1996

The Effects of Environment Dynamism and Heterogeneity on Salespeople's Role Perceptions, Performance and Job Satisfaction

Ravipreet S. Sohi
University of Nebraska-Lincoln, ravisohi@unl.edu

Published in *European Journal of Marketing*, Vol. 30 No. 7, 1996, pp. 49-67.

The effects of environmental dynamism and heterogeneity on salespeople's role perceptions, performance and job satisfaction

Ravipreet S. Sohi

College of Business Administration
University of Nebraska–Lincoln, Lincoln, Nebraska, USA

Introduction

With increasing competition and advances in technology, organizations are facing environments that are extremely complex and dynamic. This is especially true in the international arena, where global products and markets have created a challenge for the firms to manage their marketing and selling operations. A significant part of this managing process is understanding how diversity and changes in the external environment affect the company's salespeople. This is critical, since salespeople occupy a boundary position within the organization. They represent the organization to the customers, transact with them, and scan and monitor the external environment. Unlike the organization which can choose its environment by specifying the domain of its business (Zeithaml and Zeithaml, 1984), salespeople have to operate in an existing environment and learn to adapt to it. Given their constant interaction with external constituents, it is important to understand how diversity and changes in the external environment influence the role perceptions and job outcomes of sales people.

Environmental uncertainty, and its dimensions of dynamism and heterogeneity, have received extensive coverage in the organizational theory literature (for a recent review see Bluedorn, 1993). They have also been gaining importance in the channels and marketing management literature (see, for example, Achrol and Stern, 1988; Gaski, 1989; Lysonski, 1985; Spekman and Stern, 1979). However, in the salesforce literature, empirical investigations of dynamism and heterogeneity in the external environment are very limited. For example, in their meta-analysis of a salesperson's performance, Churchill

The author would like to thank Jim Gentry and the anonymous reviewers for *European Journal of Marketing* for their helpful comments on this paper. Financial support for this project was provided by the Alexander Group, Scottsdale, AZ.

et al., 1985) found only five studies from 1951 onwards, which considered the "organizational and environmental" predictors of a salesperson's performance. Further, these studies only looked at factors associated with the internal work environment of the organization (e.g. Anderson *et al.*, 1979). Similarly, in their meta-analysis on a salesperson's role perceptions and job satisfaction, Brown and Peterson (1993) found no study that considered the effects of dynamism and heterogeneity in the external environment. Given this gap in the literature, empirical research is needed to look at the effects of diversity and variability in the external/task environment on salespeople's role perceptions and job outcomes. The purpose of this study is to investigate the effects of environmental dynamism and heterogeneity on salespeople's role conflict, role ambiguity, job satisfaction and performance.

In the sections that follow, first a brief definition for each construct and the development of the theoretical model will be provided. Next, the structural model will be tested with EQS, using data collected by a mail survey of 230 salespeople. Finally, the results, their implications and directions for future research will be discussed.

Theoretical framework and hypothesized relationships

The theoretical framework for this study is drawn from two streams of research: organizational theory; and salesforce literature. Figure 1 shows the conceptual model with the hypothesized linkages between the constructs. These linkages deal with three sets of hypotheses:

(1) the effect of environmental dynamism and heterogeneity on role perceptions;
(2) the effect of environmental dynamism and heterogeneity on performance and job satisfaction; and
(3) the relationships between role perceptions, performance and job satisfaction.

This section provides a brief definition for each construct, followed by the development of the hypotheses. The relevant literature for each hypothesized relationship is discussed in the appropriate hypotheses development section.

Key constructs

Environmental dynamism

Environmental dynamism represents the perceived frequency of change and turnover in the marketing forces of the external/task environment (based on Aldrich, 1979). Changes in technology, customer preferences and competitive action are some examples of environmental dynamism. This construct has also been referred to as environmental variability or volatility (Child, 1972), and is considered a dimension of environmental uncertainty (Scott, 1992).

Environmental heterogeneity

Environmental heterogeneity is the extent to which the entities in the external/task environment are perceived to be different from one another (based on Aldrich, 1979).

