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# An Assessment of the Role Performance Measurement of Power–Dependency in Marketing Channels

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*This research addresses the question raised by previous research (Frazier, 1983) as to whether role performance measures of dependency can account for the "availability of alternatives" dimension of dependency identified by Emerson (1962). Specifically, the research tests the hypothesis that role performance measures of power/dependence adequately account for the availability of alternatives dimension of dependency. In addition, the hypothesis that weighted rather than unweighted role performance measures should be utilized is tested. The data to test the hypotheses were collected from a mail survey of dealers in a distribution network for fluid power products. The mailing to 247 dealers resulted in 117 usable questionnaires for a response rate of 47%. The result of the hypotheses tests indicate that: (1) role performance measures of power/dependence do adequately account for the availability of alternatives dimension, and (2) weighted role performance measures are preferable to unweighted measures. J BUSN RES 1994. 30.201–210*

One of the most enduring research topics in the channels literature has been the conceptualization and measurement of power/dependence (cf. Brown, Lusch, and Muehling, 1983; El-Ansary, 1975; El-Ansary and Stern, 1972; Etgar, 1976; Frazier, 1983; Frazier and Rody, 1991; Gaski, 1984; Hunt and Nevin, 1974; Lusch, 1976, 1977; Lusch and Brown, 1982; McAlister, Bazerman, and Fader, 1986; Reve and Stern, 1979). While channel researchers generally agree that power refers to one channel member's ability to influence some or all of the marketing strategy variable of another (El-Ansary and Stern, 1972), less agreement exists as to how the construct should be measured. The purpose of the research presented is to specifically consider the efficacy of the role performance approach to the measurement of power/dependence.

Based on Emerson's (1962) original conceptualization, power can be thought of as the inverse of dependence. In other words, the level of power A has over B is inversely proportional to the level of dependence B has on A. Drawing on the work of Emerson (1962), Frazier (1983) identified a method to measure power, via a measurement of dependence, which is based on the role performance of a particular firm. Essentially, Frazier (1983) argued that as the performance of the source firm (in this case the manufacturer) increases, the dependence of the target firm (in this case the dealer) on the source firm increases. He suggested that this is in some part due to the fact that as the performance of the source firm increases, the relative attractiveness of alternative sources available to the target firm outside the *target firm–source firm* relationship decreases. Accordingly, the power of the source firm increases relative to the target firm. Role performance measures, or similar variations thereof, have subsequently been utilized by a number of researchers including Anderson and Narus (1984, 1990), Frazier and Summers (1984), and Skinner and Guiltinan (1985).

Although the role performance method has received a great deal of use among channel researchers, two questions remain unanswered. The first concerns whether the role performance items should be weighted by the importance of the various role elements. In his original presentation, Frazier (1983) tested the efficacy of utilizing importance weights but did not provide a definite conclusion as to their usefulness. He suggested:

If their (weights) inclusion does not greatly increase questionnaire length and hamper respondent involvement in the study, the use of importance ratings in future studies should be considered . . . . However, the results herein are not strong enough to mandate their inclusion in future research (p. 165).

The second question, raised by Frazier (1983) and later by Frazier, Gill, and Kale (1989) refers to whether Emerson's (1962) second dimension of dependence, availability of alternatives, is adequately reflected in the performance measures. As previously mentioned, the lack of sourcing options for a target firm

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outside a specific source firm–target firm relationship increases the level of dependence (and power) inherent in a dyadic relationship (Emerson, 1962). However, role performance–based measures of power/dependence do not directly assess the availability of alternatives; rather the assumption is made that a relatively greater level of performance by a supplier inherently reduces the number of sources that can effectively serve as alternative suppliers (Frazier, 1983). Unfortunately, this assumption has never been tested empirically.

Given the prominence of the dependence construct in the channels literature, it would appear that these two questions should be addressed before the channels literature moves forward to embrace explanatory theories such as social exchange theory (cf. Anderson and Narus, 1984, 1990) and transaction cost analysis (cf. and Weitz, 1986; Dwyer and Oh, 1988; Heide and John, 1988, 1992). The purpose of the current study, therefore, is to investigate: (1) whether measures of role performance should be weighted or unweighted, and (2) whether role performance measures of power/dependence adequately incorporate the availability of alternatives dimension. The paper is presented in the following sections: (1) Review of the Literature, (2) Hypotheses and Propositions, (3) Research Method, (4) Results, and (5) Discussion.

## Review of the Literature

### Measure of Power

Based on Emerson's (1962) original conceptualization, power has been defined in the marketing channels literature as the influence, or potential influence, which one firm has over another firm's beliefs and behavior relative to a set of decision variables (El-Ansary and Stern, 1972; Frazier, 1983). This definition does not suggest that a firm must exercise its influence in order to have power, only that it must possess the capability to do so. Unfortunately, this distinction has posed measurement problems for researchers (Butaney and Wortzel, 1988). According to Gaski (1984), although a number of researchers have tried to measure the *potential* use of power, they have instead measured *exercised* power.

