconcile the differences. Again, the process does not aim to prove one or the other right; it aims to find better theory. This cycling between theory development and theory checking aims to produce a richer understanding of the issues, data, and conditions of the cases (Yin & Moore, 1983), hopefully producing what Van Maanen (1979) called cumulative insights. For a thorough discussion of these differences see Glaser and Strauss (1967).

SAMPLE and PROCEDURES

The interplay between hypothesis development, data analysis and comparing findings with prior literature leads to sequential sampling and phases of analysis. For example, this research proceeded in three phases. The first phase involved the field research that identified the topic and general questions. The second phase looked for (and found) a set of CNOL. The data from this phase helped identify convergence practices among the CNOL. The last phase used data on contrasting, higher turnover firms to explore differences between the CNOL and their comparison companies (CCs).

What does "no one leaving" mean

Finding a sample of unusually low turnover posed the operational dilemma: What does "no one leaving" mean? A frustrating lack of public, baseline data makes an easy, operational definition difficult. Since the BLS stopped reporting turnover in 1988, only the BNA regularly reports turnover data. Neither made firm-level data, ranges, or variances available. A predominance of case studies on turnover also limits calculations of industry base-rates (Price, 1977).

Given this difficulty, the study adopted following operational conditions to classify firms as CNOL: 1) TTO must be reported as unusually low. 2) Where data are available, TTO must be less than a third of the average TTO reported by BNA for the firm's industry. 3) Conditions (1) and (2) must have persisted at least through one business cycle downturn and one business cycle upturn. As a proxy for explicit, local business cycle information, the search looked for firms reporting unusually low turnover for the period 1980-1992; during this time the U.S. national economy went through two large recessions (1983-84 and 1989-90) and one extended,

high growth period (1985-88).

An opportunistic and theory-driven search generated 88 firms that might be CNOL. Searching electronic citation lists (ABI-INFORM, SSI, Psych-Lit, etc.) using key words "turnover," "quits," "quit-rates," "employee departures," and similar such phrases yielded only a few candidate firms. An open inquiry on electronic bulletin boards brought in over a dozen nominations and several suggestions of sources of company descriptions. The most helpful sources turned out to be some "good-news books"; The 100 Best Companies to Work for in America, Companies that Care, and No One Need Apply provided descriptions of companies that might qualify as CNOL (and data sources for analysis).

Using secondary data

This reasonably large sample of well documented, potential very low turnover firms, pointed to applying grounded methods to secondary data. Using secondary data (case survey data) mitigates against a frequent criticism of interpretive, qualitative research - that it is idiosyncratic and opaque. By using publicly available data, the cases, and publishing the criteria for coding categories, this research provides the tools one needs to "verify" the interpretation and make the personal judgment about whether the data support the interpretation given.

Although little grounded theory has emerged from secondary data, Glaser and Strauss (1967) explicitly suggested this approach and cited at least one important study grounded in secondary data. This approach was also consistent with Glaser and Strauss' contention that the sample for grounded theory need not attempt complete coverage of the sampling population, but it should provide theoretical saturation. Theoretical saturation means that all that can be learned is learned through the sample. When one sample achieves saturation, the research proceeds by

either increasing the complexity of the theory, by extending it to other domains, or by raising the level of theory to incorporate functional or conditional theories into grand theories. These points all made the narrowing of the sample to companies with publicly available case accounts a viable, defensible option.

The sample

Lack of data (including specific accounts of turnover), rigorous application of the conditions for "no one leaving" and a decision to examine only one CNOL per industry (since more than one firm per industry would probably not add theoretical depth) reduced the set to 11 companies (listed in Table 1). This sample controls many previously supported demographic and economic correlates of VTO thereby excluding many external factors as single explanatory variables. The firms display variety in geographic settings (rural/urban), business type (service/manufacturing), employee skill orientation (blue collar/white collar), gender and age diversity, company age, industry trajectory, and experiences in economic cycles.

[Table 1 - Listing of Companies No One Leaves]

The search for CNOL in the second phase led to reading cases on approximately 150 firms. As the eleven CNOL firms discussed here came into to focus, categories began to emerge. This reading suggested that CNOL replicated the communication and ownership found in the field studies. The cases also suggested that CNOL emphasize several other general company activities. After a few companies were analyzed these categories seemed to provide theoretical saturation from that sample. No more new categories or relationships between the categories arose with new firms, and the firms analyzed seemed to converge around the categories.

With convergence among the CNOL, the next step pointed to contrasts. The original search for CNOL identified some firms that matched the CNOL firms along industry, size and geography but with levels of turnover high enough to eliminate them from the CNOL group. This group provided a conservative contrast to the CNOL; accounts from journals and books portrayed these companies as "good" companies to work for. The accounts also reported lower than average turnover for these firms (although more than the CNOL.) In the tables that follow, these firms are called "HIREP" (high reputation) firms.

With the expectation of finding more dramatic contrasts, the last phase also collected and examined a group of average-to-high turnover (NORMAL) firms. This group also matched CNOL firms on industry. The final comparison set included seven CNOL, five HIREP firms, and six NORMAL firms (shown in Table 2 below).

[Table 2 - Complete Comparison Sample]

The next section elaborates on the categories discovered and their meaning and effects. An analysis section then supplies evidence that the application of these categories and variables differs systematically between the CNOL and the CCs. After that a discussion of models elaborates on the focus group, the CNOL, and suggests a more general model of turnover.

CATEGORIES and VARIABLES

The CNOL displayed convergence around six practices. In addition to the employment ownership and dense, upward communication, they all send signals to their employees of continuing commitment to employment security. Also, they have formal and informal practices that encourage employees to look at their jobs as extending beyond the boundaries of their work space, a phenomenon referred to here as "multi-dimensional learning" (MDL). They seemed to

emphasize equal treatment in non-production issues such as parking spaces, dining facilities, and access to benefits. However, each firm seemed to also emphasize fair, differential treatment in production issues (e.g., differential bonus pay based on relative individual contribution to overall success.)

The last, contrasting phase uncovered variations and contrasts for these categories. Several categories had negative or opposite indicators. For example, perks by hierarchical rank, a form of structural inequality, only appeared in the CCs. The CCs also pointed towards the importance modifying or conditioning categories such as voice quality (the response to upward communication) and the dimensions of MDL. The following illustrates the categories found and discusses their probable impact on turnover.

Ownership, Ownership Proxies and Denial of Ownership

Employees at Lincoln Electric own a large part of the firm; Nurses at Beth Israel Hospital participate in a gainsharing program; All employees at privately held SAS Institute participate in a profit sharing program. The CNOL provide employees with mechanisms for experiencing the effects of ownership or ownership proxies (OPs). OPs allow the experience of profits in good times and pain (without necessarily being laid-off) when losses occur. For example, in 1992 Chaparral Steel's mill lost money causing its parent company to lose money; therefore, employees received no profit sharing check (Levering & Moskowitz, 1993: 63.)

OPs provide employees with claims on the profit stream of the company. This suggests that organizational performance becomes a concern for all employees (at least all that experience the ownership.) Baysinger & Mobley (1983) suggested that among organizations that enjoy differential monopoly profits, they sharing of those profits raise the cost of quitting for

employees. Beyond sharing monopoly profits, OPs seem to create impressions of fairness and increase salience of employee goals for organizational performance. The more permanent forms of ownership (e.g., direct stock ownership, company-stock retirement plans, stock options) also provide an incentive for employees to plan for the long term; they expect a long term connection and a long term claim on future cash flows. Buchko (1992) also showed ownership as a source of identity or pride among organization members, binding employees to the firm; he found that ESOPs correlated with lower turnover rates.

Voice Systems and Voice Quality

An employee at Worthington Industries illustrated the essence of one type of voice system when he said: "As a worker on the floor, I can question management or a decision that management has made. If I want to know why, all I have to do is ask, and it's never held against me (Levering & Moskowitz, 1993:491)." Voice is a shorthand for upward communications of employees' interests (Greenberg & Folger, 1983). Saunders & Leck (1989) provided a catalogue of fourteen typical voice systems that could be used in coding data. The preliminary reading of cases supplemented these.

Industrial Relations literature has traditionally focused on the remediating nature of voice systems (c.f., Lewin & Peterson, 1988; Scott, 1965). The literature on procedural justice (e.g.s, Folger, 1977; Greenberg & Folger, 1983; Lind & Tyler, 1988; Thibaut & Walker, 1975) has suggested that voice systems providing employees an opportunity to voice their viewpoints before decisions are made bring about a host of cooperative behavior and preempt conflict and exit. Spencer (1986) showed increased employee retention directly related to availability of voice systems. Combining these literatures suggests three functions voice plays related to lowering

turnover. First, they provide employees alternatives to exit or alienated behaviors when faced with an injustice. They also provide a way of keeping the other processes in balance and of making them more effective. Finally, if employees learn of more effective ways to produce products, voice systems will ensure they can express their knowledge while functional equity and ownership provide additional motivation for expression.

Sheppard, Lewicki & Minton (1992) reviewed five core characteristics of effective voice systems proposed in various literatures - elegance, accessibility, correctness, responsiveness, and non-punitiveness. They called these voice-quality, and illustrated how voice systems alone do not improve justice; the quality of the voice matters. Participation in voice systems depend on the systems' quality, and without participation the system is meaningless.

Functional Equity and Inequity

Lincoln Electric, with their elaborate piece-rate systems that include employee input and appeal in rate setting, epitomizes the formal equity arrangements suggested by pay for performance (c.f., Lawler, 1971, 1990; Mitchell, Lewin & Lawler, 1990). Functional equity, the balancing of inputs with outputs, also appears in informal ways: "BE&K [a construction firm in the sample] shows a willingness to sacrifice for employees, therefore the employees are willing to sacrifice for BE&K. It's not an easy place to work for by any means." (Levering & Moskowitz, 1993: 43). This quotation by a BE&K employee sums up essential findings of research on outcome justice (Deutsch, 1985) and equity and social exchange theory (Adams, 1965): People will balance their efforts to match their returns, and if treated fairly, they will endure hardship.

While positive expression of functional equity seem very important, the CNOL did not

allow functional inequity to arise (where some of the comparison firms did). Equity theory began as a theory of inequity; Adams (1965) found that employees who perceived they had been treated inequitably were less likely to continue performing at their current standards. Hirschman (1970) and subsequent researchers in organizational justice (c.f., Sheppard, Lewicki and Minton, 1992) have found similar effects: when people perceive inequitable treatment some will leave, some will speak-up to change the inequity, and some will change their views to incorporate the inequity into a new system of comparisons.

Structural Equality and Inequality

When Mitch Rabkin, just after becoming the president of Beth Israel Hospital, tore down the curtain that separated the physician's dining area from the rest of the hospital staff, he signaled that privilege without function would not be tolerated in the hospital. Under Rabkin, BIH has become renowned for the cooperative, quality care provided by the entire staff (not just the doctors).

Structural equality may not be as important in its positive sense as functional equity, but it seems very important when employees perceive conditions of inequality (that have little or nothing to do with performance.) In its positive sense equal treatment may make employees more inclined to sacrifice than in firms with a prominent class structure. By creating less social distance, employees and management may find communication easier, whether about resolving grievances, improving products, or in positioning the firm in the marketplace. For example, one could hardly place the blame for the woes of the big steel companies solely on the class structure in those organizations (unless one was a radical Marxist). However, virtually every account of big steel (c.f., Reutter, 1988; Hoerr, 1988; Strohmeyer, 1986) makes it clear that unionized

employees have a hard time understanding why they should be asked to take pay cuts when the CEOs of the big steel companies compete with each other for bragging rights to the highest salary. Similarly, when seeing their executives playing on private, company-sponsored golf courses or eating in white-linen dining rooms while they brown-bag on picnic tables, employees may not feel inclined to put in the extra effort needed to maintain the competitive edge.

Multi-Dimensional Learning

Many employees at Lincoln Electric learn to weld using Lincoln-manufactured welding equipment. An entire production shift from Chaparral Steel went to work in a Japanese steel mill for six weeks to learn new techniques. At Rosenbluth Travel, any employee can follow any other employee around for a day at company expense, including the president (over seventy employees have followed him around for a day). These examples illustrate how the CNOL appear to systematically "raise the eyes" of their employees from their immediate task environment to learn about a bigger, three dimensional view of their work world. The examples illustrate these dimensions - the finished product (Lincoln Electric), the production process (Chaparral Steel), and the larger context of the organization (Rosenbluth).

The product and process dimensions aim directly at improving company performance. The quality movement has emphasized looking upstream and downstream from a particular activity (c.f., Deming, 1986; Scherkenbach, 1990; Schuler & Harris, 1991). This contextualizes the value-adding potential of a task, and reveals the critical points that produce quality (or defects.) Similarly, seeing their product put into use at customer sites gives employees a tangible relationship with their finished product. If their job involves only the smallest component, they still can see how it contributes to the finished product. Responsibility and ownership proceed

from having a relationship with the finished product even when the employee does not produce the complete product. Usually researchers explain this process as part of systems thinking (Forrester, 1971; Senge, 1990; Deming, 1993).

The context dimension of MDL encourages employees to see the impact of their and others' actions on the whole organization. By understanding the whole company context employees may make more accurate assessments of appropriate behavior, fairness of their treatment, and the challenges faced by others. This puts pressure on an organization to act fairly, since it is exposed when it does not. Perhaps this is one reason why so few organizations reveal themselves to employees; once out of the bottle the genie is hard to put away.

Signals of Security (Commitment from the organization) and Job Insecurity

Lincoln Electric, Haworth, Worthington and Chaparral Steel all have formal no-lay-off policies. Hallmark Cards and Rosenbluth Travel say they have "no-lay-off histories" and have made public statements supporting that as a continuing philosophy. By study design, all the CNOL's have endured economic cycles without increases in turnover; more often than not, their competitors have resorted to layoffs to buffer the shocks of economic cycles.

Signals of security provide an anchoring and buffering effect by letting employees know that tough times can be endured without loss of employment. Employment security buffers the employee from external shocks, such as recessions, that the employee has no control over. It also adds to the likelihood that employees will make use of voice systems (since there will be less likelihood of reprisal), and employment security could set the stage for employees to take risks in the production process, possibly affecting organizational performance. Related studies have associated perceived organizational support with employee diligence, commitment, and

innovation (Eisenberger et al. 1986; Eisenberger, Fasolo & Davis-LaMastro, 1990).

Just as inequity and inequality play important roles in contrast to equity and equality, employment insecurity affects turnover. Ashford, Lee & Bobko (1989) correlated job insecurity with intentions to quit, reduced commitment, and reduced satisfaction. Brockner & Wiesenfeld's (1993) review of layoff survivor studies suggested ITO leads to job insecurity and subsequent VTO. Arnold & Feldman (1982) found job insecurity directly related to VTO. This study showed very strong contrasts between employment-insecurity-higher-turnover and employment-security-lower-turnover. Although employment security should not be viewed as synonymous with observed low turnover, this compelling relationship led to analyzing the data with and without this category.

Categories Suggested by Prior Literature but Not Found

Prior studies point toward other categories of practices as likely to correlate with turnover. For example, pay satisfaction has been shown to correlate with lower rates of turnover (Price, 1977). Although the data were sparse, the CNOL presented no evidence that they paid any more than average wages. The total compensation (through ownership and equity-based incentive pay) was higher than average in some instances, but this was true for some of the HIREP and NORMAL firms, too. Pay did not seem to differentiate the groups.

A significant body of literature has suggested that methods of selection and initial socialization affect both the type of employee selected and subsequent behaviors, emotions and cognitions (for reviews see: Suszko & Breugh, 1986; Premack & Wanous, 1985; McEvoy & Cascio, 1985). Unfortunately, only the accounts of 10 of the 20 companies reviewed indicated factors or practices important in recruiting and selection. Of these, all of the CNOL reporting

selection information emphasized a strong personality component in their selection process. For example, at Rosenbluth Travel the Director of Personnel said: "Nice is mandatory" when hiring. Hal Rosenbluth, the CEO at Rosenbluth, has interviewed prospective executives through basketball games, shared vacations with spouses, and other techniques aimed at finding out how the recruit might fit in with Rosenbluth's culture.

Among the non-CNOL firms with indicators of selection practices, there was a balance between the number of companies that emphasized technical competence and personality. At least four of the non-CNOL have steadily downsized for an extended period, so their emphasis has been on retention, not recruiting. Since these firms were unionized, even their choice of retaining personnel has been severely restricted by formal rules.

Perhaps the most interesting case involves Worthington Industries, a CNOL. After an extensive interviewing process, Worthington hires recruits on a conditional, temporary basis. After a period of no less than three months (and sometimes as much as a year) an elected employee council (a standing committee) votes on whether the recruit will become a permanent employee. Full time status requires a majority vote based on outstanding work performance and team cooperation - a blend of technical and personality variables.

This limited data suggest compatibility with research on realistic job previews (Premack & Wanous, 1985; McEvoy & Cascio, 1985); that research suggests recruitment contributes to the buffering effect by firms and employees mutually selecting fit condition. However, because non-CNOL firms also use realistic job preview and personality-based decision criteria, these processes do not distinguish CNOL from non-CNOL firms. This further supports the hypothesis that a system interpretation dominates the fit interpretation (Dobbins, Cardy & Carson, 1991),

especially when viewing the selection process as part of the system.

Neither of these practice categories provided conclusive data; therefore they did not enter into subsequent analyses and models. Even so, the CNOL and the CCs provided six primary categories and six conditioning categories. No prior literature has shown any of these categories as capable of creating (singularly) the very low turnover observed in CNOL, although several have a research history showing contributions to lower turnover. The next section shows analyses aimed at systematically sorting out relative contributions and configurations leading to very low turnover.

EVIDENCE OF SYSTEMATIC SIMILARITIES AND DIFFERENCES

Systematic analysis calls for formal coding of categories. Content analysis and prior coding schemes provided operational definitions for each category (shown in Appendix A). Coding cases with these definitions allowed for systematic analysis of the relative importance of categories in contributing to very low turnover. By examining both the intensity (frequency of properties within categories) and the configuration of categories between firms, an explanatory model emerged from the data. This section reviews the analysis leading to the model.

Quantification, Reliability and Aggregation

As with any content analysis, researchers want to know others can replicate results. A pilot study showed test-retest reliability ranged from 70% at the most detailed level of coding to 90% when collapsing detailed entries like the conditions associated with structural equality into their broader categories (structural equality). Corresponding inter-rater reliability tests ranged from 65% to 85%. These results support Larsson's (1993) suggestion to retain complex coding schemes to capture maximum information while accepting the need to collapse data at

analysis to increase the potential for reliable and meaningful distinctions. The coders here agreed that this increased their confidence in their coding.

Sign tests and counts showed the presence of the organizational practices described above in all the CNOL coded, though in varying degrees. For example, Table 3 shows CNOL with as few as seven forms of voice systems and as many as sixteen different forms. These results support the impressions generated by reading cases; others can apply the instruments used here to detect, code and, to an extent, quantify the variables in the model, and the CNOL showed a similarity across the six (positive condition) categories: ownership, voice systems, signals of employment security, MDL, structural equality and functional equity.

[Table 3 - CNOL: Voice Systems]

In comparing the higher turnover firms with the CNOL, a coder applied the operational coding rules for the categories to 65 cases for 18 companies. In keeping with the results of the reliability tests and Larsson's recommendations (1993), all the cases were coded at the detail level of specific properties (practices). In tabulating for case summaries for quantitative analyses, any indicator of a property counted toward a category score. For example, if coding identified six different voice system in a case, the case would have a voice score of six. Although Larsson (1993) suggested creating Likert-type scales for variables coded in case surveys, the data here presented no systematic attributes justifying such scaling. Researchers regularly use the counting technique, and the counts serve to verify that distinguishable differences exist (i.e., the CNOL can be distinguished from non-CNOL firms on these categories).

Pooling the negative properties (inequity, inequality) with their related positive properties (say in an additive way) did not seem desirable. The effect of three fair practices would not

seem to offset the effects of three unfair practices. Indeed as the analysis progressed, the virtual absence of any negative instances of structural differences and inequitable practices appeared as frequent and obvious differences between the CNOL and CCs. However, one of the analytic techniques called for a very small number of variables, and for that, the negative categories were combined with the positive categories.