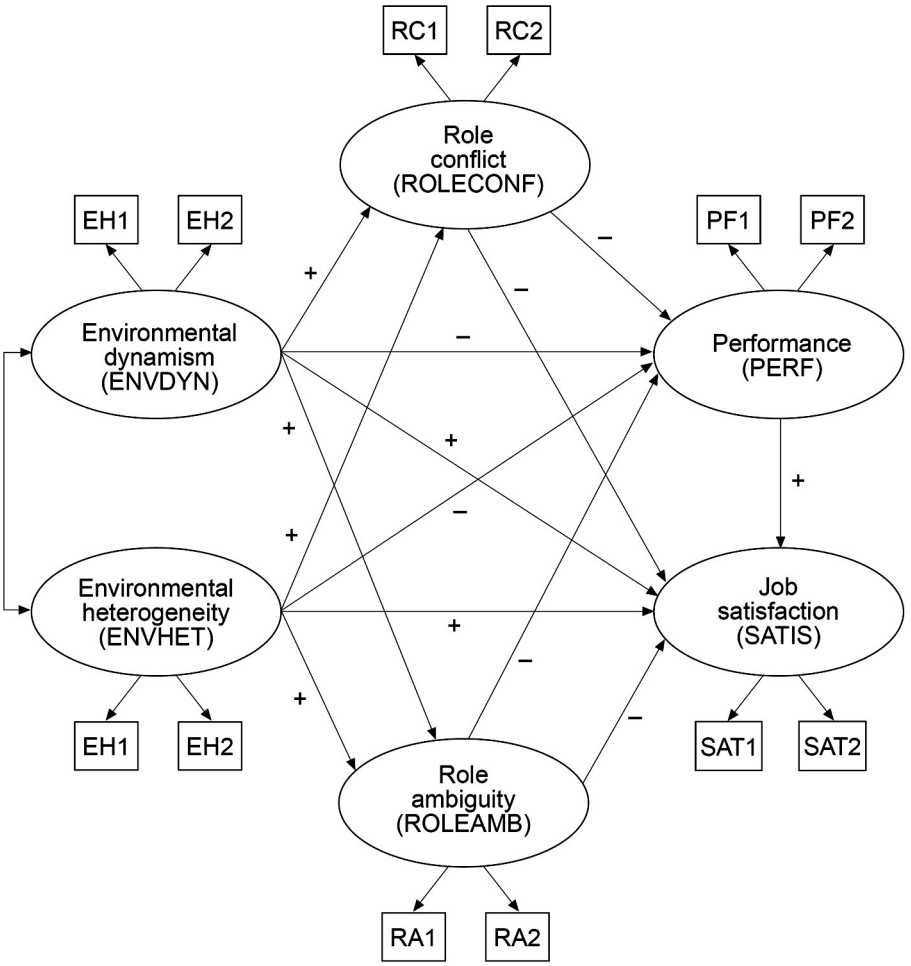

Figure 1. Conceptual model and hypothesized relationships

Environmental heterogeneity is also a dimension of environmental uncertainty. Other labels for this construct are environmental complexity, diversity and segmentation (see Dill, 1958; Thompson, 1967).

Role conflict

Role conflict is the incompatibility in communicated expectations that impinge on perceived role performance (Rizzo *et al.*, 1970). Role conflict occurs when two or more role partners have simultaneous expectations, such that compliance with the expectations of one role partner makes it difficult or even impossible to fulfil the expectations of the other role partner(s) (Kahn *et al.*, 1964). For example, salespeople may perceive role conflict when simultaneously trying to meet company expectations and customer demands. A customer may demand better credit terms or quicker delivery schedules, which may be unacceptable to the management.

Role ambiguity

Role ambiguity occurs when individuals lack clear expectations about their role, methods for fulfilling the role, and/or consequences associated with role performance (Rizzo *et al.*, 1970). Salespeople may perceive higher role ambiguity when they do not think they have the necessary information to perform the task adequately. Unclear company policies and uncertainties about duties and responsibilities are some factors that increase role ambiguity.

Job satisfaction

Job satisfaction refers to the affective feeling that an individual has towards a job or position (Smith *et al.*, 1969). Job satisfaction has been conceptualized in a number of different ways. Some studies have considered it as a global construct (Bagozzi, 1980; Hackman, 1975). Others have divided it into intrinsic and extrinsic job satisfaction (Porter and Lawler, 1975), or have considered its different facets such as satisfaction with the job itself, fellow workers, supervision, company policies, compensation, customers, and promotion and advancement opportunities (Churchill *et al.*, 1974; Smith *et al.*, 1969). This paper focuses primarily on the facet dealing with a salesperson's satisfaction with the job itself.

Performance

Performance is behaviour evaluated in terms of its contributions to the goals and objectives of the organization (Churchill *et al.*, 1992). The appropriate way to measure performance has been debated extensively in the literature. Some authors argue that self-reported measures of performance lead to bias. Others believe that self-reported measures are fine because, even if they are biased, there is no reason to believe that this bias varies systematically across salespeople. In their meta-analysis, Churchill *et al.* (1985) found that self-reported measures of performance did not inflate the correlations with the predictor variables and essentially provided the same results as objective data and manager/peer ratings of a salesperson's performance. Hence, in this study self-ratings are used to measure performance.

Hypotheses

Effects of environmental dynamism and heterogeneity on role perceptions

A number of researchers have addressed the issue of role difficulties when making decisions in turbulent environments (Kahn *et al.*, 1964; Korman, 1971; Roos and Starke, 1981; Weed and Mitchell, 1980). However, empirical research examining the relationship between the external environment and role perceptions is very limited (Lysonski, 1985). No one appears to have examined the effect of environmental dynamism and heterogeneity on the role conflict and ambiguity of salespeople. Therefore, in this section hypotheses will be developed regarding the expected effect of these environmental conditions on salespeople's role perceptions.

As mentioned earlier, environmental dynamism reflects the degree to which changes are taking place in the external environment of a salesperson. Salespeople operating in a dynamic environment have to contend with rapid changes in technology, customer needs and preferences, as well as competitive action. Often, they have to come up with innovative and creative solutions to problems that are encountered in making a sale or in satisfying customers. Even though the requirement for innovative solutions is inherent in a salesperson's job, its need increases when salespeople operate in a dynamic environment. Sales management literature has shown that when salespeople have to come up with innovative solutions to problems, it affects their role perceptions adversely (Behrman and Perreault, 1984; Walker *et al.*, 1975). Salespeople operating in dynamic environments are, therefore, likely to have a higher degree of role conflict and role ambiguity.

Environmental heterogeneity is the degree to which the environment is highly segmented or differentiated. For example, when IBM developed its personal computer line, its target market was highly segmented. Its customers included groups with very different demands. Some wanted word processors, some graphic capabilities, some spreadsheets, and some scholarly capabilities. When salespeople operate in a very heterogeneous environment, they face greater diversity in customer needs and preferences, and must consequently find jointly satisfying solutions to the divergent expectations of their role partners. But as Pruden (1969) and Miles (1976) indicate, when salespeople have to engage in high levels of integrating activities to satisfy the divergent expectations of their role partners, it tends to affect their role perceptions adversely. Therefore, one would expect that high degrees of environmental heterogeneity would increase the role conflict and ambiguity of salespeople. Support for these relationships, in a similar context, is also provided by Lysonski (1985), who found that environmental uncertainty increased the role conflict and ambiguity of product managers occupying a boundary position in the organization.

H1: The higher the degree of environmental dynamism, the greater is a salesperson's role ambiguity.

H2: The higher the degree of environmental dynamism, the greater is a salesperson's role conflict.

H3: The higher the degree of environmental heterogeneity, the greater is a salesperson's role ambiguity.

H4: The higher the degree of environmental heterogeneity, the greater is a salesperson's role conflict.