We are concerned with the measurement of exercised, rather than potential power for three reasons. First, exercised power is more frequently investigated in the literature. Second, the above-mentioned operational problems that are inherent in any attempt to measure unexercised power currently preclude the development of generally accepted standards for the measurement of potential power. The third reason for concentrating our attention on exercised power is because the channels literature has recently begun to focus on "interfirm influence strategies" (Frazier and Rody, 1991; Frazier and Summers, 1984, 1986). Since interfirm influence strategies infer the use of power (Frazier and Rody, 1991), the extant literature supports a research context that further suggests the merit of examining exercised, rather than potential, power.

Two fundamental approaches can be used to measure exercised power. Several marketing researchers have analyzed ex-

ercised power through "attributed influence" measures (cf. El-Ansary and Stern, 1972; Hunt and Nevin, 1974; Wilkinson, 1974; Etgar, 1977, 1978; Lusch and Brown, 1982). Other scholars have measured a channel member's "hypothesized sources" of exercised power (cf. El-Ansary and Stern, 1972; El-Ansary, 1975; Etgar, 1976; Frazier, 1983). Both approaches have merit. Because of space limitations, however, the present paper focuses on the "attributed influence" perspectives.

### Measures of Dependence

Emerson's (1962) original conceptualization of power suggested that power is inversely related to dependence. Further, Emerson (1962, p. 32) suggested that the dependence of actor A upon actor B is: (1) directly proportional to A's motivational investment in goals mediated by B, and (2) inversely proportional to A's availability or the attractiveness of goal fulfillment options outside the A–B relationship. However, Emerson did not specify how measures of these two dimensions of the dependence construct should be operationally defined.

According to Frazier, Gill, and Kale (1989) two basic methods have been used to measure the dependence of a target firm on a source firm. The first, labeled the "sales and profit" approach, assumes that a target firm's dependence on a source firm is a function of the percentage of a target firm's sales that could be attributed to the source firm. The implicit assumption is that as the percentage of sales attributed to the source firm increases, the level of dependence of the target firm also increases. This method was utilized by El-Ansary and Stern (1972) who considered dependence to be a function of: (1) the percentage of the channel member's business contracted with a second firm and the size of the contribution made to a firm's profit by the other business, (2) the commitment one channel member has to the other in terms of the contribution of the latter's marketing policies to its business, and (3) the difficulty in effort and cost faced if the channel member attempts to replace the other firm as a source of supply or as a customer. Similar methodologies have also been utilized by Etgar (1976), Brown, Lusch, and Muehling (1983), Anderson, Lodish, and Weitz (1987), and Frazier, Gill, and Kale (1989).

A second basic method for measuring dependence was offered by Frazier (1983). The method is labeled the "role performance" approach, and is the focus of the current study. Frazier (1983) argued that by specifying the primary elements of a source firm's role, the domain of elements of a source firm's dependence on the relationship can be identified. He suggested that as the target firm's perception of the source firm's role performance increases, the motivation of the target firm to maintain the relationship increases. Thereby, the target firm becomes more dependent on the source firm as the source's role performance increases. The value of Frazier's (1983) approach is based on its ability to: (1) explain how a firm's dependence is built and maintained in a relationship, and (2) help specify the domain of relational interfirm elements needed to adequately reflect one firm's dependence on the other.

### Measurement of the Availability Component of Dependence

Based on Emerson's (1962) two dimension conceptualization of dependence, researchers have questioned whether role performance measures of dependence adequately account for the availability of alternatives dimension (Frazier, 1983; Frazier and Rody, 1991). Unfortunately, the only empirical investigation to date of the "availability of alternatives" component of dependence did not utilize the role performance measurement approach (Brown, Lusch, and Muehling, 1983). In that study, respondents were instead asked to indicate on a seven-point Likert-type scale the probable difficulty of replacing their major supplier. The study found that this measure was a significant component of dependence ( $p < 0.05$ ). However, conceptually this measure of the "availability" component cannot be directly compared to the role performance approach.

A number of researchers have suggested that role performance and the availability of alternatives are inversely related: as role performance increases, the number and attractiveness of available alternatives decreases (Anderson and Narus, 1984; El-Ansary, 1975; Frazier, 1983). Unfortunately, simply asking target firms how difficult a supplier is to replace does not thoroughly account for any link that might exist between a supplier's role performance and the availability, or attractiveness, of alternative sources.

One method to measure the "availability of alternatives" dimension within a role performance context can be adapted from Heckathorn (1982). He proposed a model of supplier-vendor negotiation based on mathematical bargaining theory. The measure on which Heckathorn's model was based is referred to as the "resistance index." The core of the resistance model is a conceptualization of concession-making as governed by an actor's *resistance to concession-making*. The resistance index compares the best outcome a particular firm could hope for from its exchange relationship with a source firm to the outcomes they could expect to receive from the available alternatives. As such, it represents a measure of the "availability of alternatives" in that the better the outcome expected from a source as compared to the available alternatives, the greater the resistance to forming other exchange relationships. In other words, as the perceived performance of the source firm increases relative to the alternatives available, the dependence of the target firm increases because the available alternatives cannot adequately serve as replacements.

