

Examining Salesperson Characteristics and Activities of Field Sales Managers in Estimating Sales

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Abstract—Differences between salesforces in estimating sales results are examined by analyzing salesperson characteristics and activities of field sales managers. Salespeople who find estimating sales easier are more willing to take risks and have a higher sense of accomplishment from work. Their managers train, coach and help salespeople develop their potential more than the hard group. Discriminant analysis suggests that activities of sales managers are more important than the characteristics of salespeople. Hence, managers should move towards a more behaviour-oriented governance system where the focus is more on collaboration than commanding and should spend more time evaluating individual achievement levels with their salespeople.

Keywords—Sales estimates, salesperson's characteristics, sales activities, discriminant analysis.

I. INTRODUCTION

In many organizations, the ability to estimate sales is a crucial activity that impacts the planning process, firm profitability, investment decisions and salesforce morale. Without effective sales forecasting, not only will sales managers be unable to develop realistic sales plans for their territories, but the rest of the company will be unable to develop the financial, marketing, and operational plans necessary to support their sales plans [1]. Regardless of the type of industry, nature of the business such as manufacturer, wholesaler, retailer, or service provider, effective demand forecasting helps organizations identify market opportunities, enhance channel relationships, increase customer satisfaction, reduce inventory investment, eliminate product obsolescence, improve distribution operations, schedule more efficient production, and anticipate future financial and capital requirements [2]. Underestimating sales causes shortages leading to customer dissatisfaction. Overestimating sales increases inventory costs and lowers morale among salespeople, especially if they are paid commissions based on quotas [1].

In spite of the recent advances in forecasting techniques and the wide availability of computers, most sales estimates are still forecasted judgmentally [3]-[5]. Quantitative time-series techniques are capable of forecasting trends and seasonal patterns in data but have limited ability to consider contextual information (also called exogenous or external variables) such as price changes, activities of competitors and introduction of new products into consideration, [6]. Regression analysis makes it possible to account for contextual factors but the complexity of the method and its significant data requirements limit its use [7].

The biggest shortcoming of most sophisticated quantitative forecasting methods is that they assume the future will be an extension of the past and have limited ability in predicting changes in the environment and the behaviour of customers [8]. Since complex forecasting methods do not always improve forecast accuracy, it is important to use managerial judgment to improve the accuracy of forecasts [9]. Surveys conducted by [10] and [11] have demonstrated that judgment is the most important method of practical sales forecasting.

In spite of the detractors of using judgmental forecasting techniques [12], [13], authors such as [14]-[16] have shown that judgmental forecasts using contextual data can, in fact, be significantly more accurate than quantitative forecasts. Reference [17] concludes that access to contextual information appear to be the prime determinant of judgmental superiority over statistical methods. Reference [18] contends that judgmental forecasting can add significant value to the forecasting process in such cases.

One important source of judgment about how the future might be different from the past is a company's salesforce [1]. Studies have shown that between 62% and 71% of firms use the salesforce composite approach regularly [19]. Salespeople are more in touch with the customer than forecasters and have a better idea of their future purchase intentions [20]. As a result of interaction with their customers, salespeople become aware of the changes in historical demand patterns [1].

Undeniably, information gathered by the salesforce can be an important component of a marketing information system [21] and enhance the ability of the managers to incorporate sound judgement into sales estimates. By virtue of their special role as boundary-spanners, salespersons are in an excellent position to garner external information and transfer it to their organization [22]. In some instances, the salesforce can provide information about the marketing environment that is unavailable by other means. Salespeople play a key role by providing significant information to executives in the case of top-down approach and are the vital players when the bottom-up approach is used. The latter is commonly known as the salesforce composite approach where salespeople "formulate estimates of future revenues of their respective territories. These estimates are then added together to prepare an aggregate forecast" [23]. Hence, examining the variables that may explain the competency of salespeople in estimating sales is helpful in enhancing firm success. Our exploratory study seeks to gain insights regarding the differences between more and less proficient salesforces in estimating sales results by

analyzing salesperson characteristics and activities of sales managers.