Effects of environmental dynamism and heterogeneity on performance and job satisfaction

A number of researchers in organizational theory have looked at the environment-performance linkage. Their research, which has focused primarily on firm level per-

formance, indicates that the environment can affect performance (see, for example, Hansen and Wernerfelt, 1989). Some organizational theorists have also considered the effects of specific dimensions of the environment on a firm's performance. For example, Hambrick (1983) found dynamism to be adversely related to three performance measures. Similarly, Keats and Hitt (1988) found dynamism to be negatively related to operating performance. In the television-station industry, Stearns *et al*. (1987) found fluctuations in total market advertising expenditures to be negatively correlated with station performance. Some research has also been done on the effect of environmental uncertainty on individual performance. In a laboratory study of undergraduate students, Argote *et al*. (1989), found that uncertainty had a negative effect on performance.

I propose that environmental dynamism and heterogeneity will have a negative effect on salespeople's performance. Specifically, salespeople develop knowledge structures and heuristics to deal with various aspects of their job. For instance, over time salespeople develop an understanding of the motivations and interests of key decision makers and purchase influencers. As a result, they are able to modify and adapt their selling strategies. These knowledge structures and heuristics tend to position salespeople at a more advanced stage of the learning curve, improving their selling effectiveness and performance (Leigh and McGraw, 1989; Weitz *et al*., 1986). However, when salespeople operate in an environment which is constantly changing, or one which has great diversity in terms of customers' needs and requirements, these heuristics and knowledge structures tend to lose their effectiveness, resulting in lower performance.

Unlike the negative effect on performance, I propose that environmental dynamism and heterogeneity may lead to greater job satisfaction for salespeople. While this may seem counter-intuitive, there is some empirical evidence to support this proposition. For example, Lysonski (1985) found that perceived environmental uncertainty was causally related to increased job satisfaction for product managers occupying a boundary position in the organization. Since salespeople also occupy a boundary role position, it is likely that they may find a dynamic environment, and a diversity in customer types, to be very challenging and exciting, resulting in greater satisfaction with the job.

Stated more formally:

H5: The greater the degree of environmental dynamism, the lower the performance level of the salesperson.

H6: The greater the degree of environmental heterogeneity, the lower the performance level of the salesperson.

H7: The greater the degree of environmental dynamism, the higher the job satisfaction of the salesperson.

H8: The greater the degree of environmental heterogeneity, the higher the job satisfaction of the salesperson.

The relationships between role perceptions, performance and job satisfaction

The relationships between role perceptions, performance and satisfaction have been investigated in a number of studies (see Brown and Peterson, 1993 for a meta-analysis). In this study, these relationships are tested in order to determine the indirect effects of environmental dynamism and heterogeneity on job satisfaction and performance, as well as to replicate the findings of earlier studies.

First, consider the relationship between role perceptions and job satisfaction. A number of marketing studies have shown that role conflict and role ambiguity are negatively related to the job satisfaction of salespeople (Bagozzi, 1978; Behrman and Perreault, 1984; Behrman *et al.*, 1981; Churchill *et al.*, 1976; Fry *et al.*, 1986; Kohli, 1985; Mahajan *et al.*, 1984; Michaels *et al.*, 1987; Teas, 1983).

The relationship between role perceptions and performance, however, has produced some inconsistent results. Some studies have found that both role conflict and role ambiguity have a negative effect on the performance of salespeople (Bagozzi, 1978; Behrman *et al.*, 1981). Others have found a negative relationship between role ambiguity and performance, but a weak relationship between role ambiguity and performance (Behrman and Perreault, 1984). Further, some studies that have found a negative relationship between role ambiguity and performance, but a positive relationship between role conflict and performance (Michaels *et al.*, 1987). Recent work (Singh, 1993) also indicates that certain facets of role ambiguity (family role ambiguity and co-worker role ambiguity) are positively related to performance and job satisfaction, whereas, some other facets are negatively related to these two constructs. All this suggests that more replication work is required to determine the relationship between role perceptions and performance.

An extensive stream of research has also looked at the causality between performance and satisfaction (see Brown and Peterson, 1993). Some evidence tends to favour a positive causal link from performance to satisfaction (Bagozzi, 1980; Michaels *et al.*, 1987; Sheridan and Slocum, 1975; Wanous, 1974). Other studies suggest that this causality may be spurious and attributable to common antecedent variables (Behrman and Perreault, 1984; Dubinsky and Hartley, 1986). Regardless of the causality, the evidence indicates that there is a weak positive association between performance and satisfaction (Brown and Peterson, 1993; Iaffaldano and Muchinsky, 1985). In this study, the following hypotheses about role perceptions, performance and satisfaction are examined:

H9: The greater the degree of role conflict, the lower the job satisfaction of the salesperson.

H10: The greater the degree of role ambiguity, the lower the job satisfaction of the salesperson.

H11: The greater the degree of role conflict, the lower the performance of the salesperson.

H12: The greater the degree of role ambiguity, the lower the performance of the salesperson.

H13: The greater the performance, the higher the job satisfaction of the salesperson.

Method

Data

The data for this study were obtained by a national mail survey of salespeople, all belonging to different companies within SIC codes 20-39. These SIC codes represent a diverse range of manufacturing industries which enabled the testing of the proposed model in a number of different selling environments.

Each questionnaire was accompanied by a cover letter indicating the purpose of the study. The letter also assured complete confidentiality to the respondents. Also, included with the questionnaire was a self-addressed stamped envelope. As an incentive to complete the questionnaire, the respondents were promised a summarized copy of the results. The initial mailing was followed by two reminders to the non-respondents. A total of 275 questionnaires were returned (a response rate of 17.83 per cent after adjusting for the letters that were undeliverable). This response rate is comparable to other marketing studies where potential respondents were not pre-screened to determine their interest in participation (Eliashberg and Michie, 1984; Etgar, 1976; Morgan and Hunt, 1994; Phillips, 1981; Siguaw *et al.*, 1994).

Forty-five questionnaires were rejected, either because of missing data, or because they were completed by an ineligible respondent. This gave a final sample size of 230 salespeople, all belonging to different companies. In order to check for the severity of non-response bias, the means of the late respondents were compared with the means of the early respondents, for a number of demographic and model variables (Armstrong and Overton, 1977). No significant differences were found between the two groups.

