1971

Image of the Diversified Lumber Products Company Wholesale Building Materials Division

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THE IMAGE OF THE DIVERSIFIED LUMBER PRODUCTS COMPANY WHOLESALE BUILDING MATERIALS DIVISION

by

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B.S., University of Montana, 1967

PROFESSIONAL PAPER

Presented in partial fulfillment of the requirements

For the degree of

MASTER OF BUSINESS ADMINISTRATION

UNIVERSITY OF MONTANA

1971

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June 1, 1971

Date

PREFACE

This paper illustrates the applications and limitations of marketing research theory in a practical research situation.

It is said that theory is soon forgotten and perhaps never fully understood until it has found practical application. I, as a practicing marketing research analyst, have had some particularly frustrating moments in reconciling theory to practice. As the field became more familiar, it became apparent the true value of a marketing researcher is his ability to subjectively evaluate all aspects of the research situation and apply such theory, whether it be gleaned from sociology, psychology or others, which is appropriate to obtain the maximum results with a minimum of uncertainty. Effective communication of the results to those individuals charged with marketing authority encourages the formulation of optimum marketing stradegy.

I wish to thank the committee chairman, Dr. Glenn Barth, for his comments, particularly concerning the need for theoretical support from contributors in the research field.

I also express appreciation to the firm for which the research was conducted for supplying the resources necessary to conduct a study of this magnitude.

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CHAPTER I

INTRODUCTION

Situation Analysis

The Diversified Lumber Products Company is primarily a producer of lumber. Lumber is a commodity approaching the perfect competitive model of Classical Economics. Supply is relatively inelastic in the short term, causing wide price fluctuations as a relatively elastic demand reacts to conditions of prosperity. Various other product lines have been added through integration of the forest resources in an effort to limit the impact of lumber price fluctuations.

Forest industry leaders are integrating their companies vertically and horizontally in an effort to gain the highest return through manufacture of finished and semi-finished products. Value added through manufacture serves as a buffer to price fluctuations. Diversification is the key to profits in an industry where the wide price fluctuations of lumber have traditionally made forecasting and budgeting very difficult. Multiple utilization of timber and other resources acquired through merger and acquisition has given the industry innovators firm entrenchments in new markets, thereby developing semi-captive markets for the original lumber commodity.

Diversified Lumber Products Company Wholesale Building Materials Division was the subject of an assigned marketing research project. The results of the actual study have been substantially altered for the purposes of this paper in order to ensure confidentiality.

The wholesale division is a supplier of building material products to retailers widely scattered throughout Montana and northern Wyoming. Its function is to serve as a semi-captive outlet for lumber, service company owned retail outlets, service competitive retail outlets, and provide an adequate return on investment. The wholesale operation was acquired in 1963 through purchase of an existing facility rather than creation of a new wholesale operation within the state. The customer mix includes many clients developed under the old ownership.

The wholesale division has unique marketing problems. Their customers are almost exclusively retail building materials dealers. The service priorities of these retailers are set by contractors, small builders, and "do-it-yourselfers" which make up the consumer mix. The service priorities of these firms vary as to location and size. Those service items assigned the highest priorities by the dealers should be performed the most effectively by the wholesale division.

Scope of Research

The management of the wholesale division in conjunction with the general manager of Diversified Lumber Products expressed interest in measuring the attitudes of a retailer consensus toward the wholesale operation. Management stated this in the form of "image awareness". It was hypothesised that the size of a retailer and the importance of various services together with the success of the wholesale operation in meeting them were related.

CHAPTER II

PRELIMINARY INVESTIGATION

Problem

The nature of the research request did not indicate the presence of a problem. The research was to be exploratory. If problems existed they would be identified and measured in the research process.

Population

The population was defined as 172 retail firms comprising the wholesale patronage. Upon examination of the characteristics of the population, it was apparent firms could be stratified by size (synonymous with sales potential for Diversified Lumber Products), volume (synonymous with amount presently purchased from Diversified Lumber Products, and geographic location (a given salesman's territory).

Plotting the population upon a geographic frame, revealed wide area dispersion of the customers. It was immediately apparent the costs of personal interviewing a random sample would be prohibitive.

Feasibility of Measuring Retailer's Attitudes

In-depth interviews with D.L.P. management and salesmen revealed that the image of a wholesale building materials firm was highly dependent upon its ability to service retail accounts. The reduction of all criteria to service items and their subsequent presentation to a representative sample for evaluation should provide an excellent measure of the retailer's attitudes toward D.L.P. A review of marketing

textbooks and building material-oriented periodicals would indicate those service criteria applicable to the wholesale operation.

Objectives and Constraints

The objective of the marketing research study was to provide a measure of the image of the wholesale division through comprehensive evaluation of its competitive stance and service to its customers.

The study was to be exploratory in nature. All items measured were to allow the respondent freedom to emphasize points of particular interest, thereby adding subjective weight to survey results.

Costs of execution of the study were not stipulated, though the impression was clear that optimum results at a minimum cost would determine the nature of future research requests.

CHAPTER III

SAMPLE DESIGN

Rationale for Non-Probability Sample

Theory and Practice

The major obstacle to a successful marketing research study under the conditions of this research situation would appear to be establishment of a representative sample through application of probability sampling theory. It is at this point that marketing research departs from the stigma of a scientific discipline to that of an art. Subjective judgement is required in reconciling theory to the research situation.

Eminent authorities maintain that probability sampling selection is required whenever the information is of importance. The following are examples:

> Only by using probability methods can objective numerical statements be made concerning the precision of results...Hence, when the information to be obtained is of real importance, it will be desirable to choose methods based on the use of the theory of probability.[1]

> Probability sampling is the only sampling method that provides estimates which are essentially unbiased and have measureable precision.[2]

The fallacy of the above is that an objective probability statement about the accuracy of an estimate of the population through sampling is very unlikely since probability theory centers on measurement of sampling error only. The possible sources of error in the process of acquiring a sample of the population can be termed measurement, non-response, process, frame, and randomness. Only the latter is measured

by sampling error. All others are non-sampling errors.[3]

Measurement Error

A respondent may not report his true answer due to ignorance, unwillingness, or a lack of understanding of what information is to be measured.[4]

Non-Response Error

The respondent and the non-respondent may be highly variable for the information being measured.[5]

Sampling Process Error

Unless the weights used in adjusting the sample average are based upon correct data, the probability sample will have sampling process error.[6]

Frame

Frame error occurs due to variance between the average true value in the sampling frame and the true population value. If the frame is poorly defined in a probability sample, frame error will follow.[7]

Randomness

Random error is not necessarily greater in a quota sample than in a probability design. A larger quota sample can be obtained at a lower cost and it may be more effectively stratified. Also, for a judgement sample, the random sampling error is usually less than for a probability design.[8]

Subjective Evaluation

Practitioners generally concede that a researcher, for a given cost, should minimize uncertainty.[9] A combination of objective and subjective judgements of the accuracy of sample estimates is required. Since non-sampling error can only be measured subjectively the validity of the added expense of probability sampling in a given situation must be seriously considered. Unfortunately, non-sampling errors are typically

It has been postulated that Bayesian analysis could assign quantitative weights based upon subjective judgements of non-sampling error. With this criterion, probability and non-probability designs are comparable.[10]

The major concern is that a sample be representative of the population. Theorists state that selection of respondents must be random to ensure that the universe is properly represented. However, in practice even a probability sample is never exactly representative.[11]

"Most market research studies deviate to some extent from random methods." Following a stringent random procedure is very costly. If care is taken through subjective judgement to exclude procedures allowing unwanted bias, non-random procedures will not seriously affect the results.[12] "In most studies a simple random sample is either undesirable or impossible." Alternative sample designs such as systematic, clustered, stratified, and non-probability samples must be fit to the research situation.[13]

There is a gap in the literature between practitioner and theorist. An interesting paradox lies in the fact that the largest portion of marketing research is conducted through non-probability sampling designs though virtually no theoretical information is available.[14]

Industrial Marketing Research

The preceding discussion has emphasized that decision concerning sample design must follow the research situation. Technically, the research for D.L.P. could be interpreted as industrial marketing research. Since most research of this nature is conducted by a firm internally and the findings are confidential, research results rarely reach the journals.[15] Though only one textbook and few articles have been written on the subject its divergence from consumer research has implications for this study.