A. Salesperson Characteristics

Studies examining the behavior and the effectiveness of salesforces have included salesforce characteristics and have found these characteristics to be significant [24]-[28]. In this exploratory study, we include salesperson characteristics such as professional competence, risk aversion, motivation, planning and team orientation, sales support orientation and customer orientation (Table 2). We expect to discover if there are any significant differences based on these characteristics between salesforce that find estimating sales to be relatively easy and hard. In particular, we anticipate salesforces that find estimating sales easy to take risks and be more willing to accept direction and authority [1]. On the other hand, challenging sales situations attract learning oriented salespeople who are not overly apprehensive about making a mistake. Based on [24], we also expect the easy group to be more sales support oriented. The characteristics that might be significant would be helpful in selecting and training salespeople who are expected to contribute to estimating sales actively.

II. METHODOLOGY

Data was gathered by surveying first-level field sales managers regarding many aspects of sales management and company characteristics including salesperson's characteristics and sales activities of managers. Letters of invitation were sent to approximately 250 firms included among the one thousand largest Canadian companies after eliminating those that do not normally have a salesforce, such as mining and forestry firms. Surveys were sent to the firms that agreed to participate with directions to mail the completed surveys directly to the author. The surveys carried no means of identification and confidentiality of responses was assured. Respondents were also promised a copy of the summary results to entice them to participate. In our experience, this approach appears to have created much interest when conducting surveys with businesspeople and the willingness to participate might have been lower otherwise. The data for this exploratory study is based on the perceptions of 118 field sales managers. The sample size and convenience sampling undeniably limits the representativeness and generalizability of the findings. Therefore, our analysis is restricted to exploring relationships between the constructs within the companies studied in Canada.

These are larger Canadian firms as suggested by the fact that 60 percent feel their market share is larger than their nearest competitor and 70 percent carry a full product line with relatively broad market coverage. The field sales managers who responded have an average of 17 salespeople reporting to them and have been in that position on average for 4.5 years. They supervise salespeople who derive approximately 73 percent of their incomes from base salary and the rest from commissions and bonuses. The typical compensation plan suggests that these are not the 'sink or swim' type of salesforces. Therefore, they should have a keen interest in monitoring salespeople and requiring non-selling activities, such as estimating sales.

The data for this study has been collected by means of a survey based on [24], which has been used as part of an international research program to examine various sales management issues in the US, the UK, Australia and Austria in addition to Canada. The findings that are reported here are based on selected dimensions of the larger research instrument that contained many other dimensions of sales management governance systems. The expertise of the salesforce in estimating sales as perceived by their field sales managers is measured using a 7-item scale (Table 1) anchored by 1 (strongly agree) to 7 (strongly disagree). Salesperson characteristics and activities of field sales managers are both measured using a 10-item scale anchored by 1= (not at all) to 10= (to a great extent) based on [24].

We tested for non-response error by examining the differences between the early and late respondents on three different sets of measures [29]. This analysis yielded no significant differences ($p = 0.05$) between the early and late respondents suggesting that non-response bias is not a problem in this study.

The first step in our analysis is to use cluster analysis to separate the firms into two groups comprising easy versus hard (i.e., lower levels of success) in estimating selling results using a 7-item scale. Then, we identify salesperson characteristics and sales activities that are significant between the two groups. The third step is to identify which significant variables from the previous step are needed to correctly reclassify the two groups based on proficiency in estimating selling results.

III. CLUSTER ANALYSIS: FORMATION OF GROUPS

Cluster analysis based on the seven statements regarding estimating sales separated the sample into two groups comprised of those who found estimating sales to be relatively easy ($n = 61$) and hard ($n = 57$). The average responses of the two groups based on estimating sales are presented in Table 1.

