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TECHNICAL REPORT NO. 1195

June 1997
(Revised July 1997, April 1998)

**VELOCITY INCORPORATED:
CASE B
RESULTS OF THE MARKET
RESEARCH STUDY**

by
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VELOCITY INCORPORATED: Case B

Results of The Market Research Study

As much as anything else, it had been the Born-Again, Marketing Task Force report that had convinced Velocity's executive committee of the urgency of revamping both Velocity's marketing strategy and its logistics systems. The task force had concluded that Velocity was unlikely to recapture its lost market share through price reductions since competitors would simply meet the new prices and, thereby, reduce the profits for everyone. They found from an ad hoc study of customers in the northeast region however, that buyers were very sensitive to improvements in both product quality and delivery performance. They believed that if significant improvements could be achieved in these areas, then the market would respond positively and competitors would find it difficult to respond to the new levels of performance.

The recommendations that emerged from the Marketing Task Force last year were to trim the product line from 103 to 68 products, hold current prices, guarantee defect free product, ship to any customer location for arrival within 6 days of receipt of an order, and provide an average fill rate of 95%. This delivery speed would match the best in the industry and the fill rate would be unequaled. The task force felt that if the manufacturing and distribution functions could deliver on this marketing guarantee, then Velocity could quickly reacquire the market share that had been lost over the past 6 years.

Not everyone agreed with these recommendations. Some argued that the product line should be broadened rather than narrowed. Others pointed out that re-engineering Velocity's manufacturing and distribution functions would be expensive and difficult to accomplish, and that guaranteeing dramatic improvements in service levels would result in a customer back-lash if performance did not match the promises.

Although senior management realized that the task force's market data had been informally compiled, they believed that the recommendations were directionally correct. They therefore embraced the proposal and established the recommendations as corporate goals for 1998. At the same time, senior management contracted with the market research firm of Market Opinion Associates (MOA) for a nationwide study of Velocity's current and potential customer base. The objectives were to better understand Velocity's customer requirements and to segment Velocity's market offerings based upon customer size, type and region if appropriate.

The MOA market research study began in June of this year and was conducted in three stages. In an initial exploratory stage, focus groups of 4 to 7 current and potential customers were interviewed in each of Velocity's marketing regions. The groups included both large and small OEMs and distributors. The purpose of the interviews was to develop an understanding of the needs for and attitudes toward Velocity's products from a customer's perspective. The interviews focused on the nature of product usage, areas for product application, the purchase decision process, total product life-cycle costs, and required or desired product service enhancements.

Insights gained from these discussions were used to design a telephone survey instrument which was used in the second stage of the study to quantify the nature of current and latent product demand.

Key findings from the focus group interviews included:

1. Price is of primary importance in the purchase decision for OEM customers.
2. Large customers are more concerned with price than the others.
3. Quality and product reliability are uniformly important to all customers.
4. Engineering advice is most important to small OEMs.
5. Customized product is a primary purchase decision for some customers.
6. Novel combinations of standard components is required by many product rejecters and desired by some current customers.
7. Loyalty to a specific brand name is not important to most customers.
8. Product tagging, color and packaging are very important to some customers.
9. Delivery speed is very important, particularly to competitors' customers.
10. Nationwide availability of product is important to large OEMs.
11. Factors considered when purchasing hydraulic hoses include: well known brand, distinctive appearance (tagging, color, packaging), customized assemblies, product quality, selling price, total life-cycle cost, engineering advice, ease of ordering, fast delivery, reliable delivery, return policies, installation assistance, ease of maintenance, friendly service, and local service/support.
12. Nine factors were rated as "very important" by at least one focus group:
 - product quality (defect free, reliable in use).
 - product appearance (tagging, color, packaging),
 - product variety (number of styles, adaptability),
 - low purchase price,
 - delivery speed (elapsed time from order to receipt),
 - delivery reliability (rate of orders delivered as promised),
 - low life-cycle cost,
 - technical support (application engineering)
 - convenient service.

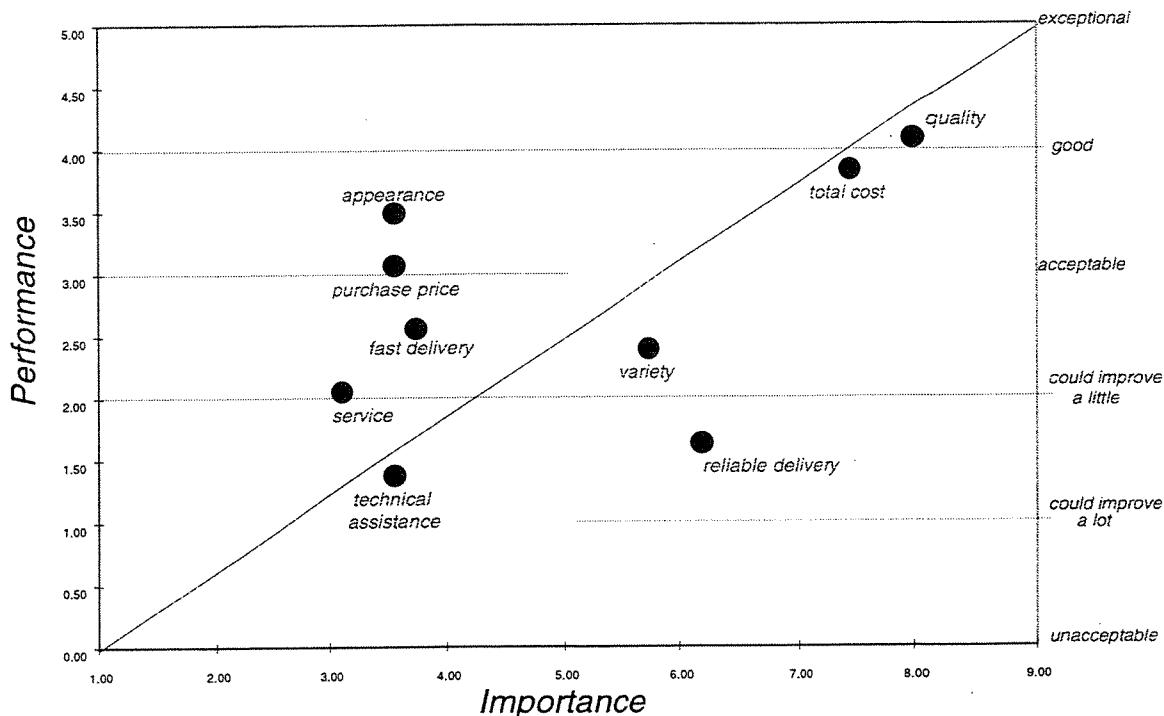
The second phase of the research study was conducted in August. It consisted of a telephone survey of 625 potential customers over a two-week period. Respondents were selected from an Dun & Bradstreet company listing. To obtain a balanced representation from different regions and customer sizes, a random sample of 550 companies stratified by location and size was drawn from the listing. In addition, buyers from each of Velocity's key customer accounts plus a sample of buyers drawn from accounts of key competitors were specifically asked to participate. Eventually, 570 individuals responsible for making the decision to purchase Velocity's products were successfully interviewed. The interview, which took approximately 15 minutes to complete, consisted of 9 questions designed to quantify key marketing issues.