Consumer research involves mass raw data compiled in a statistical manner. Industrial research involves "assemblies" of chosen respondents, rather than statistically controlled drawings.[16] The population is normally stratified according to volume of product usage. "The skew distribution of industrial firms on any 'size of operations' axis...must be taken into account." Random sampling under these conditions is very inefficient.[17]

Area-Quota Sampling

Quota sampling, a non-probability form was selected as appropriate to the research situation. It is most frequently used by market researchers.[18]

"Quota sampling derives its name from the fact that the number of sample members, quota, from each stratum and for each interviewer is set in advance."[19] Samples in industrial marketing research are normally stratified according to volume of product usage.[20] A stratified sample will yield more accurate results through reduction of the sampling error.[21] This will compensate for sampling error introduced through non-random sample selection.

The efficiency of breaking a population into strata lies in the establishment of homogeneous parts. The more strata, the greater the increase in efficiency.[22]

The customers comprising the population were first stratified into the three sales territories. Within each territory they were further stratified as follows for a total of 12 strata:

1) Large potential, high volume
2) Large potential, low volume
3) Small potential, high volume
4) Small potential, low volume

The potential of a customer refers to size of operations based on yearly retail sales volume. The dividing point between a customer of large and small potential was established at $300,000 yearly sales. This was derived through subjective judgement of D.L.P. wholesale management and sales personnel.

The volume of a customer refers to the amount purchased from D.L.P. The dividing point between high and low volume was $7,400 for large potential customers and $2,700 for small potential customers. These volumes represent the median purchases from D.L.P. as of the period ended August 31, 1970.

Population and Sample Size

The population was composed of all customers on the mailing list for the monthly newsletter who fell within one of the three sales territories. These territories are illustrated in the Appendix, Exhibit A, as sales Territory A (south-central and southeastern Montana and northeastern Wyoming), B (Northeastern and east-central Montana and north-central and central Wyoming), and C (western Montana). A sample was drawn roughly proportionate to a given stratum but in a number sufficient to attain at least 4 valid responses per stratum per sales territory. A systematic drawing of the sample approached random design. Quota sampling based upon the geographic location of possible respondents proceeded therafter. This total of 48 minimum responses represented 28% of the population and was judged by the research analyst to be adequate for good representation in a stratified sample design.

The determination of statistical significance is not possible in a non-probability sampling method. No confidence intervals and estimation of sample error is to be attempted in quota sampling.[23]

The distribution of the population size was as follows:

	Territory A	Territory B	Territory C	Totals
Large potential, high vol.	6	13	9	28
Large potential, low vol.	16	9	8	33
Small potential, high vol.	11	39	4	54
Small potential, low vol.	23	16	19	58
	56	77	40	173

The sample size was as follows:

	Territory A	Territory B	Territory C	Totals
Large potential, high vol.	5	7	4	16
Large potential, low vol.	9	6	6	21
Small potential, high vol.	9	11	4	24
Small potential, low vol.	10	9	10	29
	33	33	24	90

CHAPTER IV

QUESTIONNAIRE DESIGN

The questionnaire, Exhibit B, was developed through a review of wholesale service functions provided by marketing publications and selected according to their applicability to the wholesale operation. Final selection of items to be evaluated through the customer survey was made with the wholesale manager's guidance. Questionnaire pre-testing was limited to the D.L.P. sales staff and two local retail building material dealers.

Page 1 of the questionnaire was designed to allow respondents to rate and rank 21 services performed by the wholesale operation. Page 2 was to measure the degree of interest in specialty products and dealer incentive programs.

Page 3 was concerned primarily with eliciting general response. Open-end questions focused on problem areas. Questions 3 and 4 were to measure market penetration. Questions 5 and 6 focused on the importance of wholesaler truck service.

A combination of scaling techniques was developed for pages 1 and 2 of the questionnaire incorporating the theory of checklist scaling, "semantic differential" scaling, and the use of rankings to establish buyer priorities.

Rationale for Checklist, Attitude Scaling

History

The development and use of attitude scaling techniques has evolved in large part from the field of psychology.[24] These techniques for measuring attitude and attitude change have been partially incorporated into marketing research.

The behaviorists concept of "motivation research" was widely applied to marketing research during the late forties and early fifties. Applications of scaling techniques included Thurstone's "comparative judgement", Osgood's "semantic differential", Harris's "21 point rating scale", and Stephenson's "Q-sort technique".[25]

Attitudes have been defined as "a psychic summation of knowledge, emotions, motivations, and intentions".[26] Also, "an attitude is a personal disposition common to individuals, but possessed to different degrees, which impels them to react to objects, situations, or proposition in ways that can be called favorable or unfavorable."[27]

A knowledge of consumer attitudes can direct the effort of promotional programs, product design, and customer service activity.[28] Usage of scaling techniques such as the "semantic differential" allows "quantifying highly subjective data representing difficult to verbalize evaluations of company image, products, and services".[29]

"Semantic Differential" Versus Checklist Scaling

"Osgood's 'semantic differential' involved repeated judgements of a concept against a series of descriptive bi-polar, adjectival scales on a 7-point, equal-interval, ordinal scale." In scoring the differential, mean scores were commonly presented in profile form.[30]

The reliability of "semantic differential" scaling, that is, the

extent to which it yields the same values within acceptable margins of error is high, within the .80's and .90's on the evaluative dimension.[31] Checklist scaling has been found to yield comparable results.[32]

The "semantic differential" scaling technique requires the respondent to rate a given object along multiple continua. Checklist scaling requires the rating of the given object along a single continuum.[33] "Semantic differential" scaling is more expensive to construct due to the need for development of the series of bi-polar adjectives or phrases Since the checklist method deals with a single continuum such as favorable-unfavorable, objects to be evaluated such as "product features and dimensions of corporate image" can be added as desired.[34]

G. David Hughes used a combination of the two scaling techniques to assess the importance of defined service items in a buying situation. These measuring devices had sufficient sensitivity to detect substantial relative differences in adding machine applications among geographically defined sales territories.[35]

The 7-point scale of the "semantic differential" design provides fo a zero mid-point on the evaluative continuum. Since the reliability of this scale had been scientifically proven through Osgood's experiments, this feature was incorporated into the checklist scaling technique utilized for the purposes of the marketing research study.[36]

Open-End Questions

Page 3 of the questionnaire was designed to promote open response concerning product line, product catalog, truck service, and problem areas indicated by those service items receiving a low evaluation on page 1. This met the guidelines set forth by D.L.P. management.

CHAPTER V

DATA COLLECTION

Data collection can be performed through personal, telephone, and/or mail interviews. In many cases the best method of interviewing is a combination.[37] The economic realities must be reconciled with the degree of certainty to be obtained. Any combination that meets the survey requirements should be considered.[38]

There is no substitute for the personal interview. The personal interview is the most flexible, controlled method of collecting large amounts of data.[39]

Telephone surveys may be less costly but require a very limited response, which is inconsistent with the requirements of this marketing research study.