The differences between the two groups are not explained by company characteristics such as number of salespeople, company size, sales growth or industry type. These findings make investigation of other plausible factors that explain the differences between the easy and the hard group more meaningful. However, group differences regarding sales estimates are very significant for six of the seven statements. While there are no differences between the two groups in terms of estimating the time it takes to make a sale, they exhibit significantly different characteristics in terms of their ability to estimate and influence sales. As expected, the group that finds estimating sales to be hard find a weaker relationship between hard work and sales. They also find a weaker relationship between sales and their skill and efforts in generating sales. It is not surprising that salespeople who see a weaker relationship between their own efforts and sales find estimating sales to be relatively more difficult. Those who find estimating sales to be easier disagree that sales are beyond their control which is consistent with their perception of the influence of hard work and skill on generating sales. This is consistent with the behavioural performance construct where the activities of salespeople are more closely monitored by their managers [28]. However, the behavioural orientation does require having sales managers who are prepared to go

beyond the conventional command and control approach and demands good skills to communicate and interact with the salesforce.

The easy group disagree with the hard group that they do not know how much more they could sell. Not surprisingly, this confidence in influencing sales and having a sense of the relationship between sales and their effort enables the easy group to feel significantly more confident about forecasting sales accurately. This seems to be an improvement over the findings of [30] who indicated that 38% respondents felt their salesforces neither over- nor under-stated their forecasts. It appears that the easy group does not just have more expertise but they are also more confident and prepared to make more accurate sales estimates. This is contrary to the findings of [1] who claim that when companies get salespeople to forecast, they tend to do a relatively poor job. They observe that the most common form of game playing results from salespeople's perception that forecasts and quotas, hence commissions, are intermingled. Reference [3] observes that the "sales function always wants the sales forecast to be understated to ensure they will make bonus; the marketing function strives to overestimate the sales forecast in order to increase their allocated marketing funds".

TABLE I GROUP CHARACTERISTICS

Estimating Selling Results	Easy	Hard
Relation between hard work and sales (**)	2.14	2.80
Sales determined by their skill and efforts (*)	2.22	2.56
They can forecast accurately (**)	2.75	3.96
Sales are beyond their control (**)	5.10	3.88
Difficult to predict sales (**)	5.22	3.61
Do not know how much more they could sell (**)	5.45	3.35
Know how many hours are needed to make a sale	2.96	3.02

(**) p = .000, (*) p = .03. 1 = Strongly Agree, 7 = Strongly Disagree

IV. DIFFERENCES IN SALESFORCE CHARACTERISTICS

All but two of the salesforce characteristics are not significant (Table 2). The two significant statements are "willingness to take risks" and "sense of accomplishment from work". Willingness to take risks is directly related to preparing or providing input to sales forecasts due to the nature of the task. Previous research [31] suggests that salespeople who are high performers are likely to be more innovative, creative and are more willing to take risks. Some salespeople may be more risk averse than others either by their nature or are encouraged by their supervisor's positive and tolerant behaviour in estimating sales.

Further analyses indicated that for the easy group, there is a significant correlation ($r = .30$, $p = .01$) between the amount of direction provided and willingness to take risks. Likewise, there is a significant correlation ($r = .30$, $p = .01$) between sense of accomplishment and coaching for this group. On the other hand, for the hard group the amount of time spent selling rather than coaching and directing by the sales manager is

negatively correlated with taking risks ($r = -.45$, $p = .01$) and with having a sense of accomplishment from work. ($p = -.30$, $r = .01$). This is consistent with the outcome-based control systems where salespeople are not given much specific direction by managers, are not closely supervised, and are compensated based on their sales outputs [32] rather than for performing non-selling activities.