The survey questionnaire¹ was divided into four sections as follows:

¹ The telephone questionnaire and its coding are found in Appendix A. The customer responses are in Appendix B.

- A. Questions to obtain information about current product usage and purchase intentions.
- B. Questions to obtain information about product attributes that are important in making a purchase decision.
- C. Questions to obtain information about product satisfaction and brand loyalty.
- D. Demographic data on the respondent's company.

Based upon their analysis of the survey and questionnaire data, MOA prepared a report on the market's sensitivity to potential changes in Velocity's marketing mix. A cluster analysis of the questionnaire data found no statistically significant differences in responses based upon region. A summary of product attribute importance and Velocity's performance as rated by current Velocity customers is given by Table 1.



Product Feature	Importance	Velocity	Parker	Aeroquip	Weather	Other	Substitute
Quality	8.02	4.14	3.70	3.12	3.12	2.98	2.67
Appearance	3.45	3.61	2.92	4.16	2.98	3.07	1.09
Variety	5.74	2.41	3.39	3.99	3.00	3.20	4.18
Purchase Price	3.68	3.05	4.01	3.12	4.18	3.51	4.50
Fast Delivery	3.71	2.53	3.39	3.65	3.09	3.24	2.09
Reliable Delivery	6.16	1.67	2.22	3.27	2.74	2.71	3.22
Total Cost	7.47	3.90	3.10	2.94	3.39	3.22	1.08
Tech. Assistance	3.50	1.30	3.55	3.19	2.25	2.59	1.08
Service	3.08	2.05	3.86	3.45	2.74	2.61	1.10

Attribute Importance to Velocity's Customers and Average Competitor Performance in All Regions - Table 1.

The report identified five specific product attributes as the dominant drivers of purchase decisions. First, the report confirmed Velocity's preliminary evidence that product quality and delivery performance were critically important. Six-sigma **quality** (i.e., 3.6 defective parts per million) was clearly emerging as the industry's standard of performance and either Velocity would figure out how to deliver such quality or they would soon be out of business. Delivery performance, on the other hand, was found to have two distinct dimensions - **delivery speed** (as measured by the elapsed time from order placement to order receipt), and **delivery reliability** (as measured by order fill rate). The Aeroquip Company was currently best-in-class in both measures with an average fill rate of 79% and an average customer order lead time of 6 days.

Delivery lead time had three components: order administration, production, and transportation. Market intelligence reported that order administration and production cycle times at Aeroquip were running at 1 and 4 days respectively; an overnight delivery service was being used to get the product to the customer on the sixth day. Velocity, on the other hand, averaged a fill rate of 67% and a order lead time of 8.5 days: order processing (2 days), production (1.5 days), and transportation (5 days). Order processing and production times at Velocity could probably be reduced through the reengineering of these processes. Transportation time could certainly be reduced by adopting express delivery services that were commercially available through United Parcel Service. The nature and cost of these services are summarized in Table 2.

Class	Expected Time	95% Confidence	99% Confidence	Price/Part
Ground	2-5 days*	3-6 days*	4-7 days*	\$5.00-\$8.00*
2nd Day Air	1.5 days	2 days	3 days	\$21.25
Next Day Saver	1:00 PM	2:00 PM	4:00 PM	\$35.75
Next Day Air	10:30 AM	11:30 AM	4:00 PM	\$39.50
Early Next Day	8:00 AM	8:30 AM	11:30 AM	\$64.50
Same Day Sonic	1 - 8 hours*	2 - 12 hours*	8:00 AM	\$200-\$400*

* varies depending upon destination

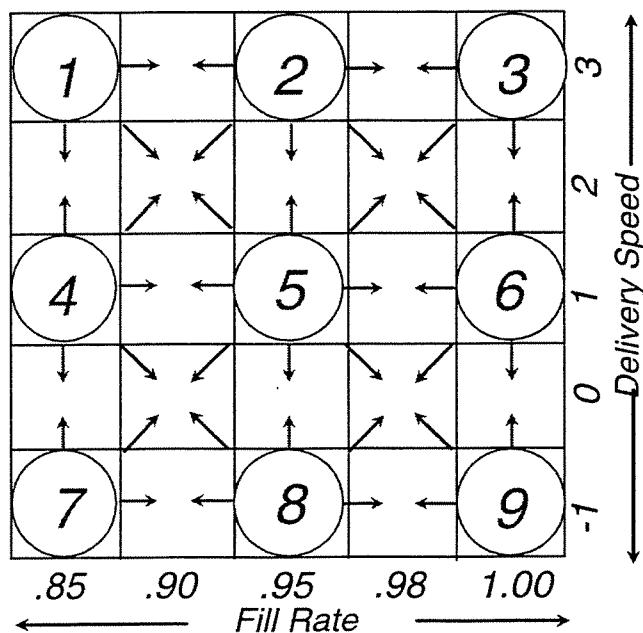
UPS Logistics Transportation Options - Table 2.