Mail surveys are easier to administer and may be less costly but typically have only 10-20% response. Non-response error may seriously affect the accuracy of sample results.[40]

Checklist rating scales are readily useable in mail questionnaire or personal interviewing.[41] However, personal interviewing is consistent with quota sampling design. The excessive cost of obtaining a representat: sample of each of the 12 stratum through personal interviewing required a combination of the two.

Personal interviewing was confined to those respondents located within a reasonable distance, as judged by the interviewer, from a pre-determined travel route. Those respondents not accessible due to

geographic location were contacted through a mail questionnaire. In the event a respondent designed for the personal interview was not available due to prolonged absence from the place of business, the questionnaire was left, together with a personalized note of introduction and instructions for completion and mailing in a stamped, self-addressed envelope. Respondents contacted through the mail received a cover letter, Exhibit C, the standard questionnaire, and the stamped, self-addressed envelope, as consistent with good practice in the field.[42]

The Interview

All interviews were conducted by the marketing research analyst. This eliminated the procedural problem of interviewer selection and training. The research analyst had received training from prior studies and could be considered highly qualified. His intimate awareness with the objectives of the study and consequent customer attitudes to be measured, was particularly appropriate to the open-end question design of page 3 of the questionnaire.

The interviewer made a strong effort to contact sample respondents. If the respondent was not immediately available for the personal interview, effort to contact was made for one to two hours. If the travel route allowed for re-contact, contact was again attempted. Leaving the questionnaire was the last alternative.

The interviewer made a strong effort to maintain a non-biased attitude throughout the interview. The respondent was politely informed of the nature of the visit. It was emphasized that the respondent's answers would have a direct effect on the nature of future service by D.L.P. Upon completion of the questionnaire, the interviewer encouraged additional comments to be added to page 3 of the questionnaire.

The objective was to seek out areas of particular interest to the respondent and promote an in-depth discussion.

CHAPTER VI

ANALYSIS OF DATA

Respondents were as follows:

	Territory A	Territory B	Territory C	Totals
Large potential, high vol.	4	4	4	12
Large potential, low vol.	5	2	4	11
Small potential, high vol.	6	8	3	17
Small potential, low vol.	5	4	6	15
	20	18	17	55

Data totals were structured around the above strata in order to reveal relationships between volume potential, actual volume, and the sales territories. All averages were weighted in accordance with the number of responses for each catagory.

The data on pages 1 and 2 of the questionnaire, Exhibit B, were totaled and charted. Each position on the 7 point ranking scale was assigned a value in order to compute mean scores for each service item. The middle space was 0, the spaces on the negative side were -1, -2, and -3 respectively, while the spaces on the positive side were 1, 2, and 3. Summing the responses for each item yields the mean ranking score.

The bottom of page 1 of the questionnaire dealt with ranking the 21 service items. Possible priorities in order of importance were 1, 2, 3, 4, and 5. The frequency with which each item received the 5 scores measures the importance of that service item in the buying decisions of the respondents.

Questions 1, 2, and 7 on page 3 of the questionnaire, Exhibit B,

were open-end questions designed to elicit general response. The results of these questions are discussed in the forthcoming survey results section of this paper. Questions 3 and 4 concerned market penetration and the totals represent average responses. Questions 5 and 6 concern wholesaler truck service and the totals are merely summations.

CHAPTER VII

SURVEY RESULTS

Page 1 of the Questionnaire

Exhibit D graphically depicts the evaluative ratings and rank priorities of the 21 service items according to the mean ratings of each service item by sales territory.

Diversified Wholesale has a generally favorable image with its customers. The averages for the entire sales territory indicate all service items have favorable ratings. However, this is questionable since a positive bias may have influenced survey results. The lower scoring service items could indicate unfavorable ratings. The major concern is relative scoring differences. The services in order of most to least favorable, together with their top ten priorities in the average respondent's buying decisions are as follows:

Priority	Service Items	Mean Score
	1. Credit terms	2.2
8 & 9	12. General attitude of rep	2.2
	16. Willingness to accept back faulty merchandise	1.7
10	18. Product lines	1.7
	2. Promptness of receiving invoices	1.6
	14. Product knowledge of rep	1.6
	6. Promptness of receiving quotations	1.5
	19. Sales policy	1.5
4	4. Telephone service	1.4
	3. Correctness of invoices	1.3
	17. Promptness of handling claims	1.0
3	15. Physical condition of merchandise	.9
7	20. Price	.9
5	9. Delivery when promised	.8
	13. Availability of display materials	.8
2	8. Inventory level-stock availability	.7
6	5. Quality of product catalog	.6

1	7. Ability to deliver within time required.....	.5
8 & 9	11. Frequency of visits by D.L.P. reps.'.....	.3
	10. Usefulness of newsletter.....	.0
	21. Wholesaler truck service.....	N.A.

It is apparent from the above that those service items of greatest importance to the respondents are being performed the least satisfactorily by D.L.P.

According to Exhibit D the customers in Territory B are the most satisfied with services rendered. This territory received the highest ratings for 16 of the 20 services. Favorable comment during various interviews, attributes part of this to the territory salesman. He is very well liked throughout the territory. Perhaps this biased services not within his control through the "halo" effect,[43] but it is plausible that over-all company image is the most favorable in this sales territory.

Survey findings indicate the customers in Territory C are the least satisfied with the services being performed. This territory received the lowest average ratings for 13 of the 20 services. Respondents gave negative response to items 7 (ability to deliver within time required), 11 (Frequency of visits by representative), and 10 (Usefulness of the newsletter). Other items significantly below other sales territories were 2 (Promptness of receiving invoices), 3 (Correctness of invoices), 8 (Inventory level-stock availability), 9 (Delivery when promised), 15 (Physical condition of merchandise), 16 (Willingness to accept back faulty merchandise), and 17 (Promptness of handling claims).

Respondents were frequently confused over 3 of the services listed on page 1 of the questionnaire. Credit terms, usefulness of the newsletter, and sales policy were unclear. It appears credit terms is an

irrelevant service item as Diversified Wholesale's terms are substantially no different from other wholesalers.

Many customers were unaware of a newsletter. Some were certain it was not being received, while others were unsure. Examination of the "newsletter" indicates it is an infrequent, one page, untitled, listing of specials, with a couple of lines of news appearing at the top of the page.

Sales policy was commonly being confused with terms of sale, while the intent was to measure the loyalty in selling only to retailers.

Exhibit E compares the mean scores for service items by potential-volume strata for the entire sales territory. Large building materials dealers, particularly those purchasing large volume from D.L.P., are the least satisfied with their services. Large potential customers providing a relatively high volume of business, gave the lowest rating for 14 of the 20 service items. Top priority items such as 7 (Ability to deliver within time required), 8 (Inventory level-stock availability) 9 (Delivery when promised), and 15 (Physical condition of merchandise delivered) are among the lowest rated service items.

Small potential customers providing a relatively high volume of business for D.L.P., gave the highest rating for 13 of 20 services. These firms tend to be neglected by competitors. They are generally appreciative of the additional attention given them by D.L.P. representatives.

There is considerable variation of mean scores between the 12 strata, reflecting differences in the size of customer firms, salesmen's performance, and geographic constraints. (See Exhibits F,G, and H) The sum of the means for the combined service items is as follows:

	Territory A	Territory B	Territory C	Totals
Large potential, high vol.	116	230	106	452
Large potential, low vol.	257	162	184	603
Small potential, high vol.	219	419	180	818
Small potential, low vol.	309	216	190	715
Totals	901	1027	660	2588

The customers of territory B have the most favorable attitude toward D.L.P. services. Territory A follows closely, while Territory C rates much poorer.