Sample characteristics

The final sample consisted of salespeople in the following industries: food products, pharmaceuticals, chemical and allied products, rubber and plastic products, electronic computers, appliances and audio-visual products. Regarding the individual characteristics of the salespeople, 89 per cent were male and 11 per cent were female. On average, they had been working for 5.8 years in the current job, and most of them were married (84 per cent). Their median age was 37.5 years, and 85 per cent had a college degree.

Measures

All the constructs were operationalized using five-point Likert scales. Environmental dynamism was measured by an 11-item scale adapted from Achrol and Stern (1988).

Environmental heterogeneity was measured by a six item scale also adapted from Achrol and Stern (1988). Role conflict and ambiguity were both measured by five-item scales adapted from Rizzo *et al*. (1970). Performance was measured by a four-item scale that assessed how the salespeople performed during the previous year with respect to their outcome and behavioural objectives. Job satisfaction was measured by a seven-item scale based on a subset of INDSALES items (Churchill *et al*., 1974). The IND-SALES scale has 95 items that tap into seven dimensions of salesperson's satisfaction. These include satisfaction with:

- the job itself;
- fellow workers;
- supervisors;
- company policy and support;
- pay;
- promotion and advancement; and
- customers.

Given the focus of this study, the seven items for our scale were drawn from the dimension dealing with a salesperson's satisfaction with the job itself. The Appendix shows the scale items for the constructs, and Table I provides some descriptive statistics.

Reliability and validity of scales

Even though most of the scales used in this study are well-established and have been used earlier in the literature, their reliability, unidimensionality and discriminant validity were still tested in order to verify the quality of the measures. To test for reliability, a combination of item-to-total correlations and coefficient alpha was used. As may be seen in Table I, all constructs have coefficient alphas that range between 0.73 and 0.88, indicating acceptable levels of reliability (Nunnally, 1978).

Table I. Summary statistics and construct correlations

	Inter-correlations					
Constructs	1	2	3	4	5	6
1 Performance	1.00					
2 Job satisfaction	0.31	1.00				
3 Role conflict	–0.40	–0.52	1.00			
4 Role ambiguity	–0.36	–0.49	0.56	1.00		
5 Environmental dynamism	–0.35	0.11	0.28	0.25	1.00	
6 Environmental heterogeneity	–0.29	0.06	0.15	0.10	0.13	1.00
Number of items in scale	4	7	5	5	11	6
Mean	3.38	4.26	2.40	1.88	2.83	3.03
Standard deviation	0.79	0.58	1.03	0.85	0.57	0.63
Coefficient alpha	0.73	0.88	0.87	0.85	0.80	0.77

Tests for the unidimensionality of scales were performed using confirmatory factor analysis involving a single factor representation for each set of cogeneric items (Gerbing and Anderson, 1988). The results indicated that the scales were unidimensional. Discriminant validity was assessed by means of a nested model confirmatory factor approach. This approach entailed a two-stage analysis. At the first stage, each item was set to load on its own trait factor, and the factors were allowed to co-vary freely. The chi-square for the overall model was calculated to assess goodness of fit. At the second stage, each pair of factors was constrained by fixing their co-variance to unity, indicating that there was no discrimination between the two constructs. The chi-square for this model was again estimated. A significant difference in the chi-square values of the models provided evidence of discriminant validity between the two constructs being tested (Gerbing and Anderson, 1988). This analysis revealed that the constructs were distinct from each other. For example, the test for discrimination between environmental dynamism and environmental heterogeneity resulted in a chi-square difference (1df) = 154.11 ($p < 0.001$) providing evidence of discriminant validity between the two constructs. Similarly, the test between role conflict and role ambiguity gave a chi-square difference (1df) = 46.23 ($p < 0.001$), also providing evidence of discriminant validity between these constructs.

Analysis and results

The hypothesized model was formulated as a structural equations model. The items for each scale were split randomly in halves to provide alternate indicators for the measurement model (Bagozzi, 1980; Joreskog, 1978). The model was estimated by the elliptical re-weighted least squares method (ERLS) using the EQS software (Bentler, 1992). The ERLS procedure has the advantage of producing estimates that are less biased than the maximum likelihood estimates (MLE) when the data are non-normal. According to Sharma *et al*. (1989), the performance of ERLS is equal to that of MLE for normal data, and superior to other estimation techniques for non-normal data. They recommend that the researcher should use the ERLS method whenever there is a doubt about the normality of data. The results of the analysis are reported in Table II. The overall chi-square statistic of the model is significant (chi-square (40df) = 103.61, $p < 0.001$), which is expected given the size of our sample (Bagozzi and Yi, 1988). However, the Bentler-Bonnet normed fit index (NFI = 0.94), nonnormed fit index (NNFI = 0.94), the comparative fit index (CFI = 0.96), and the average off-diagonal standardized residual (AOSR = 0.06) suggest that the model fits the data well. Furthermore, all items in the measurement model load significantly on their specified factors. The indirect effects of environmental dynamism and heterogeneity were also computed. The indirect effects are the multiplicative sum of the standardized path coefficients (Asher, 1983). These indirect effects, when added to the direct effects, give the total effects of environmental dynamism and heterogeneity on role perceptions, performance and job satisfaction. Table III shows the direct, indirect and total effects of the environmental variables.

Table II. EQS – measurement and structural model estimates

Type of model		Standardized estimate	*T*-value
Measurement model			
Factors and loadings			
Job satisfaction (SATIS)			
SAT 1		0.89f	
SAT2		0.92***	11.06
Performance (PERF)			
PF1		0.71f	
PF2		0.72***	6.92
Role conflict (ROLECONF)			
RC1		0.96f	
RC2		0.85***	11.45
Role ambiguity (ROLEAMB)			
RA1		0.93f	
RA2		0.87***	9.50
Environmental Dynamism (ENVDYN)			
ED1		0.87f	
ED2		0.84***	8.79
Environmental heterogeneity (ENVHET)			
EH1		0.93f	
EH2		0.76***	5.10
Structural model			
Hypothesized relationships			
H1	ENVDYN → ROLECONF	0.33***	4.33
H2	ENVDYN → ROLEAMB	0.30***	3.80
H3	ENVHET → ROLECONF	0.13*	1.76
H4	ENVHET → ROLEAMB	0.06	0.88
H5	ENVDYN → PERF	–0.30***	–3.23
H6	ENVHET → PERF	–0.26**	–2.90
H7	ENVDYN → SATIS	0.17*	1.89
H8	ENVHET → SATIS	0.00	0.00
H9	ROLECONF → SATIS	–0.34***	–4.05
H10	ROLEAMB → SATIS	–0.31***	–3.87
H11	ROLECONF → PERF	–0.28***	–3.31
H12	ROLEAMB → PERF	–0.18*	–2.29
H13	PERF → SATIS	0.15	1.25
(Correlation)	ENVDYN, ENVHET	0.11*	2.02