To quantify the likely response of customers to changes in the Velocity's market mix, MOA conducted a Delphi study involving 9 sales representatives and marketing managers in November as the third phase of their study. Product price and product variety were the final key drivers of purchase decisions; and for the purposes of the Delphi study, **purchase price** performance was defined as Velocity's percent price advantage over the least expensive competitor, while **product variety** was considered to be either one-half, the same, or double the number of parts currently available in Velocity's product catalog. Currently, Velocity's prices were 2% above those of Weatherhead and its variety was one-half that of Parker Hannifin. To conduct the Delphi study each participant was asked to provide their estimates of the likely increase or decrease in sales volume that would result in the first year from changes in Velocity's performance on the five key purchase drivers summarized below in Table 3.

Key Driver	Definition	Values Considered
delivery speed	advantage in days from order to receipt over the best competitor	3, 2, 1, 0, -1
delivery reliability	percent of orders delivered on the day promised	85, 90, 95, 98, 100
product price	percent advantage over the least expensive industry competitor	2, 0, -2, -5, -10
product variety	number of distinct products listed for sale in our catalog	140, 70, 35
quality	defective parts per million received by the customer	only possibility is six-sigma quality (3.6ppm)

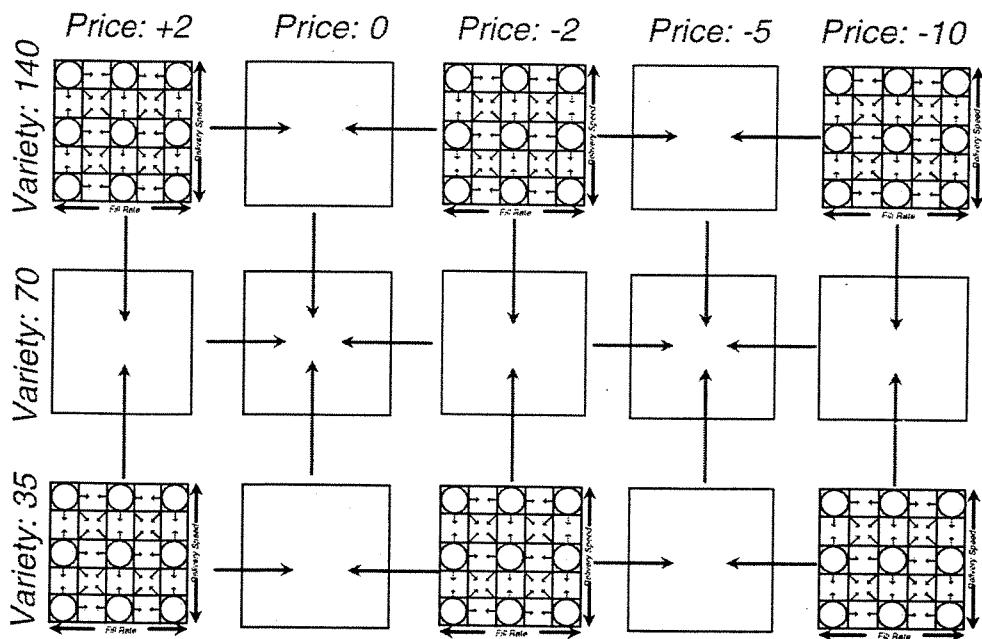
Key Drivers Of Customer Purchase Decisions - Table 3.

Since there are 375 combinations of these table values, the process of providing a market growth estimate for each possibility would have been a daunting task. Data collection was simplified by a process of interpolating among estimates made for a sampled set of alternative market mix decisions. It worked as follows. The participants were told to assume that six-sigma product quality would become a requirement for all suppliers in the industry and thus this product attribute would not act to differentiate among competitors. They were then instructed to assume for the moment that Velocity's product variety and price advantage were fixed at 140 and +2, respectively, and asked to estimate the likely sales growth in Year 1 for each of the 9 combinations of market mix changes illustrated below in Figure 2. From this set of 9 values, the 16 additional values that fell between them were interpolated.



Interpolation Of Estimates Of Market Response
Figure 2

The process then continued (as illustrated in Figure 3) by holding the variety assumption constant at 140 while changing the price advantage to its next candidate value (i.e., -2%). A new set of estimates of sales growth were provided and more values inferred. Once the last value for price, -10%, was similarly considered, the variety assumption was changed to its next candidate value (i.e., 35) and the process repeated. Using this approach a total of 375 estimates of sales growth in Year 1 were interpolated from each set of 54 estimates that were made by each participant in the Delphi study. The same procedure was then followed to obtain an estimate of average annual sales growth for Years 2 - 5.



Interpolation Of Estimates Of Market Response In Four Dimensions
Figure 3

The estimates made by all participants were summarized and returned to each of them to begin the second round of the Delphi study. Each participant was shown their own estimate for each data point together with the high, low and average of the group. Everyone then had an opportunity to revise their estimate given the opinions of their peers. This process of iteration had the effect of reducing the variance among responses; if it had not, a more detailed discussion of the reasons for the divergent views might have been required.

A composite estimate for each data point was then arrived at by MOA with a simple averaging of the participant's responses. Table 4 below provides MOA's final estimates of the sales growth by year that is likely to result in response to changes in Velocity's market mix.

Assignments

1. What are the actions that have taken place within Velocity over the past 18 months to respond to changes in market needs? How reasonable have they been?
2. Describe and critique the market survey data collection approach employed by MOA.
3. Given the summary data in Table 1 and Figure 1, what investments would you recommend in order to grow Velocity's sales? What relative priorities would you assign to these investments? What additional facts or data might influence your priorities?

Table 4 (page 1)

Marketing's Projections Of Sales Growth With Changes In Market Mix

% Unit Sales Growth in Year 1

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	47	51	66	81
Delivery	2	32	36	47	62
Advantage	1	17	21	32	44
Over Best	0	14	17	25	32
Competitor	-1	-5	-1	2	6
					29

Product Variety: **35**

% Price Advantage: **2**

Annual % Unit Sales Growth in Years 2 - 5

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	10	11	14	18
Delivery	2	6	7	10	14
Advantage	1	2	3	6	9
Over Best	0	2	2	4	6
Competitor	-1	-4	-2	-1	-1
					5

Product Variety: **35**

% Price Advantage: **2**

% Unit Sales Growth in Year 1

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	70	75	95	115
Delivery	2	50	55	70	90
Advantage	1	30	35	50	65
Over Best	0	25	30	40	50
Competitor	-1	0	5	10	15
					45