Two types of comparisons provided evidence that these categories systematically differentiate CNOL from non-CNOL firms. First, means comparisons at the group level and discriminant analysis at the case level show support for the simplest hypotheses: that CNOL display higher levels of the positive categories and lower levels of the negative categories. These could be called comparisons of intensity in that they demonstrate relative frequency or variety of practices within categories. Second, exploration of efficient sets of discriminating variables among cases and boolean analysis of firm-by-firm truth tables suggest that the configuration of these categories differentiates the CNOL from non-CNOL, too.

Comparisons of Intensity

The group means, shown in Table 4, reveal significant statistical differences in the CNOL categories when compared with either comparison group. The directions of the differences show the CNOL rating higher on positive indicators and lower on negative indicators. Also, the table shows few differences in intensity of practices between the HIREP and NORMAL sets. The increased statistical difference separating the CNOL from the NORMAL firms compared to their separation from the HIREP firms suggests a stronger correspondence between intensity of application in these categories and levels of turnover.

[Table 4 - Means of Samples]

A case-by-case comparison used discriminant analysis to look for systematic variance in individual accounts (published cases) of firms. In one sense, this is a conservative measure: individual accounts contain less information than the sum of the accounts. If they vary systematically on the categories and if sample membership of firms can be identified through individual accounts, then the discriminating power of these categories will be very high.

The results of the discriminant analysis illustrate the separating or differentiating power of the categories. This procedure also allowed exploration of efficient subsets of categories for separating the cases by sample membership. The models showed impressive discriminating ability (a summary of all models tested is shown in Appendix B with highlights shown in Table 5 below). The full set of twelve variables successfully classified 30 of the 34 cases (88%) when comparing CNOL with HIREP, and it successfully classified 40 of the 44 cases (91%) when comparing CNOL with NORMAL firms. Though not as strong as the CNOL models, the full (all category) model discriminated between HIREP and NORMAL firms (i.e., 70% of cases were correctly identified). These results indicate the full set of categories differentiates each of the groups from the other groups.

[Table 5 - Highlights of Discriminant Analysis]

Exploration of individual categories showed three category pairs as effective in discriminating CNOL from non-CNOL firms. Employment security and employment insecurity together always correctly identified the CNOL cases, though they did not always accurately classify the HIREP (8 of 14) and NORMAL (19 of 31) cases. Functional equity/functional inequity also correctly classified every CNOL case in the CNOL to HIREP comparison and 10 of 13 cases in the comparison with NORMAL cases. Structural equality/structural inequality pair

most effectively identified HIREP (12 of 14) and NORMAL (29 of 31) cases when compared to CNOL; this pair was less successful in identifying the CNOL cases (12 of 20 and 8 of 13 respectively.)

Comparisons of Configurations

Using a step-wise discriminant analysis showed that employment insecurity, functional inequity, and security as the most efficient over all combination for discriminating between CNOL (20 of 20 cases correctly identified) and HIREP (8 of 14). Similar analyses comparing CNOL to NORMAL firms showed the most efficient model included structural equality, employment-insecurity, MDL, MDL-Dimension, Voice Quality and Voice. Without the employment-security/employment-insecurity categories, the best discriminating function for CNOL-HIREP comparisons included functional inequity, MDL, functional equity, and voice quality; that function correctly identified 18 of the 20 CNOL and 10 of the 14 HIREP cases. In comparing CNOL to NORMAL firms the most efficient function included structural equality, functional equity, MDL-Dimension, voice quality and ownership.

This analysis indicates that signals of employment security provide a very strong source of differentiation between the CNOL and the CCs. This is not surprising, and it tempts equating employment security with very low turnover. However, this does not have to be the situation; Employment security only directly reduces ITO. As part of an organizational system, it more likely acts as a context in which the other categories can function. For example, employment security must certainly add to the quality of voice systems by limiting the amount of retribution available to any manager.

The analysis of category combinations without employment security still clearly

differentiated accounts of the CNOL from accounts of the CCs. Also, those analyses showed that substantially fewer than twelve categories can differentiate between CNOL and non-CNOL firms in a case-by-case analysis. However, it is possible that, because of the different data sources, the individual accounts could vary systematically so that a firm's properties in a category could be spread over several cases, but in total add to the same as firms in another sample group.

Ragin (1987) emphasized the holistic nature of case methods (here the case refers to the organization as unit of analysis, combining multiple accounts to produce a case profile). Analyses across cases must maintain the integrity of each case while exploring the configuration of parts within the context of that case. Ragin also admonished researchers to retain an awareness of conjunctural causation when exploring causality; multiple factors may only cause the outcome when they interact (e.g., heat, oxygen and a combustible material must all be present to produce fire, but no one or two alone will suffice.) Ragin offered a defense of the holistic approach by pointing out three important aspects of social science research (1987:27):

"Many features of social life confound attempts to unravel causal complexity when experimental methods cannot be used. Three are especially relevant to this discussion because they concern issues of causal complexity and conjunctural causation. First, rarely does an outcome of interest to social scientists have a single cause Second, causes rarely operate in isolation Third, specific causes may have opposite effects depending on context."

Researchers often try to overcome this limitation with multivariate statistical analyses. However, these techniques often make unrealistic simplifying assumptions, and they always separate the variables from the unit-of-analysis-context. That is, multivariate methods aggregate variables across a group losing track of individual configurations while they make probabilistic inferences about the variables and about variable combinations across the group, but not about the specific variable combinations found in specific cases. For example, if one found fifty

incidents that had pair-wise combinations of heat, oxygen and a flammable and one (or very few) incident of all three, a typical multivariate statistical analysis of their association with fire would show that none of the three factors was significantly associated with fire. Only by examining the specific configurations of factors would one discover that fire required all three.

As a technique for analyzing the realized configurations (and for exploring theoretically possible, but unrealized combinations) Ragin suggested using boolean algebra on truth tables. Truth tables represent simplified yes/no interpretations of categorical data. Once constructed, a truth table shows the combinations of variables observed across cases and allows an analysis of configurations. The analysis in this study focuses on searching for mutually separating, minimum sets of variables that will identify the CNOL as distinct from other firms. (For a more complete discussion of these techniques and their rationale see Ragin, 1987.)

Because the possible entries in a truth table are 2^n , where n is the number of variables, one would like to analyze a relatively small set of variables. Having noted the differences of qualifying categories from their original categories (e.g., voice-quality and voice systems), the method of boolean analysis strongly suggested developing a rationale for combining these to yield a yes/no indication on the original category. The following rules came from the effects observed in the discriminant analysis and from the apparent effects discussed in the case accounts. They were applied to company level summaries (i.e., all accounts were summarized, eliminating duplications when several cases described the same organizational practice.)

Security: If any indicators of employment insecurity present, code as 0; otherwise code as 1.

Voice: Treat low-quality or voice-suppressing as -1 and voice/voice quality each as 1. Add all indicators. Record 1 if positive, 0 if negative or zero.

Ownership: If any ownership indicators present, record as 1, otherwise code as 0.

MDL: For each dimension score 1 on the dimension if positive accounts outweigh

negative accounts, score 0 if negative accounts outweigh positive accounts or if there are no accounts. If all three dimensions scored 1's, record as 1, else record as 0.

Structural Equality: For each account of structural inequality score -2, for each account of structural equality score +1. Sum the scores and if positive record as 1, else 0.

Functional Equity: Same rules as for structural equality.

These rules allowed simple application with no cases presenting close or ambiguous interpretations. Table 6 presents this set of case categories for the comparison firms and the original CNOL used to develop preliminary codes (recoded to the updated categories):

[Table 6 - Company Level Truth Table]

Boolean analysis explores the presence or absence of logically separate conditions; replication adds little to this exploration. Unlike statistical analyses that focus on probabilistic inferences, boolean analysis seeks to express what does or can happen. In this situation multiple occurrences add no more information than one occurrence and condensing repeated lines simplifies presentation and analyses.

If possible, a reduction in the number of variables also helps in understanding (i.e., a more parsimonious description and a simplified means of presentation.) Except for Beth Israel Hospital (Boston) and SAS Institute, the employment-security category appears in all CNOL conditions and no non-CNOL conditions. If these companies had viable explanations for their lack of signals of employment security then the security variable could be treated as a conditioning variable and dropped from presentation and further analysis (i.e., the analysis could read: "Given that signals of employment security have been sent, the other variables show . . .").

These two firms do have plausible explanations for why they have not sent signals of employment security. While the industries of both firms have experienced economic cycles,

including shake outs, neither firm has experienced a financial challenge through those periods. SAS Institute has seen continuous growth in revenues and net income throughout the 1980's and 1990's; their employment levels have grown within the bounds of their financial growth. Apparently their employees need no reassurance of continuing employment opportunities; they can see for themselves that SAS's continued success assures their continued employment.

Similarly, BIH does not face the financial challenges of a rigorously competitive environment. Management there seems more concerned with finding ways to stabilize the more transient portions of their work force (i.e., the non-physician work force.) In a sense, their retention efforts function as a form of signaling employment security, but those efforts did not meet the formal criteria used in the case coding. Both cases suggest that treating signals-of-employment-security as a conditioning variable seems reasonable. Omitting (conditioning on) employment security and condensing the replicated cases produced the following truth table:

[Table 7 - Reduced Truth Table]

Casual observation shows continuing support for the idea that these categories differentiate CNOL from other firms; the CNOL and non-CNOL configurations do not overlap, and the CNOL show more positive indications on the categories. Exploring this table with boolean algebra reveals additional insights into the configurations.

Using boolean notation will simplify the presentation of the analysis. An upper-case letter represents the positive condition (e.g., S = positive condition on structural-equality) and a lower-case letter represents the negative condition (e.g. s = negative condition on structural equality). Boolean multiplication represents logical 'AND' conditions. Thus, a boolean representation of the top line of the CNOL conditions, VOMSF, means positive conditions for

voice AND ownership AND multidimensional learning AND structural equality AND functional equity. The boolean addition (" + ") represents the logical "OR" condition; the complete boolean specification of "belonging to the set of CNOL" is $VOMSF + vOMSF + VoMSF + VOMSf$.

Applying boolean algebra to the truth table can reveal a logically minimum specification for the outcome condition (here, belong to the CNOL). The process begins with logical reduction of the full specification to a set of prime implicants - factors that cannot be reduced. Combinations of conditions often over-specify an outcome. For example, $VOMSF$ and $VoMSF$ reduce to $VMSF$. Between these two conditions ownership does not decide the truth; so, it can be removed.

Similar reductions combining $VOMSF$ with the other two conditions leave a reduced specification of $OMSF + VMSF + VOMS$. Factoring MS in this logically minimum set,

$$OMSF + VMSF + VOMS = MS(OF + VF + VO)$$

shows that MDL and structural-equality constitute necessary conditions among observed outcomes and the other pairs ($OF + VF + VO$) constitute completing conditions.

The discriminant analysis seemed to agree with these combinations. The best reduced-variable discriminant functions without the employment-security variable used $VMSF$ in the CNOL versus HIREP comparison and $OMSF$ in the CNOL to NORMAL comparison. These compare closely with two of the minimum condition of the boolean analysis - $VMSF$ and $OMSF$. The third minimum boolean condition, $VOMS$, comes directly from the Beth Israel Hospital case. As discussed earlier, BIH does not face the same market forces that the other CNOL face. They may not need or cannot interpret functional equity in the same way that less institutionalized firms may. Also, the discriminant analyses did not include BIH (because it had

no comparison firm); so, its influence is not seen in those equations.

MODELS

The foregoing suggests that the categories identified explain the CNOL. Signals of employment security provide a context in which the other variables work. Structural equality and multi-dimensional learning are both necessary conditions. The combinations of ownership and functional-equity and voice and functional-equity provide minimal completing conditions for very low turnover. In special, low-competition contexts voice and ownership without function-equity can produce very low turnover. Of course, the full set of six conditions seems to assure very low turnover. Figure 1 shows a model of these specifications.

[Figure 1 - A Model of CNOL Company Practices]

This model of the CNOL specifies a configuration of organizational practices that, if taken as a configuration, are associated with very low turnover and performance at least sufficient to support low ITO. This model does not necessarily suggest that stronger application along a few of these dimensions will bring a firm to an overall lower level of turnover. One comparison cases suggest the opposite; Weirton epitomizes employee ownership, as a formal condition. Yet, it has not performed well enough to avoid laying off many of its owner-employees. Many firms stress pay-for-performance schemes and other functional-equity enhancing practices, yet they lose employees regularly.

This CNOL model provides a wide range of applications and examples for practitioners. While it does not explicitly specify why or how the categories work to reduce turnover, the discussion of individual variables and prior literature relating to those variables do suggest reasons. First, organization must have reliable financial performance or the organization may

have to push employees away; as Baysinger & Mobley (1983) suggested, lack of performance would result in a final period, 100% turnover. Second, firms differ by how much they try to anchor employees in the firm. The traditional satisfaction-turnover research pursues the idea that satisfaction will hold employees in place (this literature has mixed results suggesting that anchoring only works for some people or only some of the time.) The structural equality, functional equity, and employment security categories suggest that not pushing employees away, either deliberately or inadvertently can reduce turnover. The final force is really a buffer against jolts, internal and external. For example, voice systems provide a buffering mechanism for inadvertent pushing away: people can speak-up if they need to. Ownership and employment security provide buffers against difficult external market conditions; security allows people to not panic and leave in anticipation of being laid-off. By attaching some portion of total employee compensation to the ownership outcomes, executives can effectively control part of the firm's employment cash flow without changing employee head count.

This organizational view of turnover holds that people leave organizations for a variety of reasons. This implies a requirement for a configuration of forces to counter these reasons for leaving. Lee & Mitchell (1994) have taken the latest step in elaborating reasons for people leaving organizations. They suggested processes of decision making based on whether a shock has affected the employee. For them a shock could be pushing event, like an inequity as described here, or a pulling event, like a job offer that could not be refused. They also included a general level of dissatisfaction option (what might be the equivalent of a non-anchored employee in the scheme presented here.) Their model suggested employees voluntarily leave for one of three reasons: because of jolts from within the organization, jolts from outside the

organization, or drift away from the organization (the departure event may not look like a drift, but the process leading to the departure is a gradual decision to leave.)

Lee and Mitchell only addressed voluntary turnover, but the CNOL suggest an extension of their model to include organizational actions as well. Just as employees drift, organizations can drift: a practice like employment security without performance could lead to employees being fired or laid-off because the firm could no longer sustain its cash flow commitments. The organization could have an external jolt: a market could collapse; a critical input could disappear; legislation could disrupt normal business. In many firms, these events could lead to employees being forced out. Similarly, an internal jolt could displace many employees; it is almost cliché for an incoming executive to reorganize and, in so doing, re-staff areas under their authority.

To resist these individual and organizational turnover processes, the CNOL categories suggest three active forces and one buffering force. Performance, not-pushing-away, and anchoring actively keep employees in the firm; ownership, functional equity, structural equality and MDL contribute to these forces. The ownership, voice and MDL provide the buffering that protects against internal drift and external jolts. For descriptive purposes, one could model this as an interlinking set of forces as depicted in Figure 2.

[Figure 2 - Forces Acting on Turnover]

In this scheme, the CNOL have very low turnover because they attend to all the forces simultaneously. Their comparison firms, while having some practices that qualify within the categories (ownership, functional equity, etc.) may not have enough to reduce each source of turnover. This model of turnover also suggests that multiple stakeholders benefit when firms act

on all of these forces. The firm benefits through higher (or at least more stable) performance, employees benefit from stable employment and sharing in the profits of the firm, and communities benefit from the workforce stability (if a firm does not respond to environmental jolts it cushions or buffers those jolts for the surrounding community.)

DISCUSSION AND CONCLUSION

Give these widely shared benefits of CNOL practices, one might wonder at the neo-classical, economic arguments against reducing turnover rates beyond some presumably "normal" level (Abelson & Baysinger, 1984). For example, Baysinger & Mobley (1983) asserted the inevitability of a rising marginal cost and a falling marginal benefit from reducing turnover. Then they argued, in *reductio a absurda*, that firms could not reach literally zero levels of turnover, and if they could, they would find the results undesirable. Therefore, they concluded that lowering turnover was not a practical goal. They called on Dalton & Todor's (1979) theorizing that "only if the organization's decision makers adopt a policy of *exorbitant inducements* or choose to structure and manage the organization in a *pathologically humanistic* manner, can turnover be reduced to zero (Baysinger and Mobley, 1983:258, emphasis added.)" Their argument proceeds with a series of assumptions common in the turnover literature: 1) Most employments are inherently unpleasant. 2) Psychological satisfaction comes from comfort on the job. 3) The costs of removing the unpleasant aspects of a job are high. 4) Even if most unpleasantness is removed some people will still be unsatisfied. 5) Most (all?) employees will sell out their psychological comfort/satisfaction for sufficiently large economic returns. 6) If the organization buys off some employees, it will have to buy off all employees. 7) The twin costs of removing unpleasantness and buying off employees will bankrupt the organization.

Therefore, Baysinger and Mobley concluded that for the not very useful goal of reducing turnover, the only answer is not very practical: "high pay for psychologically satisfying jobs (p. 290)."

A sampling from various relevant streams of research reveals these assumptions do not seem grounded in the reality of everyday experience. Research in developmental psychology (e.g., Horney, 1950; Lewin, 1936; Lewin et al. 1944), organization development (e.g., Argyris, 1990), and sociology (e.g., Kohn, 1986) shows that psychological satisfaction has little to do with comfort. Most of these fields stress that psychological health comes from overcoming challenging obstacles in the pursuit of relevant goals. This refutes the second assumption and renders the first and third assumptions meaningless. Studies of job satisfaction support rejecting these first two assumptions: Coal mining, firefighting, policework, and steelworking persistently rate among the occupations as most satisfying; one could hardly pick a collection of occupations more dangerously uncomfortable. By relaxing the turnover goal from literally zero to very low, assumption number four becomes less meaningful. Studies of turnover and pay satisfaction suggest assumption number five is incorrect: pay satisfaction will not stop people from leaving if other parts of their jobs are unsatisfying (Mobley, Hand & Meglino, 1979). This renders assumption number six meaningless (this assumption also opposes equity theory; if everyone receives the same pay, regardless of performance, the high performers will perceive their treatment as inequitable and some of them will leave). These render the final assumption meaningless, too.

By acting as if these assumptions were true many companies typically researched in turnover studies probably create conditions that confirm their assumptions. However, the CNOL

apparently apply a different paradigm than either the "buy-them-off" economics or the "make-them-happy/comfortable" human relations theories. They appear to have significantly different cost curves than those proposed by the "optimal, non-zero" turnover theorists. Perhaps this is because their goal is not lowering turnover. They quest for something different - performance, quality, enduring success, perfection. Rather than operate around the optimal equilibrium point expressed in micro-economic models, the CNOL lower their turnover and maintain performance through pursuit and progress toward the (unattainable) state of perfection.

Chapter 3

Building Grounded Theory from Case-Survey Data:

Techniques and an Example

Chapter Abstract

In their classic work Glaser & Strauss (1967) talked of developing theory grounded in secondary data. While they offered an example, very little social science has followed their suggestion. Consequently, most researchers think of grounding theory with first hand observation, mixing the problems and advantages of the data collection technique with the issues of theory building. This paper explores the advantages and disadvantages of one source of secondary data, case surveys, for theory development. It explains some practical steps in analyzing data to make it useful in developing theory. An example illustrates some data extraction and analysis techniques and demonstrates the usefulness of case surveys for building theory.

Building Grounded Theory from Case-Survey Data:

Techniques and an Example

Copernicus was a grounded theorist: he developed his theory that the earth revolved around the sun by observing data and interpreting the data without concern for given theory. The positivists of his day, the Church, excommunicated him for his apparent breach of methodological rigor. Fortunately, since then both positivist theory testers and grounded theory developers have improved their methods (and treatment of each other.)

Recent progress in developing grounded theory methods trace to Glaser & Strauss' (1967) seminal work. Eisenhardt (1989) gave a programmatic formalization of their methods. Others have provided advances in techniques such as improvements in direct observation (Mintzberg, 1979), quantitative measures (Jick, 1979), use of intuition (Van Maanen, 1979; Weick, 1989), and application of prior theory (Yin, 1981, 1984). These general steps have contributed to moving theory development from art to what Daft (1983) called "the craft of organizational research."