The "resistance" concept facilitates a consideration of the question as to whether role performance measures of dependence incorporate *both* the motivational investment and availability of alternatives dimensions of dependence conceptualized by Emerson (1962). If role performance measure do implicitly incorporate the "availability of alternatives" dimension, then the addition of the resistance-based measure of availability should not explain a statistically significant ( $p \leq 0.05$ ) amount of variance in power above and beyond that explained by the role performance measures of dependence. The resistance construct

also provides a measure of the availability of alternatives that has practical managerial value since the index bases availability on the notion of relative performance, a measurement strategy that can aid managers by helping to identify those areas where performance needs to be improved in order to enhance power.

To summarize, a number of different methods have been used to assess the power inherent in a channel relationship including measures that assess power directly (e.g., attributed influence and hypothesized sources) and indirectly via dependence (e.g., sales-and-profit and role performance). The present study specifically examined two of these techniques: (1) attributed influence, and (2) role performance. Furthermore, a question yet to be answered is whether role performance measures adequately account for the "availability of alternatives" dimension of role performance. The research presented examined this issue by utilizing a measure of "resistance" adapted from Heckathorn (1982). We also investigated the issue of whether weighting the role performance elements by importance was worthwhile.

### Hypotheses and Propositions

The following research hypotheses were developed to guide the investigation.

H<sub>1</sub>: Weighted role performance measure will explain significantly ( $p \leq 0.05$ ) more variance in power (attributed influence) than unweighted role performance measures.

At least two sources of support for this hypothesis can be identified. First, previous research has provided tentative support for the superiority of weighted measures (Frazier, 1983). Second, one would not expect good performance on issues of relatively low importance to have the same impact as good performance on issues of greater importance. Without weighing the role performance elements by importance, each of the elements is implicitly assigned an equal weight that may result in an inaccurate description of the power/dependence relationship.

H<sub>2</sub>: The addition of a measure of availability of alternatives does not significantly ( $p \leq 0.05$ ) add to the variance explained by the role performance measures of power/dependence.

As the role performance of a source firm improves, the availability or attractiveness of alternatives to the target firm should decrease (Anderson and Narus, 1984; El-Ansary, 1975; Frazier, 1983). Given that role performance and availability of alternatives are closely related, we expect that role performance measures do an adequate job of accounting for the availability of alternatives dimension of power/dependence. In other words, the expectation is that the role performance measure of power/dependence adequately accounts for the availability of alternatives dimension of dependence.

Even though the primary focus of the research presented is directed towards investigating: (1) whether role performance measures should be weighted or unweighted, and (2) whether

role performance measures of power account for the availability of alternatives dimension, a number of other relationships are also implicit in the research. In order to further address our understanding of the relationships which exist between attributed influence measures of power, role performance measures of power, and the availability of alternatives dimension, the propositions identified below are also considered.

- P<sub>1</sub>: The attributed influence measures of power are inversely related to the resistance measure of availability of alternatives.
- P<sub>2</sub>: The role performance measures of power/dependence are inversely related to the resistance measure of availability of alternatives.
- P<sub>3</sub>: The attributed influence measures of power are positively related to the role performance measures of power/dependence.

## Research Method

### Research Setting and Sample

The data used in this study were collected from a mail survey of dealers in a distribution network for fluid power products such as hydraulic valves and cylinders. These dealers primarily performed as wholesalers, but in some instances their products were also sold to individual consumers for use in repairing their own household or recreational items. Dealers for one specific manufacturer were surveyed. Each dealer was independently owned and operated, and all carried products that competed with those of the manufacturer. Individual dealers ranged from very small firms with little obvious power relative to the manufacturer to organizations as large or larger than the manufacturer with conceivably greater power. This compares to the situation of many source firms that may deal with target firms ranging from very small stores to such large corporate giants as Sears and Wal-Mart. Thus, this channel network represents a wide range of power relationships and appears to be ideally suited for this study.

Frazier (1983) identified the need to survey "respondents" rather than informants (individual reporting the actions of others). Prestudy interviews with members of the channel network suggested that the dealer/manager was best suited to answer the questionnaire, because other individuals within the dealerships were generally not directly involved in the decision of from whom products would be purchased. For this reason, all questionnaires were addressed to the "Dealer/Manager." To assess the respondent versus informant issue, one item on the questionnaire required each respondent to provide his or her title. In all cases, the person completing the survey indicated he/she was the dealer or the manager.

Questionnaires were mailed to a sample of 247 dealers, preceded by a prenotification letter encouraging participation. After four weeks, 117 usable questionnaires were returned resulting in a 47% response rate. This rate is comparable to those reported in other channel studies (cf. Anderson and Narus,

1984; Frazier, 1983; Frazier and Rody, 1991; Lusch and Brown, 1982). Nonresponse bias could not be directly assessed because the surveys were completed anonymously. However, the nonresponse bias was indirectly assessed by comparing the responses to all items on the questionnaire for each week of the returns. Armstrong and Overton (1977) suggested that late respondents are similar to nonrespondents. No differences ( $p \leq 0.05$ ) were found in the data for the present study across time using the  $\chi^2$  statistic.

### Measurement

**POWER.** Researchers have consistently defined power as the ability one channel member has to influence the decision variables of a second channel member (Frazier, 1983). Operationally, this study defined power as the vendor's (the manufacturer in this case) *influence* over the strategic marketing decision variables of the dealers. This perspective is consistent with previous channels research (cf. El-Ansary and Stern, 1972; Hunt and Nevin, 1974; Etgar, 1976; Lusch and Brown, 1982).