Product Variety: **70**

% Price Advantage: **2**

Annual % Unit Sales Growth in Years 2 - 5

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	16	17	22	27
Delivery	2	11	12	16	21
Advantage	1	6	7	11	15
Over Best	0	5	6	8	11
Competitor	-1	-2	0	1	2
					10

Product Variety: **70**

% Price Advantage: **2**

% Unit Sales Growth in Year 1

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	115	122	152	182
Delivery	2	85	92	115	145
Advantage	1	55	62	85	107
Over Best	0	47	55	70	85
Competitor	-1	10	17	25	32
					77

Product Variety: **140**

% Price Advantage: **2**

Annual % Unit Sales Growth in Years 2 - 5

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	29	31	38	46
Delivery	2	22	23	29	37
Advantage	1	14	16	22	28
Over Best	0	13	14	17	22
Competitor	-1	2	5	7	8
					20

Product Variety: **140**

% Price Advantage: **2**

Marketing's Projections Of Sales Growth With Changes In Market Mix

% Unit Sales Growth in Year 1

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	43	46	61	76
Advantage	2	28	31	43	58
Over Best	1	13	16	28	39
Competitor	0	9	13	20	28
	-1	-10	-6	-3	1
					24

Annual % Unit Sales Growth in Years 2 - 5

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	10	10	14	18
Advantage	2	6	7	10	13
Over Best	1	2	3	6	9
Competitor	0	1	2	4	6
	-1	-4	-3	-2	-1
					5

Product Variety: **35**

% Price Advantage: **0**

Product Variety: **35**

% Price Advantage: **0**

% Unit Sales Growth in Year 1

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	65	70	90	110
Advantage	2	45	50	65	85
Over Best	1	25	30	45	60
Competitor	0	20	25	35	45
	-1	-5	0	5	10
					40

Annual % Unit Sales Growth in Years 2 - 5

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	16	17	22	27
Advantage	2	11	12	16	21
Over Best	1	6	7	11	15
Competitor	0	5	6	8	11
	-1	-2	0	1	2
					10

Product Variety: **70**

% Price Advantage: **0**

Product Variety: **70**

% Price Advantage: **0**

% Unit Sales Growth in Year 1

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	110	118	148	178
Advantage	2	80	88	110	140
Over Best	1	50	58	80	103
Competitor	0	43	50	65	80
	-1	5	13	20	28
					73

Annual % Unit Sales Growth in Years 2 - 5

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	29	31	38	46
Advantage	2	22	23	29	37
Over Best	1	14	16	22	28
Competitor	0	13	14	17	22
	-1	2	5	7	8
					20

Product Variety: **140**

% Price Advantage: **0**

Product Variety: **140**

% Price Advantage: **0**

% Unit Sales Growth in Year 1

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	38	41	56	71
Advantage	2	23	26	38	53
Over Best	1	8	11	23	34
Competitor	0	4	8	15	23
	-1	-15	-11	-7	-4
					19

Annual % Unit Sales Growth in Years 2 - 5

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	9	10	14	17
Advantage	2	5	6	9	13
Over Best	1	2	2	5	8
Competitor	0	1	2	3	5
	-1	-4	-3	-2	-1
					5

Product Variety: **35**

% Price Advantage: **-2**

Product Variety: **35**

% Price Advantage: **-2**

% Unit Sales Growth in Year 1

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	60	65	85	105
Advantage	2	40	45	60	80
Over Best	1	20	25	40	55
Competitor	0	15	20	30	40
	-1	-10	-5	0	5
					35

Annual % Unit Sales Growth in Years 2 - 5

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	16	17	22	27
Advantage	2	11	12	16	21
Over Best	1	6	7	11	15
Competitor	0	1	2	3	5
	-1	-2	0	1	2
					10

Product Variety: **70**

% Price Advantage: **-2**

Product Variety: **70**

% Price Advantage: **-2**

% Unit Sales Growth in Year 1

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	105	113	143	173
Advantage	2	75	83	105	135
Over Best	1	45	53	75	98
Competitor	0	38	45	60	75
	-1	0	8	15	23
					68

Annual % Unit Sales Growth in Years 2 - 5

Order Shipment Fill Rate

	0.85	0.9	0.95	0.98	1
Speed Of Delivery	3	29	30	38	45
Advantage	2	21	23	29	36
Over Best	1	14	15	21	27
Competitor	0	12	14	17	21
	-1	2	5	6	8
					20

Product Variety: **140**

% Price Advantage: **-2**

Product Variety: **140**

% Price Advantage: **-2**

Marketing's Projections Of Sales Growth With Changes In Market Mix

% Unit Sales Growth in Year 1						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	25	29	44	59	89
	2	10	14	25	40	74
	1	-5	-1	10	22	52
	0	-8	-5	3	10	37
	-1	-27	-23	-20	-16	7

Product Variety: **35**

% Price Advantage: **-5**

Annual % Unit Sales Growth in Years 2 - 5						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	8	9	12	16	24
	2	4	5	8	12	20
	1	0	1	4	7	15
	0	0	0	2	4	11
	-1	-6	-4	-3	-3	3

Product Variety: **35**

% Price Advantage: **-5**

% Unit Sales Growth in Year 1						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	48	53	73	93	133
	2	28	33	48	68	113
	1	8	13	26	43	83
	0	3	8	18	28	63
	-1	-22	-17	-12	-7	23

Product Variety: **70**

% Price Advantage: **-5**

Annual % Unit Sales Growth in Years 2 - 5						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	14	15	20	25	35
	2	9	10	14	19	30
	1	4	5	9	13	23
	0	3	4	6	9	18
	-1	-4	-2	-1	0	8

Product Variety: **70**

% Price Advantage: **-5**

% Unit Sales Growth in Year 1						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	93	100	130	160	220
	2	63	70	93	123	190
	1	33	40	63	85	145
	0	25	33	48	63	115
	-1	-12	-5	3	10	55

Product Variety: **140**

% Price Advantage: **-5**

Annual % Unit Sales Growth in Years 2 - 5						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	27	29	36	44	59
	2	20	21	27	35	51
	1	12	14	20	26	41
	0	11	12	15	20	33
	-1	0	3	5	6	18