Notes:

Goodness of fit indices: Chi square (40df)	= 103.61***
Bentler and Bonett normed fit index	= 0.94
Bentler and Bonett non-normed fit index	= 0.94
Comparative fit index	= 0.96
Average off-diagonal standardized residual	= 0.06

[f]Parameter fixed to a value of 1.00 (unstandardized)

*$p < 0.05$

**$p < 0.01$

***$p < 0.001$ (one-tailed tests)

Table III. Standardized direct, indirect and total effects of environmental dynamism and heterogeneity

	Environmental dynamism			Environmental heterogeneity		
Dependent variables	Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect
Role conflict	0.33	– 0.33	0.13	– 0.13		
Role ambiguity	0.30	– 0.30	0.06	– 0.06		
Performance	–0.30	–0.14	–0.44	–0.26	–0.04	–0.30
Job satisfaction	0.17	–0.27	–0.10	0.00	–0.11	–0.11

Total effect = Direct effect + Indirect effect

Discussion

The findings

The results show support for most of the hypotheses. With respect to the effect of the environmental variables on role perceptions, it was found that environmental dynamism increases role conflict and ambiguity. Environmental heterogeneity, on the other hand, increases role conflict, but has no effect on role ambiguity. A possible reason for this may be that environmental heterogeneity, unlike dynamism, is more predictable because it can be evaluated and anticipated (Leblebici and Salancik, 1981). Heterogeneity may lead to some role conflict because of the divergent expectations of the role partners, but may not enhance role ambiguity since salespeople can learn to evaluate the diversity and develop coping mechanisms. The results, therefore, provide support for *H1*, *H2* and *H3*, but no support for *H4*.

With respect to performance, it was found that both environmental dynamism and heterogeneity reduce performance, directly and indirectly, providing support for hypotheses *H5* and *H6*. As mentioned earlier, a number of studies have found a negative relationship between environmental uncertainty and firm-level performance. But the results of this study reveal an important finding: it is not just macro-level performance, but even individual performance that is affected by changes and diversity in the environment. Unlike a firm, salespeople cannot enact an environment (choose their operating environment). They have to learn to adapt and operate within a given environment. Since the environment can affect their performance adversely, management has to develop some mechanisms that may minimize this negative effect. Such mechanisms may include providing training to cope with different situations, improving the communication flow, or even changing the organization's decision-making structure. In certain situations, where salespeople are faced with a diverse set of customers, one way of reducing the negative effects of environmental heterogeneity may be to organize by customer types, or use an account management structure.

The relationships between role perceptions and performance have been studied in earlier literature, but often the results have been weak and inconsistent. One of the purposes of this study was to replicate these relationships in a selling context of diverse operating environments. The results indicate that role conflict and role ambiguity reduce performance, which is consistent with the findings of Bagozzi (1978) and Behrman *et al*. (1981). Thus *H11* and *H12* are supported.

Regarding job satisfaction, it was found that the direct effect of environmental dynamism on satisfaction is marginally significant and positive (*H7*). This finding is similar to Lysonski (1985), who found that environmental uncertainty increased the job satisfaction of product managers. It also complements Singh's (1993) findings that job satisfaction is positively influenced by some components of role ambiguity. A possible explanation for this finding is that, for those people who thrive on change, a dynamic environment provides an opportunity to do something new, resulting in slightly greater job satisfaction. However, this positive effect is offset by the indirect negative effects of environmental dynamism on satisfaction (due to higher role conflict and ambiguity, coupled with lower levels of performance). Taken together, the total effect, consisting of the direct and indirect effects, suggests that environmental dynamism tends to reduce job satisfaction. But from a managerial perspective, if the indirect negative effects of an environmental dynamism role on job satisfaction can be minimized, either through training or supervisory actions, it is possible that a dynamic environment may actually have some benefits.

Unlike dynamism, environmental heterogeneity does not have a significant direct effect on satisfaction (*H8*). A possible explanation is that in a heterogeneous environment, the salespeople may learn to cope with diversity, and the sense of novelty may lose its charm after some time. Consequently, heterogeneity may have a minimal direct effect on satisfaction. But the indirect effect of heterogeneity on satisfaction is negative. Combining the two, the total effect indicates that environmental heterogeneity reduces job satisfaction.

The role perceptions to satisfaction links reveal that both role conflict and role ambiguity reduce satisfaction, providing support for H9 and H10. These relationships have been studied extensively in the literature and the results of this study validate the findings of others (Bagozzi, 1978; Behrman and Perreault, 1984; Behrman *et al.*, 1981; Churchill *et al.*, 1976; Fry *et al.*, 1986; Kohli, 1985; Mahajan *et al.*, 1984; Michaels *et al.*, 1987; Teas, 1983).

Finally, this study does not find support for the performance to job satisfaction link (*H13*). Once again, this is consistent with many other studies in the area (see Brown and Peterson, 1993), and suggests that either this relationship is spurious (Behrman and Perreault, 1984; Dubinsky and Hartley, 1986), or there are other variables that mediate the path between these two constructs (Brown *et al.*, 1993).