This paper attempts to advance the craft one step further by demonstrating a practical approach to Glaser & Strauss' (1967) general suggestion of using secondary data for grounded theory. Specifically, it shows that case surveys (Larsson, 1993) address many shortcomings of field methods for developing theory. More important, case survey data and appropriate data analysis techniques bring the process out in the open, making it more accessible to other researchers and research consumers. The paper also provides illustrations of analytic techniques

especially appropriate for textual data; these add to the body of tools available for qualitative researchers. An example from a recent study illustrates and suggests that building theory from case-survey data can lead to high quality theory and can be more easily learned than field research techniques.

OPPORTUNITIES FOR ADVANCING GROUNDED THEORY

For years, theory developing case studies have provided exemplars in organizational research (c.f., Allison, 1971; Mintzberg, 1973; Pettigrew, 1973; Selznick, 1949). Yet, critics question the validity and generalizability of case methods. Journals show a bias against publishing results from qualitative research methods (du Preez, 1991; Luthans & Davis, 1982; Matinko & Carter, 1979). Add in the financial and time costs of doing field research and these combined forces create a strong bias against researchers conducting theory generating, case-based, qualitative research².

One cannot blame this bias on the absence of methodological examples. Eisenhardt (1989) provided an excellent introduction in combining Glaser & Strauss's (1967) strategy with Yin's (1981, 1984) design for case studies and Miles & Huberman's (1984) procedures for analyzing qualitative data. Eisenhardt & Bourgeois (1988), Gersick (1988), and Harris & Sutton (1986) have provided working examples following these methods.

Yet, the bias continues (du Preez, 1991). Overcoming the bias might come through resolving the debate over how to evaluate theory (c.f., Dubin, 1978; Whetton, 1989). This

². Grounded theory methods, case studies, and qualitative techniques are not synonymous. However, grounded methods often imply qualitative methods, and most grounded theory have used case methods. For a discussion of alternatives, see Glaser & Strauss (1967) on the use grounded methods with quantitative data (Chapter 8) and on the use of other secondary data in (Chapter 7).

debate has focused on defining observable, objective outcomes. Whetton (1989) summarized theory-development prescriptions (e.g., Dubin, 1978) by enumerating four essential elements for a complete theory. First, a theory must contain the right factors (variables, categories, constructs, concepts) to explain the social or individual process of interest. "Right" factors balance comprehensiveness and parsimony. Next, the researcher must specify how these factors relate to one another. This usually introduces causality and with the factors specifies the domain or subject of the theory. Causality leads to specifying why the factors relate; what psychological, economic, or social dynamics justify the factors and their causal relationships. This is the theoretical glue that holds the model or theory together. Finally, a good theory specifies its limitations - to whom, where, and when the theory does or does not pertain.

With these criteria articulated, one might expect researchers to conduct more theory building studies and experience less bias against their studies. However, the problem of evaluating theory and the bias against theory building studies may not lie in evaluation criteria; more likely, it lies in differences in goals, methods and data manipulations between those focused on theory testing and those focused on theory building. A review of these differences might highlight areas where theory builders could present studies more acceptable to theory testers.

Goals and methods in theory building and testing

Glaser & Strauss (1967) articulated the aim of grounded theory methods (GT) as producing theories that fit real world situations because the theories emerge from those situations. Rather than fitting the world to logically deduced theories, sometimes badly distorting the world in the process (Webb & Weick, 1979), GT lets theories emerge from and adjust to

empirical conditions. Through many trials, combinations, and substitutions, GT researchers eventually find a combination of categories and relationships that express a theory. Because it emerges from data and from multiple trial hypotheses, GT should stand up well to formal hypothesis testing.

To achieve these goals, grounded theorists cycle through six basic processes: problem definition, sampling, coding and analysis, unfolding prior literature, developing and checking hypotheses, and drawing boundaries. Theory testing involves four steps in a regulated sequence: problem definition, literature search and hypotheses development, data gathering, and analysis. In practice, theory testing often deviates from this prescribed sequence. By design, GT does not follow a set sequence of processes; the data and the researchers' intuition rarely allow such linear development. In particular, regular interplay and looping from one step to another allow the researcher to develop and check ideas that lead to theory that fits reality.

Theory testing seeks to compare the explanatory power of one theory with another (typically a comparison with a null or random-event alternative). A good theory testing study provides credible operational definitions of theory variables, data that plausibly fit those definitions, precision and rigor in applying data manipulations to compare data with predicted outcomes, and rigorous tests for deciding "winners" in the comparison. In other words, the quality of theory testing studies depends on *a priori* definitions, quality of data, rigor in methods, and clear determinations of superior/inferior outcomes.

GT develops and checks hypotheses, but it does not formally test them. Typical data sources do not allow the use of methods common in hypotheses testing. Hypotheses compete with each other, not with a null hypothesis; criteria for judging "winners" include fit with data,

parsimony, sufficient explanatory power, and the right feel (Glaser & Strauss, 1967; Whetton, 1989).

In one sense, the quality of a theory only can only be told through theory testing. Glaser & Strauss (1967) argued that theory testers should use (and would have more success with) the end products of GT. However, for grounded theories to gain admittance in the competition of theory testing, builders of GT probably have to attend to and conform to the process and data concerns of the theory testers. That is, when grounded theorists clearly present their methods and data, the more likely dominant theory testers will accept the theories.

Data in theory development and testing

Given GT uses a well defined strategy, one could argue that the current state of GT craft has significant shortcomings mostly related to relying on qualitative, field data. Field studies inevitably raise questions of interpretation, evaluation, replicability, and, because they usually have limited scope (due to costs), generalizability.

Every element of a good theory represents a high level of abstraction and generalization. Numbers, mathematical formulas, and statistics function as highly terse, dense representations of data; they present familiar metaphors that convey dense meaning and that most research consumers easily recognize (McCloskey, 1986). However, interpretive, idiographic, field research methods make research consumers aware of the messy, context-specific nature of the data underlying those familiar metaphors.

Field research presents an additional fundamental problem; consumers cannot reach this messy, context-specific data to assess the appropriateness of interpretations (in recording experiences, researchers can never reach the original data again, either). This does not invalidate

the data or its abstraction, but for theory testers, it threatens the evaluative norm of requiring the possibility of replicability. Although replicating the processes and data sources used in developing a theory would not insure replication of the same theory, the invisibility of primary field data makes reviewers uncomfortable with the process. Normal science calls for visibility of process and data, but the realities of field research make primary data inaccessible to most.

Neither theory building nor testing require primary data for validity or generalizability. Most theory testing uses quantitative data with statistical techniques; few, if any quantitative data could be called primary data in the sense of interpreting events in an organization.

Theory-testing researchers using qualitative approaches have made progress by improving methods and data quality. Yin and colleagues (Yin, 1981; Yin & Heald, 1975; Yin & Moore, 1983) have shown that even with small sample sizes and descriptive data, comparative case studies can test theories. Ragin (1987) showed how, by converting qualitative data to categorical data, one could apply boolean logic to theory testing. Others have worked on improving translations from qualitative data to quantitative data suitable for statistical testing (c.f., Bullock & Tubbs, 1987; Jauch, Osborn & Martin, 1980; Larsson, 1993).

Why case survey data?

Larsson (1993) summarized these advances in his review of the case survey method. He concluded that the difference between research streams emphasizing nomothetic survey methods and idiographic case studies arose more from pragmatism than paradigm competition (Burrell & Morgan, 1979). Lack of consensus on methodological exemplars and constrained resources limits the probability of studying many observations, cases and issues. He offered case surveys as a pragmatic solution to the tension between quality and quantity.

Similar advances seem possible with the use of case surveys for GT. If theory-building researchers use secondary data, it becomes visible to research consumers. The potential to expose the translation process provides attractive benefits; secondary data do not change over time; they are publicly accessible, and they do not depend on the experiences of researchers. An explicit recognition of the steps of conversion from contextual, densely specific data to abstract, generalized data may render the process less opaque. This suggests that examples of GT from visible data might help bridge the gap between interpretive and deductive researchers. Also, visibility of data and methods may hasten the training of apprentice theory builders.

In reviewing case surveys for theory testing, Larsson (1993) pointed out in several additional benefits that case survey methods might also hold for theory building. Case studies provide an inexpensive and potentially powerful method of identifying and checking patterns across studies (Lucas, 1974). They seem particularly suitable when treating the organization as unit of analysis (Yin & Heald, 1975), when scanning a broad range of conditions, and when the researcher cannot use experimental design as in most managerial practices (Bullock & Tubbs, 1987). Case surveys overcome the limitations of single case studies by examining cross-sectional patterns and increasing generalizability. Compared to nomothetic surveys, case surveys can show more complex phenomena (c.f., Tsoukas, 1989).

Case surveys will not work for every grounded study. Some topics may not have enough written about them to provide a basis for grounding a theory. However, many have noted that an abundance of data exists on a wide variety of topics (c.f., Glaser & Strauss 1967; Hunter, Schmidt & Jackson, 1982; Webster & Starbuck, 1988). Better use of existing data might bring better theories at lower cost.

The remainder of the paper outlines a program aimed at GT using secondary data. It extends Eisenhardt's (1989) case method by using Larsson's (1993) case survey method to show how secondary data can lead to GT. By using secondary, publicly available data and providing sufficient explanations and examples, the paper attempts to make the "qualitative" part of the research less opaque to consumers and would-be-grounded-theorists. Finally, it emphasizes the utility (and some limitations) of using secondary data for developing organizational level theory. An extended example from a recent study illustrates the steps along the way for those who wish to follow the method, apply it, or extend it further.

A PROGRAMMATIC APPROACH TO GROUNDING THEORY IN SECONDARY DATA

The differences between case-survey and field data in GT tasks lie in accessibility, depth, and variety. If cases exist for a topic or firm, researchers will usually find access to case-survey data less expensive than field access. Once accessed, researchers can more easily manipulate case-survey data. Data visibility provides better opportunities for evaluating manipulations. The finite nature of case-survey data also provides a boundary condition; this may disappoint a researcher who has not completely answered a research question, but it can also provide discipline sometimes missing in the field by forcing more thorough examination of data for meaning. A discussion of the six steps in GT reviews the general method and highlights the impact case survey data may have on each step.

Problem Definition directs the methods and sampling, setting parameters that define acceptable evidence for answering the problem. If a researcher has already framed the problem in terms of expected outcome (i.e., hypotheses) then the researcher will use theory testing methods. However, if a researcher has found a new problem (or unusual opportunity), finds

existing theory poorly supported, or has another reason for wanting to discover theory grounded in reality, then the situation calls for GT (Eisenhardt, 1989; Glaser & Strauss, 1967). Problem definition will not tell a researcher if secondary data will answer the question; sampling suggests appropriate data sources.

Sampling in GT proceeds by trying to answer exploratory questions and by applying theory to looking for variations that will add information to a theory. Unlike positivistic, deductive research, problems that call for GT do not lead immediately to a literature search and hypotheses development. Also, they do not call for equal complete coverage of sampling frames required for drawing statistical inferences. Instead, sampling for theory building asks: "where can I find data that inform the question?"

Theoretical sampling takes on the appearance of design-of-experiment sampling; the sample holds constant some variables that prior studies found relevant while introducing systematic variance on other variables and outcomes. While researchers cannot control the 'treatments' (moreover, they look for uncontrolled treatments), sampling across the theoretical space increases confidence that observed treatments cause outcomes.

Replication in theoretical sampling only adds value to the point that it adds no more theoretically relevant information. For theory development, examining one hundred cases adds no more information than examining one case, if the one hundred cases do not vary on some theoretically important dimensions (Pettigrew, 1988). Glaser & Strauss (1967) went further, suggesting that even accurate evidence was not so critical:

A single case can indicate a general conceptual category or property: a few more cases can confirm the indication . . . Generation by comparative analysis requires a multitude of carefully selected cases, but the pressure is not on the [researcher] to "know the whole field" or to have all the facts "from a careful random sample." His job is not to provide

a perfect description of an area, but to develop a theory that accounts for much of the relevant behavior. His job and his training are to . . . generate categories and their properties for general and specific situations and problems. (p. 30)

Given these requirements, case-survey data seem obvious choices for many questions.

Teaching cases, books, journals, magazines, and newspaper articles provide rich descriptions of many organizations and their processes. Just as with field studies, theory building researchers must evaluate the appropriateness and potential bias of secondary data sources (c.f., Woodman & Wayne, 1985). Also, finding cases that meet theoretically important conditions may present problems. For example, researchers may find few cases on firms that exhibit "negative" traits such as failing, having unusually high levels of turnover, controlling employees in coercive ways, or protecting employees who violate laws.

Sampling includes the collection of data. Field-based GT typically combines data collection with data coding and analysis. With case survey based GT, data collection can remain somewhat discrete from coding and analysis. The cases come complete with all the data they can provide, and the steps appear more linear (at least within a cycle of analysis). In this way, case survey data may appear more familiar to a broad base of consumers increasing the likelihood of serious review and possible acceptance.

Coding and Analysis convert raw data or experiences into more abstract representations that exhibit meaningful relationships. Qualitative theory testing research translates specific, contextual experiences to abstract, generalized concepts and relationships specified by the theory. Thus, Larsson (1993) and others testing theories with qualitative data could focus on the quality of the translation with little concern for the meaning or importance of the categories; they assumed these *a priori*.

Because GT researchers simultaneously create categories and analyze their importance, consumers of GT may find the process obscure and unsettling. Illustration and experience may reduce this discomfort. For example, Eisenhardt's (1989) description of first developing convergent, within-case (group) analysis and then developing comparative or contrasting, across-case (group) analysis offers a program that decomposes the analysis process into more manageable steps. Convergent analysis looks for common themes within a case or a group of similar cases. Comparative analysis looks for similarities and for contrasts between cases and groups of cases that vary on important characteristics. Regularly cycling between convergence and comparison increases understanding of relationships, meaning, and importance.

For GT researchers, secondary data provides the additional benefit of making the data visible. Researchers will still induce categories and relationships, but anyone can verify, test, and challenge emergent theory with full knowledge of the raw data. This visibility brings GT closer in form to deductive theory testing in that others can observe and replicate the process.

Developing and Checking Hypotheses in GT should produce hypotheses that formal testing will support. Note, however, that GT does not include formal testing; that task calls for significantly different methodology. On technical grounds, samples in GT rarely meet the assumptions statistical tests imply, and they rarely have sample sizes large enough to assure good tests. More important, the whole strategy toward data and theory differs between the two. Theory testing seeks strong probabilistic conclusions - typically, that the tested theory explains some phenomena better than no theory or chance occurrence (the null hypothesis). Theory building uses data and trial hypotheses to improve the theory.

During theory development researchers may explore hypotheses formally and informally.

Informal approaches may include Weick's (1989) imagination stimulated by data and disciplined by logic, prior theory, and observed realities. Research notes, tentative diagrams, trial tables, rearranged lists, discussions of results, and attempts to write-up results represent tentative hypotheses. Stability, plausibility, logical clarity, and consistency with data in these efforts provide checks on hypotheses.

As hypotheses become more persuasive, stable, consistent with the data, and internally consistent, researchers may look for more formal hypothesis checking. With enough data this might evolve from categorically descriptive statistics to exploratory, multivariate statistical procedures like cluster analysis or discriminant analysis. Similarly, configuration analysis, like truth tables (Ragin, 1987), can suggest and provide checks on hypothesized relationships. Case surveys, with formally coded data, can provide sufficient sample sizes to allow these more formal tests at reasonable costs.

Enfolding Prior Literature in GT interacts with other steps. In sampling it helps guide attention to likely, important sources. During coding and analysis it supplements and sometimes challenges emergent findings. When developing hypotheses, literature plays a role of checking and challenging, too. If findings in the data contradict given literature, they challenge researchers to look further for moderating conditions, for some misguided interpretation, or for more evidence that the given theory does not fit empirical conditions well. Although not dependent on prior theory, GT uses literature more actively than theory testing methods. Like problem definition, researchers face the same issues in using of prior literature whether they use field data or case surveys.

Drawing Boundaries in GT approach means finding end points for a stream of research

that could continue indefinitely; theory continues to evolve, cycling between substantive and formal theory, between data and theorizing, and between developing and checking. Taking a GT approach means letting go of linear thinking both in theories and in methodology.

Three factors can create boundary conditions on any single project: theoretical saturation, data exhaustion, and budget constraints. Although some researchers may not consciously acknowledge budget constraints, every project has them. Researchers must publish, expose the emergent theories to criticism, testing and application, and satisfy others involved (funding bodies for example). Case survey data can expand the boundaries of a study by providing a comparatively low cost data source, but they may also constrain a project because exhaustion of data sources may define end points not encountered in the field.

Cycling between these activities gives GT its rich potential. As new situations or questions arise researchers look for more appropriate samples, extract more data, rearrange theories and develop new hypotheses. Formal constraints imposed on theory testing do not limit the GT search for better meaning. With case survey data, researchers may also reinterpret prior data in a way that may not be available from field data (e.g., if researchers captured field data in categorized form instead of raw form.) This flexibility and visibility should improve the theory building process by allowing competing interpretations, wider variety in hypothesis checking, and better assessment of boundary conditions.

In this cycling, case survey data allows a more programmatic approach to GT. The visibility, relative finiteness, and tangibility of the data make both the general process and within-process techniques more accessible and replicable. The next section illustrates this by summarizing a recent GT study using case survey data.

AN EXAMPLE: COMPANIES NO ONE LEAVES

Before reviewing and illustrating the use of case-survey data for GT, an introduction to the illustrating case seems appropriate. The study of Companies No One Leaves (CNOL) examined a set firm with extraordinarily low turnover. After controlling for important economic, sociological variables, the study looked for a convergent set of organizational practices that would account for the low turnover. A comparison with matched pairs of higher turnover firms enriched the set of differentiating variables and provided evidence that these variables (categories in the language of GT) could differentiate CNOL firms from non-CNOL firms. The resulting configuration of practice categories provided a descriptive model of the CNOL (Figure 1).

[Figure 1 - A Model of CNOL Practices]

In keeping with recommendations that researchers should use methods appropriate to the research question, the study of CNOL did not begin assuming the use of GT. Problem definition, trial sampling, and preliminary analysis suggested GT and identified case survey data as an appropriate research strategy.

Problem Definition

A surprise discovery from two field studies prompted the study of CNOL. The first study examined management practices in a small (300 person) firm that manufactured electronic, musical keyboards. The firm was pursuing a Deming-style, continuous quality improvement effort. For the three years after they adopted this process, the firm experienced less than 1% *cumulative* turnover (Schuler & Harris, 1991). The second study looked at a small (450 person) printing and binding company. Employees owned 100% of the company, and of the three hundred employees that initiated the purchase in 1986 only two had left (retirements) by 1993.

These firms raised questions leading to the GT study: Are there enough firms with unusually low turnover to study them as a group? How could one define unusually low turnover? Would these firms show convergence around practices and practice outcomes or would they have markedly different practices? If convergent, would the patterns of practices differ noticeably from patterns of practices in non-CNOL firms? Could prior turnover theories explain these unusual firms? The last question lead to a search of the literature for existing explanations.

Prior theories on turnover did not appear to explain these unusual companies. Reviewers agreed that researchers have found little compelling evidence explaining variations in turnover (Baysinger & Mobley, 1983; Hom & Griffeth, 1991; Lee & Mitchell, 1994; Lee & Mowday, 1987; Mobley, 1982; Price, 1977; Webster & Starbuck, 1988). With correlations in the order of 0% to 18% for causal models (Hom, Griffeth & Sellaro, 1992; Lee & Mitchell, 1994; Webster & Starbuck, 1988) and 5-30% for process models (Hom & Griffeth, 1991; Lee & Mowday, 1987; Mobley, 1982; Staw, 1984), none of the models seemed to explain these extremely low turnover firms. The stronger economic correlates of turnover might have a chance of explaining such low levels of turnover; Hulin (1981) found -.81 correlation with unemployment rates; March & Simon (1958) found .80 correlation between economic growth and turnover, and Roberts, Hulin & Rousseau (1978) found .50 correlation with expansion of labor markets. However, a longitudinal study would control these economic correlates. Also, they seemed unlikely to account for single firm differences.

This lack of good findings suggested that organizational level turnover fits Eisenhardt's (1989) qualification as a topic for GT; current perspectives seemed inadequate. This pointed to GT as an appropriate alternative for answering the overarching question posed above: "Could

one find a class of firms that could be called companies no one leaves, and would they have properties that would inform theories of turnover in organizations?"