Product Variety: **140**

% Price Advantage: **-5**

% Unit Sales Growth in Year 1						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	-78	-74	-59	-44	-14
	2	-93	-89	-78	-63	-29
	1	-100	-100	-93	-81	-51
	0	-100	-100	-100	-93	-66
	-1	-100	-100	-100	-100	-96

Product Variety: **35**

% Price Advantage: **-10**

Annual % Unit Sales Growth in Years 2 - 5						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	-3	-2	2	6	13
	2	-6	-6	-3	1	10
	1	-10	-9	-6	-3	4
	0	-11	-10	-9	-6	0
	-1	-16	-15	-14	-13	-7

Product Variety: **35**

% Price Advantage: **-10**

% Unit Sales Growth in Year 1						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	-55	-50	-30	-10	30
	2	-75	-70	-55	-35	10
	1	-95	-90	-75	-60	-20
	0	-100	-95	-85	-75	-40
	-1	-100	-100	-100	-100	-80

Product Variety: **70**

% Price Advantage: **-10**

Annual % Unit Sales Growth in Years 2 - 5						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	4	5	10	15	25
	2	-1	0	4	9	20
	1	-6	-5	-1	3	13
	0	-7	-6	-4	-1	8
	-1	-14	-12	-11	-10	-2

Product Variety: **70**

% Price Advantage: **-10**

% Unit Sales Growth in Year 1						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	-10	-3	28	58	118
	2	-40	-33	-10	20	88
	1	-70	-63	-40	-18	43
	0	-78	-70	-55	-40	13
	-1	-100	-100	-100	-93	-48

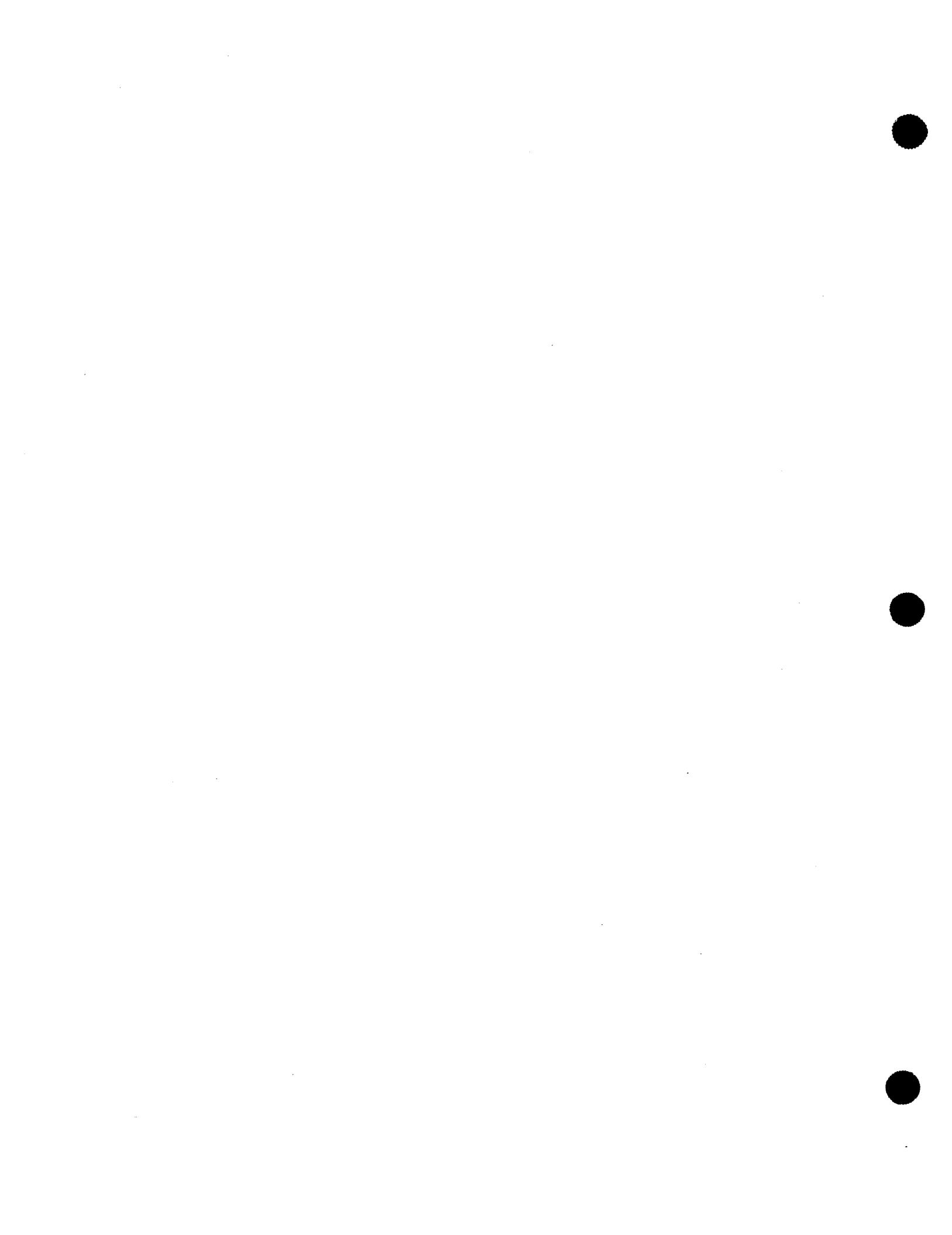
Product Variety: **140**

% Price Advantage: **-10**

Annual % Unit Sales Growth in Years 2 - 5						
Order Shipment Fill Rate						
	0.85	0.9	0.95	0.98	1	
Speed Of Delivery Advantage Over Best Competitor	3	17	19	26	34	49
	2	10	11	17	25	41
	1	2	4	10	16	31
	0	0	2	5	10	23
	-1	-10	-7	-6	-4	8

Product Variety: **140**

% Price Advantage: **-10**



Appendix A

Telephone Survey Instrument



APPENDIX A
Telephone Survey Instrument

Respondent Number _____

A. Hydraulic hose Usage And Intentions

Q1. I would like to know about your company's current usage of hydraulic hoses. Does your location currently use hydraulic hoses in your operation or products?

1. Yes
2. No (Skip to Q3)

Q2. About how many hydraulic hoses did your company buy in the last twelve months?

_____ (record number)

Q3. Does your company plan to purchase any hydraulic hoses in the next twelve months?