Within Territory A, it is apparent the low volume customers are more satisfied than those doing a higher volume of business with D.L.P. In Territory B the opposite is true, with high volume customers, particularly small firms, giving the most favorable evaluations.

Scores for all strata within Territory C are low with the large potential, high volume strata giving the lowest evaluations of all 12 strata.

Upon scanning "profile" graphs of Exhibits F, G, and H, the following points are of concern on a "trouble-shooting" basis for each of the potential-volume strata:

Large Potential, High Volume

These customers are the least satisfied in sales Territory C. They give slightly poor ratings for "ability to deliver within time required", "inventory level-stock availability", "physical condition of merchandise delivered", and "Price". Since no warehouse is located in western Montana the time and distance factors are serious impediments to adequately service this area.

The "correctness of invoice" was a frequent complaint in Territory C and received a generally poor rating. The company owned retail building materials firms are particularly vocal on this point.

The product catalog is not being kept up as well in Territories A and B. They received a low rating compared to a slightly favorable rating for Territory C.

The sales policy, that is, protection of retailers through the wholesaler's refusal to sell direct, was rated slightly poor in Territory A. "General attitude of representative" and "product knowledge of representative" were other services which were not rated as highly as in Territory B.

Large Potential, Low Volume

Telephone service and promptness of receiving quotations were rated much higher for Territory A. These findings may indicate a partiality of the telephone salesman who services Territories A and B to firms located in this territory, and/or it may indicate increased effort by the telephone salesman due to a personal preference for the "outside" salesman traveling this area.

Quality of product catalog was rated considerably lower within Territory A.

Territory B rated relatively poorer for "frequency of visits by D.L.P. representatives", "sales policy", "price", "telephone service", and "promptness of receiving quotations". This sharply contrasts with generally favorable customer attitudes toward these services within the large potential, high volume stratum.

Small Potential, High Volume

The attitudes of this customer stratum were very similar to those of the large potential, high volume stratum as previously discussed. In contrast, "quality of product catalog", and "frequency of visits by D.L.P. representatives" received much lower ratings for Territories

A and C. Territory C also had a much lower rating for "willingness to accept back faulty merchandise" and "price".

Small Potential, Low Volume

Territory A rated relatively low on "availability of display materials".

Territory B rated relatively low on "ability to deliver within the time required", "inventory level-stock availability", and "delivery when promised".

Within Territory C, "quality of product catalog", "ability to deliver within time required", and "frequency of visits by D.L.P. representatives" received lower evaluations.

Page 2 of the Questionnaire

This page dealt with the degree of interest in additional specialty products and dealer incentive programs such as contests. Dealers were generally confused by the term specialty products. This was not apparent in pre-testing. Therefore, no reliability is given to the results of questions 1 and 2 given in Exhibit I. The results of question 3 support the interviewer's observation that interest in incentive programs : blas'e or negative.

Page 3 of the Questionnaire

Suggestions toward improving the product catalog were offered by 22 of the 55 respondents. The most frequent request was keeping it current. Specific requests included faster mailings of price changes, discarding obsolete product information, adding product information on new lines, and providing new binders. The plastic catalog binders presently being used have a short life. These are torn and badly in

need of replacement.

Product lines were generally satisfactory with very few respondents offering suggestions.

Exhibit J summarizes questions 3, 4, 5, and 6. The average building material wholesalers actively soliciting the business of the respondents is 6.6. Diversified Wholesale ranks 3.4 in volume.

Territory C has a slightly larger number of competitors and low market penetration at 4.1. Territory B has the best market penetration at 2.6.

80% of all respondents hold orders for wholesalers providing truck service, claiming this to yield a savings. Territory B has a low of 60%.

40 of the 55 respondents answered question 7 (General comment concerning clearly negative responses). This was a valuable section of the questionnaire, offering the respondent an opportunity to elaborate on negative responses made in preceding pages of the questionnaire, plus comment on areas not covered. In order to protect the actual firm these negative comments are not included in this paper.

These customer comments support survey findings charted in the exhibits and discussed at length throughout this section of the report. Most low priority items in the buying decisions of retailers such as "credit terms", "product knowledge of salesman", "promptness of receiving quotations", "sales policy", and "product lines" receive few unsatisfactory comments.

The general comment section of the questionnaire revealed an interesting practice. In Territory C some of the wholesalers providing regular truck service are using their truck drivers as salesmen. This could increase volume through "hold" orders and decrease the required traveling by the sales representative, thereby transferring part of the selling

expense to the delivery function.

There was one contradiction in survey results. Forceful complaints were directed toward the "promptness of receiving invoices". However, according to Exhibit D this was not assigned a high priority nor given a low average score. This may be attributed to the meaning lost in averaging. Though "promptness of receiving invoices" may not be a critical service item for most retailers, lack of it appears to be very annoying for a vocal minority.

CHAPTER VIII

CONCLUSIONS AND RECOMMENDATIONS

Survey results indicate Diversified Lumber Products Wholesale Division has a generally favorable image with the customers presently being serviced. Competitively, they are in the 3.4 position in volume of customer purchases out of an average of 616 building materials wholesalers servicing the average retailer. (Exhibit J) A 1.0 market position represents the wholesaler receiving the highest volume of business.

Competition is the most intense in western Montana. An average of 7.4 wholesalers divide the average retailers business with D.L.P. maintaining the 4.1 market position.

D.L.P. is serving the small retailer the most effectively. Small retailers providing a relatively high volume of business for D.L.P. are the most favorable to the services as they are presently being performed. Of the 4 volume catagories, they gave the highest ratings for 13 of the 20 services evaluated. Small retailers of low volume were very nearly as well satisfied. The personal "touch" of D.L.P. salesmen and a protective sales policy are well received by this group.

Large retailers providing a relatively high volume for D.L.P. were the least satisfied. Those respondents within Territories A and C were the most negative. They demand more and better services and will receive them, otherwise, they will place most orders with other wholesalers. They gave the lowest ratings for 14 of the 20 services evaluated.

The sales emphasis in Territory A appears to be too strongly centered on the low volume customers. The poorer attitude expressed within the high volume customer strata, indicates a need to shift and/or add sales-service emphasis to this customer segment. It is recommended marketing strategy be directed accordingly.

Though the customers in Territory B are the most satisfied with services as performed by D.L.P., the sales volume to large firms (large potential) should be increased. The attitudes of those large firms doing a low volume of business with D.L.P. are much poorer than other strata within this territory.

Within Territory C, attitudes for customer strata are poorer than other sales territories, exception being the large potential, low volume stratum which is lower in Territory B as discussed above. Truck service from the eastern Montana warehouse would generate some additional business in Territory C (western Montana), but the distance factor would still price various items out of the market. The ability to deliver an item within the time required by the customer may require consideration of a warehouse operation located in that area. A survey to determine the potential market would reveal its feasibility. Presently, western Montana operations are confined primarily to supplying the "captive" building material yards and other retailers who find their regular wholesale suppliers in a stock-out condition.

Those services receiving the lowest ratings were also generally assigned the highest priorities in the respondent's buying decisions. The weighted average scores for all catagories combined are illustrated by Exhibit D. Top priority items receiving poorer service ratings included:

-Physical condition of merchandise
-Delivery when promised
-Inventory level-stock availability
-Quality of product catalog
-Ability to deliver within time required
-Frequency of visits by Diversified Wholesale Representatives

Other service items of lower priority but frequently cited as being poorly performed included:

-Correctness of invoices
-Promptness of receiving invoices
-Promptness of receiving quotations

The newsletter received the lowest average evaluation of all services. It is recommended that it either be improved or discontinued. Respondents were generally unaware of its existence, had never received it, or were uninterested.