Limitations

These results should be viewed in light of some possible limitations of this study. Even though the structural equations method was used to test causality between the constructs, these causal interpretations must be treated with caution due to the cross-sectional nature of this research. Model misspecification is also a concern. The model was specified based on the stated purpose of the study and prior research in the area. Yet there could be variables that may moderate the relationship between the environmental variables and the job outcomes. For example, salespeople's perceptions of the relative competitive strength of their company may affect how dynamism influences role perceptions and performance. Further, salespeople trained in an adaptive selling role may be less affected by dynamism and heterogeneity, compared to those who are less flexible in their selling approach. Some other variables such as salespeople's personality, the communication process, and the structure of the organization may also play an important role in moderating the effects of environmental dynamism and heterogeneity on outcome variables. As discussed in the next section, these variables open important avenues for future research.

From a methodological perspective, self-selection bias is a possibility. Efforts were made to minimize this bias by randomly selecting the potential respondents from the mailing list. Since all measures are self-reported, common method variance is also a potential problem. An attempt was made to minimize this problem by using well-established scales for most constructs, and pretesting the questionnaire to ensure that there was no perceived overlap between the different variables.

Contributions, implications and direction for future research

On a theoretical front, this study fills a gap in the existing literature. As mentioned earlier, there is very limited work on the effect of the environment on salespeople's role perceptions and job outcomes. All previous studies have focused on the internal work environment; none have considered the effects of dynamism and heterogeneity in the external environment. This study shows that environmental dynamism and heterogeneity play an important part in determining salespeople's role stress, job satisfaction and performance. These findings are especially important for global sales management, since salespeople have to deal with a far more diverse and changing marketplace in the international arena.

On a practical front, the findings of this study have a number of managerial implications. These implications also raise questions that have potential for future research. The findings indicate that environmental changes need not always be bad for salespeople. Some salespeople may actually be more satisfied working in a dynamic environment, if the negative effects of role conflict and ambiguity are minimized through training and supervision.

This raises an interesting possibility for future research. As indicated earlier, it is possible that certain personality variables may moderate the relationship between the environmental variables and salespeople's job satisfaction. Some salespeople may thrive on variety and change, and may be more satisfied working in a dynamic environment than others. Therefore, research is needed to determine the significance of salespeople's personality as a moderator of the environment-job satisfaction link. Findings from this research would be helpful in the recruitment process.

The findings of this study also show that environmental dynamism and heterogeneity have adverse effects on role perceptions and performance. This implies that managers must find ways to reduce these effects. One way to do so is by changing the organizational structure. A number of organizational theorists (see Bluedorn, 1993) have proposed that organic/flexible organizational structures are more appropriate for dynamic environments. However, research is needed to determine if an organic system would help to reduce salespeople's role stress and improve their performance in a dynamic environment.

Another way to reduce these effects is through the communication process. This has implications for the choice of communication media. Daft and Lengel (1984) classified communication media used by managers on a continuum of "media richness", which is the ability to resolve ambiguity and facilitate understanding. Richness is a function of four factors: speed of feedback, variety of communication channels employed, personalness of source, and richness of language. For example, face-to-face interaction would be the richest medium, followed by a telephone conversation, and then by written communication. While it seems that a richer medium of communication would be more appropriate in a dynamic and heterogeneous environment, research is needed to verify it empirically.

Finally, the findings of this study have implications for the training process. When operating in a dynamic and heterogeneous environment, firms would need to develop training programmes which increase the salespeople's tolerance and coping abilities, and help them to deal with unfamiliar situations. However, since these results may vary across contexts, some benchmark studies would have to be conducted within their specific environments before implementing the training programmes.

In conclusion, I would like to restate that the purpose of this paper was to examine the effects of environmental dynamism and heterogeneity on salespeople's role perceptions and job outcomes. This study found that dynamism and heterogeneity are detrimental to salespeople's role perceptions and performance. However, a lot more research is needed to determine the effects of additional variables that moderate/mediate these relationships.

References

Achrol, R.S. and Stern, L.W. (1988), "Environmental determinants of decision-making uncertainty in marketing channels", *Journal of Marketing Research*, Vol. 25, February, pp. 36-50.

Aldrich, H.E. (1979), *Organizations and Environments*, Prentice-Hall, Englewood Cliffs, NJ.

Anderson, R.D., Jerman, R.E. and Constantin, J.A. (1979), "A causal analysis of environment reward-satisfaction linkages for the sales representative", *Journal of the Academy of Marketing Science*, Vol. 7 No. 3, pp. 154-62.

Argote, L., Turner, M.E. and Fichman, M. (1989), "To centralize or not to centralize: the effects of uncertainty and threat on group structure and performance", *Organizational Behavior and Human Decision Processes*, Vol. 43, pp. 58-74.

Armstrong, J.S. and Overton, T. (1977), "Estimating nonresponse bias in mail surveys", *Journal of Marketing Research*, Vol. 24, August, pp. 396-403.

Asher, H.B. (1983), *Causal Modeling*, Sage, Beverly Hills, CA.

Bagozzi, R.P. (1978), "Sales force performance and satisfaction as a function of individual difference, interpersonal and situational factors", *Journal of Marketing Research*, Vol. 15, November, pp. 517-31.

Bagozzi, R.P. (1980), "Performance and satisfaction in the industrial sales force: an examination of their antecedents and simultaneity", *Journal of Marketing*, Vol. 44, Spring, pp. 65-77.

Bagozzi, R.P. and Yi, Y. (1988), "On the evaluation of structural equation models", *Journal of The Academy of Marketing Science*, Vol. 16, Spring, pp. 74-94.

Behrman, D.N. and Perreault, W.D. Jr (1984), "A role stress model of the performance and satisfaction of industrial salespersons", *Journal of Marketing*, Vol. 48, Fall, pp. 9-21.

Behrman, D.N., Bigoness, W. and Perreault, W.D. Jr (1981), "Sources of job related ambiguity and their consequences upon salespersons job satisfaction and performance", *Management Science*, Vol. 27, November, pp. 1246-60.

Bentler, P.M. (1992), *EQS: Structural Equations Program Manual*, BMDP Statistical Software, Los Angeles, CA.

Bluedorn, A.C. (1993), "Pilgrim's progress: trends and convergence in research on organizational size and environments", *Journal of Management*, Vol. 19 No. 2, pp. 163-91.