TABLE II CHARACTERISTICS OF SALESPEOPLE

Salesperson Characteristics	Easy	Hard
Willing to accept direction	8.29	8.16
Cooperate as a team	8.42	8.24
Accept your authority	8.42	8.30
Welcome performance reviews	7.78	8.04
Spend time planning sales calls	6.85	6.76
Perform non-selling activities	6.94	6.92
Perform sales support activities	7.67	7.66
Focus on Customer needs	8.12	8.36
Customize selling approach	7.75	8.06
Possess expert selling skills	7.25	7.28
Have product knowledge	7.85	7.60
Willing to take risks (*)	7.06	6.50
Sense of accomplishment from work (*)	8.12	7.72
Sense of growth	7.73	7.39
Feeling of stimulation and challenge	7.88	7.59
Respect from supervisors	8.13	7.86

(*) p = .10. 1 = Not at all, 10 = To a great extent

In our sample, there is also a significant difference between the two groups based on percentage of compensation earned through salary versus commissions. The percentage of base salary for the easy group is 72% versus 83% for the hard group. The fact that those earning higher levels of commission (28% versus 17%) find estimating sales easy is contrary to the expectation that salespeople whose compensation plans contain higher levels of commission might be less involved in forecasting. Since many salespeople consider time spent on forecasting as time taken away from their real job of selling [1], we would have expected those with higher base salaries to allocate more time to forecasting and find it easier. However, salespeople with lower base salaries may have been asked to have more involvement in estimating sales as part of their quotas and commissions and may, therefore, have more experience in forecasting. Reference [33] observes that in effective salesforces there is typically an incentive payment in the 5-25 per cent range with a significantly lower percentage in less effective sales organizations. They conclude "the most effective sales organizations offer the security of a high fixed salary component, but at the same time they also exploit a significant element of incentive payment". In an earlier study, reference [30] found that there is a tendency for salesforces working under either straight salary or straight commission to

participate more than other salesforces in the forecasting process. It appears that the impact of compensation plans on the sales forecasting behaviour of salespeople requires further research.

The easy group exhibits a higher sense of accomplishment in their work that might be the result of higher levels of confidence as suggested by their group characteristics compared to the hard group. Indeed, reference [34] has found that salespeople who perceive themselves to be competent will behave more independently and project this confidence into their work resulting in greater success.

V. ACTIVITIES OF SALES MANAGERS

The 25 statements included under activities of sales managers are grouped under monitoring (8 variables), directing (5 variables), evaluating (5 variables) and rewarding (7 variables). The Cronbach alphas and the group means are presented in Table 3. The Cronbach alpha values for monitoring (.78), directing (.83) and rewarding (.85) are excellent with an acceptable value of .63 for evaluating.

TABLE III ACTIVITIES OF SALES MANAGERS

Statement	Easy	Hard
Monitor (ns)		
1. Spend time with salespeople	6.38	5.94
2. Make joint calls	6.63	5.94
3. Review call reports	7.52	6.88
4. Monitor daily activities	5.56	5.92
5. Observe field performance	7.19	6.98
19. Pay attention to the extent to which salespeople travel.	6.46	6.56
20. Closely watch salespeople's expense accounts.	6.37	6.66
21. Pay attention to the credit terms that salespeople quote.	6.16	6.12
Direct - MANOVA ($p = .004$)		
7. Train salespeople on the job ($p = .04$)	7.15	6.28
8. Spend time coaching salespeople ($p = .02$)	7.44	6.63
9. Discuss performance evaluations	7.45	7.42
24. Help salespeople develop their potential. ($p = .001$)	8.27	7.45
15. Provide performance feedback regularly.	7.73	7.48
Evaluate - MANOVA ($p = .002$)		
10. Evaluate the number of sales calls made by salespeople.	5.31	5.74
11. Evaluate profit contribution individually. ($p = .016$)	5.80	4.52
12. Evaluate the sales results of each salesperson. ($p = .004$)	8.37	7.28
	7.50	6.50
	7.38	7.04
13. Evaluate the quality of sales presentations.		
14. Evaluate the professional development of salespeople.		
Reward (ns)		
6. Encourage sales by rewarding achievements	6.69	6.67
16. Base compensation on the quality of their sales activities.	6.44	5.98
	6.17	5.66
17. Use incentive compensation as the major means for motivating salespeople.	6.31	5.69
18. Pay incentive compensation based on sales results.	6.60	6.50
22. Reward salespeople based on their sales results.	6.35	6.67
23. Use non-financial incentives to reward salespeople.	6.04	5.68
25. Compensate salespeople based on their sales activities.		