Telephone service received a high priority and a fairly high rating. A few high volume firms are very insistent on the installation of an in-coming "Watts". It is recommended "Watts" telephone service be installed. It is also recommended the telephone salesman give equal service to customers of all areas. Telephone service and promptness of receiving quotations received much higher scores for Territory A. They should be nearly equal for all areas.

Dealers are not interested in incentive programs such as contests and special promotions. Respondents were visibly agitated over this item, giving it a negative rating. Further consideration should be abandoned.

The product catalog must be kept more current. Competition has staff assigned to this function and they are providing this service more adequately. Slow notification of price changes is the most common complaint. Retailers claim not to have the time to insert price and product line changes. They expect this service to be performed periodically by a company representative. The plastic binders have a very

short life and are badly in need of replacement.

Wholesaler truck service did not receive a high priority rating in the retailers buying decisions. This appears to be an incorrect result. Since it was only to be assigned a priority and not rated, it may have been missed. Page 3 of the questionnaire yielded evidence to support this belief. 80% of the retailers responding on page 3 of the questionnaire claimed to hold orders at a cost advantage for those wholesalers providing truck service. Truck service should be a particularly critical factor in western Montana where Spokane wholesaler's service Montana accounts through regular truck delivery at a considerable freight cost advantage.

Retailers enthusiastically endorsed the quality of Diversified Wholesale's salesmen. They are judged by the interviewer to be superior to other wholesalers and were complimented throughout the interviews. If the management can solve the problems emphasized in this report, the wholesale operation could be superior to all competitors.

FOOTNOTES

[1]M.H. Hanson, W.N. Hurwitz and W.G. Madow, Sample Survey Methods and Theory, Vol. II, (New York: John Wiley & Sons, Inc., 1953), p. 9.

[2]Harper W. Boyd and Ralph Westfall, Marketing Research, Revised 4th printing, (Homewood, Illinois: Richard D. Irwin, Inc., May, 1966), p. 436.

[3]Mayer, Charles S. and Rex V. Brown, "A Search for the Rationale of Non-Probability Sample Designs", Proceedings of the 1965 Fall Conference of the American Marketing Association, Marketing and Economic Development, Edited by Peter D. Bennett, Ann Arbor, Michigan: Edwards Brothers, Inc., 1965, p. 305.

[4]Ibid.

[5]Ibid.

[6]Ibid., p. 306.

[7]Ibid., p. 307.

[8]Ibid., p. 306.

[9]Paul E. Green and Donald S. Tull, Research For Marketing Decisions, (Englewood Cliffs: Prentice Hall, Inc., 1966), p. 226.

[10]Mayer & Brown, op. cit., pp. 297-298.

[11]Max K. Adler, Modern Market Research, (New York: John Wiley & Sons, Inc., 1957), p. 67.

[12]John S. Coulson, "Field Research - Sample Design, Questionnaire Design, Interviewing Methods", Handbook of Modern Marketing, (New York: McGraw Hill Book Co., Inc., 1970), Section 6, pp. 70-81.

[13]Kenneth P. Uhl & Bertram Schoner, Marketing Research, (New York: John Wiley & Sons, Inc., 1969), p. 152.

[14]Ibid., p. 143.

[15]Co de Koning, "Effective Techniques In Industrial Marketing Research", Journal of Marketing, April 1964, p. 57.

[16]Ibid., p. 58.

[17]Ibid.

[18]Adler, loc. cit.

[19]Robert Ferber, Statistical Techniques in Market Research, (New York: McGraw Hill Book Co., Inc., 1949), p. 72.

[20]Koning, loc. cit.

[21]Thomas T. Semon, Reuben Cohen, Samuel B. Richmond, & J. Stevens Stock, "Sampling in Marketing Research", Statistics In Action, Edited by Theodore J. Sielaff, (SanJose: Lansford Press, 1963), p. 132.

[22]Albert Wesly Frey & Gerald Albaum, Marketing Handbook, 2nd edition, (New York: The Ronald Press Co., 1965), Section 24, p. 3.

[23]Coulson, op. cit., p. 74.

[24]Paul E. Green & Ronald E. Frank, A Manager's Guide to Marketing Research, (New York: John Wiley & Sons Inc., 1967), p. 32.

[25]Ibid., pp. 32-55.

[26]Jon G. Udell, "Can Attitude Measurement Predict Consumer Behavior", Journal of Marketing, October, 1965, p. 46.

[27]Joy P. Guilford, Psychometric Methods, (New York: McGraw Hill Book Co., Inc., 1954), p. 456.

[28]Jon G. Udell, loc. cit.

[29]William A. Mindak, "Fitting the Semantic Differential to the Marketing Problem", Journal of Marketing, April, 1961, p. 28.

[30]Ibid.

[31]William A. Mindak, "A New Technique for Measuring Advertising Effectiveness:, Journal of Marketing, April, 1956, p. 368.

[32]G. David Hughes, "A New Tool for Sales Managers", Journal of Market Research, May, 1964, pp. 33-38.

[33]Ibid., p. 32.

[34]G. David Hughes, "Selecting Scales to Measure Attitude Change", Journal of Market Research, February, 1967, p. 82.

[35]Hughes, "A New Tool for Sales Managers", op. cit., pp. 33-34.

[36]Charles E. Osgood, The Measurement of Meaning, (Urbana: University of Illinois Press, 1957), pp. 327-328.

[37]John S. Coulson, op. cit., p. 81.

[38]Stanley L. Payne, "Combination of Survey Methods", Journal of Market Research, May, 1964, p. 61.

[39]Coulson, op. cit., p. 78.

[40]Coulson, op. cit., p. 80.

[41]G. David Hughes, "A New Tool for Sales Managers", op. cit., p. 38

[42]Adler, op. cit., p. 82.

[43]Guilford, op. cit., p. 275.

BIBLIOGRAPHY

Books

Adler, Max K. Modern Market Research. New York: John Wiley & Sons Inc., 1957.

Alevizos, John P. Marketing Research. Englewood Cliffs: Prentice Hall, Inc., 1961.

Boyd, Harper W. and Ralph Westfall. Marketing Research. Rev. ed. Homewood: Richard D. Irwin, Inc., 1964.

Coulson, John S. Handbook of Modern Marketing. McGraw-Hill Book Co., 1970.

Deming, W. Edwards. Sample Design in Business Research. New York: Wiley & Sons, Inc., 1960.

Ferber, Robert. Statistical Techniques in Market Research. New York: McGraw-Hill Book Co., Inc., 1949.

Frey, Albert Wesley and Gerald Albaum. Marketing Handbook. 2nd ed. New York: Ronald Press Co., 1965.

Green, Paul E. and Ronald E. Frank. A Manager's Guide to Marketing Research. New York: John Wiley & Sons, Inc., 1967.

Green, Paul E. and Donald S. Tull. Research for Marketing Decisions. Englewood Cliffs: Prentice Hall Inc., 1966.

Guilford, Joy P. Psychometric Methods. New York: McGraw-Hill Book co., 1954.

Hanson, M. H. And Others. Sample Survey Methods and Theory. Vol. II, New York: John Wiley & Sons, Inc., 1953.

Oppenheim, A. N. Questionnaire Design and Attitude Measurement. New York: Basic Books Inc., 1966.