1. Yes
2. No (Skip to Q6)

Q4. Approximately how many hydraulic hoses is your company likely to buy in the next twelve months?

_____ (record amount)

Q5. Including associated engineering and support services, about how much would you expect to spend on average for each hydraulic hose that you plan to purchase in the next twelve months?

_____ (record number)

B. Importance Of Factors In The Hydraulic hose Purchase Decision

- Q6. Now I am going to provide you a list of factors that might apply to your location's decision regarding the purchase of hydraulic hoses. I would like you to rank order them from 1 to 9, with 9 being the most important in your purchasing decision.

Rank	Factors
	Product quality
	Product appearance (tagging, color, packaging)
	Product variety (number of styles, customization)
	Low purchase price
	Fast delivery (order to receipt)
	Reliability of delivery promises (order fill rate)
	Low total life-cycle cost
	Technical support (application engineering)
	Convenient service

C. Satisfaction And Brand Loyalty

- Q7. (Ask only if company buys hydraulic hoses, otherwise code "6" and skip to Q9.) Which brand of hydraulic hose does your location normally purchase?

1. Velocity
2. Parker Hannifin
3. Aeroquip
4. Weatherhead
5. Other
6. Uses hydraulic hose substitute

- Q8. How many days do you normally wait for delivery once your order is placed?

_____ (record number of days)

Q9. I am going to repeat the list of factors that might apply to your purchase decision. Please rate the current performance of (**NAME** of supplier above or “**substitute provider**”) in each of these areas.

SCALE	PERFORMANCE RATING
5	Exceptional
4	Good
3	Acceptable
2	Could improve a little
1	Could improve a lot
0	Totally unacceptable
N/A	Don't Know/Refuse

Rating	Factors
	Product quality
	Product appearance (tagging, color, packaging)
	Product variety (number of styles, customization)
	Low purchase price
	Fast delivery (order to receipt)
	Reliability of delivery promises (order fill rate)
	Low total life-cycle cost
	Technical support (application engineering)
	Convenient service

Thank you for your time and cooperation.

D. General Demographic Data

(Record from Dun & Bradstreet information on listing)

D1. Size of customer business

1. Small
2. Medium
3. Large

D2. Region in which business is located

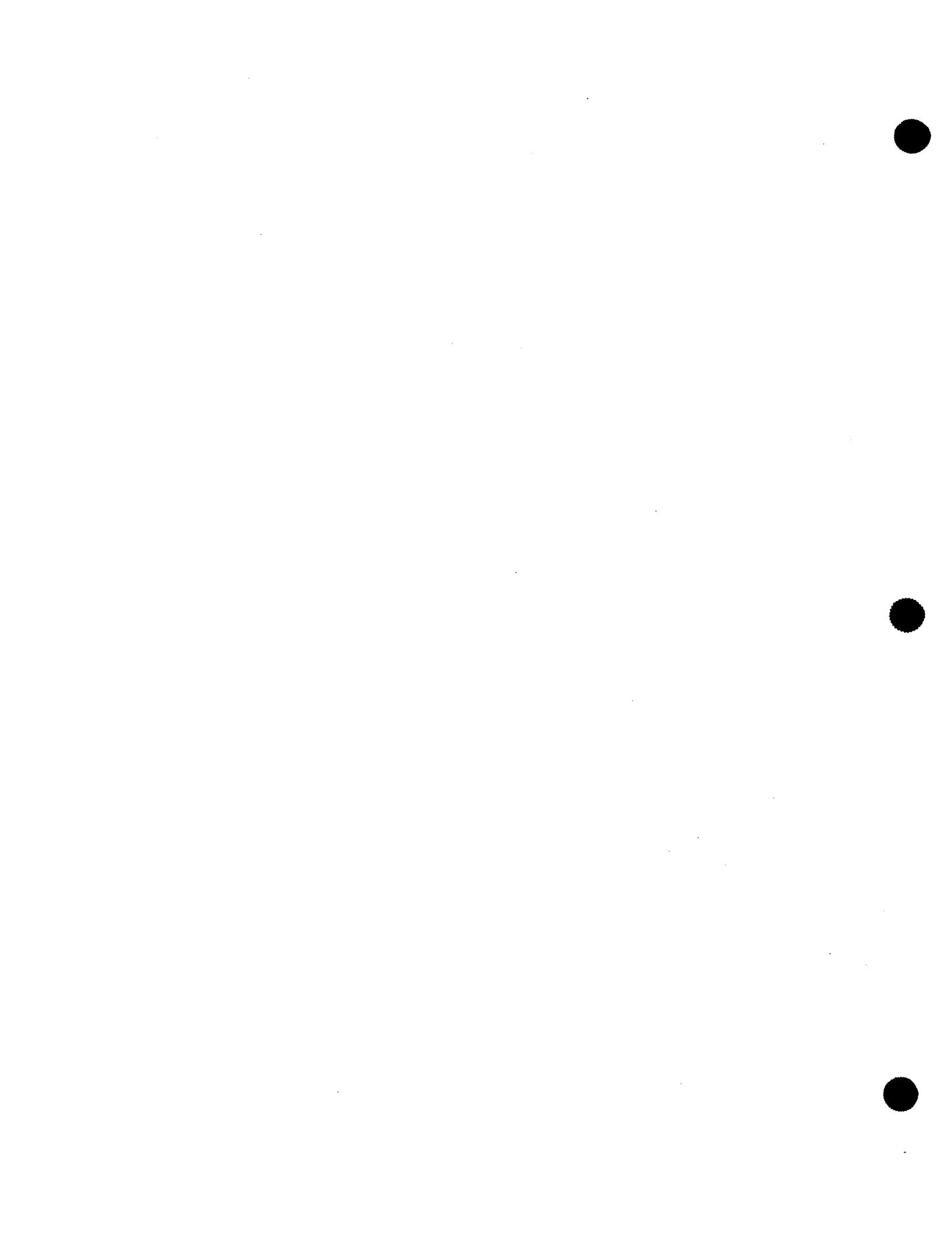
1. Northeast
2. Southeast
3. Midwest
4. Northwest
5. Southwest