Sampling began by searching for data to answer "Does a class of such companies exist?" used economic theory to look for companies where economic mobility (both firm and employee) was very low (eg. Pencavel, 1972). Sociological theory suggested looking for an ideological commitment that might heighten the attachment (e.g., Kanter, 1972) and reduce alternatives between employees and organizations.

These paths did not uncover any CNOL firms, but the search involved several electronic and manual citation indexes, queries on many electronic networks, and a snowball process of following leads. Those leads pointed to published accounts of individual firms and a series of "best companies" books - The 100 Best Companies to Work for in America, A Great Place to Work, and No One Need Apply. This wealth of secondary data began to suggest a case survey as a data source.

Here, prior theory helped develop a screening process: To control for the strong economic correlates of turnover, firms should have very low turnover for two business cycles (later changed to the twelve years from 1980 to 1992 during which the U.S. economy experienced two major recessions and an extend growth cycle). The theory of statistical process control (Wheeler & Chambers, 1986) also suggested a second screening definition: Define very low turnover as one third of the average turnover of a firm's industry for twelve years; this assures a positive signal on an attribute process control chart. Such a reading indicates the attribute (very low turnover) happened because of special causes - here, presumably, because of organizational practices.

Several firms passed this screening and had enough different written accounts about them to assure a reasonable portrayal of the firm's practices and reduce the chance of single source bias. Later, a search for higher turnover firms in the same industries uncovered a group of comparison firms that with similar breadth of documentation. These became the sample. Table 2 shows key elements of the experimental space covered by the CNOL sample and Appendix C lists the cases used in the analysis.

[Table 2 - Complete Comparison Sample]

Coding and Analysis began with the extensive readings to identify CNOL. This process began development of an emic perspective (Morey & Luthans, 1984) and served to create informal impressions of noticeable and meaningful events. The identification and collection of the CNOL sample provided data for more formal analysis of convergent practices. Later, cases of higher turnover firms provided data for comparative analysis.

Convergent Analysis. Detailed reading of cases suggested properties (quotes, events, processes) that seemed peculiar to the CNOL. Sorting and grouping those properties into lists created categories (a higher level of abstraction). Prior literature suggested that some emergent categories corresponded closely to known categories. For example, the following list of quotations exemplified many seen in the CNOL cases:

"Lincoln also offers employees a variety of ways to complain about unfair treatments. The central vehicle is the advisory board, first established in 1914. Composed of 27 representatives elected by fellow workers, the advisory board meets twice a month with the CEO and the president. From all accounts, nothing is too small [or large] to be discussed." (Levering & Moskowitz, 1993:238).

"Louis Amirault, the telephone operator, . . . told us that if she fields a complaint from a caller, she has no hesitation about giving out [president of Beth Israel Hospital] Dr. Rabkin's extension, because she knows he will take care of it." (Levering & Moskowitz, 1993:52).

"Worthington respects the judgment of its workers. They can refuse to ship product if they feel the quality is below standard - a decision normally [in other firms] left to management." (Forbes, July 19, 1993: 79)

These quotations present various forms of *voice systems* (Hirschman, 1970; Folger, 1977; Greenberg & Folger, 1983). Voice allows employees to speak up through an organizational hierarchy. Linked to organizational justice (Sheppard, Lewicki & Minton, 1992), a substantial body of literature addresses voice including several descriptions and catalogues of voice mechanisms (e.g., Baker & Rowe, 1984; Ewing, 1977; Saunders & Leck, 1989). Recognizing this as a recurring category suggested using these prior operational definitions to help recognize additional forms of voice systems; existing literature helped exploration of a category that emerged from the data.

This literature also brought *voice quality* to attention. Voice quality moderates voice systems by qualifying its elegance, responsiveness, accessibility, non-punitiveness, and correctness (Sheppard, Lewicki & Minton, 1992). During the convergent analysis voice quality appeared as given with descriptions of voice systems. Only during the comparison analysis, with the appearance of low voice quality, did voice quality take on importance as a potentially separate category.

However, not all categories fit existing literature well. The following examples appeared in similar form throughout the CNOL cases, yet they fit no single, prior construct:

"We start our trainees off by putting them in overalls and they spend up to seven weeks in the welding school." [A description of training for salespeople and other non-factory workers at Lincoln Electric] (HBS Case 376-028: 9).

"We've tried to bring research right into the factory and make it a line function. We try to make the people producing the steel responsible for keeping their process on the leading edge of technology worldwide. If they have to travel, they travel. If they have

to figure out what the next step is, they go out and find the places where people are doing interesting things. They visit other companies. They work with universities." [Gordon Foward, CEO of Chaparral Steel, talking about learning among factory workers.] (Simmons & Kroll, 1990: 860-861.)

"Dr. Rabkin [president of Beth Israel Hospital] once had some young doctors dress in the uniforms of maintenance staff and move about the hospital to get a feel for how the support staff is treated." (Levering & Moskowitz, 1993:52).

These and similar quotations led to a new category named *Multi-Dimensional Learning* (MDL), practices that try to lift the eyes and minds of employees from their immediate task environment. The study of CNOL identified twenty generic MDL practices. As the quotations above illustrate these represent three general dimensions - the finished product (Lincoln Electric), the production process (Chaparral Steel), and the larger context of the organization (Beth Israel Hospital).

The development of categories produced tentative operational definitions (coding schemes); applying those definitions against the original data allowed a more systematic and thorough extraction of data and helped refine the definitions. As noted above, recognition of appropriate literature aided in developing more efficient or inclusive operational definition, after the category emerged from the data. Appendix A contains listings of operational definitions for categories in the CNOL study. The following describes four categories not yet mentioned:

Signals of employment security come from the organization as no layoff policies, internal labor markets, and other practices designed to assure employees that their employment (though not necessarily their current job) will continue. This has a negative corollary, signals of employment insecurity, seen in such practices as employment(fire)-at-will policies, layoffs, and downsizing.

Functional equity represents the balancing of inputs with outputs. Typical practices associated with this include bonus systems for better performance, responsiveness to change, reciprocity in treatment between organization and employee. It has a negative corollary in functional inequity - practices that violate norms of balance.

Structural equality reflects an absence of practices that differentiate groups of employees on any basis other than current functionality. The negative corollary, structural inequality, shows up in practices such as executive dining rooms, reserved parking spaces, and different dress codes or badges for different levels of employees.

Ownership proxies give employees a stake in the ongoing profit streams of the organization. This could be through ESOPs, profit sharing, gainsharing or other practices that share organizational success with substantially all employees.

Because researchers may translate specific, contextual data into a variety of categories, one would like to have a replicable coding scheme. This does not assure construct validity, but it constrains the possibility of overly idiosyncratic interpretations. Test-retest and inter-rater reliability tests showed that coding CNOL categories produced results similar to Larsson's (1993): If coders attempt accurate, detailed coding of properties (specific practices), they attain much better reliability at more abstract (category) levels. For the CNOL study, detailed level inter-rater reliability was between 60-70% but when raised to the category level reliability rose to 85-90%.

Techniques for Improving Categorization. As researchers sort properties into categories, they may find some ambiguity in the process. Crovitz (1970) supplied a technique for deducing generic theories that could help in this sorting. He observed that scientific publications include two kinds of words: universal words (y words) that appear in any similar publication and substantive nouns that are specific to a particular publication (x words). If theorists delete the x words (jargon) and keep the y words, they have a generic structure for theorizing. The y words will typically contain relationships that the theorist can fill with nouns of their choice. For Pelto (1970), those would be etic nouns or categories that generalize the specifics of the deleted y (emic) words.

Treating properties as x-words and substituting their competing category labels in original case text allows an analysis of fit. The substitution resulting in minimum loss of original meaning provides the best fit. Most qualitative researchers probably do this instinctively, but it can be done formally.

For example, in the study of CNOL job rotation could fit one of several categories depending on how and why the firm did it. Some forms of job rotation appear as part of a career path consistent with an internal labor market, a signal of employment security. Other forms of job rotation, say temporary job swaps or cross training, might provide socialization, process redundancy, process awareness, or greater product awareness - different forms of MDL. By substituting "employment security," MDL, or functional equity (fairness) for the reference to cross-training in the following text, one sees that MDL best describes how one form of job rotation works at Chaparral Steel. While the other substitutions could work, the context suggests MDL captures more of the original intent.

Original Text

Similar cross training takes place in other areas of the company. Shipping clerks, for instance, learn how to answer credit questions. Security guards are trained as paramedics and to enter data into a computer. A crane operator who had been with the company less than a year, said: "Everyone learns every one else's job. That's one of the beautiful things about Chaparral." (Levering & Moskowitz, 1993:61).

Text with Substitution

Similar [employment security, Multi-dimensional learning, equitable treatment] takes place in other parts of the company. . . . A crane operator . . . said: "Everyone gets [employment security, multi-dimensional learning, fair treatment]. That's one of the beautiful things about Chaparral."

The inter-rater tests in the CNOL study also agreed with Larsson (1993) that omissions (one rater coding a passage while another did not) occurred more frequently than coding

disagreements. For a single coder, or as part of a team strategy, a "black-out" technique helps examine text for uncoded relevant data. By marking, highlighting, or blocking text as the coder evaluates them, the texts carry the codes with them. Simply blacking out all but the uncoded text leaves behind a skeleton of text that can be examined for additional properties or relationships. The following illustrates how blacking out (removing) text helps point to additional detail sometimes missed in the dense, particularistic case material³:

Text with coded sections highlighted

Another unique feature of life at Rosenbluth is the Associate of the Day program, started in 1990. **Any associate** [*structural equity*] can spend a day **following around another associate, of any rank, to see what his or her job is like** [*multidimensional learning*]. Often associates take advantage of this program to see **whether they would like to apply for a job in a different department** [*employment security through internal job market*]. But many also want to see what it is like to be one of the top officers, in which case **the company will pick up the expenses for out-of-towners to come to Philadelphia** [*structural equity*]. By 1992, 56 associates had spent the day with Hal Rosenbluth.

Annotated Skeleton Text

Another unique feature of life at Rosenbluth is the Associate of the Day program, started in 1990. -----
 can spend a day -----

 Often associates take advantage of this program to -----

 ----- But many also want to see what it is like to be one of the top officers, in which case -----

 ----- **By 1992, 56 associates had spent the day with Hal Rosenbluth.** [In the first pass, the coder treated this as a continuation of the multidimensional learning practice. However, personal, one-on-one meetings with senior executives fit a coding definition for *voice systems*.]

Contrasting Analysis. Applying the codes through a content analysis inventory (Jauch, Osborn & Martin, 1980) helped increase the efficiency of data abstraction. During the

³. Although the CNOL study did not apply them, one can now find computer software that assists in these coding and data abstracting routines. This requires having cases in machine readable form, but scanning and text conversion tools now make this a viable option.

convergent phase, six qualifying categories arose from the comparison companies (voice quality, signals of employment insecurity, no employee ownership, the dimensions of multi-dimensional learning, structural inequality, and functional inequity). This led to revisiting several CNOL cases coded during the convergent phase to check for completeness, contrasts, and context.

Two types of comparisons provided evidence that emergent categories systematically differentiate CNOL from non-CNOL firms. First, means comparisons at the sample-set level and discriminant analysis at the case level showed support for the simplest hypotheses: the CNOL displayed higher levels of the main categories and lower levels of the negative corollary categories. The discriminant analysis showed that the categories could discriminate between CNOL cases and non-CNOL cases.

Because even multivariate techniques lose the unit-of-analysis context so important in case studies, Ragin (1987) suggested using boolean algebra on truth tables to analyze realized configurations (and for exploring theoretically possible, but unrealized combinations). Truth tables represent simplified, highly abstract yes/no interpretations of categorical data. Once constructed, a truth table shows the combinations of variables observed across cases and allows an analysis of configurations. This leads to searching for mutually separating, minimum sets of variables that will identify an outcome, say belonging to the CNOL, as distinct from another outcome (non-CNOL).

Because the possible entries in a truth table are 2^n , where n is the number of variables, one would like to analyze a small set of variables. For example, the CNOL comparison analysis resulted in twelve categories (the original six plus six qualifying categories). Although the cases' contexts suggested the qualifying categories made independent contributions, the method of

boolean analysis strongly urged developing a rationale for combining the qualifiers with the original categories to yield a yes/no indication on the original category. The following rules for this additional level of abstraction came from the effects observed in the discriminant analysis and from the apparent effects discussed in the case accounts. They were applied to company level summaries (i.e., summarizing across accounts, eliminating duplications of practices across accounts, and applying the following rules resulted in firm-level configurations of practices.)

Security: If any indicators of not-Security present code as 0, otherwise 1.

Voice: Treat low-quality or Voice-suppressing as -1 and voice/voice quality each as 1. Add all indicators. Record 1 if positive, 0 if negative or zero.

Ownership: If any ownership indicators present record as 1, else 0.

MDL: For each dimension score 1 on the dimension if positive accounts outweigh negative accounts, score 0 if negative accounts outweigh positive accounts or if there are no accounts. If all three dimensions scored 1's, record as 1, else record as 0.

Structural Equality: For each account of Structural Inequality score -2, for each account of structural equality score +1. Sum the scores and if positive record as 1, else 0.

Functional Equity: Same rules as for structural equality.

These rules allowed simple categorization with no cases presenting close or ambiguous interpretations. Analysis of a preliminary truth table suggested that signals of employment security were never present for any of the comparison companies. Although missing conditions prevented declaring this a sufficient category for identifying CNOL, it did suggest that parsimony and simplified analysis would result from setting it aside (as a necessary condition). Table 7 shows the reduced truth table for the CNOL and non-CNOL configurations.

[Table 7 - Reduced Truth Table]

Observation shows continuing support for the idea that the CNOL categories differentiate CNOL from other firms; the CNOL and non-CNOL configurations do not overlap, and the CNOL show more categories with positive indicators. Exploring this table with boolean algebra revealed additional insights into the configurations.

Boolean notation represents logical conditions with letters (A, a, B, b, . . .) and operators (x, +). An upper-case letter represents the positive condition (e.g., S = positive condition on Structural Equality) and a lower-case letter represents the negative condition (e.g. s = negative condition on Structural Equality). Boolean multiplication represents logical 'AND' conditions. Thus, a boolean representation of the top line of the CNOL conditions, VOMSF, means positive conditions for (Voice AND Ownership AND MDL AND Structural Equality AND Functional Equity). The second line, VoMSF, means (Voice AND not-Ownership AND MDL AND Structural-Equality AND Functional-Equity). The boolean addition (+) represents the logical "OR"; so, (VOMSF + VoMSF + VOMSf + vOMSF) presents the complete specification of "belonging to the set of CNOL."

Because combinations of conditions often overspecify an outcome, applying boolean algebra to the truth table can reveal a logically minimum specification for the outcome condition (here, belong to the CNOL). Logical reduction of the full specification seeks a set of prime implicants - factors that cannot be reduced. For example, VOMSF and VoMSF reduce to VMSF. Between these two conditions, having or not having Ownership Proxies does not decide membership in the CNOL. Ownership does not decide the truth; so, reduction removes it.

Similar reductions combining VOMSF with the other two conditions leave a reduced specification of VMSF + VOMS + OMSF. That is, a company might achieve extremely low turnover by combining either of the three configurations. Factoring out MS to get MS(VF + VO + OF) shows MS also qualify as necessary conditions along with signals of employment security. The three completing conditions then suggest looking for context that allows each to contribute to very low turnover. (For a more complete discussion of these techniques and their

rationale see Ragin, 1987.)

Boolean analysis and other techniques allow for a rich exploration of configurations probably not available through less abstract data representation. Eisenhardt (1989) recommended six to ten cases as an optimal number for combined efficiency and comparative richness. However, she wrote about field studies that have greater volumes of data and higher cost of data collection than studies using secondary data, like the case survey.

As this section has tried to illustrate, using secondary data (case survey data) mitigates against a frequent criticism of interpretive, qualitative research - that it is idiosyncratic and opaque. By using publicly available data and publishing the criteria for coding categories, this technique opens the window on the qualitative translation process so that the consumer can "verify" interpretations and abstractions.

Developing and Checking Hypotheses happens during analysis and as a separate step. For example, the search for an efficient minimal configuration of variables implies a hypothesis that very low turnover may not require all of the discovered categories. The truth table analysis checked this hypothesis and suggested that several less than complete configurations may account for the CNOL. Similarly, identifying two ever-present conditions, employment security and MDL, answered (rejected) a theory-driven hypothesis suggesting closed internal labor markets cannot innovate sufficiently to remain competitive; dense MDL processes support continued innovation.

The model of CNOL (Figure 1) does not show causal forces; at this level it describes practices associated with CNOL. Prior theory can suggest causal explanations when that theory resonates with evidence in the cases (and no evidence contradicts it). For example, the individual

model of voluntary turnover provided by Lee & Mitchell (1994) portrayed turnover choices as happening in two modes. Sometimes people gradually decide to leave, as in the process models of turnover (Mobley, 1982). At other times jolts, provocations by negative organizational behavior or pulls from environmental events, suddenly displace employees. These ideas of internal and external jolts and gradual drift reflected the contextual details of the CNOL categories (for example a layoff is an involuntary, internal jolt that creates turnover). The CNOL study suggested expanding Lee & Mitchell's analysis to the model in Figure 2.

[Figure 2 - Causal Model of CNOL]

In this model the CNOL categories of ownership and functional equity resist drift by actively anchoring employees in the firm. Functional equity, MDL, and ownership contribute to firm performance which buffers against external jolts. Structural equality prevents pushing-away employees, and voice and MDL provide buffers against internal shocks. This model provides causal links from categories to outcomes.

Drawing Boundaries relies on researcher discretion and the circumstances of the research project. For example, after analyzing and coding cases of four CNOL firms, very little new appeared in the category lists. The CNOL case data had no more to offer toward theoretical convergence within the CNOL group. This established a boundary condition for the first phase; had a tighter budget constrained the project, the researcher could have stopped and written up these results. Instead, the researcher sought new data while expanding the theoretical condition to ask: "Do these practices distinguish the CNOL from other firms, and do other conditions exist that might also distinguish the CNOL, perhaps because the conditions do not exist in the CNOL while they do exist in other firms?"

Tools, such as the black-out coding process and truth table analysis discussed above, can provide assistance in determining if theoretical saturation has been achieved. Researchers need not meet every possible condition; some conditions may appear so unlikely as to not warrant further effort. Similarly, staying focused on distinguishing and describing CNOL, instead of all turnover groups, lets the researcher bring the project to a close with confidence that the theory represents all the data available. For the CNOL, the models in figures 1 and 2 show this closure.

Methodological limitations using case survey data present fundamental problems for building complete theories: fragments of data may suggest a broader theory than the full data allows. For example, several CNOL cases commented that their employees received average wages for their location and skill while some non-CNOL firms paid higher than average wages. However, all the CNOL had mechanisms for employees to receive some of the company's profit streams. The secondary data did not provide enough information to decide if total compensation could be an important differentiating variable.

Of course, similar situations could appear in field studies. Companies do not always allow researchers unlimited access. Jauch, Osborn & Martin (1980) sided with Miller & Friesen (1977) in concluding that case writers may have better access to real data than researchers using remote data collection techniques like surveys. Therefore, well done content analysis of cases may provide better data than those remote but primary data gathering techniques.

Finding appropriate cases can cause problems with case surveys. In searching for CNOL two problems hindered the qualification of firms as CNOL. First, no public, baseline data provide firm-level turnover data. Only the Bureau of National Affairs still publishes wide spread turnover data, and they only report industry-level, monthly averages. Also, many firms seem

reluctant to discuss their turnover, whether it was high or low. So, not finding qualifying turnover documentation eliminated many firms from consideration.

After finding cases, the researcher must be aware of source bias (Larsson, 1993; Jauch, Osborn & Martin, 1980; Miller & Friesen, 1980). Multiple sources or case surveys control some bias. While bias is a greater concern in theory testing, where replicability, validity, equal complete coverage and objectivity play dominant roles, it is still an issue in theory development.

For the study of CNOL, data came from three categories of sources - popular books, business school/academic accounts, and trade press accounts. A discriminant analysis substituting these categories for CNOL/non-CNOL clearly identified popular book accounts as distinguishable from both academic accounts and trade press accounts. The discriminant function did not accurately identify academic accounts when compared with trade press, but it did accurately classify the trade accounts. However, an even distribution of sources across firms controlled a significant portion of this bias (i.e., most firms had accounts from each source).