Osgood, Charles E. and Others. The Measurement of Meaning. Urbana: University of Illinois Press, 1957.

Selltiz, Clair and Others. Research Methods in Social Relations. Rev. ed. New York; Holt, Rinehart and Winston, 1964.

Sielaff, Theodore J. Statistics in Action. San Jose: The Lansford Press, 1963.

Uhl, Kenneth P. and Bertram Schoner. Marketing Research. New York: John Wiley and Sons, Inc., 1969.

Yates, Frank. Sampling Methods for Censuses and Surveys. New York: Hafner Publishing Co., 1953.

Articles and Periodicals

Britt, Stewart H. "Should You Fit the Research to the Budget?" Journal of Marketing, April, 1956.

Hughes, David G. "A New Tool for Sales Managers," Journal of Market Research, May, 1964.

Hughes, David G. "Selecting Scales to Measure Attitude Change," Journal of Market Research, Feb., 1967.

Koning, Co de. "Effective Techniques in Industrial Marketing Research," Journal of Marketing, April, 1964.

Mindak, William A. "Fitting the Semantic Differential to the Marketing Problem," Journal of Marketing, April, 1961.

Mindak, William A. "A New Technique for Measuring Advertising Effectiveness," Journal of Marketing, April, 1956.

Nuckols, Robert C. "Personal Interview Versus Mail Panel Survey," Journal of Market Research, Feb., 1964.

Payne, Stanley L. "Combination of Survey Methods, " Journal of Market Research, May, 1964.

Udell, Jon G. "Can Attitude Measurement Predict Consumer Behavior," Journal of Marketing, October, 1965.

Miscellaneous

Mayer, Charles S. and Rex V. Brown. "A Search for the Rationale of Non-Probability Sample Designs," Proceedings of the 1965 Fall Conference of the American Marketing Association. Marketing and Economic Development. Edited by Peter D. Bennett. Ann Arbor, Michigan: Edwards Brothers, Inc., 1965.

APPENDIX

EXHIBIT A

SALES TERRITORIES

DIVERSIFIED LUMBER PRODUCTS
MARKET RESEARCH DEPARTMENT
"DEALER QUESTIONNAIRE"

DATE _____ DEALER _____

PERSON INTERVIEWED _____ NUMBER OF EMPLOYEES _____

Please rate Diversified Lumber Products Wholesale on the items listed below. Simply place an X in the space that indicates your evaluation.

1.	Credit Terms	EXCELLENT	___:___:___:___:___:___:___
2.	Promptness of receiving invoices		___:___:___:___:___:___:___
3.	Correctness of invoice		___:___:___:___:___:___:___
4.	Telephone service		___:___:___:___:___:___:___
5.	Quality of product catalog		___:___:___:___:___:___:___
6.	Promptness of receiving quotations		___:___:___:___:___:___:___
7.	Ability to deliver within time required		___:___:___:___:___:___:___
8.	Inventory level-stock availability		___:___:___:___:___:___:___
9.	Delivery when promised		___:___:___:___:___:___:___
10.	Usefulness of the newsletter		___:___:___:___:___:___:___
11.	Frequency of visits by D.L.P. rep.'s		___:___:___:___:___:___:___
12.	General attitude of representative		___:___:___:___:___:___:___
13.	Availability of display materials		___:___:___:___:___:___:___
14.	Product knowledge of representative		___:___:___:___:___:___:___
15.	Physical condition of merchandise		___:___:___:___:___:___:___
16.	Willingness to accept back faulty merchandise		___:___:___:___:___:___:___
17.	Promptness of handling claims		___:___:___:___:___:___:___
18.	Product lines		___:___:___:___:___:___:___
19.	Sales policy		___:___:___:___:___:___:___
20.	Price		___:___:___:___:___:___:___
21.	Wholesaler truck service		N.A.

On the left side of the above 21 items, select and number, in order of your priority, those most important 5 influences on your buying decisions.

Please indicate with an X your degree of interest in the following:

1. Additional Specialty Products Yes ___ ___ ___ ___ ___ ___ ___

2. Co-operating with Diversified Lumber Products in promoting new specialty products ___ ___ ___ ___ ___ ___ ___

3. Dealer incentives such as contests, etc. ___ ___ ___ ___ ___ ___ ___

1. Suggestions to improve the product catalog _____

_____

_____

_____

2. General product line suggestions _____

_____

_____

3. How many wholesalers are actively soliciting your business ---____

4. Which position does Diversified Lumber Products hold as to volume purchased _____

5. Do you hold orders for those wholesalers providing truck service?

   Frequently _____ Seldom_____Never _____

6. Is there a cost advantage in buying from wholesalers providing truck service?

   Yes _____ No _____

   If so, how much? _____

7. General comment concerning clearly negative responses: (Please elaborate on problem areas) _____

_____

_____

_____

_____

_____

_____

EXHIBIT C

COVER LETTER

November 1, 1970

Company Manager
Company Name
Company Address

Dear Sir:

In an effort to evaluate the service and company image of Diversified Lumber Products Wholesale Building Materials Division, Management has instructed me to complete a customer survey.

The results from this sample will have a bearing on the nature of future service. Consequently, it is urgently requested that you fill out and return the enclosed questionnaire by the tenth of this month. Since you are part of a small sample your cooperation is vital.

All replies are confidential so please be frank.

Most sincerely,

Gerald P. Morgan
Director of Market Research
Diversified Lumber Products
Anywhere, U.S.A.

EXHIBIT D

MEAN RATINGS BY SALES TERRITORY

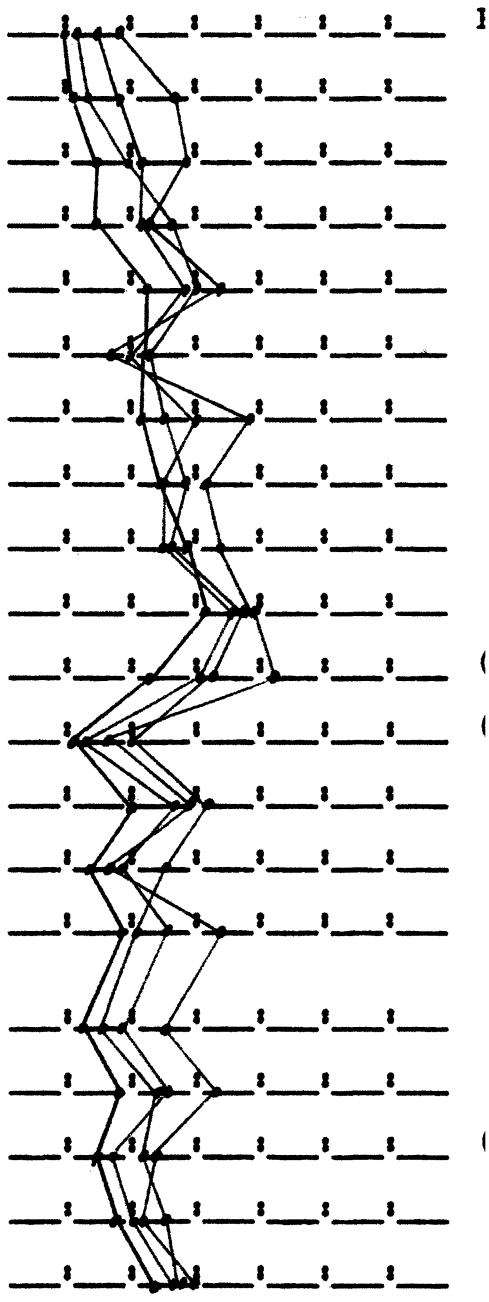
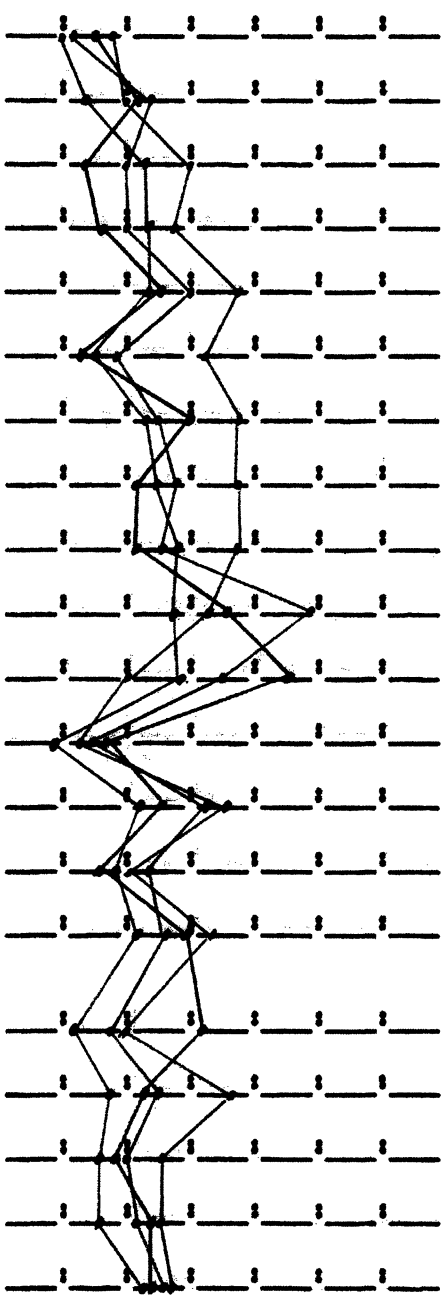