D3. Type of customer business

1. OEM
2. Distributor

Appendix B

MOA Survey Responses



58	2	2	2	2	N/A	N/A	380	6	4	7	7	9	5	2	1	3	6	3	1	5	3	1	1	2	1	
59	1	2	1	1	25	1	25	660	9	1	3	7	5	6	8	4	2	1	0	3	3	5	1	2	5	3
60	1	5	2	1	5	1	5	730	5	4	9	2	7	6	1	8	3	4	1	2	3	3	2	3	2	1
61	1	2	1	2	N/A	N/A	380	5	4	9	7	8	6	1	2	3	6	0	3	1	4	3	1	1	2	1
62	1	5	2	1	5	1	5	750	9	4	8	2	5	6	7	3	3	1	5	5	4	2	4	1	2	3
63	2	1	1	1	220	1	300	700	5	9	7	8	4	6	1	2	3	3	1	3	4	2	3	3	5	5
64	1	5	1	1	5	1	5	850	5	4	6	9	3	7	1	8	2	3	0	4	5	2	4	3	2	1
65	1	5	2	1	5	1	5	690	5	4	9	2	7	6	1	8	3	3	0	1	5	5	2	3	2	1
66	3	3	1	1	600	1	600	800	5	2	7	9	1	6	2	8	3	3	0	3	5	4	3	2	4	5
67	3	1	2	1	700	1	700	460	7	4	9	8	5	6	1	2	3	4	0	3	2	4	3	2	3	5
68	2	2	1	1	150	1	150	660	9	2	1	2	5	6	8	7	3	1	1	5	5	4	3	2	3	3
69	3	.3	2	1	700	1	700	780	8	3	9	2	5	6	7	1	4	1	2	5	3	1	1	1	1	3
70	3	1	1	2	N/A	N/A	380	5	2	8	7	9	6	1	4	3	6	0	3	1	4	5	2	2	1	1
71	2	4	1	1	60	1	60	770	3	4	7	9	1	6	2	8	5	4	0	3	2	4	3	3	1	1
72	1	2	1	1	15	1	15	640	5	4	7	9	8	6	1	2	3	0	4	3	4	4	3	3	3	3
73	3	2	2	1	450	1	450	640	7	5	9	8	4	6	1	2	3	2	0	3	5	2	5	3	3	5
74	2	5	1	1	60	1	60	750	5	6	7	9	2	8	1	4	3	3	0	4	3	4	4	5	2	5
75	3	1	1	1	400	1	400	460	8	4	2	6	5	9	7	1	3	1	7	3	3	4	2	2	3	3
76	3	4	2	2	N/A	N/A	380	6	3	9	2	8	5	1	7	4	6	1	1	5	5	4	1	1	1	1
77	2	3	1	1	150	1	150	620	3	5	6	8	2	7	1	9	4	4	0	4	2	4	3	4	1	4
78	1	1	2	2	N/A	N/A	380	6	4	5	8	7	9	3	2	1	6	0	3	1	5	5	4	1	2	1
79	2	2	1	1	120	1	120	760	5	3	7	8	9	6	1	2	4	4	1	2	2	4	1	3	4	3
80	3	2	2	2	N/A	N/A	380	7	5	4	8	9	6	1	2	3	6	5	3	1	4	4	1	1	1	2
81	3	1	1	1	350	1	350	460	5	9	7	3	8	6	1	2	4	4	0	3	2	5	2	3	3	3
82	1	3	1	2	N/A	N/A	380	7	4	8	9	2	6	1	5	3	6	0	3	1	4	4	2	3	4	1
83	3	3	1	1	600	1	600	620	9	4	7	5	2	6	9	1	3	1	3	4	3	3	1	2	1	
84	2	4	2	1	80	1	80	910	4	5	8	2	7	6	1	9	3	3	0	4	4	2	4	5	2	3
85	2	5	1	1	60	1	60	910	4	5	7	8	2	6	1	9	3	3	0	1	4	5	3	2	3	
86	3	5	2	1	400	1	400	750	5	4	9	2	6	7	1	8	3	3	0	3	5	3	3	2	4	
87	1	3	2	1	20	1	20	680	6	4	7	1	5	9	2	7	3	2	0	4	5	5	3	3	2	3
88	1	5	1	1	10	1	10	850	5	4	7	8	1	6	2	9	3	2	0	4	3	3	1	4	3	3
89	2	2	2	1	120	1	120	600	4	5	8	9	7	6	1	2	3	2	0	3	5	4	2	2	3	2
90	1	4	2	1	15	1	15	850	5	2	8	4	7	6	1	9	3	3	2	3	4	1	1	1	1	
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94	1	1	1	2	N/A	N/A	380	3	4	9	7	8	6	2	1	5	6	0	3	1	4	4	3	2	2	
95	2	2	2	1	80	1	80	640	5	3	8	9	6	7	1	2	4	5	0	2	3	2	2	3	5	1
96	2	5	2	1	30	1	30	790	5	3	8	2	7	6	1	9	4	3	0	3	4	3	2	4	3	3
97	1	5	2	1	10	1	10	730	9	1	8	2	6	5	7	4	3	1	0	3	3	2	2	1	3	3
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103	1	2	1	1	15	1	15	460	9	1	2	7	5	6	8	4	3	1	0	3	3	2	2	3	3	3
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106	3	2	2	1	500	1	500	620	5	4	9	8	7	6	1	3	2	2	0	5	1	3	2	4	4	3
107	2	3	2	2	N/A	N/A	380	5	3	9	2	8	6	1	7	4	6	0	3	1	5	2	4	4	3	3
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110	3	2	2	1	500	1	500	700	5	4	9	8	7	6	1	2	3	3	0	5	4	2	4	4	1	3
111	2	5	2	2	N/A	N/A	380	5	4	9	3	8	7	1	6	2	6	0	3	1	5	3	2	4	3	3
112	1	4	1	1	15	1	15	640	9	1	5	7	3	6	8	4	2	1	1	5	4	4	1	1	2	2
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114	2	3	1	1	130	1	130	620	5	4	7	8	1	6	2	9	3	2	0	4	1	1	3	2	3	5