Brown, S.P. and Peterson, R.A. (1993), "Antecedents and consequences of salesperson job satisfaction: meta-analysis and assessment of causal effects", *Journal of Marketing Research*, Vol. 30, February, pp. 63-77.

Brown, S.P., Cron, W.L. and Leigh, T.W. (1993), "Do feelings of success mediate sales performance work attitude relationships?", *Journal of the Academy of Marketing Science*, Vol. 21, Spring, pp. 91-100.

Child, J. (1972), "Organizational structure, environment and performance", *Sociology*, Vol. 6, pp. 2-22.

Churchill, G.A. Jr, Ford, N.M. and Walker, O.C.Jr (1974), "Measuring the job satisfaction of industrial salesmen", *Journal of Marketing Research*, Vol. 11, August, pp. 254-60.

Churchill, G.A. Jr, Ford, N.M. and Walker, O.C.Jr (1976), "Organizational climate and job satisfaction in the sales force", *Journal of Marketing Research*, Vol. 13, November, pp. 323-32.

Churchill, G.A. Jr, Ford, N.M. and Walker, O.C.Jr (1992), *Sales Force Management*, 4th ed., Richard D. Irwin, Homewood, IL.

Churchill, G.A. Jr, Ford, N.M., Hartley, S.W. and Walker, O.C.Jr (1985), "The determinants of salesperson performance: a meta-analysis", *Journal of Marketing Research*, Vol. 22, May, pp. 103-18.

Daft, R.L. and Lengel, R.H. (1984), "Information richness: a new approach to manager information processing and organization design", in Staw, B.M. and Cunnings, L.L. (Eds), *Research in Organization Behavior*, Vol. 6, JAI Press, Greenwich, CT, pp. 191-233.

Dill, W.R. (1958), "Environments as an influence on managerial autonomy", *Administrative Science Quarterly*, Vol. 2, March, pp. 409-43.

Dubinsky, A.J. and Hartley, S.W. (1986), "A path analytic study of a model of salesperson performance", *Journal of the Academy of Marketing Science*, Vol. 14, Spring, pp. 36-46.

Eliashberg, J. and Michie, D.A. (1984), "Multiple business goal sets as determinants of marketing channel conflict: an empirical study", *Journal of Marketing Research*, Vol. 21, February, pp. 75-88.

Etgar, M. (1976), "Channel domination and countervailing power in distribution channels", *Journal of Marketing Research*, Vol. 13, August, pp. 254-62.

Fry, L.W., Futrell, C.M., Parasuraman, A. and Chmielewski, M.A. (1986), "An analysis of alternative causal models of salesperson role perceptions and work related attitudes", *Journal of Marketing Research*, Vol. 23, May, pp. 153-63.

Gaski, J.F. (1989), "The impact of environmental/situational forces on industrial channel management", *European Journal of Marketing*, Vol. 23 No. 2, pp. 15-30.

Gerbing, D.W. and Anderson, J.C. (1988), "An updated paradigm for scale development incorporating unidimensionality and its assessment", *Journal of Marketing Research*, Vol. 25, May, pp. 186-92.

Hackman, J.R. and Oldham, G.R. (1975), "Development of the job diagnostic survey", *Journal of Applied Psychology*, Vol. 60, April, pp. 159-70.

Hambrick, D.C. (1983), "Some tests of the effectiveness and functional attributes of Miles and Snow's strategic types", *Academy of Management Journal*, Vol. 26, pp. 697-707.

Hansen, G.S. and Wernerfelt, B. (1989), "Determinants of firm performance: the relative importance of economic and organizational factors", *Strategic Management Journal*, Vol. 10, pp. 399-411.

Iaffaldano, M.T. and Muchinsky, P.M. (1985), "Job satisfaction and performance: a meta-analysis", *Psychological Bulletin*, Vol. 97, March, pp. 251-73.

Joreskog, K.C. (1978), "Structural analysis of covariance and correlation matrices", *Psychometrika*, Vol. 43, pp. 443-77.

Kahn, R.L., Wolfe, D.M., Quinn, R.P. and Rosenthal, R.A. (1964), *Organizational Stress, Studies in Role Conflict and Ambiguity*, Wiley, New York, NY.

Keats, B.W. and Hitt, M.A. (1988), "A causal model of linkages among environmental dimensions, macroorganizational characteristics and performance", *Academy of Management Journal*, Vol. 31, pp. 570-98.

Kohli, A.K. (1985), "Some unexplored supervisory behaviors and their influence on salespeople's role clarity, specific self esteem", *Journal of Marketing Research*, Vol. 22, November, pp. 424-33.

Korman, A.K. (1971), "Environmental ambiguity and locus of control as interactive influences on satisfaction", *Journal of Applied Psychology*, Vol. 55 No. 4, pp. 339-42.

Leblebici, H. and Salancik, G.R. (1981), "Effects of environmental uncertainty on information and decision processes in banks", *Administrative Science Quarterly*, Vol. 26, December, pp. 578-96.

Leigh, T. and McGraw, P.F. (1989), "Mapping the procedural knowledge of industrial salespeople: a script theoretic investigation", *Journal of Marketing*, Vol. 53, January, pp. 16-34.

Lysonski, S., (1985), "A boundary theory investigation of the product manager's role", *Journal of Marketing*, Vol. 49, Winter, pp. 26-40.

Mahajan, J., Churchill, G.A.Jr, Ford, N.M. and Walker, O.C.Jr (1984), "A comparison of the impact of organizational climate on the job satisfaction of manufacturers' agents and company salespeople: an exploratory study", *Journal of Personal Selling and Sales Management*, Vol. 4, May, pp. 1-10.

Michaels, R.E., Day, R.L. and Joachimsthaler, E.A. (1987), "Role stress among industrial buyers: an integrative model", *Journal of Marketing*, Vol. 51, April, pp. 28-45.

Miles, R.H. (1976), "Role requirements as sources of organizational stress", *Journal of Applied Psychology*, Vol. 61, April, pp. 172-9.

Morgan, R.M. and Hunt, S.D. (1994), "The commitment-trust theory of relationship marketing", *Journal of Marketing*, Vol. 58, July, pp. 20-38.