EXHIBIT E

RATINGS BY POTENTIAL-VOLUME STRATA
FOR THE TOTAL SALES TERRITORY

1. Credit Terms — EXCELLENT
2. Promptness of receiving invoices
3. Correctness of invoice
4. Telephone service
5. Quality of product catalog
6. Promptness of receiving quotations
7. Ability to deliver within time required
8. Inventory level-stock availability
9. Delivery when promised
10. Usefulness of the newsletter
11. Frequency of visits by D.L.P. rep.'s
12. General attitude of representative
13. Availability of display materials
14. Product knowledge of representative
15. Physical condition of merchandise
16. Willingness to accept back faulty merchandise
17. Promptness of handling claims
18. Product lines
19. Sales policy
20. Price
21. Wholesaler truck service — N.A.

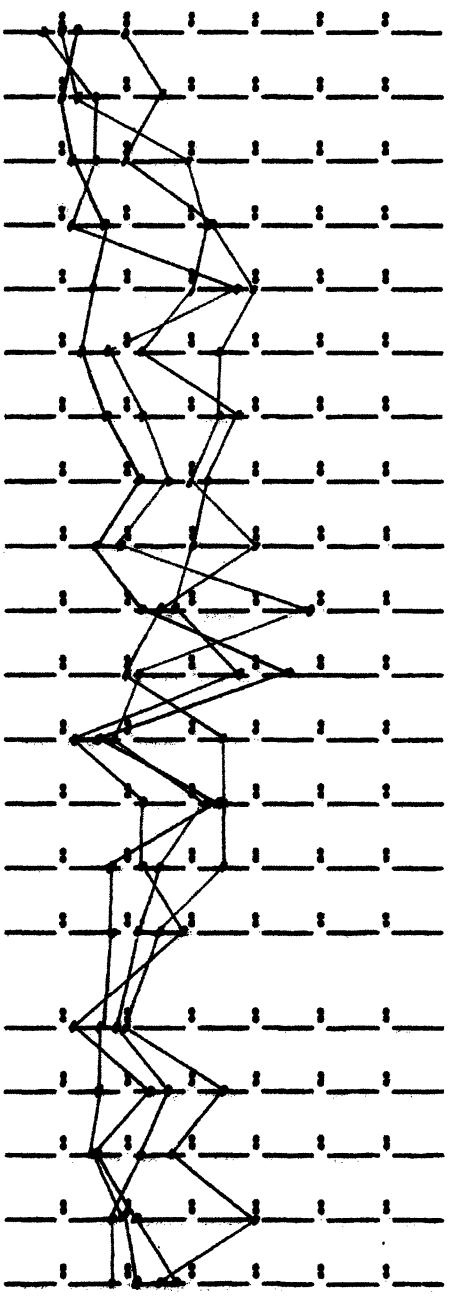


———— LARGE POTENTIAL, HIGH VOL.
———— LARGE POTENTIAL, LOW VOL.
———— SMALL POTENTIAL, HIGH VOL.
———— SMALL POTENTIAL, LOW VOL.

EXHIBIT F

RATINGS BY STRATA FOR TERRITORY A

1. Credit Terms — EXCELLENT
2. Promptness of receiving invoices
3. Correctness of invoice
4. Telephone service
5. Quality of product catalog
6. Promptness of receiving quotations
7. Ability to deliver within time required
8. Inventory level-stock availability
9. Delivery when promised
10. Usefulness of the newsletter
11. Frequency of visits by D.L.P. rep.'s
12. General attitude of representative
13. Availability of display materials
14. Product knowledge of representative
15. Physical condition of merchandise
16. Willingness to accept back faulty merchandise
17. Promptness of handling claims
18. Product lines
19. Sales policy
20. Price
21. Wholesaler truck service — N.A.

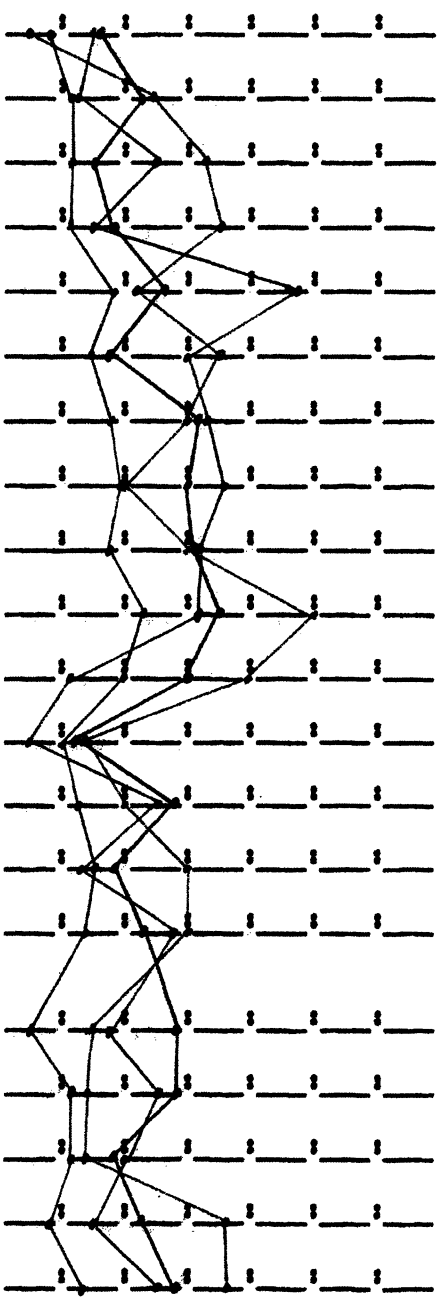


——————— LARGE POTENTIAL, HIGH VOL.
——————— LARGE POTENTIAL, LOW VOL.
——————— SMALL POTENTIAL, HIGH VOL.
——————— SMALL POTENTIAL, LOW VOL.