1 = not at all, 10 = to a great extent. 1 = Not at all, 10 = To a great extent

We conducted MANOVA analysis to determine whether monitoring, directing, evaluating and rewarding are significant followed by univariate tests to identify the significant statements individually as presented in Table 3.

There are no differences between the two groups regarding monitoring and rewarding. However, activities of managers in directing and evaluating are significant. Managers of the easy group appear to train, coach and help their salespeople to develop their potential more than the hard group. For the easy group, the correlation between coaching and how much they will sell ($r = .52$), predicting sales ($r = .49$) and level of sales if they worked harder ($r = .41$) are particularly significant ($p = .01$). They also spend more time discussing and evaluating the profit contribution and the sales results of the salespeople one-on-one beyond simply looking at the quantitative results. This suggests more of a behaviour orientation based on the argument [32] that behaviour-based control systems rely more on in-depth sales manager monitoring, directing, evaluating and rewarding salespeople, while outcome-based control systems rely on simply measuring salesperson outcomes.

VI. PREDICTING GROUP MEMBERSHIP: DISCRIMINANT ANALYSIS

Next, we conduct discriminant analysis to identify the variables that will best reconstitute the two groups. Specifically, we include the salesforce characteristics willing to take risks and sense of accomplishment from work, three directing statements training, coaching and helping to develop their potential as well the two evaluating statements regarding profit contribution and sales results. We used forward stepwise discriminant analysis with these seven variables and cross-validated the results using the leave-one-out procedure.

Stepwise forward discriminant analysis (Table 4) with seven variables included "help develop their potential" followed by "evaluate the sales results of each salesperson".

TABLE IV

STEPWISE DISCRIMINANT CLASSIFICATION MATRIX

	Estimated Easy	Estimated Hard	Correctly Classified
Actual Easy	45	16	73.8%
Actual Hard	14	43	75.4%

Overall classification: 74.6%

The hit ratio of 74.6% compares very favourably against the chance criterion of 50.5% indicating that the two variables represent discriminating power well beyond what might occur due to chance. We also ran discriminant analysis with all seven variables and obtained an overall hit ratio of 78.8% with classifications of 78.7% and 79% for the easy and hard groups, respectively. Given the 4% marginal improvement of the seven variable classifications, the discriminating power of the two variables is excellent.

Both of the variable that entered the stepwise function represent activities of managers. The first variable to enter the discriminant function is related to directing and the second is associated with evaluating. Neither of the two significant salesperson characteristics variables entered the function. This suggests that while there are some highly desirable salesperson

characteristics, such as taking risks, the managerial approach of the sales manager is more important in shaping the way salespeople approach estimating sales. If either one of these two variables is taken out of the stepwise discriminant analysis “willingness to take risks” would enter the discriminant function. However, this would reduce the hit ratio by approximately 5%.

VII. CONCLUSIONS

This exploratory research has identified several salesforce characteristics that might be useful at estimating sales. The differences are quite significant and can be used as benchmarks by other firms both to evaluate their own managerial practices and to appraise whether their emphasis is consistent with the practices of the more successful firms. Most notably, salesforces who are better at estimating sales do not come from a specific industry that has been spared the economic or competitive pressures experienced in the current environment. Differences between easy and hard groups are summarized next.

A. Characteristics of Salespeople

There are no significant differences between the two groups in our sample in terms of characteristics such as product knowledge, expertise or their relationship with sales managers. However, there are differences in terms of willingness to take risks and obtaining a sense of accomplishment from their work. Risk taking is directly related to providing sales estimates. However, the relationship between sense of accomplishment in their work and estimating sales seems to be more complicated involving other indirect influences.