Based on preliminary focus group interviews with members of the channel network under investigation, several strategic marketing decisions susceptible to influence attempts by the manufacturer were identified. These variables included such issues as the dealers inventory levels, discount policies, sales administration, and sources of supply (see Table 1) for each decision variable. Dealers were asked to identify on a five-point scale their perception of the degree of influence possessed by the manufacturer. Responses ranged from 1 (manufacturer has no influence) to 5 (manufacturer influences decision to a great

**Table 1.** Factor Analysis of Power Measures<sup>a</sup>

Dealer Decision Variables	Factors: Attributed Influence		
	Marketing Programs	Ordering Policies	Pricing Policies
1. Inventory levels	39 <sup>b</sup>	.77 <sup>c</sup>	34
2. Pricing	12	.52	<u>56</u>
3. Credit policies	27	17	<u>81</u>
4. Trade discount policies	29	26	<u>77</u>
5. Market thrust	<u>71</u>	42	08
6. Target account program	<u>75</u>	25	19
7. Sales administration	<u>78</u>	20	33
8. Sales force	<u>74</u>	18	34
9. Markets covered	<u>76</u>	36	10
10. Repair service	<u>64</u>	15	41
11. Product line	<u>63</u>	50	18
12. Sources of product supply	39	<u>70</u>	18
13. Size of product purchase	27	<u>75</u>	33
14. Timing of product purchase	18	<u>74</u>	35
15. Emergency orders	30	<u>73</u>	04
Eigenvalues	7.94	1.21	1.01
Percentage of total factor variance	53.0	8.1	6.8

<sup>a</sup> All decimal points for the factor loadings have been deleted.

<sup>b</sup> All variables are loaded relative to the suppliers extent of power where 1 = not extent, 2 = little extent, 3 = some extent, 4 = much extent, and 5 = great extent.

<sup>c</sup> The items that make up each factor are underlined.

extent). This measure of *achieved influence* served as a basis for examining the ability of the role performance measure of dependence to explain both dimensions of dependence.

The 15 specific decision variables identified in the prestudy focus group interviews as the areas in which vendors could attempt to achieve influence over their dealers are identified in Table 1. Principal components factor analysis was used to assess the structure of the measures. An oblique rotation method, OBLIMIN, was utilized to provide a clearer interpretation of the factor structure since it was expected that any factors extracted would be related to one another. In addition, the primary purpose of the factor analysis was to assess the structure of the items, rather than develop a universal measure of channel power. In these cases, oblique rotation may be preferable to the more frequently used orthogonal rotating methods (Nunnally, 1978; Stewart, 1981; Hair et al., 1992). Since a number of the most widely available rotation programs have been shown to result in the same factor structure (Stewart, 1981), the OBLIMIN option available in the SPSS Factor procedure was utilized.

As is indicated in Table 1, three factors emerged with eigenvalues greater than one. This indicated that the 15 specific decision variables could be summated into three general decision groups that were interpreted to be the power (attributed influence) over: (1) marketing programs, (2) ordering policies, and (3) pricing policies. Measures for each of the three power dimensions were formed by summing the individual items within each group and dividing by the number of items. Coefficient alpha for the three measures were .90 (marketing programs), .80 (ordering policies), and .74 (pricing policies). All are within the range considered acceptable for exploratory research (Nunnally, 1978). The utilization of coefficient alpha in this manner is consistent with that reported by other channel researchers including Lusch and Brown (1982), Butaney and Wortzel (1988), and Kumar, Stern, and Achrol (1992).

**DEPENDENCE.** The measurement of dependence in this study was based on the dealers' perception of how well the manufacturers have performed in their roles. Previous research used average industry performance as the comparison point for measuring the role performance of specific firms. However, prestudy interviews with channel members indicated that no real perception for "average performance" existed within the channel investigated. Like many marketing channels, the network studied was comprised of a number of vendors and dealers of widely varying size and performance. Not only did the operational performance of these vendors vary greatly, but the relative economic size of the vendors also differed substantially. The vendor whose channel was examined was both larger than some of the dealers and smaller than others. Instead of an "average" performance expectation, the dealers appeared to have varying expectations based on their experiences with the source firm. Therefore, expected role performance was adopted as a more appropriate comparison basis for the dependence measure. In essence, respondents were asked to compare their perception of the vendor's performance to the level they expected.

One approach used to measure actual role performance rel-

ative to expected levels of performance is to use respondents' summary judgment of the level of performance on a "better than expected - worse than expected" scale (cf. Aiello, Czepiril, and Rosenberg, 1977; Oliver, 1977, 1980, 1981; Linda and Oliver, 1987; Westbrook 1980). Results using this measurement have paralleled or exceeded other techniques (Oliver, 1980). Thus, this method was utilized for the reported study.

Specifically, the dealers surveyed were asked to rate the vendor's performance relative to 20 role performance elements on a five-point scale anchored by 1 (performance much worse than expected) and 5 (performance much better than expected). The 20 role performance elements identified in Table 2 were specified by dealers in the prestudy interviews as the areas of performance where comparisons could be made between source firms. The importance of each of the role performance elements to the dealers in their quest to meet their goals was also measured with a similar type scale where response ranged from 1 (no importance) to 5 (great importance). These importance ratings were used as weights for the individual elements in the role performance dependency measurement.