EXHIBIT G

RATINGS BY STRATA
FOR TERRITORY B

1. Credit Terms — EXCELLENT
2. Promptness of receiving invoices
3. Correctness of invoice
4. Telephone service
5. Quality of product catalog
6. Promptness of receiving quotations
7. Ability to deliver within time required
8. Inventory level-stock availability
9. Delivery when promised
10. Usefulness of the newsletter
11. Frequency of visits by D.L.P. rep.'s
12. General attitude of representative
13. Availability of display materials
14. Product knowledge of representative
15. Physical condition of merchandise
16. Willingness to accept back faulty merchandise
17. Promptness of handling claims
18. Product lines
19. Sales policy
20. Price
21. Wholesaler truck service — N.A.



——————— LARGE POTENTIAL, HIGH VOL.
——————— LARGE POTENTIAL, LOW VOL.
——————— SMALL POTENTIAL, HIGH VOL.
——————— SMALL POTENTIAL, LOW VOL.

EXHIBIT H

RATINGS BY STRATA
FOR TERRITORY C

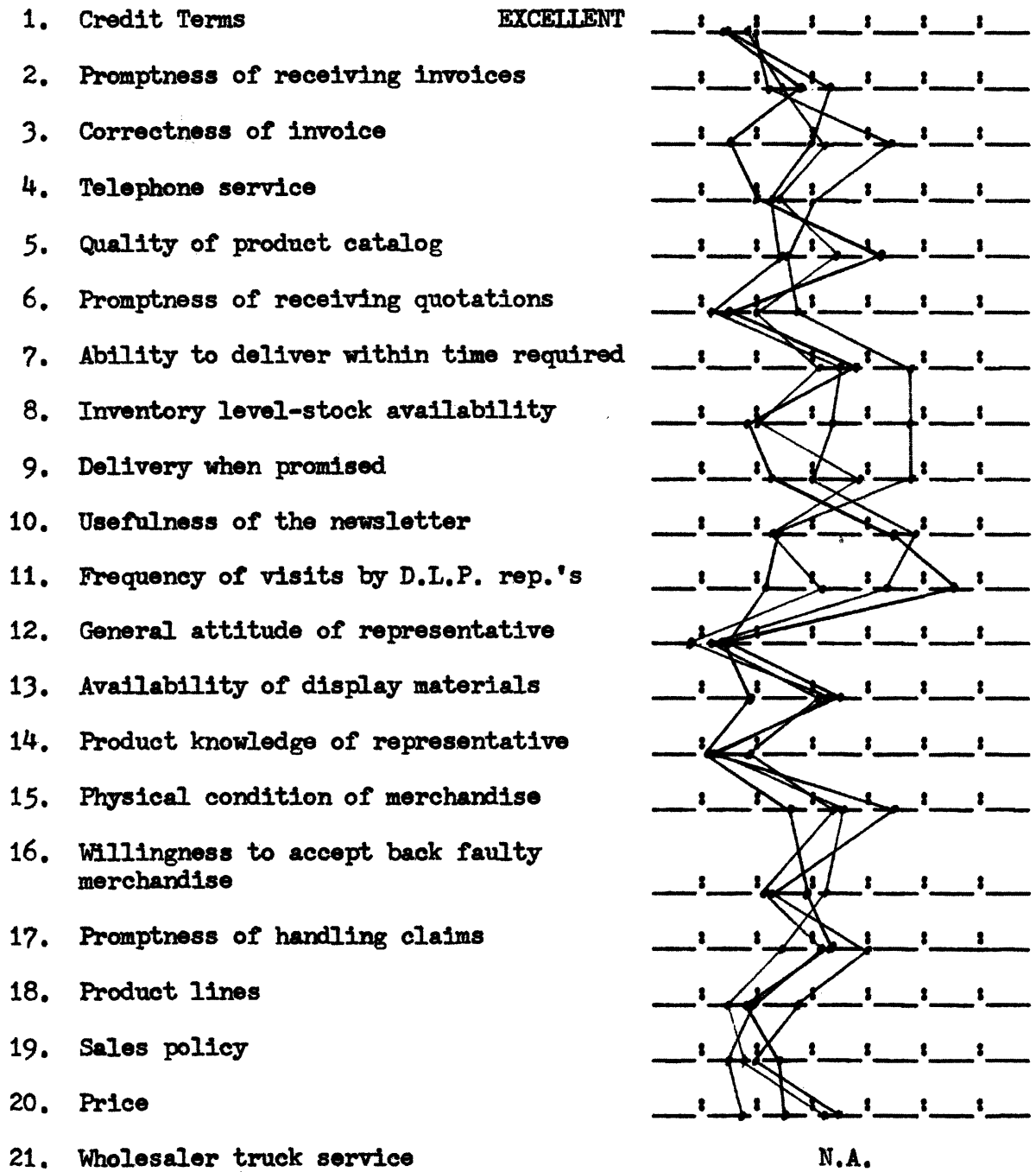
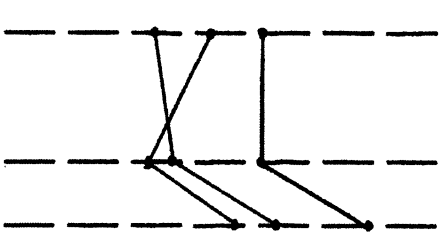


EXHIBIT I

TOTALS FOR PAGE 2 OF QUESTIONNAIRE

Please indicate with an X your degree of interest in the following:

1. Additional Specialty Products Yes
2. Co-operating with Diversified Lumber Products in promoting new specialty products
3. Dealer incentives such as contests, etc.



——— LARGE POTENTIAL, HIGH VOL.
——— LARGE POTENTIAL, LOW VOL.
——— SMALL POTENTIAL, HIGH VOL.
——— SMALL POTENTIAL, LOW VOL.

EXHIBIT J

TOTALS FOR PAGE 3 OF QUESTIONNAIRE

	(3) Average # of whslr's	(4) Market Position	(5) Hold Orders (?) Freq.	Seldom	Never	(6) Savings Yes	No
TERRITORY A							
Small potential, high vol.	7.6	3.0	3	2	1	3	3
Small potential, low vol.	6.2	3.4	3	0	2	3	0
Large potential, high vol.	4.0	2.5	3	1	0	4	0
Large potential, low vol.	6.6	4.6	3	1	1	5	0
Totals	6.2	3.4	12	4	4	15	3
TERRITORY B							
Small potential, high vol.	6.1	1.8	3	2	3	5	2
Small potential, low vol.	5.0	4.0	2	0	0	2	0
Large potential, high vol.	7.0	2.3	0	2	2	1	3
Large potential, low vol.	7.0	5.0	1	0	1	1	1
Totals	6.3	2.6	6	4	6	9	6
TERRITORY C							
Small potential, high vol.	10.0	3.3	2	1	0	3	0
Small potential, low vol.	5.2	4.0	3	2	1	5	1
Large potential, high vol.	7.0	1.2	3	1	0	4	0
Large potential, low vol.	9.0	9.0	3	1	0	4	0
Totals	7.4	4.1	11	5	1	16	1
Totals for Entire Sales Territory							
Small potential, high vol.	7.2	2.5	8	5	4	11	5
Small potential, low vol.	5.6	3.8	8	2	3	10	1
Large potential, high vol.	5.8	2.0	6	4	2	9	3
Large potential, low vol.	7.6	6.0	7	2	2	10	1
Totals	6.6	3.4	29	13	11	40	10