The limitations of using case survey data so not seem to outweigh the benefits. Case surveys provide economical data that, if well chosen, can provide a rich grounding for theory. For many topics, a case survey seems like an extremely practical place to start.

DISCUSSION

This approach to theory building calls heavily on three sources. Glaser and Strauss (1967) provided the overarching framework of GT. Eisenhardt (1989) provided a more specific road map for using case research to build theory. Larsson's (1993) review of theory testing case surveys provided the outline for translating a case survey into a theory building data source. Weick (1989) provided insights into perhaps the most elusive element in theory generation -

making the leap from the multitude of possible categories and properties to a set that a) exhibits knowledge, skepticism, and generalizability (Webb, 1961); b) provides metaphors embodying truth, beauty and justice (Lave & March, 1975); and c) proves acceptable to the common sense of both researchers and practitioners (Daft, 1983).

Appealing to the common sense of both researchers and practitioners may require multiple representations of theories. Figure 1 gives a descriptive model of CNOL while Figure 2 provides an impressionistic, causal diagram perhaps best suited for a practitioner. For those focused on hypotheses testing methods, a different presentation, such as the cross reference shown in Table 8 below, might more readily suggest formal hypotheses for testing. Each representation comes from the same theoretical source, but they convey different information to different audiences.

[Table 8 - Cross Reference between CNOL practices/Organization Turnover]

While the three presentations may convey different information to different audiences, each retains a focus on the complete organization. Building theory tends toward integrating and constructing; categories (variables) become important through their relationships and how they contribute to the whole (Glaser & Strauss, 1967; Ragin, 1987).

For example, the category "sending signals of employment security" separated the CNOL, where (the vast majority of) employees have reasons to feel secure in their employment, from the non-CNOL, where some significant portion does not. If one examined typical, mid-range turnover firms, one might find little variation in signals of employment security. These firms might have a variety of turnover experiences only mildly correlated with employees' concerns for fairness, efficiency, and growth opportunities and perhaps not correlated at all with

employment security. Because of the low variance in security, the other categories might not benefit from interaction effects with security. Only a study of an extreme condition, like the CNOL, would reveal that employment security contributed more than making employees feel good; it enables employees and the company to feel secure investing in learning, organizational change, experimentation, and maintenance of fairness.

Case surveys provide good data for studying organizational extremes. Case writers and audiences seem to prefer unusual outcomes (especially positive outcomes) to common outcomes. As this study shows, extremes reveal relationships that middle-of-the-distribution events often cannot reveal. For building theory, extremes make effects more obvious.

CONCLUSION

This study has shown that reasonable and demonstrable theory can come from secondary case data. Because the research question asked about an unusual, interesting, and positive outcome, a case survey provided a good sample. Using secondary data addressed complaints about the illusive, interpretive process by making it more accessible. Perhaps more important, the visibility of data and methods allows for better evaluation of the theory generated. In particular, because GT aim for practical theories, seeing the data source and the theory allows the consumer to evaluate whether the theory provides practical insights to the conditions from which it came. Hopefully, this programmatic approach helps move GT further from art to craft and make it more accessible.

With this approach perhaps quantitatively oriented, theory testing researchers will find both the form and specific processes of qualitatively-based GT research less foreign. It may also help GT researchers understand that what they do varies, not necessarily in some understanding

of reality (Morgan & Smircich, 1980), but in their intended use of data, the sources of data they trust, and what they do with their data.

With such understanding and accessibility researchers will produce better GT. Better does not mean "more like deductive, theory testing science." Better means two camps that often act as though they oppose one another will better understand how they can complement each other. If GT researchers build a communication bridge to theory testing researchers, that bridge will allow intellectual traffic in both directions.

Chapter 4

Linking Involuntary Turnover with Voluntary Turnover: Opportunities for Improving Turnover Research and Management Practice.

CHAPTER ABSTRACT

Research on voluntary turnover, survivors and victims of involuntary turnover, and the economic consequences of all turnover suggests a model in which involuntary turnover (ITO) causes voluntary turnover (VTO) through the mediating steps of employees' affective and cognitive responses and further involuntary turnover through reduced organizational performance. An array of organizational and environmental factors moderate the strength of responses to ITO. A moderated, mediated model linking ITO to VTO leads to propositions for testing and a research agenda that could provide advances in turnover research, where empirical results have proven weak and sometimes elusive. It could also signal new processes for managers leading to improved, long-term organizational performance.

**Linking Involuntary Turnover with Voluntary Turnover:
Opportunities for Improving Turnover Research
and Management Practice.**

Turnover researchers (c.f., Mobley, 1982; Price, 1977) distinguish voluntary (employee initiated) turnover (VTO) from involuntary (employer initiated) turnover (ITO). They claim these two types of turnover have different causes and different consequences. They generally ignore the possibility of ITO and VTO acting reciprocally as either cause or consequence of the other within an organization. Could ITO lead to VTO and vice versa?

Many familiar situations suggest linkages between ITO and VTO. If employees perceive themselves as likely to lose their jobs because of prior ITO, some will take preemptive measures and find other employment. Employees also quit "in sympathy" with people who have been fired (Gardner, 1986). High-level managers appointed to new positions (either because of ITO or VTO) find ways to change their staff through ITO or coercive VTO so often that it has become almost a cliché (e.g.s, restructuring at Sears, Roebuck & Company under Edward Telling or G.E. under Jack Welch, or any major sports team when the head coach changes.)

A few empirical studies have shown correlations between ITO and VTO at the organizational level. Lust & Fay (1989) found that layoffs had a positive relationship with subsequent quits in a study of U.S. manufacturing firms from 1978-1981. In a study of 10 Canadian and UK firms going through downsizing, Hardy (1987) found high hidden costs, including declining productivity, reduced commitment, lack of team spirit, and greater turnover. Walsh & Tracey (1980) reported that after a substantial cut in staff, employees of a large

California municipality reported a significant increase in intentions to quit and a significant decrease in job participation, pay satisfaction and intrinsic motivation.

At the industry level, Huizinga & Schiantarelli (1992) noted that in economic downturns, employment drops sharply through layoffs and then drops again through quits. At the level of all manufacturing employees in the U.S., Figure 3 shows ITO, VTO and total turnover (TTO) annual rates from 1960 to 1981 as reported by the Bureau of Labor Statistics. The counter cyclic trends between ITO and VTO translate into $-.755$ correlation⁴ (significant at less than .01%). Most other variables hypothesized as relating to VTO show correlations of 0-18% (Hom, Caranikas-Walker, Prussia & Griffeth, 1992; Lee & Mitchell, 1994; Mobley, 1982; Price, 1977; Webster & Starbuck, 1988). Only economic variables such as unemployment rates (Hulin, 1979), economic growth (March & Simon, 1958), and expanding labor markets (Roberts, Hulin & Rousseau, 1978) compare favorably to ITO as correlates to VTO.

[Figure 3 - ITO-VTO for U.S. Manufacturing 1960 to 1981]

The research opportunity

These anecdotal arguments, empirical evidence and very strong correlations at an industry level suggest links between ITO and VTO. Yet, among the fifteen hundred-plus articles written about employment turnover (Muchinsky & Murrow, 1980) few have explored explicit links between involuntary (employer initiated) turnover (ITO) and involuntary (employee initiated) turnover (VTO). None of the major reviews of the turnover literature cite explicit or implicit linkage (c.f., Baysinger & Mobley, 1983; Cotton & Tuttle, 1988; Lee & Mitchell, 1994;

⁴. Since the BLS only reported economy-level aggregates these correlations cannot be translated into organization-level outcomes, but they do suggest some significant relationship between ITO and VTO.

Mobley 1982; Mobley, Griffeth, Hand & Meglino, 1979; Muchinsky & Morrow, 1980; Muchinsky & Tuttle 1979; Peters & Sheridan, 1988; Price, 1977; Steel & Ovalle, 1984). Inquiries into electronic indexes for business, psychology, economics and sociology for the years 1987 to 1994 revealed very few articles combining the key words turnover, voluntary and involuntary (and 14 synonyms) in their abstracts, and none of those articles linked the two concepts. Exploring linkages between ITO and VTO might provide valuable insights and present opportunities for groundbreaking research.

The practitioner opportunity

If ITO causes VTO, this may have important implications for management, too. Corporations continue to engage in massive layoffs and terminations (Brockner, 1988; Right Associates, 1990; Schellhardt, 1991), yet often fail to realize sustained financial benefits (Blundell, 1978; Faltermayer, 1992; Morck, Schleifer & Vishny, 1988). As more communities become disrupted by layoffs and downsizing (Jahoda, 1982), legislative and judicial bodies have increasingly attacked the right of employment-at-will claimed by corporations (e.g., Gilberg, 1992). In turn, corporations expend time, energy and other resources protecting those rights (e.g., Schwoerer & Rosen, 1989) when they could use those resources for other, more productive goals.

Even without struggles for legal rights, Morck, Shleifer & Vishny (1988) found firms that internally precipitated management turnover subsequently had poorer performance than other firms in their industry. The insider-outsider theory of employment and unemployment (Lindbeck & Snower, 1987, 1988a, 1988b) concluded that incumbents raised costs to firms of replacing insiders with outsiders and that insiders produced less after ITO leading to more ITO. Each of

these views suggested ITO created inefficiencies for firms and economies.

This evidence suggests that ITO often fails to help and produces undesirable side effects for organizations (Cobb & Kasl, 1977)⁵. If, as the evidence suggests, ITO and VTO reduce performance, they may encourage further ITO. Also, if ITO causes higher levels of VTO, that subsequent VTO may accelerate the negative organizational outcomes associated with ITO. For these reasons, organizational leaders may find research exploring relationships and outcomes associated with ITO, including effects on VTO, most interesting. Perhaps they would discover greater efficiency and long-term economic success by avoiding ITO and working to reduce VTO.

This paper develops a causal model linking ITO to VTO. The model builds on theories of Equity (Mowday, 1987) and Social Justice (Adams, 1965; Brockner & Greenberg, 1990; Festinger, 1954; Folger, 1977), Stress (Jick, 1985; Lazarus & Folkman, 1984), Expectancy (Lawler, 1973), and Efficient-Wage Economics (Lindbeck & Snower, 1987, 1988a). The model suggests that organizations and employees benefit from lower levels of ITO, and when ITO events occur, greater perceptions of fairness and compassion in handling the event and greater attempts to increase post-ITO performance lead to less negative responses. With this potentially valuable model for practitioners and the rich, but relatively unexplored theoretical relationship for researchers, exploring causal linkage between ITO and VTO presents winning opportunities for researchers and practitioners.

A MODEL OF ITO CAUSING VTO

Examining the possibility of ITO causing VTO requires recognizing that managers

⁵. Also, though not the direct focus here, research has shown ITO has negative effects on individuals (c.f., Cohn, 1978; Estes, 1973; Leana & Ivancevich, 1987), communities (c.f., Jahoda, 1982), and economies (c.f., Lindbeck & Snower, 1987).

typically initiate ITO in the name of the organization; ITO is an organizational act. Since individuals initiate VTO, a model linking ITO to VTO must bridge the gap between organization and individual. Typically, employees' affective and cognitive responses provide that mediating force; employees leave or stay in response to ITO based on how they feel and what they think.

Recent studies of the effects of layoffs on survivors (C.f., Brockner, 1988, 1992; Brockner & Greenberg, 1990; Jick, 1985; Krackhardt & Porter, 1985) provide empirical support for a mediated relationship between ITO and VTO. In field and laboratory studies, they found layoffs leading to emotional responses among layoff survivors included increases in job insecurity (Ashford, Lee & Bobko, 1989; Greenhalgh & Rosenblatt, 1984), uncertainty (Brockner, 1988; Brockner et al., 1992), and stress (Bies, 1987; Jick, 1985; McGrath, 1979) and decreases in intrinsic motivation (Brockner & Wiesenfeld, 1993; Deci & Ryan, 1985), and job satisfaction (Walsh & Tracey, 1980). Cognitive responses included increased cognitive rigidity, increased intentions to quit (Brockner et al., in press), reduced perceptions of fairness (Brockner, 1988; Deutsch, 1985; Jick, 1989), and lower commitment to the organization (Brockner et al. 1987; Brockner et al., 1990). In turn, these reactions led to reductions in work effort, cooperation (Aronson, 1984; Brockner, 1988). and performance (Brockner, 1988; Brockner, Tyler, & Cooper-Schneider, 1992; Cobb & Kasl, 1977; Greenhalgh, 1982) and increases in VTO (Brockner & Wiesenfeld, 1993; Hardy 1987; Jick, 1985; Lust & Fay, 1989).

ITO causing additional ITO. If ITO results in under-staffing, this could further impede organizational performance. If managers do not recognize understaffing as the source of decline (or if the firm has exhausted its resources for restaffing) they may resort to additional ITO attempting to halt the decline. Thus ITO could contribute to both VTO and additional ITO

(mediated by performance). The economics literature provides most of the evidence for suggesting that ITO can cause subsequent ITO through declines in firm performance (McLaughlin, 1991) and inefficiencies in wage markets (c.f., Lindbeck & Snower, 1988a).

Moderating Factors. Research on survivors of layoffs (for reviews see Brockner, 1988 and Brockner & Wiesenfeld, 1993) has shown a variety of factors moderate their responses to the ITO they have witnessed. Moderators include pre- and post-ITO organizational structures, how the organization handled the ITO, environmental conditions, post-ITO organizational performance, and employee personality. These would produce a model linking ITO and VTO as shown in Figure 4.

[Figure 4 - Model of ITO-VTO Linkage]

In this model, economic conditions moderate the ITO to VTO relationship primarily through alternative job options both for surviving and laid-off employees. When ITO-survivors perceive an environment with many job options they exhibit fewer resentful behaviors associated with perceptions of inequitable treatment of former co-workers (Brockner, 1988). They also express less job insecurity, presumably because available alternatives reduced the salience of potential job loss. While these forces should reduce the likelihood of survivors responding with VTO, abundant job opportunities appear to correlate with VTO (Gerhart, 1990). Conversely, few job opportunities may lead survivors to perceive inequitable treatment of victims which could lead to quits, but the shortage of job opportunities may inhibit the options available. The relative strength of these forces should determine how survivors respond.

Pre-ITO conditions in a firm that seem to affect survivor responses include staffing levels, firm performance, supervisor quality, perceptions of justice, and employee commitment

to the firm. With clear overstaffing or obvious poor performance, survivors more willingly perceive fairness in the ITO, reducing the likelihood of VTO as a response (Brockner, 1988). However, ITO in the face of understaffing or good performance leads to greater perceptions of injustice and increased stress due to increased work loads. These increase the likelihood of VTO in response. Quality of supervision had similar effects; better supervision reduced survivor perceptions of injustice (Brockner, 1988). Pre-ITO perceptions of firm fairness make explanations justifying ITO easier for survivors to accept and seem to reduce concerns about future job security (Brockner & Wiesenfeld, 1992). Finally, employee commitment had mixed moderating effects of ITO; for some survivors, commitment lets them accept the firm's position more easily, but more survivors experience an increased sense of injustice (Brockner, Tyler & Cooper-Schneider, 1992).

The ITO process and outcomes moderate responses primarily through generating perceptions of fairness (Brockner & Greenberg, 1990) and types of expectancies (Brockner et al., 1990) engendered in survivors; more apparent fairness in the process and more generous treatment of ITO victims decreases negative responses in survivors (Brockner et al, 1990; Brockner & Greenberg, 1990).

Post-ITO firm conditions moderate medium and long term responses through job design (Brockner & Wiesenfeld, 1993), further changes in staffing levels (Brockner et al., 1992), and explanations given for ITO (Brockner & Greenberg, 1990). Job redesign that results in enriched jobs and greater employee control reduces negative effects of ITO by restoring (or increasing) employees sense of control and by making jobs for survivors more interesting. Reducing staff further (i.e., multiple waves of ITO) increases job insecurity and reduces performance, and

quickly increasing (restoring) staff after an ITO event makes that ITO seem less fair. In all instances, better and more complete explanations justifying the ITO act reduced negative responses among survivors.

THEORIES THAT SUGGEST ITO COULD LEAD TO VTO

Several general theories explain why one could expect ITO to cause VTO and then still more ITO. In particular, motivation theories (equity, expectancy), social justice theories, stress theory, and economic theories of wage efficiency and insider-outside bargaining advantages combine to explain some linkages. The following reviews the basic arguments.

Expectancy theory could explain some survivor responses to ITO. Job reductions or change in management could cause job insecurity, potential under utilization of skill, and promotional obstacles (Jick, 1985). This reduces employees' performance-to-reward expectancies by removing the rewards; even if they perform well they may not have a job, use their skills or receive promotions. Similarly, reductions in jobs and heightened awareness of scarce resources could reduce effort-to-performance expectancies through job overloading, unrealistic deadlines, and intra- or inter-group competition (Jick, 1985). Here, employee may perceive that they cannot meet performance goals due to factors out of their control.

Frustrated expectations might drive employees to seek alternative employments where they could expect better effort-performance-reward relationships. ITO might also create negative expectancies (i.e., employees expect further ITO as "reward" for positive behavior); if that happens, VTO may appear as a more desirable effort-performance-reward path for employees.

Also, reduced expectancies should lead to reduced motivation, a reduction in effort, and reduced organizational performance. If organizational performance declines sufficiently, it may

stimulate future ITO.

Equity Theory (Adams, 1965) holds that employees match their inputs to the outputs they receive. Hirschman (1970) suggested that when employees feel under compensated they choose to leave, complain, or personally adjust downward their ideas of fair exchange. Most employees perceive ITO as an unjust reward for their inputs. Therefore, they may withdraw or adjust their effort downward to balance the equity equation. Withdrawal could take the form of VTO or withdrawal of participation without quitting the firm. One could expect less effort to lead to lower performance and subsequent ITO.

Equity theory suggests that when survivors view ITO of others as inequitable, they may anticipate future ITO and take preemptive measures to avoid similar unfair treatment. However, some survivors may feel guilt if their company fires others who have contributed as much as the survivor (Brockner, 1988). This may lead to greater work effort to balance the equation (i.e., justify their survival).

Social justice theories (Folger, 1977; Greenberg & Folger, 1983; Sheppard, Lewicki & Minton, 1992) extend equity theory to look not just at outcomes but also at processes, group outcomes, and general views of fairness. Some people find unfair treatment of others as grounds for punishing the organization. While some employees find murder and sabotage appropriate retaliations (Stuart, 1992), others may simply quit in protest to firings and layoffs that they perceive as unfair (Graham, 1986). Still others may find themselves uncomfortable identifying with a body that has taken actions they disagree with; these employees may not quit immediately, but their reduced attachment, commitment and job satisfaction make them likely candidates for initiating job searches and eventually moving.

Stress theory, according to Lazarus & Folkman (1984), conceives of stress as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well being." (P. 19). Their model includes two core processes - appraising and coping. Appraisal evaluates the magnitude of the threat and what can be done about it. Coping reflects cognitive and behavioral attempts to manage the demands of the environment. Here, managing means minimizing, avoiding, tolerating, or mastery. In ITO situations, if the threat to survivors appears real and personally significant, they may avoid by leaving or minimize their response (say if the ITO results in increased demands on work effort) or engage in other behaviors that reduce organizational effectiveness or increase employee withdrawal.

Economic theories make different, broader assumptions about human fungibility than the psychological theories, but the outcomes are similar. Insider-outsider theories of unemployment (Lindbeck & Snower, 1988a) hold that all turnover creates economic inefficiencies for firms and industries. By giving employees bidding opportunities where they can gain an information differential and manipulate turnover transaction costs, ITO helps remaining employees extract better terms from employers. Even in efficient wage theories, where firms may use unemployment as a disciplining device (Shapiro & Stiglitz, 1984), Levine (1989) has shown that increasing just-cause (anti-ITO) requirements can increase firm and economy efficiencies. Since ITO aims for improved performance, these studies suggest that firms may get the opposite of their intentions, and if they lose enough efficiency, their performance may suffer enough to stimulate further ITO.

This inefficiency can happen more directly than through labor markets. Firms incur

substantial explicit turnover transaction costs; for example, Darmon (1990) estimated the direct costs of turnover (whatever cause) for a large firm with 116 sales territories at \$50,759 per departing salesperson. Unless a firm downsizes or improves its selection processes direct turnover costs add dramatically to expense with little expectation of improved returns. This economic inefficiencies both increase the likelihood of organizations engaging in more ITO and increase the probability that employees will view the firms as unstable, leading to VTO.