The ratings of the 20 role performance elements were factor-analyzed to assess their measurement structure. Again, an oblique rotation method (OBLIMIN) was utilized for the same reasons previously identified. The analysis resulted in the identification of six factors with eigenvalues greater than 1.0 (see Table 2). These factors were interpreted as: (1) field support, (2) customer services, (3) product development, (4) advertising, (5) credit policies, and (6) product quality. Reliability was assessed by computing coefficient alpha for scales with three or more items (field support, customer services, and product development), and the Pearson correlation coefficient for the scales with two items (advertising and product quality). Because the coefficient alpha for product quality was below .60, this construct was omitted from further analysis. The remaining coefficient alpha values were .90, .74, .61, .64, and .61, respectively. All exceed Nunnally's (1978) minimum level of acceptability for exploratory research. Role performance measures were created by computing the average for the items within each factor.

**AVAILABILITY OF ALTERNATIVES.** The final construct included in this study was the "availability of alternatives" dimension of dependency. The "availability of alternatives" was measured by adapting an index developed by Heckathorn (1982) that compares the best outcome a channel member could hope for when dealing with a particular vendor to the payoff which would be realized from using the best available alternative supplier. The resistance index was calculated as follows:

$$\text{AVAILABILITY OF ALTERNATIVES} = \frac{\text{Best Hope Payoff} - \text{Payoff from Using Channel Member } m}{\text{Best Hope Payoff} - \text{Payoff if Channel Member } m \text{ Not Used}}$$

A simple example best illustrates the nature of the relationship between the availability of alternatives constructs and the

**Table 2.** Factor Analysis of Role Performance Measure of Dependence<sup>a</sup>

Variables: Supplier Characteristics	Factors: Role Performance Measure of Dependence					
	Field Support	Customer Services	Product Development	Advertising	Credit Policies	Product Quality
1. Product quality	08 <sup>b</sup>	06	39	17	04	<u>71</u> <sup>c</sup>
2. Delivery lead-time	19	<u>74</u>	-01	07	12	-16
3. Quality of advertising	03	05	12	<u>85</u>	-06	00
4. Pricing	25	<u>57</u>	18	25	01	08
5. Completeness of product line	25	08	<u>61</u>	-08	03	16
6. Technical support by engineering	<u>65</u>	26	12	10	01	38
7. Amount of advertising	14	-09	06	<u>81</u>	19	05
8. Quantity discounts	18	<u>55</u>	04	51	05	09
9. Order processing speed	15	<u>78</u>	20	-14	17	-03
10. Rate of new product development	10	15	<u>77</u>	25	07	-11
11. Returns policy	23	12	28	04	<u>77</u>	07
12. Credit terms	04	09	00	07	<u>90</u>	-05
13. Response to emergency orders	17	<u>73</u>	21	-14	-03	02
14. Clarity of catalogs/price lists	14	20	36	07	03	-70
15. Timing of new product development	20	27	<u>67</u>	10	21	-04
16. Product application support	<u>80</u>	08	20	-05	08	13
17. Technical support	<u>87</u>	24	06	04	10	-02
18. Training	<u>78</u>	13	16	14	06	-07
19. Call frequency	<u>75</u>	07	21	15	10	-29
20. Responsiveness to field problems	<u>81</u>	32	06	09	06	-03
Eigenvalues	6.311	1.839	1.763	1.370	1.313	1.156
Percentage of total factor variance	31.6	9.2	8.8	6.9	6.6	5.8

<sup>a</sup> All decimal points for the factor loadings have been deleted.

<sup>b</sup> All variables are loaded relative to the suppliers level of performance where 1 = much worse than expected, 2 = somewhat worse than expected, 3 = about as expected, 4 = somewhat better than expected, and 5 = much better than expected.

<sup>c</sup> The items that make up each factor are underlined.

other research variables. The "best hope payoff" was anchored in the survey instrument as a 10. Assume the payoff from supplier A was perceived by a respondent to be 8 and the payoff from supplier B was rated 6. The resistance index to supplier A would be  $[(10-8)/(10-6)] = .50$ . If supplier A's payoff had been rated a 9, the resistance to supplier A would have decreased to .25  $[(10-9)/(10-6)]$ . As the perception of a supplier's payoff increases relative to the alternatives available, the resistance to the supplier decreases (or alternatively, the resistance to other suppliers increases) and the number or attractiveness of available alternatives is effectively reduced. Because enhanced role performance should increase the payoff from using a specific supplier, an inverse relationship between the role performance measures and the resistance concept (availability of alternatives) was expected. Since improved role performance was hypothesized to increase power (achieved influence measures), the same inverse relationship was expected between those measures and the resistance index (availability of alternatives measures).

Further support for measuring "availability of alternatives" in this manner was provided by Bucklin's (1972) concept of the "tolerance functions." This concept suggests that a supplier's acceptability to a target firm is based upon the target's perception of the payoff from maintaining the relationship. The greater the "tolerance" exhibited by a target for a particular supplier, the less attractive the alternative sources. The resistance-based

construct used in the reported study simply made the tolerance function a relative term; that is, it compared the payoff available from a particular supplier to the payoff available outside the relationship instead of treating it as a unidimensional construct.