Nunnally, J.C. (1978), *Psychometric Theory*, McGraw-Hill, New York, NY.

Phillips, L.W. (1981), "Assessing measurement error in key informant reports: a methodological note on organizational analysis in marketing", *Journal of Marketing Research*, Vol. 18, November, pp. 395-415.

Porter, L.W. and Lawler, E.E. III (1975), *Managerial Attitudes and Performance*, Richard D. Irwin, Homewood, IL.

Pruden, H.O. (1969), "Inter-organizational conflict, linkage, and exchange: a study of industrial salesmen", *Academy of Management Journal*, Vol. 12, September, pp. 339-50.

Rizzo, J.R., House, R.J. and Lirtzman, S.E. (1970), "Role conflict and ambiguity in complex organizations", *Administrative Science Quarterly*, Vol. 15 No. 2, pp. 150-63.

Roos, L.Jr and Starke, F. (1981), "Organizational roles", in Nystrom, P.C. and Starbuck, W.H. (Eds), *Handbook of Organizational Design*, Oxford Univesity Press, New York, NY.

Scott, W.R. (1992), *Organizations: Rational, Natural and Open Systems*, 3rd ed., Prentice-Hall, Englewood Cliffs, NJ.

Sharma, S., Durvasula, S. and Dillon, W. (1989), "Some results on the behavior of alternate covariance structure estimation procedures in the presence of non-normal data", *Journal of Marketing Research*, Vol. 26, May, pp. 214-21.

Sheridan, J.E. and Slocum, J.W.Jr (1975), "The direction of the causal relationship between job satisfaction and work performance", *Organizational Behavior and Human Performance*, Vol. 14, April, pp. 159-72.

Siguaw, J.A., Brown, G. and Widing, R.E. II (1994), "The influence of the market orientation of the firm on sales force behaviors and attitudes", *Journal of Marketing Research*, Vol. 31, February, pp. 106-16.

Singh, J. (1993), "Boundary role ambiguity: facets, determinants, and impacts", *Journal of Marketing*, Vol. 57, April, pp. 11-31.

Smith, P.C., Kendall, L.M. and Hulin, C.L. (1969), *The Measurement of Satisfaction in Work and Retirement: A Strategy for the Study of Attitudes,* Rand-McNally, Chicago, IL.

Spekman, R.E. and Stern, L.W. (1979), "Environmental uncertainty and buying group structure: an empirical investigation", *Journal of Marketing*, Vol. 43, Spring, pp. 54-64.

Stearns, T.M., Hoffman, A.N. and Heide, J.B. (1987), "Performance of commercial television stations as an outcome of interorganizational linkages and environmental conditions", *Academy of Management Journal*, Vol. 30, pp. 71-90.

Teas, K.R. (1983), "Supervisory behavior, role stress, and the job satisfaction of industrial sales-people", *Journal of Marketing Research*, Vol. 20, February, pp. 84-91. Thompson, J.D. (1967), *Organizations in Action*, McGraw-Hill, New York, NY.

Walker, O.C.Jr, Churchill, G.A.Jr and Ford, N.M. (1975), "Organizational determinants of the industrial salesman's role conflict and ambiguity", *Journal of Marketing*, Vol. 39, January, pp. 32-9.

Wanous, J.P. (1974), "A causal-correlational analysis of the job satisfaction and performance relationship", *Journal of Applied Psychology*, Vol. 59, February, pp. 139-44.

Weed, S.E. and Mitchell, T.R. (1980), "The role of environmental and behavioral uncertainty as a mediator of situation-performance relationships", *Academy of Management Journal*, Vol. 23, March, pp. 38-60.

Weitz, B.A., Sujan, H. and Sujan, M. (1986), "Knowledge, motivation and adaptive behavior: a framework for improving selling effectiveness", *Journal of Marketing*, Vol. 50, October, pp. 174-91.

Zeithaml, C.P. and Zeithaml, V.A. (1984), "Environmental management: revising the marketing perspective", *Journal of Marketing*, Vol. 48, Spring, pp. 46-53.

Appendix

Table A-I. Measurement scales

Scale	Items
Job satisfaction Five-point Likert scale adapted from INDSALES (Churchill *et al.*, 1974).	(Strongly agree/strongly disagree) 1. I find my work very satisfying 2. I feel that I am really doing something worthwhile in my job 3. My work is challenging 4. My job is very interesting 5. My work gives me a sense of accomplishment 6. My work is very creative 7. My job is often dull and monotonousa
Performance Five-point Likert scale – new	Performance on the following objectives during the previous year (Much higher/much lower than objective/not an objective) 1. Sales 2. Profitability 3. Generating new business 4. Servicing existing accounts
Role conflict Five-point Likert scale adapted from Rizzo *et al.* (1970)	(Strongly agree/strongly disagree) 1. I work under incompatible policies and guidelines 2. I receive incompatible requests from two or more people 3. I have to work under vague directives and orders 4. I have to do things that should be done differently 5. I have to work on unnecessary things
Role ambiguity Five-point Likert scale adapted from Rizzo, *et al.* (1970)	(Strongly agree/strongly disagree) 1. I am certain about how much authority I have in my selling position[a] 2. I know what my responsibilities area 3. I know exactly what is expected of mea 4. My goals and objectives have been clearly defineda 5. I am certain about how frequently I should call on my customersa
Environmental dynamism Five-point Likert scale adapted from Achrol and Stern (1988)	(Very low extent/very high extent) 1. Entry of new competitors 2. Exit of existing competitors 3. Changes in product technology 4. Introduction of new products/brands within your line(s) 5. Changes in company's sales strategies for line(s) 6. Changes in product prices for the line(s) 7. Changes in competitors' mix of products/brands 8. Changes in competitors' product prices 9. Changes in competitors' sales strategies 10. Changes in customers' preferences for brands 11. Changes in your customers' preferences for product features
Environmental heterogeneity Five-point Likert scale adapted from Achrol and Stern (1988)	(Very similar/very different customers in terms of:) 1. Type of business 2. Size of business 3. Credit needs 4. Service needs 5. Preferred varieties of product brands/features 6. Product preferences in price/quality

a. Reverse scored