Job insecurity represents an important intersection between expectancy theory and stress theory, and because it appears as a key affective responses to ITO, it deserves special mention. Early models and empirical studies regularly included job insecurity as a variable causing VTO (c.f., Kerr, 1947; Miller, 1944; Smith & Kerr, 1953). However, by the time Price (1977) reviewed the literature, job security had disappeared from turnover models. Mobley et al. (1979) reintroduced job security as a component of job expectations in their process model, but gave it little discussion. About the same time, Arnold & Feldman (1982) applied path analysis to turnover data from a sample of chartered accountants in Canada; they found job insecurity had significant direct effects on turnover (i.e., not a moderating effect as previous correlational studies had suggested).

Since then, job insecurity has appeared as an independent topic for research (e.g., Ashford, Lee & Bobko, 1989) linked to declines in employee commitment, job satisfaction, and increased psychological withdrawal (Davey, Kinicki, Scheck & Kilroy, 1989). Ashford, Lee & Bobko (1989) suggested these responses could lead to increased VTO. Also, job security has been linked to reduced organizational performance through decreased employee health (Kuhnert, Sims & Lahey, 1989) and negative evaluations of all aspects of the company and the job,

including objective variables such as quality of products and services (Borg & Elizur, 1992). While not extensive, this literature suggests organizations with a climate characterized by job insecurity should have higher VTO and lower performance, which could lead to more ITO.

Conditions where ITO reduces VTO or subsequent ITO provide contrasts to these theories highlighting the negative potential for ITO to increase VTO. The most obvious circumstance occurs when an organization experiences a severe financial discontinuity for which it is unprepared, and ITO provides one of many emergency responses that stave off a final period 100% turnover (i.e., if the firm does not reduce its payroll it will go bankrupt). The dramatic staff reductions in the early 1990's among military contractors following Pentagon budget cuts associated with the precipitous end of the "cold war" epitomize these situations.

Similarly, organizations that grew too large during times of prosperity might have so much excess staff that their measurable productivity and their organizational performance dramatically increases after large scale ITO⁶. Often these situations provide improved opportunities for survivors, alleviate concerns over lack of control by making jobs more important, and reduce uncertainty anxiety over potential layoffs. The restructuring of IBM might provide an example of this type of downsizing.

Finally, discrete turnover (i.e., the firing of selected individuals) can remove a source of abrasion or conflict that leads others to quit. Removing an ineffective supervisor or manager

⁶. Often firms report improved productivity after layoffs. Organizational performance differ from productivity. Measurement of productivity only shows one element of the production function; it says nothing about revenues, quality of product, and net financial performance. Unless a firm cuts so many staff that it cannot function, a layoff will almost guarantee a short-term increase in productivity. The type of downsizing mentioned here would increase both productivity and performance.

may provide an especially strong response. Smith & Kerr (1953) found exiting employees and counselors of continuing employees included poor supervision as an important reason for leaving in four of five interview content patterns. Kennedy (1992) described "the Black Widow Syndrome" where marginally qualified supervisors forced out better qualified subordinates rather than face their competition. Engel (1986) described situations where subordinates "fired their boss" by reducing productivity, increasing absenteeism, and increasing turnover to a level that senior management had to take notice and remove the supervisor. In these special cases, selective ITO should reduce VTO.

PROPOSITIONS LINKING ITO TO VTO

This section makes explicit the propositions suggested by the causal model, its underlying theories, and prior literature. At a general level, organizations engaging in unmoderated ITO should expect subsequently higher levels of VTO and additional ITO.

GENERAL PROPOSITIONS:

Proposition 1a: Higher levels of ITO lead to higher levels of VTO.

Proposition 1b: Higher levels of ITO lead to higher levels of ITO.

Mediating Responses

As noted above, the gap between organizational action and individual action must be mediated. Individual affective and cognitive responses bridge the gap from ITO to VTO. For individual to organization, performance mediates the relationship. Similarly, performance mediates the link between ITO and subsequent, additional ITO.

Proposition 2a: Higher levels of ITO produce higher levels of organizationally dysfunctional affective and cognitive responses in employees.

Proposition 2b: Higher levels of organizationally dysfunctional affective and cognitive responses in employees lead to higher levels of VTO.

Proposition 2c: Higher levels of ITO lead to lower organizational performance.

Proposition 2d: Lower organizational performance lead to higher levels of ITO.

MODERATING EFFECTS

Since the range of human response varies greatly by situation and stimuli, a variety of conditions will moderate the link from organization to individual (and individual to organization). Brockner & Wiesenfeld (1993) categorized moderating forces on survivors' responses to layoffs as including organizational conditions before the layoff, the layoff process, the post-layoff organizational structure, and individual psychological traits. The economics literature on alternative job opportunities and business cycles combined with the organizational justice literature suggest that economic conditions at the time of a layoff also moderate individual responses and organizational performance. These findings could be extended from layoffs to all ITO acts.

Mutual moderation between mediating forces

First note that the mediating forces probably moderate each other. Lower performance should lead to lower affective states, and most employees perform less well when experiencing job insecurity, dissatisfaction, feelings of being treated unfairly, reduction of commitment to the organization, and increased intentions to leave.

Proposition 3a: After an ITO event, organizationally dysfunctional affective and cognitive states among employees lead to lower organizational performance.

Proposition 3b: After an ITO event, lower organizational performance leads to organizationally dysfunctional affective and cognitive responses among employees.

Moderating effects of pre-ITO organization

People in high-commitment organizations (Lawler, 1986) may have a more difficult time coping with ITO than people in less committed environments (Brockner & Wiesenfeld, 1993).

This may come from violation of perceptions of equity or from a social justice perspective (e.g., not wanting to identify with the laying-off firm.) However, if the firm treats employees especially well before and after an ITO act, the surviving employees may not respond in any visible way. Finally, if the organization uses well defined rules to decide discrete ITO (Schuler & Harris, 1991) and has top-down plans for dealing with slow economic conditions (Harris, 1994), employees may have a sense of control and perceptions of fairness in the ITO process that leads to less subsequent VTO.

Proposition 4a: ITO in high-commitment organizations leads to greater VTO than in lower commitment, but otherwise similar, organizations.

Proposition 4b: For organizations providing wages and benefits significantly above average for the location and industry, ITO leads to less VTO than in similar organizations with near-average or below average wages and benefits.

Proposition 4c: Less supervisory discretion in selective ITO leads to less VTO in response.

Proposition 4d: In a large scale ITO event, ITO falling in greater proportion on higher levels of the organizational hierarchy than in lower levels leads to less subsequent VTO.

The ITO Process

How management handles the layoff seems to affect employees' perceptions of fairness and control. More procedural fairness and less randomness reduce (organizationally) negative responses (Brockner & Wiesenfeld, 1993). Dense communication and providing complete rationale (especially if performance related) for the ITO seem to strongly affect those perceptions of fairness. Also, if survivors perceive the organization as treating the ITO victims fairly, the survivors will react more positively. Finally, if employees perceive their organization as fair before the ITO act and if the organization enacts the ITO with procedures, explanations, and outcomes that appear fair, the survivors appear more understanding and accepting of the ITO

event (Brockner & Wiesenfeld, 1993).

- Proposition 5a:** Greater perceptions of fairness in an ITO process result in fewer negative responses among survivors, including less subsequent VTO.
- Proposition 5b:** Greater perceptions of fair treatment for ITO victims result in fewer negative responses among survivors, including less subsequent VTO.
- Proposition 5c:** Greater perception of an organization providing a fair environment before an ITO act increase the organizational effectiveness of providing fair process and outcomes for ITO victims.

Economic Conditions

The economic environment moderates survivor response in layoffs primarily through the availability of job alternatives. More current alternatives increase chances of VTO (Gerhart, 1990; Pencavel, 1972), but sometimes, survivors may view layoffs as less inequitable if those terminated have many alternatives for employment. Therefore, fewer survivors would leave based on social justice motivation. The availability of job alternatives also affects survivors' perceptions of threats to their financial security from future layoffs. A lack of current job alternatives may increase survivors' concerns for security and fairness, but it may also give the organization enough time to overcome some immediate negative responses to an ITO event.

- Proposition 6a:** In times of economic recession (industry downturn), higher levels of ITO lead to higher levels VTO when the economy starts to grow (the industry experiences an upturn).
- Proposition 6b:** In times of economic growth (industry growth), higher levels of ITO lead to higher levels of VTO with little lag time.
- Proposition 6c:** During stable or stagnant economic periods (stable, small or no industry growth) high levels of ITO lead to more ITO.
- Proposition 6d:** If an organization dominates employment in an area, all other moderating conditions have less effect on VTO, but may increase other employees responses.

Post ITO Organization

An unchanged structure in post-layoff jobs may increase uncertainty in effort-to-performance expectancies and performance-to-outcome expectancies leading to reduced work

motivation of those that remain. However, if post-layoff jobs become enriched through accompanying work redesign (Hackman & Oldham, 1980), layoff survivors may react less negatively in their new jobs (Brockner & Wiesenfeld, 1993). Redesigned work can increase survivors' sense of control and improve their expected effort-to-performance ratios.

Proposition 7a: After a large scale ITO event (e.g., a layoff), unchanged work flow and job design lead to higher levels of VTO.

Proposition 7b: After a large scale ITO event (e.g., a layoff), changing work flow to increase productivity and job design to enrich work-life leads to lower levels of VTO.

Employee Personalities

Jick (1985) hypothesized that employees with higher self-esteem would endure the threatening aspects of layoffs more productively than low self-esteem employees. However, high self-esteem workers also perceive more external job alternatives, and this might lead to their turnover (Mobley, 1982). Similarly, Brockner & Wiesenfeld (1993) found that layoff survivors consistently experienced a reduced sense of control and autonomy. Employees who value autonomy and control, often the informal leaders in organizations, may be more likely to leave after an ITO act. Those losses could have greater negative impact on organizational performance. Unless an organization contained an unusually high proportion of employees with high self-esteem or need for autonomy and control, the moderating effects of personality may show up, not in the volume of VTO, but in post-VTO performance due to high-performance individual leaving in greater proportions.

Proposition 8a: VTO in response to an ITO event includes a greater proportion of high-performing individuals than VTO before the ITO event.

Proposition 8b: VTO that includes greater proportions of high-performing individuals leads to lower organizational performance and increases the risk of subsequent ITO.

These propositions reflect some well established empirical results in the VTO literature (propositions 2b,3a,3b), some recently supported work on turnover survivors (1a,2a,2c,3a,3b,5a,5b), economic findings (2d,4b,6a,6b) and new or synthesized extensions of those literatures (1b,6c,6d,8a). Propositions 4c and 4d relate to the research on ITO survivors, but come out of a study of remarkably low turnover firms (Harris, 1994). By giving supervisors little discretion in ITO, the process appears fair to subordinates, especially if the subordinates have had a voice in defining the rules that drive ITO. Similarly, firms that have prescribed cutback programs that start at the top probably appear more fair to their employees if they must resort to mass ITO.

DISCUSSION OF IMPLICATIONS FOR RESEARCH AND PRACTICE

The model and propositions suggest that researchers should investigate the possible linkages between ITO and VTO. Given the low levels of correlation in most turnover research (Baysinger & Mobley, 1988; Webster & Starbuck, 1987) and the scattered but convergent findings linking ITO to VTO, researchers can no longer afford the luxury of assuming the two have different antecedents and consequences.

This agrees with the call to distinguish turnover by avoidable and unavoidable causes (Abelson, 1987; Dalton, Krackhardt & Porter, 1981). Avoidable turnover would include all of the types of turnover discussed here. Unavoidable turnover would include deaths, medical disabilities, and personal life events like a spouse moving to another city.

Could VTO Stimulate ITO?

If all turnover discussed here falls into the category of "avoidable", perhaps researchers should look harder at other potential causal chains to discover better ways to avoid turnover.

Most VTO researchers suggest high levels of VTO lead to lower organizational performance (e.g., Gardner, 1986; Mobley, 1982; Price, 1977). This occurs through the high direct costs of VTO (c.f., Darmon, 1990; Gardner, 1986) and its sometimes hidden or resource-based costs (c.f., Barney, 1991; Hardy, 1987). In the resource view of the firm, employees, their knowledge and skills, and the work system they embody emerge as the only sustainable, unique competitive advantages for a firm (c.f., Cappelli & Crocker-Hefter, 1993; Mahoney & Pandian, 1992). Losing significant numbers (or critical members) through VTO should reduce competitive competence and related performance eventually producing pressure for ITO.

If VTO causes ITO and ITO causes VTO, this sequence suggests the possibility of organizations diving into a spiral of ever decreasing performance. Watching the waves of layoffs and voluntary departures from firms such as IBM, DEC, and GE suggests that such spirals do happen. However, as with most complex systems moderating forces (such as those discussed above) often arrest the spiral. Also, firms may engage in ITO recognizing the importance of how they do it and thereby minimize its negative impact from at its first occurrence, never letting the spiral take shape. Some firms, such as investment banking firms or the "big-six" accounting firms, build turnover into their systems so that employees and the firms expect and can predict levels and types of turnover.

Costs of Reducing Turnover.

Even so, Skeats (1987) and others found that reducing all turnover can improve economic efficiency both for firms and markets. However, Abelson & Baysinger (1984) argued that oppositely sloped curves for organizational turnover costs and cost to reduce turnover created an optimal, non-zero level of turnover for an organization. They held the slopes of these curves

as self-evident in much the same way that operations researchers held that the cost of reducing defects was always positively sloped. Such an assumption embodies a variety of assumptions about *how firms make the improvement*.

Baysinger & Mobley (1983) revealed their assumptions by suggesting that organizations could manipulate turnover either through (presumably) very costly compensation manipulation or one other solution: "One could also structure the organization and develop managerial processes conducive to high levels of employee comfort. One could reduce turnover to very low levels in this manner; one, however, could not get very many automobiles manufactured, much coal mined, or very many tons of steel cast. (p. 290)"

In this analysis they ignored their own, earlier observation that high performance correlates with lower turnover. They also ignored their comment (consistent with others) that satisfaction has highly unreliable correlations with turnover. No studies have correlated "employee comfort" with turnover. Moreover, studies of commitment, especially strong, organizational commitment (c.f., Kanter, 1972), have suggested that sacrifice and discipline, including physical and mental discomfort, can increase commitment. Sacrifice and discipline contribute to commitment through the processes of renouncing alternatives, building communion, mortification in the new group, and building toward transcendence.

That different models of organizational behavior could have different costs curves does not negate the empirical findings showing non-zero, contextually optimal levels of turnover. As long as organizational leaders follow traditional management theories they will likely produce similar results. This suggests researchers should spend some effort trying to find more productive models for application. If ITO and VTO show significant correlations and likely

mutual causality, then understanding the connections may prove particularly helpful to organizations.

Brockner and colleagues provided a window into organizational processes that mitigate against the ill effects of ITO. They focused more on weakening the links they saw between ITO and VTO (and other organizationally dysfunctional behaviors) than on avoiding ITO. On the other hand, Harris (1994) provided a model of exemplar companies that kept total turnover very low while remaining very successful. The firms in his study sent formal signals of employment security to their employees (including resisting ITO during tough times). Employment security established a context that allowed other organizational processes to contribute to performance, mutual commitment between organization and employees, mutual participation in buffers from external jolts, and discipline in growth and resource management.

These two research views suggest that reducing the need for ITO or minimizing the impact of ITO requires fairness, communication, employee involvement, and organizational performance. In either approach, keeping both ITO and VTO low does not allow organizations to disguise poor management practices through labor-market adjustments (Faltermayer, 1992). These approaches also point toward organizationally initiated processes, not to job security legislation as suggested by Leana & Ivancevich (1980). Some economists have suggested such legislation may be at least partially responsible for increases in unemployment (Lindbeck & Snower, 1987).

A Research Agenda.

This discussion suggests that linking VTO and ITO in turnover research will improve findings. Using proposition 8a as an example, treating prior ITO as a context for VTO might

resolve the current conflict in VTO literature on who leaves more frequently - higher or lower performing employees (c.f., Dreher, 1982; McEvoy & Cascio, 1987; Schwab, 1991). Similar contextualization might clarify the relationships between VTO and job attitudes (satisfaction, involvement, commitment). Contextualizing VTO by looking at organizational performance as an antecedent to employees' affective and cognitive processes may also clarify some ambiguous findings; for example, if employees see poor organizational performance they may not report job dissatisfaction, but they may calculate a personal performance-to-reward expectancy that tells them their opportunities lie outside the firm. Further researching of the usual suspect variables (such as expressed employee commitment, intentions to leave, satisfaction, etc.) seems useful only if additional contextual variables sort out the mediating and moderating effects of prior ITO and VTO, organizational structures, organizational processes, organizational performance, economic conditions, and employee affective and cognitive responses to prior ITO and VTO.

As new research projects, exploring some or all of the propositions developed above seem promising. However, any programmatic research agenda requires establishing a database of firm-level ITO and VTO statistics. Currently, no national, publicly-available data exist. Since 1988 only the Bureau of National Affairs has published large scale turnover data, but they summarize the data into large industrial groups obscuring firm-level information.

With a large scale, multi-year database, many of the propositions could receive direct testing, especially the propositions suggesting inter-period causality between ITO and VTO. Such a database would also allow testing of the organization-level performance moderators since many organizations report statistics for performance. One could begin building such a database by gathering firm-level data across multiple firms to test organizational moderators. Survey tools

seem most appropriate for this type of program, especially testing propositions relating to structure, procedures, and organizational performance. To test personal moderators and personal mediators, a field project would probably provide better data, but one could conduct studies using surveys.

The propositions and research program suggested here call for linking ITO and VTO and no longer keeping them separate from each other. The arguments, illustrations, sparse empirical findings, and theoretical analyses all suggest that segregating ITO from VTO unnecessarily limits our understanding of each. More important, such partitioning limits our understanding of the whole organizational experience; people in organizations do not partition their experiences. By improving the contextual understanding of ITO and VTO, we should learn more about what causes them, how to control them, and what turnover conditions create most harm or most benefits for organizations and their employees.

CONCLUSION

This paper is the first development of a model and call for formal investigation of links between ITO and VTO. However, it builds on and extends from research in organizational justice and layoff survivors. The main points argue that involuntary turnover not only correlates with voluntary turnover, but ITO probably contributes to subsequent VTO. This casual effect works through the mediating steps of employees' affective responses. Similarly, VTO and ITO can lead to subsequent ITO through reduced organizational performance. Pre-ITO organizational conditions, ITO processes and outcomes, post-ITO organizational structure, and economic conditions during and following the ITO event moderate the strength of the mediating and ultimate responses.

Studying the proposed relationships or incorporating the ITO-VTO linkage in other turnover models could provide advances in turnover research where empirical results have proven weak and sometimes elusive. This could also signal new processes for managers leading to improved organizational performance. Few would disagree that most ITO victims, their families, and their communities would benefit from less ITO, especially large-scale layoffs.

The suggested links do not mean that companies should never fire or layoff anyone. As discussed above, several conditions call for ITO (e.g.s, where individual truly do not match firms or where firms find a serious mis-alignment with their environments). However, the proposed links suggest that America's reactive, almost faddish embrace of layoffs and downsizing causes harm in the name of good. Managers have long held it as their prerogative to hire and fire without restraint in their quest for efficient operations (Hardy, 1987; Leana & Ivancevich, 1980). The research suggested here might threaten such prerogatives on the same basis; inefficiency might lead to redefining that sacred right as a privilege, and that might spur industry, its employees and society to explore better ways to manage uncertainty and improve the chances of economic survival of firms, employees and communities.