B. Activities of Sales Managers

While the differences in monitoring and rewarding are not significant, directing and evaluating activities influence the differences between the easy and hard groups. Five of the ten specific statements under monitoring and evaluating that are significant include discussing sales and profit contribution with sales people individually. Coaching, training salespeople and helping them to develop their potential also appear to enhance the willingness and the ability to make sales estimates. In fact, developing their potential and evaluating sales results individually are sufficient to correctly re-group nearly three-quarters of the respondents in this sample.

VIII. MANAGERIAL IMPLICATIONS

According to the sales managers in our sample, the biggest difference between the two groups in Table 1 is difficulty in predicting sales (Easy = 5.22, Hard = 3.61). However, it is not easy to get salespeople involved in forecasting since many salespeople consider time spent on forecasting as time taken away from their real job of selling [1]. Results of discriminant analysis suggest that activities of sales managers are more important than the characteristics of salespeople. Hence, managers should move towards a more behaviour-oriented governance system where the focus is more on collaboration than commanding and should spend more time evaluating individual achievement levels with their salespeople. If salespeople do not perform in line with expectations, sales

managers will coach them in various ways to improve performance [28]. Helping salespeople develop their potential through close personal contact and discussions of sales achievements rather than merely emphasizing sales results seems to be very important. Furthermore, managers might wish to help salespeople become less risk averse by accepting the occasional failure as being normal. On the other hand, salespeople's achievements need to be acknowledged and rewarded in both financial and non-financial ways to enhance their sense of accomplishment and to motivate them. Motivational problems are often aggravated by the lack of forecasting incentives as salespersons are seldom rewarded for producing accurate forecasts [35]. As suggested by [1], it is important to establish that sales forecasting is part of their job and is valued by management. While motivating and rewarding are important, providing salespeople with an understanding of how sales estimates are used and training to give them the basic tools to enhance their ability to actually prepare helpful estimates is also crucial.

IX. LIMITATIONS AND FUTURE RESEARCH

Like most other empirical studies, this exploratory study has limitations, which also provide opportunities for future research. First, we focused on only two constructs that influence sales estimates. In future studies, additional constructs which refer to organizational and/or environmental issues such as territory design and commitment should be incorporated. Second, we measured our constructs by a single method which might overstate the relationships in our study because of common method variance. Moreover, sales managers assessed their own activities as well as those of their subordinates. When using self-reported information some upward bias might be inherent in such data. Third, the data are cross-sectional in nature and hence it is difficult to establish causal relationships. Furthermore, our sample is a convenience sample drawn purposively to meet specific characteristics which restricts the ability to interpret results broadly and generalize them. Therefore, future researchers should seek to employ probability samples to avoid limited generalizability. As well, our sample may not have sufficient variance in the data due to its size, which results in conservative data analyses. A larger sample size will be desirable to overcome this limitation.

Our exploratory research utilized sales managers as the unit of investigation. Further insights in estimating sales might be obtained by investigating the perceptions of sales managers compared with their salespeople by contacting them directly. As noted under limitations, additional constructs and moderators might be included to increase the scope of future studies. Researchers should also pay particular attention to the non-significant variables to confirm the nature of their contribution in future studies. Hence, replications in culturally and economically different environments are important in expanding our understanding of the sales management field. While longitudinal studies to increase the reliability findings are highly desirable, this might not be practical given the small size of the sample and the response rate. Nevertheless, it would be useful to survey salespeople reporting to different managers in the same organization. Some of the

environmental variations, such as environmental turbulence, might be reduced by restricting the sampling frame to organizations in the same sector. However, we acknowledge the difficulty of obtaining a sufficiently large number of respondents in many countries with a limited number of eligible organizations, such as Canada. Understanding the crucial dimensions of sales management in an international context is necessitated by the need to be competitive globally [36], [37]. Since much of the research in sales management is based on findings in the US, a realistic balance must be struck between obtaining larger samples versus the desirability of broadening the relevance of sales management research by conducting research internationally. However, this often creates the problem of smaller samples in many countries compared to the larger economic base of the U.S.A.

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