To operationalize the resistance index, dealers were asked two questions. First, they were asked to rate the payoff from using one specific source on a ten-point scale anchored by 1 ("the worst possible payoff") and 10 ("the best possible payoff"). The second question asked dealers to use the same scale to identify their expected payoff from using the best available alternative.

### Validity of Measures

The research appears to exhibit a satisfactory level of content validity. The final questionnaire was based on discussions with the field sales managers from the channel and a review of the extant literature. The discussions with the field personnel indicated that the vendor's role performance was critical to the determination of the level of dependence exhibited by dealers. However, these interviews also revealed two observations that differed from the findings of other research efforts reported in the literature. First, no clear perceptions existed within the channel as to "average" performance expectations. This was most likely due to the large number and varying size of the source firms.

Second, the relevant performance comparison was identified as the level of performance expected by a particular customer. The existence of multiple expectation standards within the industry was predictable based on the total number of, and the wide variance in the size of, the source firms and the dealers.

In addition to content validity, the factors extracted from the factor analyses of the attributed influence and role performance scales appear to exhibit face validity. For instance, the three factors extracted from the attributed influence scale certainly appear to be three items a source firm would attempt to influence. Likewise, the five factors extracted from the role performance scale appear to be items on which a target firm would expect a high degree of performance on the part of a source firm.

## Results

### Investigation of the Propositions

As was stated in the "Hypotheses and Propositions" section, the propositions were presented only to summarize the relationships among the three constructs included in the study. The investigation of the propositions utilized Pearson correlation analysis (Table 3). As expected, the availability of alternatives measure ( $Z_1$ ) was found to be significantly and negatively correlated with two of the three attributed influence measures ( $Y_1, Y_2$ ). This provides some empirical verification that the con-

struct is tapping a dimension of power and provides support for proposition 1.

The second proposition posited a negative relationship between the availability of alternatives measure and the role performance measures. The correlation of the availability of alternatives measures ( $Z_1$ ) with each of the unweighted role performance measures ( $X_{1u}, X_{2u}, X_{3u}, X_{4u}, X_{5u}$ ) revealed two significant correlations ( $X_{1u}$  and  $X_{2u}$ ), both in the expected direction. Three weighted role performance measures ( $X_{2w}, X_{4w}, X_{5w}$ ) exhibit a statistically significant ( $p \leq 0.05$ ) correlation with the availability of alternatives measure ( $Z_1$ ); however, the latter two were in the opposite direction of what was expected. Although no theoretical justification exists for either the weighted Advertising ( $X_{4w}$ ) or the weighted Credit Policies measure ( $X_{5w}$ ) to exhibit this problem, the corresponding unweighted measures ( $X_{4u}$  and  $X_{5u}$ ) offered some insight. In both cases, although the relationship between the unweighted Advertising and Credit Policies measures and the availability of alternatives measure was still opposite to the direction hypothesized, the relationships are nonsignificant which lends some evidence to the notion that there may be a spurious relationship between the importance weights for these measures and the availability of alternative variable ( $Z_1$ ). Thus, proposition 2 received tentative support.

Finally, Table 3 also identifies the correlations between the

**Table 3.** Intercorrelation Matrix for Observed Variables<sup>a</sup>

		$y_1$	$y_2$	$y_3$	$x_{1u}$	$x_{2u}$	$x_{3u}$	$x_{4u}$	$x_{5u}$	$x_{1w}$	$x_{2w}$	$x_{3w}$	$x_{4w}$	$x_{5w}$	$z_1$
Attributed influence measures															
Marketing policies	$y_1$	1.00													
Ordering policies	$y_2$	.79 <sup>b</sup>	1.00												
Pricing policies	$y_3$	.62 <sup>b</sup>	.65 <sup>b</sup>	1.00											
Unweighted role performance measures															
Field support (u)	$x_{1u}$	.25 <sup>b</sup>	.11	.07	1.00										
Customer services (u)	$x_{2u}$	.24 <sup>b</sup>	.12	.01	.48 <sup>b</sup>	1.00									
Product development (u)	$x_{3u}$	.11	.05	.01	.42 <sup>b</sup>	.43 <sup>b</sup>	1.00								
Advertising (u)	$x_{4u}$	.06	-.13	.01	.21 <sup>c</sup>	.11	.19 <sup>d</sup>	1.00							
Credit policies (u)	$x_{5u}$	.14	.09	.16 <sup>d</sup>	.29 <sup>b</sup>	.29 <sup>b</sup>	.32 <sup>b</sup>	.11	1.00						
Weighted role performance measures															
Field support (w)	$x_{1w}$	.24 <sup>b</sup>	.17 <sup>c</sup>	.07	.86 <sup>b</sup>	.41 <sup>b</sup>	.27 <sup>b</sup>	.12	.31 <sup>b</sup>	1.00					
Customer services (w)	$x_{2w}$	.25 <sup>b</sup>	.23 <sup>b</sup>	.10	.48 <sup>b</sup>	.89 <sup>b</sup>	.37 <sup>b</sup>	.09	.26	.52 <sup>b</sup>	1.00				
Product development (w)	$x_{3w}$	.16 <sup>d</sup>	.10	-.03	.31 <sup>b</sup>	.34	.72 <sup>b</sup>	.04	.25	.33 <sup>b</sup>	.41 <sup>b</sup>	1.00			
Advertising (w)	$x_{4w}$	.21 <sup>d</sup>	.03	.12	.15 <sup>d</sup>	.09	.11	.64 <sup>b</sup>	.29 <sup>b</sup>	.21	.24 <sup>b</sup>	.100	1.00		
Credit policies (w)	$x_{5w}$	.12	.13	.20 <sup>c</sup>	.21 <sup>b</sup>	.19 <sup>d</sup>	.15	.06	.69	.35 <sup>b</sup>	.31	.30 <sup>b</sup>	.36 <sup>b</sup>	1.00	
Availability of alternatives	$z_1$	-.19 <sup>d</sup>	-.23 <sup>c</sup>	-.00	-.18 <sup>d</sup>	-.30 <sup>b</sup>	-.09	.10	.08	-.07	-.20 <sup>d</sup>	.07	.25 <sup>c</sup>	.26 <sup>c</sup>	1.00