Table 1 - CNOL Sample Characteristics

	Big Town Big Company	Medium Company	Small Town Big Company	Medium Company
<u>Service</u> Blue Collar	BE&K			
White Collar	BIH	Leo Burnett Rosenbluth	Avis ^a	SAS
<u>Manufacturer</u> Blue Collar				Haworth Worthington ^a Chaparral
White Collar	Hallmark ^a			

a - indicates some employees unionized

Table 2 - CNOL and Comparison Companies

	Big Town Big Company Medium Company	Small Town Big Company Medium Company
<u>Service</u> White Collar	1. <i>Lotus Dev.</i> 2. Leo Burnett 2. <i>Ogilvy & Mather</i> 2. <i>Saatchi & Saatchi</i>	1. <i>Computer Assc.</i> 1. SAS 3. <i>Avis^a</i> 3. <i>Alamo</i>
<u>Manufacturer</u> Blue Collar	6. <i>Inland Steel^a</i>	4. <i>Steelcase</i> 4. Haworth 5. <i>Worthington^a</i> 5. <i>Moog</i> 6. <i>Chaparral</i> 6. <i>Weirton^a</i>
White Collar	7. <i>Hallmark^a</i> 7. <i>American Greeting^a</i>	

a - indicates some employees unionized
Italic indicates Comparison Company
 Numbers indicate comparison groups

Table 3 - Voice Systems

LINCOLN ROSENBLUTH HALLMARK BETH ISRAEL

(Saunders & Leck, 1989)

	<u>LINCOLN</u>	<u>ROSENBLUTH</u>	<u>HALLMARK</u>	<u>BETH ISRAEL</u>
1. Committees w/ employees.	X		X	X
2. Suggestion programs	X		X	
3. Participative management	X	X		X
4. Open-door policy	X	X	X	
5. Grievance procedures	X		X	
6. Pregrievance procedures	X			
7. Ombudspersons				
8. Q&A newsletters	X		X	X
9. Senior management visits	X	X		X
10. Open line telephones	X			X
11. Orientation programs		X		X
12. Literature on voice systems	X			X
13. Training and development	X		X	X
14. Employee assistance (others from cases)				X
15. Surveys		X	X	
16. "non-work" activities		X		
17. Employee elections	X			
18. Referendums on policy.	X			
19. Advisory committees	X		X	
25. Other	X			X

TABLE 4 - GROUP MEANS FOR VARIABLES

ORGANIZATIONAL PRACTICES:

	Voice	Employment Security	Ownership	MDL	Structural Equality	Functional Equity
1. CNOL (1:2)	2.150	1.900 ***	1.200 *	12.100 **	5.700 **	6.750 **
2. HIREP (2:3)	1.929	0.357	0.500	7.071 *	2.357	3.857
3. NORMAL (1:3)	0.710 **	0.355 ***	0.420 **	4.516 ***	0.871 ***	3.161 ***

	Voice Quality	Employment Insecurity	NO Ownership	MDL Dimensions	Structural Inequality	Functional Inequity
1. CNOL (1:2)	1.900 *	0.000 ***	0.150	2.500 **	0.200 *	0.250 ***
2. HIREP (2:3)	0.571	1.786	0.214	2.071 **	1.571	3.429
3. NORMAL (1:3)	0.258 **	1.936 ***	0.548 **	1.484 ***	1.613 ***	3.807 ***

* = Means Significantly Different at .10
 ** = Means Significantly Different at .05
 *** = Means Significantly Different at .01

Table 5 - Discriminant Analysis Summary

<u>CNOL versus HIREP</u>		---- Cases Classified by Model ----				
Variable Set/ Model	Func. Sign.	CNOL as CNOL	CNOL as HR	HIREP as HR	HIREP as CNOL	Total Correct
DIRECT ENTRY						
S/nS	.0001	20	0	8	6	.82
V,S,O,P,Se,Fe	.0423	20	0	10	4	.88
RAO, Competitive Entry						
All variables eligible, Chosen: nS,nFE,S	.0001	20	0	8	6	.82
Excluding Security Variables, Chosen: nFe,P,Fe,Vq	.0011	18	2	10	4	.82
RAO, Competitive Exit						
All variables eligible, Chosen: nS,nSE,Fe,Pd,Vq,nO	.0008	19	1	10	4	.85

<u>CNOL versus NORMAL</u>		---- Cases Classified by Model ----				
Variable Set/ Model	Func. Sign.	CNOL as CNOL	CNOL as HR	HIREP as HR	HIREP as CNOL	Total Correct
S/nS	.0001	13	0	19	12	.73
Se/nSe	.0000	8	5	29	2	.84
Fe/nFe	.0015	10	3	23	8	.75
V,S,O,P,Se,Fe	.0004	10	3	30	1	.91
RAO, Competitive Entry						
All variables eligible, Chosen: Se,nS,P,Pd,Vq,V	.0000	10	3	30	1	.91
Excluding Security Variables, Chosen: Se,Fe,P,Pd,Vq,O,nO	.0000	8	5	29	2	.84
RAO, Competitive Exit						
All Variables Eligible, Chosen: Se,nS,P,Pd,S,Vq,V	.0000	10	3	30	1	.91

<u>HIREP versus NORMAL</u>						
Variable Set	Func. Sign.	HIREP as HR	HIREP as NMRL	NMRL as NMRL	NMRL as HR	Total Correct

No Direct Entry Combination of Variables Produced a Significant Discriminant Function (i.e., Significant at .01 or better and able to classify 80% or more of the cases correctly.)

Best Fit:						
V,Pd,nO	.0316	8	6	23	8	.69

V = Voice,
S = Signals of Employment Security
O = Ownership Proxies
P = Seeing a Bigger Picture
Se = Structural Equality
Fe = Functional Equity

Vq = Voice Quality
nS = Negative Signals of Employment Security
nO = Resistance to Ownership
Pd = Number of Dimensions in SABP (Process, Product, Context)
nSe = Structural Inequality
nFe = Functional Inequity

Table 6 - Truth Table for CNOL (Paired Comparisons)

<u>Company</u>	<u>Sec</u>	<u>Voice</u>	<u>Own</u>	<u>MDL</u>	<u>S.Eql</u>	<u>F.Eqty</u>	<u>CNOL</u>
Worthington	1	1	1	1	1	1	1
Avis	1	1	1	1	1	1	1
Chaparral	1	1	1	1	1	1	1
Leo Burnett	1	1	1	1	1	1	1
Lincoln Electric	1	1	1	1	1	1	1
Rosenbluth	1	1	1	1	1	1	1
Hallmark	1	1	1	1	1	1	1
Haworth	1	1	0	1	1	1	1
Beth Israel Hosp.	0	1	1	1	1	0	1
SAS	0	0	1	1	1	1	1
SteelCase	0	1	1	1	0	1	0
Lotus	0	1	1	1	0	0	0
Moog	0	1	0	1	1	0	0
Inland	0	1	0	1	0	0	0
Weirton	0	0	1	0	0	0	0
Alamo	0	0	0	1	1	1	0
Ogilvy & Mather	0	0	0	1	0	1	0
Amer. Greeting	0	0	0	1	0	1	0
Computer Assoc	0	0	0	1	0	0	0
Saatchi & Saatchi	0	0	0	1	0	0	0
Bethlehem	0	0	0	0	0	0	0

Voice= Voice

Sec= Signals of Employment Security

Own= Ownership Proxies

MDL= Multi-Dimensional Learning

S Eql= Structural Equality

F Eqty=Functional Equity

Table 7 - Reduced Truth Table for CNOL

<u>Freq</u>	<u>Voice</u>	<u>Own</u>	<u>MDL</u>	<u>S.Eql</u>	<u>F.Eqty</u>	<u>CNOL</u>
6	1	1	1	1	1	1
1	0	1	1	1	1	1
1	1	0	1	1	1	1
1	1	1	1	1	0	1
1	1	1	1	0	1	0
1	1	1	1	0	0	0
1	1	0	1	1	0	0
1	1	0	1	0	0	0
1	0	1	0	0	0	0
1	0	0	1	1	1	0
2	0	0	1	1	1	0
2	0	0	1	0	0	0
1	0	0	0	0	0	0

Voice= Voice

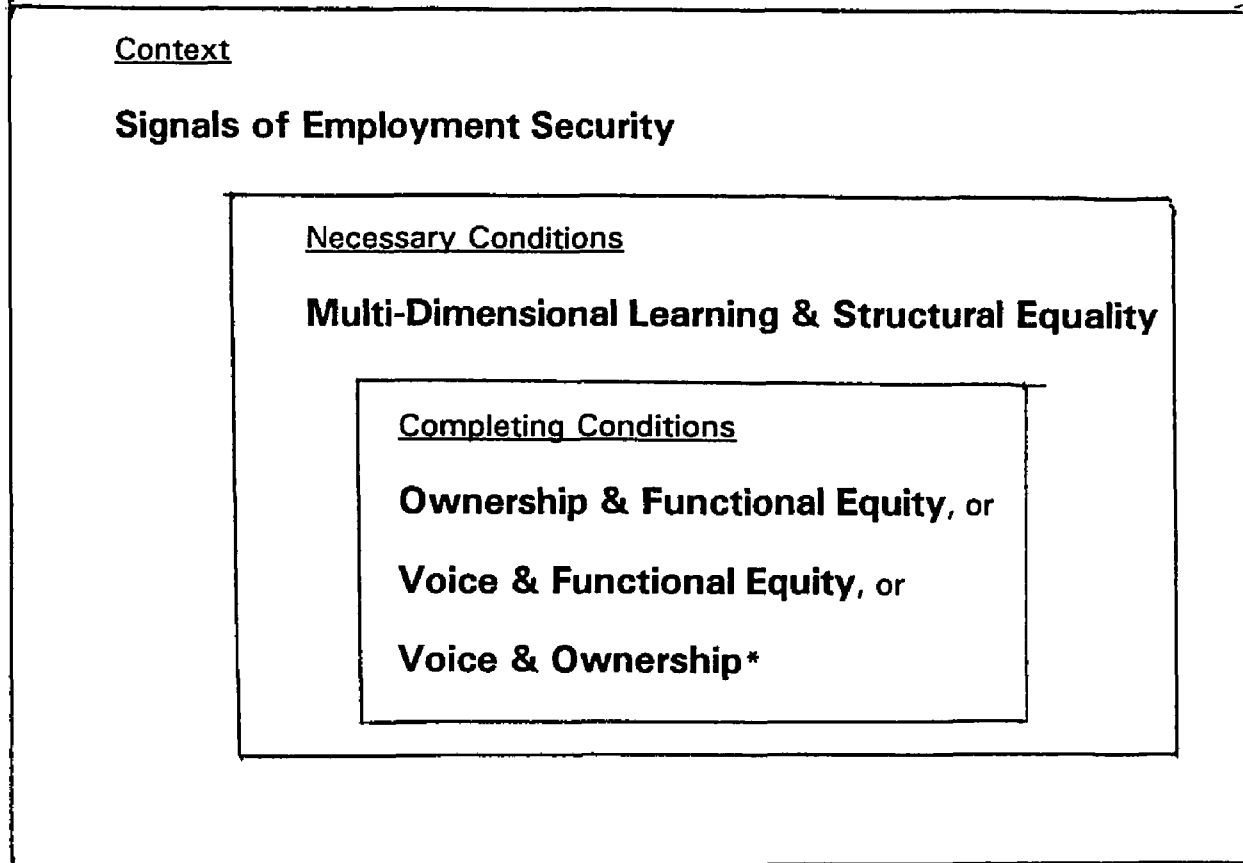
Own= Ownership Proxies

MDL= Multi-Dimensional Learning

S Eql= Structural Equality

F Eqty=Functional Equity

Figure 1 - Configuration of CNOL Practices



* Under conditions of low competition

Figure 2 - Forces Acting on Organizational Turnover

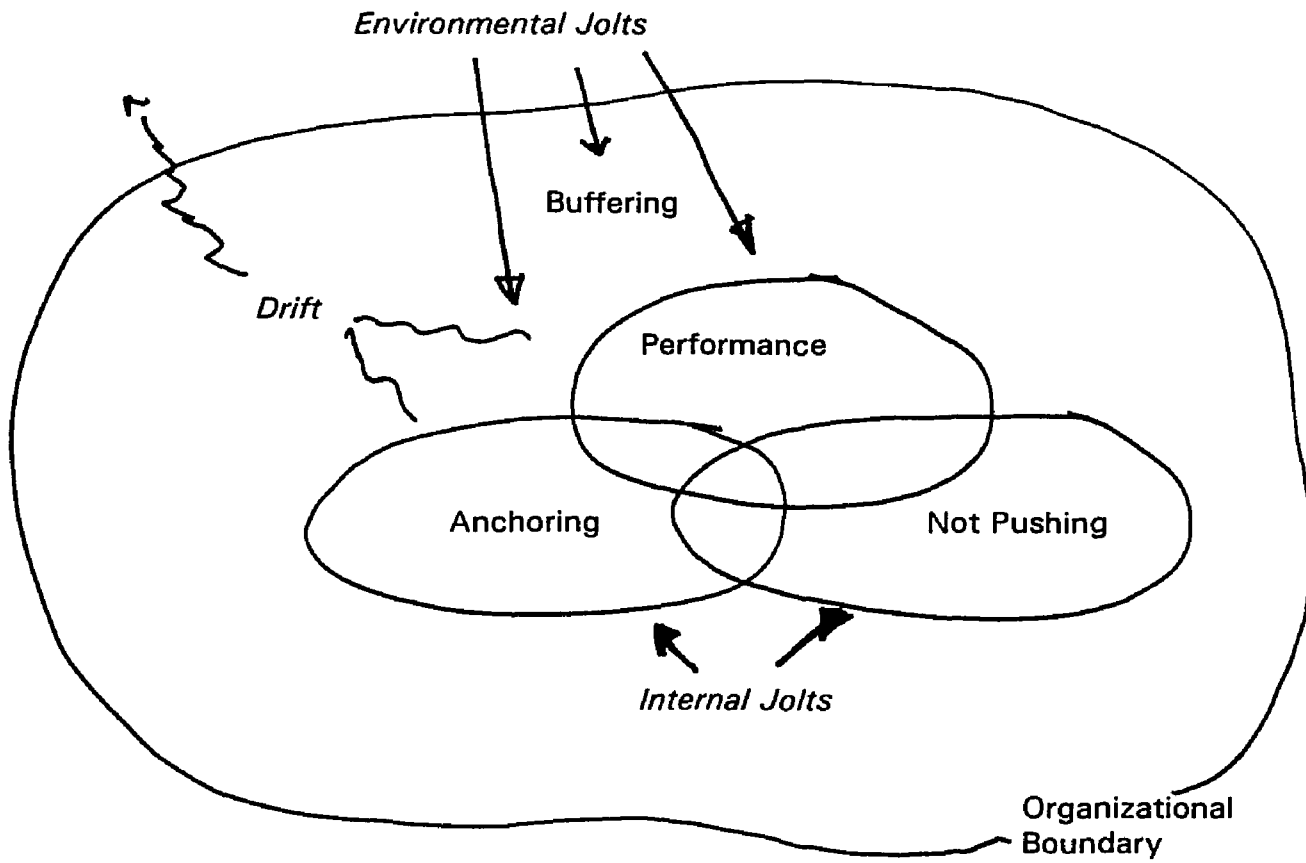


Figure 3 - ITO-VTO for U.S. Manufacturing 1960 to 1981

Annual Turnover Rates

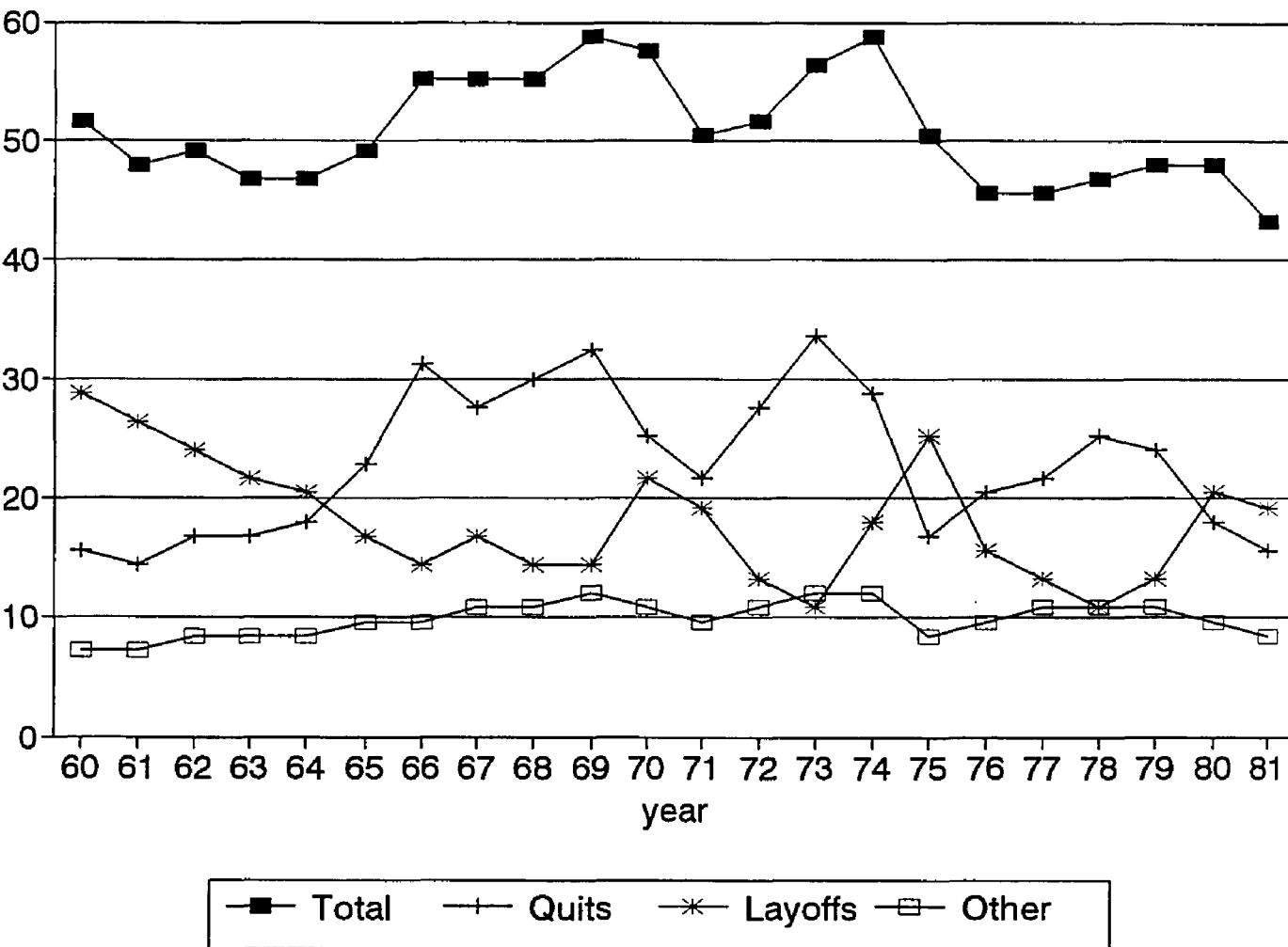
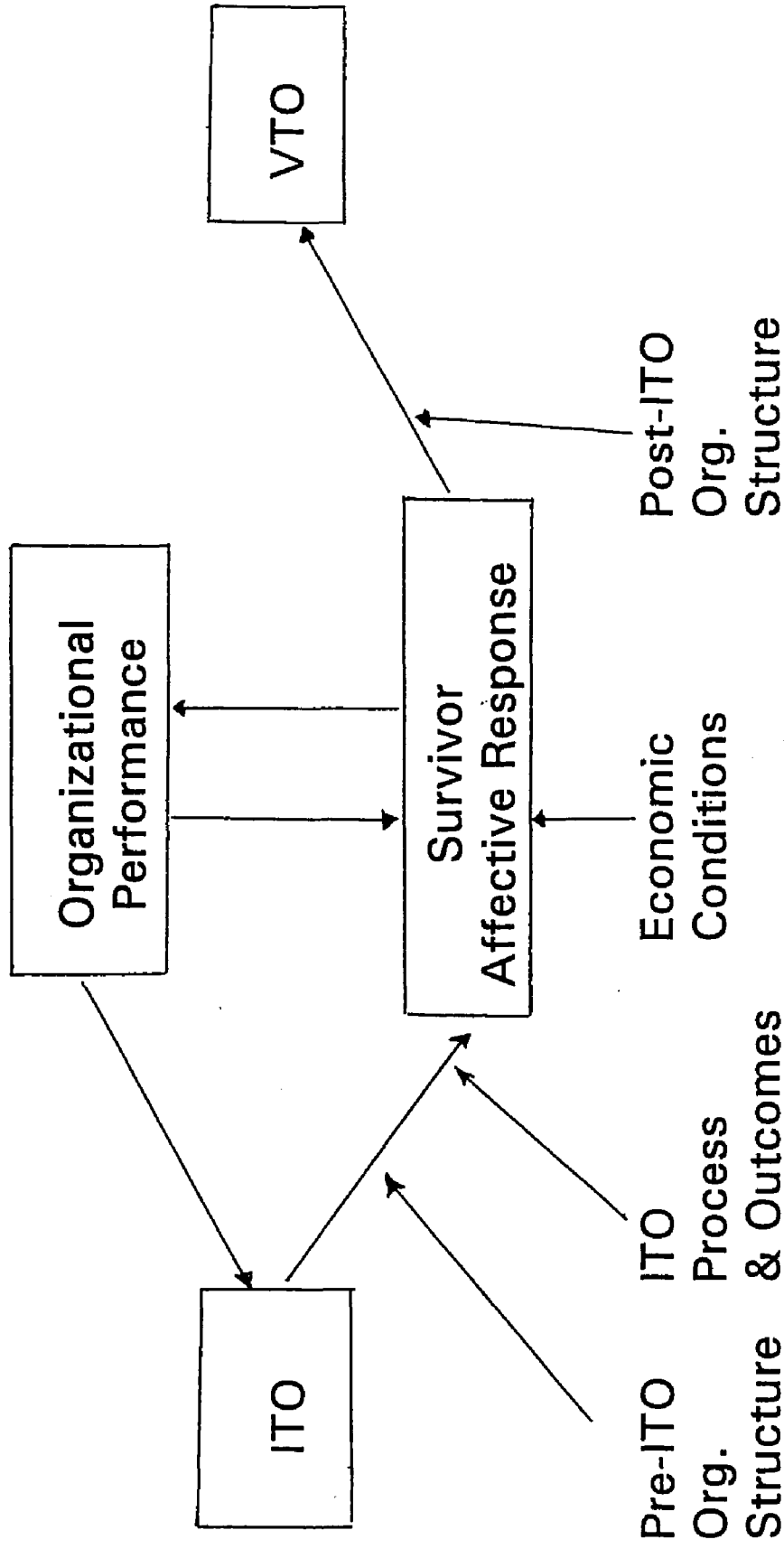


Figure 4 - Model of ITO - VTO causal linkage



Companies No One Leaves

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Section 1: POLICIES.