u = unweighted, w = weighted

<sup>a</sup> All decimal points have been deleted except where noted

<sup>b</sup>  $p < 0.001$

<sup>c</sup>  $p < 0.01$

<sup>d</sup>  $p < 0.05$

three attributed influence measures and the weighted and unweighted role performance measures that allows for a test of the third proposition. Comparing the correlations shown for the unweighted role performance measures versus their corresponding weighted counterparts ( $X_{1u}$  versus  $X_{1w}$ ,  $X_{2u}$  versus  $X_{2w}$ ,  $X_{3u}$  versus  $X_{3w}$ ,  $X_{4u}$  versus  $X_{4w}$ ,  $X_{5u}$  versus  $X_{5w}$ ) indicates that the weighted role performance measures consistently exhibited higher correlations with the three attributed influence measures ( $Y_1$ ,  $Y_2$ , and  $Y_3$ ). Specifically, for 12 of the 15 correlations compared, the weighted role performance correlations with attributed influence were higher than the unweighted role performance correlations. In addition, only three of the 15 correlations between the unweighted role performance measures and the three attributed influence measures were statistically significant ( $p \leq 0.05$ ), whereas seven of the correlations between the weighted role performance measures and the three attributed influence measures were statistically significant ( $p \leq 0.05$ ). Thus, proposition 3 was supported.

### Tests of the Hypotheses

Hierarchical regression was used to test the hypotheses. Hierarchical regression is the multiple regression equivalent of partial correlation analysis. The method allows for an assessment of the incremental increase in the explained variance of a dependent variable that is explained by the successive addition of sets of independent variables (in this case the role performance measures and the availability of alternatives measure) where the variance explained by previously entered variables is "partitioned out" (Cohen and Cohen, 1975, p. 367).

In the current study, the hierarchical regression analysis was performed by first sequentially entering each of the five unweighted role performance measures into regression equations which employed the three measures of attributed influence as dependent variables (see Step 1, Table 4). Next, each of the five weighted role performance measures were entered into the regression equations (see Step 2, Table 4). Finally, the availability of alternatives measure was entered into the regression equations (see Step 3, Table 4). Thus, the incremental amount of variance explained by the addition of the unweighted and weighted role performance measures as well as the availability of alternatives measure can be assessed. The results of the hierarchical regression are presented in Table 4.

The first hypothesis investigates whether weighted role performance measures will explain significantly more variance in the attributed influence measures than unweighted measures. The results indicate that for each of the three power constructs (marketing programs, ordering policies, and pricing policies), weighted role performance dependency measures did explain a statistically significant ( $p \leq 0.05$ ) amount of incremental variance in power when compared to unweighted measures (see Table 4, Step 2-Step 1 Incremental Difference). Therefore, the finding provides additional and more conclusive evidence to support the tentative findings reported by Frazier (1983) concerning the superiority of weighted measures.

The second hypothesis proposes that the weighted role performance measures of power/dependence adequately account for the "availability of alternatives" dimension of dependence. When the availability of alternatives was compared to the im-

**Table 4.** Hierarchical Regression Results

Independent Variables	Dependent Variables <sup>a</sup>								
	Marketing Policies			Ordering Policies			Pricing Policies		
	Beta	R <sup>2</sup> Change	ΔR <sup>2</sup>	Beta	R <sup>2</sup> Change	ΔR <sup>2</sup>	Beta	R <sup>2</sup> Change	ΔR <sup>2</sup>
Step 1: Role performance (unweighted)									
Field support	18 <sup>c</sup>	07		12	02		13	01	
Customer services	14	02		04	00		-09	00	
Product development	-01	00		02	00		-04	00	
Advertising	00	00		-18 <sup>c</sup>	03		-02	00	
Credit policies	08	00	09	06	00	05	18 <sup>c</sup>	03	04
Step 2: Role performance (weighted)									
Field support	01	00		01	01		-24	00	
Customer services	-14	01		67 <sup>c</sup>	07		66 <sup>c</sup>	07	
Product development	05	01		-09	00		-28 <sup>c</sup>	02	
Advertising	06 <sup>c</sup>	03		-02	00		10	00	
Credit policies	28	00	14	01	00	13	13	01	15
Step 3: Availability of alternatives									
Resistance <sup>b</sup>	-10	01	15	-24 <sup>c</sup>	04	17	-04	00	15
Step 3-Step 2 (Incremental difference)			01			04			00
Step 3-Step 1 (Incremental difference)			06 <sup>c</sup>			12 <sup>c</sup>			11 <sup>c</sup>
Step 2-Step 1 (Incremental difference)			05 <sup>c</sup>			08 <sup>c</sup>			11 <sup>c</sup>

<sup>a</sup> All decimal points have been deleted

<sup>b</sup> The hypothesized relationship between the availability of alternatives measure (resistance) and power is negative (or inverse). That is, as resistance increases, the attractiveness of that alternative increases and therefore the power of the firm in question should also increase.

<sup>c</sup>  $p < 0.05$



importance weighted role performance measures, the "availability of alternatives" measure was unable to explain a statistically significant ( $p \leq 0.05$ ) amount of incremental variance in power (see Table 4, Step 3-Step 2 Incremental Difference). In other words, the addition of the availability of alternatives measure was unable to explain a statistically significant ( $p \leq 0.05$ ) amount of additional variance in any of the three power constructs (marketing, programs, ordering policies, and pricing policies). The results, therefore, indicate that the availability of alternatives measure did not significantly contribute to the explanation of power in this study.

## Discussion

The result of this study suggest that role performance measures can account for both the motivational investment and availability of alternatives dimensions of dependence. Because the addition of the availability of alternatives measure (the resistance index) did not make a statistically significant ( $p \leq 0.05$ ) contribution to the explanation of power, it can be concluded that either the dimension (availability of alternatives) was already accounted for, or that the measure (the resistance index) did not adequately reflect the construct (availability of alternatives). Conceptually, the second explanation does not appear justified. The correlation analysis discussed earlier also does not appear to support the latter explanation. Therefore, the results reported tend to support Frazier's (1983) contention that the two dimensions of dependence (motivational investment and the availability of alternatives) are interrelated and both are accounted for by role performance measures of dependency.

The research findings also support Frazier's (1983) preliminary contention that importance weights should be used in role performance dependence variables. Previous research that did not find importance weights to contribute to the explanation of power-dependence relationships within marketing channels did not use role performance-based measures of dependence (cf. Lusch and Brown, 1982). Perhaps "attributed influence" or "index of influence" measures implicitly incorporated importance weights; that is, attributing influence to someone appears on face to suggest that "influence" (power) exists. Role performance is simply a measure of how well a task is performed. If the task is unimportant, there would appear to be no reason to believe that successful performance of the task creates "influence" or power. Thus, importance weights might realistically take on greater importance in the measurement of power-dependence when the role performance approach is used.

In addition, the research findings seemed to suggest that the importance weights may incorporate some of the variance explained by the "availability of alternatives". The result suggested that in two of the three power dimensions (ordering policies and pricing policies), the addition of the availability of alternatives measure to the unweighted role performance measures explained a significant amount of incremental variance in the power construct (see Table 4, Step 3-Step 1 Incremental Differ-

ence). Conversely, the addition of the same variable to the importance weighted role performance measures did not result in the explanation of a significant ( $p \leq 0.05$ ) amount of incremental variance in any of the dimensions of the power construct (see Table 4, Step 3-Step 2 Incremental Difference). While this was only weak evidence of a link between importance weights and the "availability of alternatives" dimension of dependency within the role performance measurement approach, it provided adequate justification to call for additional research.

## Limitations of the Study and Future Research Directions

One of the limitations of the study is that data were available from only the distributor. For channels research to advance, researchers must begin to investigate channel relationships from both sides of the dyad (cf. Anderson and Narus, 1990). In addition, the use of one manufacturer-distributor network somewhat limits the generalizability of the results. Finally, consumer as well as industrial channels should be included in future research.

This report points out the need for thorough and systematic research into the issues surrounding the measurement of channel power. The relative efficacy of the different approaches to measuring power (dependency, attributed influence, and economic-based measures) needs to be compared to determine their contextual and conceptual relevance. Although the literature seems to be moving away from assessing ways to measure such basic channel constructs as power (McAlister, Bazerman, and Fader, 1986; Gaski and Nevin, 1985), serious questions surrounding these basic issues remain to be resolved.

This would appear to be especially true since, to some extent, the ability of channel researchers to advance the discipline in a substantive way has been hampered by our inability to accurately conceptualize and measure some of the complex constructs involved in channel activities. The research reported here is not excluded from this criticism. We oftentimes place more emphasis on "statistical significance" at the expense of "managerial significance." Accordingly, some of the "advances" made in our discipline are, from a managerial perspective, dubious at best.

Additional channels research is also needed to determine how channel structure, differences in the relative size of vendors and retailers, and alternative market structures (i.e., discrete versus relational exchange) affect the measurement of power. The situational context in which role performance, attributed influence, and economic-based measures of power are most appropriately used also has not been investigated. In addition, the ability of each of these measures of power to assist in the study of the relationship between power and conflict, as well as purchase intentions, has yet to be investigated. Such study is needed in order for the discipline to continue to advance.

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