Policies are the formal rules of an organization. They constitute documented formulas for dealing with sets of events and, sometimes, particular events. They are available for inspection (can be verified objectively) and apply to all members of the organization.

Note: Rules that specify different outcomes for identifiable employee groups still meet the criteria of applying to all; such rules make clear to all the range of activities, outcomes and affected parties. For example, a rule that specifies that sales people are paid on a commission is a policy because it is verifiable, documented, applies in a way that is known to all, and applies to all sales people. Similarly, having an executive dining room applies to all, but differentially; executives may dine there, but non-executive may not.

Coding for policies will take the form of yes/no indicators. Either a policy is present or it is not. Density within a class of policies would come from occurrences of variations of particular policies within the policy type. For example, voice systems are a type of policy; Saunders & Leck (1989) catalogued 16 specific policies as instances of voice systems. However, having five different employees comment on the presence of one voice system, say an open door policy, would not add to the density of voice systems in the policy analysis. Having multiple instances of voice systems would add weight.

I. Employment Security

1. No layoff policy
2. Formal cutback plan w/o loss of employment
3. Not laying off employees during hard times
4. Formal communication espousing employment security.
5. Presence and activity of internal labor market (internal job postings first.)

10. Other

Codes - *Sn*

Effects of employment security may be coded with SO (Security outcome). Examples of qualifying phrases might include: "I feel a lot safer around here", "I'm not afraid of losing my job", "I'm thankful for continued employment/paycheck/etc."

II. Ownership Proxies

(Stronger)

1. Widespread stock ownership
2. Stock purchase plan
3. Profit sharing that pay cash on regular basis.
4. Bonus systems based on corporate performance.
5. Gainsharing
6. Voting on officers/policies
7. Retirement plan linked to company returns

10. Other

(Weaker)

Codes - *On*

III. Voice Systems (Saunders & Leck, 1989)

Two-way or upward communication systems that allow employees at all levels to communicate to those above them in the organizational hierarchy.

1. Committees or meetings that poll employee input on problems/decisions.
2. Suggestion programs
3. Participative management systems
4. Open-door policies
5. Grievance procedures
6. Pregrievance procedures
7. Ombudspersons who investigate claims and mediate with top management
8. Question and answer newsletters (must have two-way element)
9. Senior management visits (MBWA and access to senior management)
10. Open line telephones which function like management visits or question/answer newsletters
11. Orientation programs which include explanations of other voice systems
12. Literature (e.g., handbooks) explaining voice systems
13. Training and development programs which include senior management visits
14. Employee assistance programs.

(other)

15. Surveys
16. Scheduled "non-work" activities such as athletics, picnics, beer bashes where senior management attends in a non-management role.
17. Employee elections of officers.
18. Referendums on policy.
19. Employee advisory and review committees (these may be standing committees as opposed to V1 which may be temporary.)
25. Other forms that look like voice systems (i.e., they provide upward or two-way communication in the organization).

These can also be coded by whether they are preemptive or remedial.

Coding:

1. VnP = Voice, number (above), Preemptive; VnR = Voice, number, Remedial.
2. If the item does not fit a category conveniently, but expresses a two-way or upward communication, then V25x would be used.
3. If the context does not reveal preemptive or remedial use, leave it blank.

IV. Multidimensional Learning

Since no catalogue is known, the following processes seem common and intuitively encouraging of multidimensional learning.

1. Job rotation including temporary and training job assignments
2. Visits/meetings/learning at (external) customer or vendor facility.
3. Visits/meetings/learning by external customers/vendors at company facilities.
4. Visiting/meeting/learning with upstream/downstream processes within company (internal suppliers/customers).
5. Sitting on organization wide committees.
6. Sitting on/participating in organization spanning committees (e.g. trade associations).
7. Using finished product/service as a consumer.
8. Communicating with customer/vendor through formal channels such as task forces, R&D teams, Quality Improvement Teams, etc.
9. Visits to other (within) company facilities.
10. Visits with company executives.
11. Receiving non-task related training or education.
12. Incentive programs that payoff for division or company performance.
13. Use of metaphors and allegories in official company communications, executive communications, and company programs.
14. Orientation programs that show the whole company.
15. Promotion, committee or other assignments that lead to new experiences.
16. Visits/meetings/exchanges with competition.
17. Company newsletters that display whole company news (but need not be two-way).
20. Voice systems like V1, V3, V4, V8, V11, V13

25. Other

These items will be coded **M_n** for multidimensional learning with the **n** indicating which process (above).

V. Structural Equality (and Not Structural Equality)

Policies that express structural equality specify equal treatment of all employees for matters not directly tied to performance. For example, unless the policy were explicitly tied to performance, a no-reserved-parking (i.e., first-come, first serve) policy would express structural equality. Similarly, if a policy, like providing an executive dining room, provided unequal treatment for non-performance reasons it would be coded as Not-Structural Equality. However, if an executive dining room provided demonstrable utility for the organization, say by providing a regular forum for entertaining clients who explicitly expect such treatment, then it would be coded as neither. Sheppard & Lewisky's (1990) Justice Matrix provide a guide for sorting statements of fairness. They present a 3x3x2 matrix of ways to measure fairness or justice; their dimensions are *Level* (outcome, procedure, system), *Measure* (performance, community stability, dignity) and *Goal* (balance, correctness). Policies expressing structural equality fall into cells defined by the goal of balance, especially along the measures of community stability. Specifically structural equality would include policies supporting:

1. non-performance related equality in outcomes,
2. balance of power,
3. balance of inputs,
4. equal chances for inclusion, and
5. equal opportunities.

These will be coded SE_n and the explicit violation of these will be coded NSE_n.

Examples of Structural Equality include statements like:

(Outcomes)

SE1. Every one is treated the same; we are treated equally; there is great equality here

SE1. The rules are applied the same all the time and/or to everyone

SE1. People are treated with dignity; we respect people as individuals; I feel respected

(Procedures)

SE2. We have an equal say in policies; if we collectively don't like something we can get it changed; The bosses do not have all the power; we don't have all the power (if coming from management).

SE3. We are (I am) consulted on decisions before they are made; we participate in decision making around here.

SE2. The procedures around here do not favor anyone; no favorites played here;

SE2. The rule and policies are consistent; managers do not make up their own rules; there is no double talk around here; what you see is what you get.

SE3. You have a say because you have something to say, not because of a position; we respect good opinions; your standing in the organization does not change the rules.

(Systemic)

SE4. Every group is represented in deciding policy; we are very democratic here; no one is left out.

SE4. Everyone has an opportunity; no groups are excluded

SE4. We are not very faddish around here; we look at issues from all angles; we don't respond to pressure groups just because they apply pressure.

II. Functional Equity (and Not Functional Equity or Inequity)

Process equity boils down to "am I treated fairly?" This is a perception of fairness rooted in the social comparison, justice, Equity Theory literature. People look for and express conditions of balance and correct regarding performance and outcomes. If one "gets what one deserves" then functional equity has been served. On the other hand, if "some people get rewarded for politics, but not for performance" this expresses functional inequity - there is a difference that is explained by unequal inputs of work effort. In Sheppard et al (1990) these conditions correspond primarily to cells in their Justice Matrix of performance in the measure dimension. IN particular they relate to expressions of:

1. Equity
2. Internal Consistency,
3. Checks & Balances,
4. Neutral application,
5. Control of abuse, and
6. Responsiveness to change

Examples of Functional Equity include statements like:

(Outcomes)

FE1. We share fairly or the rules are fair or their is equity in the outcomes (you get what you deserve around here.)

FE2. The rules are applied the same all the time and/or to everyone

FE4. We follow the rules (procedures, policies) here

(Procedures)

FE3. A person can't get away with something here; managers don't just make up rules (boss us around, have their way); We can always complain if there is something we don't like; If I want to know why something happened I can go ask (and get an answer.) There is a procedure for appealing a decision.

FE3. We have an equal say in policies; if we collectively don't like something we can get it changed; The bosses do not have all the power; we don't have all the power (if coming from management).

FE4. The procedures around here do not favor anyone; no favorites played here;

FE5. The rule and policies are consistent; managers do not make up their own rules; there is no double talk around here; what you see is what you get.

(Systemic)

FE5. The system does not allow abuse; we have a way of keeping rules in line and actor in line.

FE6. The system is responsive to change; when something needs changing, we change it.

FE5. We are not very faddish around here; we look at issues from all angles; we don't respond to pressure groups just because they apply pressure.

Section 2: QUALIFYING PRACTICES

Practices are the putting in to process the policies or rules of an organization. Practices express how the rules or policies are implemented. Some of this is in the experience or perceptions of the employees. For example, a company may have policy of holding periodic meetings where employees are entitled to express their views to upper management (a Voice System). However in practice, management might rarely hold those meetings, or employees expressing views at those meetings might be subsequently punished for their views (both example of low Voice Quality).

Practices will not be as clear as policies; policies are documented, verifiable. Practices emerge as employees (or observers) describe the work environment and what goes on in the environment. Numerical measures of practices will the form of density of perceptions - either numbers of people holding a perception or variety of perceptions held by an individual. For example, if five different people comment on the responsiveness of a voice system that would be a density of 5. If one person said a voice system was responsive and non-retributive that would be a density measure of 2. While these are not exactly the same, they both contribute to understanding the relative importance and effect of a practice type.

I. Quality of voice systems

These are indicators of how Voice System policies are implemented. Sheppard et al. (1992: p. 149) provide quality measures for all kinds of voice system policies.

Elegance

- 1. Simple procedures
- 2. Broad application
- 3. Vested authority
- 4. Good diagnostic system

Responsiveness

- 1. Timely
- 2. Culturally viable
- 3. Tangible results
- 4. Management commitment

Accessibility

- 1. Easy to use
- 2. Advertised
- 3. Comprehensible
- 4. Open process

Non-punitive

- 1. Appeal system
- 2. Anonymity
- 3. Nonretributive
- 4. Enforced protection (my addition)

Correctness

- 1. Administered well
- 2. Includes follow-up
- 3. Self-redesigning
- 4. Correctable outcomes.

Coding:

If these appear in the cases highlight the phrase and mark with VQ (voice quality).

Multidimensional Learning Quality (MDL)

Statements might be made indicating that a "larger Picture" has been seen or a comparison made that demonstrates learning. When statements to that effect appear use the code PQ (Picture Quality). The following are example of such statements:

1. I/we see a bigger picture,
2. I/we know where I stand,
3. I/we see how things worked.
4. Until then I/we never realized ...
5. I am part of something bigger than my job.
6. Compared to (another company, previous experience, vendors, suppliers, etc.) I see ...
7. As a result of [experience] I now [do something different].

Appendix B - Discriminant Analysis Models

CNOL versus HIREP

Variable Set	Func. Sign.	CNOL as CNOL	CNOL as HR	HIREP as HR	HIREP as CNOL	Total Correct
DIRECT ENTRY						
V/nV	.281	7	13	11	3	.53
S/nS	.0001	20	0	8	6	.82
O/nO	.258	10	10	10	4	.59
P/pD	.0994	14	6	10	4	.71
Se/nSe	.0088	12	8	12	2	.71
Fe/nFe	.0005	20	0	7	7	.79
V, S	.0009	20	0	8	6	.82
V, O	.45	10	10	12	2	.65
V, P	.1378	13	7	11	3	.71
V, Se	.0286	13	7	12	2	.74
V, Fe	.0019	18	2	10	4	.82
S, O	.0007	20	0	8	6	.82
S, P	.0006	20	0	9	5	.85
S, Se	.0007	20	0	8	6	.82
S, Fe	.0004	20	0	8	6	.82
O, P	.2289	12	8	11	3	.68
O, Se	.0204	14	6	11	3	.74
O, Fe	.0022	19	1	10	4	.85
P, Se	.0285	15	5	9	5	.71
P, Fe	.0019	20	0	9	5	.85
Se, Fe	.0019	20	0	10	4	.88
V,S,O,P	.0110	19	1	9	5	.82
V,S,O,Se	.0111	19	1	9	5	.82
V,S,O,Fe	.0090	20	0	9	5	.85
V,S,P,Se	.0103	20	0	9	5	.85
V,S,P,Fe	.0069	19	1	10	4	.85
V,S,Se,Fe	.0096	20	0	9	5	.85
V,O,P,Se	.1019	13	7	11	3	.71
V,O,P,Fe	.0188	19	1	10	4	.85
V,O,Se,Fe	.0130	18	2	11	3	.85
V,P,Se,Fe	.0156	19	1	10	4	.85
S,O,P,Se	.0091	19	1	10	4	.85
S,O,P,Fe	.0062	20	0	9	5	.85
S,O,Se,Fe	.0064	19	1	11	3	.88
S,P,Se,Fe	.0081	19	1	9	5	.82
O,P,Se,Fe	.0102	19	1	10	4	.85
V,O,P,Se,Fe	.0275	20	0	10	4	.88
V,S,O,P,Se,Fe	.0423	20	0	10	4	.88
RAO, Competitive Entry						
fe: S,nS,Se,Pd	.0004	19	1	9	5	.82
s: nFe,P,Fe,Vq	.0011	18	2	10	4	.82
All: nS,nFE,S	.0001	20	0	8	6	.82
RAO, Competitive Exit						
All: nS,nSE,Fe,Pd,Vq,nO	.0008	19	1	10	4	.85

Appendix B - Discriminant Analysis Models

CNOL versus NORMAL

Variable Set	Func. Sign.	CNOL as CNOL	CNOL as NMRL	NMRL as NMRL	NMRL as CNOL	Total Correct	Unpaired-CNOL-as CNOL	NMRL	Pct. Correct
V/nV	.041	10	3	30	1	.91	4	3	.57
S/nS	.0001	13	0	19	12	.73	7	0	1.0
O/nO	.0292	7	6	26	5	.75	3	4	.43
P/pD	.0034	9	4	22	9	.70	4	3	.57
Se/nSe	.0000	8	5	29	2	.84	4	3	.57
Fe/nFe	.0015	10	3	23	8	.75	3	4	.43
V, S	.0008	10	3	27	4	.84	6	1	.86
V, O	.0251	9	4	32	8	.73	6	1	.86
V, P	.0040	10	3	24	7	.77	5	2	.71
V, Se	.0000	9	4	29	2	.86	3	4	.43
V, Fe	.0023	11	2	27	4	.86	5	2	.71
S, O	.0007	11	2	25	6	.82	5	2	.71
S, P	.0003	13	0	23	8	.82	6	1	.86
S, Se	.0000	9	4	29	2	.86	5	2	.71
S, Fe	.0002	13	0	25	6	.86	5	2	.71
O, P	.0018	8	5	24	7	.73	5	5	.71
O, Se	.0000	8	5	29	2	.84	4	3	.57
O, Fe	.0005	11	2	26	5	.84	4	3	.57
P, Se	.0000	9	4	28	3	.84	4	3	.57
P, Fe	.0009	12	1	24	7	.83	6	1	.86
Se, Fe	.0001	8	5	29	2	.84	4	3	.57
V,S,O,P	.0039	13	1	26	5	.86	6	1	.86
V,S,O,Se	.0002	9	4	29	2	.86	4	3	.57
V,S,O,Fe	.0018	11	2	26	5	.84	5	2	.71
V,S,P,Se	.0000	10	3	30	1	.91	4	3	.57
V,S,P,Fe	.0013	13	0	26	5	.89	6	1	.96
V,S,Se,Fe	.0002	9	4	29	2	.86	4	3	.57
V,O,P,Se	.0001	8	5	29	2	.84	4	3	.57
V,O,P,Fe	.0007	10	3	27	4	.84	6	1	.86
V,O,Se,Fe	.0003	9	4	29	2	.86	3	4	.43
V,P,Se,Fe	.0002	8	5	29	2	.84	4	3	.57
S,O,P,Se	.0000	9	4	29	2	.86	4	3	.57
S,O,P,Fe	.0004	12	1	26	5	.86	5	2	.71
S,O,Se,Fe	.0003	9	4	29	2	.86	5	2	.71
S,P,Se,Fe	.0001	10	3	29	2	.89	4	3	.57
O,P,Se,Fe	.0001	9	4	27	4	.81	5	2	.71
V,O,P,Se,Fe	.0003	8	5	30	1	.86	4	3	.57
V,S,O,P,Se,Fe	.0004	10	3	30	1	.91	4	3	.57
RAO, Competitive Entry									
fe: Se,nS,P,Pd,S,Vq,V	.0000	10	3	30	1	.91	4	3	.57
se: nS,Fe,Pd,Vq,O	.0000	12	1	27	4	.89	6	1	.85
p: Se,nS,Vq,O,V	.0000	9	4	29	2	.86	3	4	.43
o: Se,nS,P,Pd,S,Vq	.0000	10	3	30	1	.91	4	3	.57
s: Se,Fe,P,Pd,Vq,O,nO	.0000	8	5	29	2	.84	4	3	.57
v: Se,nS,P,Pd,S	.0000	9	4	29	2	.86	4	3	.57
All: Se,nS,P,Pd,Vq,V	.0000	10	3	30	1	.91	4	3	.57
RAO, Competitive Exit									
Se,nS,P,Pd,S,Vq,V	.0000	10	3	30	1	.91	4	3	.57

Appendix B - Discriminant Analysis Models

HIREP versus NORMAL

Variable Set	Func. Sign.	HIREP as HR	HIREP as NMRL	NMRL as NMRL	NMRL as HR	Total Correct
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No Direct Entry Combination of Variables Produced a Significant Discriminant Function (i.e., Significant at .01 or better and able to classify 80% or more of the cases correctly.)

Best Fit:

V,Pd,nO	.0316	8	6	23	8	.69
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Discrimination Between Data Sources

All RAO, Competitive Entry

Variable Set	Func. Sign.	A as A	A as B	B as B	B as A	Total Correct
Se,Vq,V,P,nFe,S,nS	.0022	13	0	6	6	1.00

Variable Set	Func. Sign.	B as B	B as C	C as C	C as B	Total Correct
P,nFe,SE	.0005	3	3	40	6	0.83

Variable Set	Func. Sign.	A as A	A as C	C as C	C as A	Total Correct
Se,V,Vq,Fe,nSe	.0000	12	1	42	4	0.91

Appendix C - Cases use in building theory

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