115	2	5	2	1	55	1	55	870	8	4	9	2	7	6	1	5	3	2	0	3	3	5	1	4	4	5	3	
116	1	1	1	1	30	1	30	700	5	2	7	8	9	6	1	4	3	2	0	4	2	5	3	1	4	3	4	4
117	3	4	1	1	400	1	400	890	4	5	7	8	2	6	1	9	3	3	0	3	5	5	4	3	3	5	2	
118	2	5	2	2	N/A	N/A	N/A	480	6	5	7	2	8	9	1	4	3	6	0	3	2	4	4	4	1	1	4	
119	3	5	2	1	400	0	0	N/A	5	9	8	2	7	6	1	4	3	3	0	3	4	5	3	3	3	3	4	
120	3	3	2	1	600	1	600	620	8	5	9	2	4	6	7	1	3	1	5	3	3	2	3	2	1	4	3	
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122	2	4	2	2	N/A	N/A	N/A	380	1	2	7	3	8	6	5	9	4	6	3	3	2	4	4	1	1	2		
123	3	2	1	1	600	1	600	620	5	4	7	9	8	6	1	2	3	0	4	5	2	3	2	3	4	5		
124	3	4	1	1	550	1	550	770	7	4	6	5	1	9	8	2	3	1	3	5	3	2	4	1	1	3	2	
125	1	2	2	1	5	1	5	680	4	5	8	9	7	6	1	2	3	0	3	1	5	4	4	2	4	5	5	
126	2	5	2	1	35	1	35	630	9	4	8	1	5	6	7	3	2	1	0	4	4	1	2	1	1	3		
127	1	2	2	2	N/A	N/A	N/A	380	5	3	7	8	9	6	1	2	4	6	6	3	1	4	5	3	1	2		
128	1	1	1	1	40	1	40	560	6	4	7	9	8	5	1	2	3	0	4	3	3	5	4	2	5	3	1	
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130	1	4	1	1	20	1	20	770	6	4	7	5	2	9	3	8	1	2	0	4	3	5	5	3	2	1		
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135	3	2	2	1	600	1	600	660	8	9	7	5	2	6	4	1	3	1	0	5	3	2	1	5	3	3		
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137	3	3	2	1	900	0	0	N/A	6	4	9	2	7	5	1	8	3	5	0	2	3	3	4	3	1	4		
138	3	4	1	1	550	1	550	830	9	4	6	7	2	3	7	1	5	1	0	5	3	3	2	1	3	1		
139	3	2	2	1	400	1	400	600	9	4	7	5	2	6	8	1	3	1	1	3	4	3	2	2	5	2		
140	2	1	2	1	130	1	130	580	5	4	9	8	7	6	1	3	2	5	0	4	1	4	3	3	4	4		
141	1	1	1	1	15	0	0	N/A	9	1	3	7	5	6	8	4	2	1	5	3	2	3	1	1	3			
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147	3	3	1	2	N/A	N/A	N/A	380	5	4	9	8	2	6	1	7	3	6	3	1	1	5	5	4	1	2		
148	2	5	2	2	N/A	N/A	N/A	380	7	4	9	2	8	6	1	5	3	6	0	3	2	5	3	2	1	2		
149	2	4	1	2	N/A	N/A	N/A	380	5	6	4	9	2	8	1	7	3	6	0	4	1	4	5	3	1	1		
150	3	1	2	1	900	1	900	460	5	6	8	9	4	7	2	1	3	3	0	3	5	3	2	4	1	5		
151	2	5	1	2	N/A	N/A	N/A	380	5	9	4	8	2	6	1	7	3	6	8	3	1	1	5	5	2	1		
152	3	1	2	1	800	1	800	480	4	2	8	5	7	6	1	2	3	2	3	1	1	5	3	2	1	3		
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155	2	3	1	1	150	1	150	680	8	4	5	1	2	9	8	6	3	1	2	3	3	4	2	5	4			
156	2	2	2	2	N/A	N/A	N/A	380	5	4	7	8	9	6	1	2	3	6	0	3	1	4	4	2	3			
157	3	5	2	1	300	1	300	770	7	5	9	2	4	6	1	8	3	2	0	3	4	1	4	4	3	3		
158	2	3	2	2	N/A	N/A	N/A	380	5	3	8	2	9	6	1	7	4	6	0	3	2	4	5	3	2	1		
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161	1	2	2	2	N/A	N/A	N/A	380	5	4	7	8	9	6	1	2	3	6	0	3	1	5	4	3	2	1		
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166	1	1	2	1	20	1	20	520	3	4	8	9	7	6	2	1	5	5	1	3	2	4	2	3	3			
167	1	3	1	2	N/A	N/A	N/A	380	5	6	9	8	1	7	2	4	3	6	0	3	1	5	3	2	3			
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169	1	2	2	1	10	0	0	N/A	9	1	7	6	2	4	8	5	3	1	0	5	3	2	3	3	2			
170	2	3	2	1	80	1	150	700	2	4	9	5	7	6	1	8	3	3	0	2	5	5	2	3	3			
171	3	4	1	1	300	1	300	750	6	3	7	9	2	5	1	8	4	2	0	4	1	3	5	1	3			

172	3	5	1	1	250	1	250	9	4	5	6	3	7	9	1	2	1	0	3	3	3	3	1	2	4	3
173	3	1	2	1	750	1	750	5	4	7	8	6	9	1	2	3	3	0	3	5	2	3	4	4	2	3
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175	3	3	2	1	700	1	700	6	5	7	2	4	9	1	8	3	4	1	5	3	5	3	1	4	5	5
176	2	2	2	1	80	1	80	620	5	4	8	7	6	9	1	2	3	3	0	2	3	4	5	2	4	1
177	3	1	2	2	N/A	N/A	N/A	380	5	4	6	9	8	7	1	3	2	6	2	1	1	4	5	3	2	4
178	2	5	2	1	40	1	40	830	9	2	8	2	5	6	7	1	3	1	0	5	5	2	3	2	1	1
179	2	4	1	1	90	1	90	710	6	4	7	9	2	5	1	8	3	2	0	4	5	5	4	2	3	4
180	2	5	1	1	60	1	60	730	6	5	7	9	2	4	1	8	3	2	0	3	3	5	3	2	5	4
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182	1	1	1	2	N/A	N/A	N/A	380	2	4	9	7	8	6	1	5	3	6	0	3	2	4	1	3	1	3
183	2	2	2	1	80	1	80	540	9	4	7	1	2	6	8	5	3	1	1	3	4	2	3	1	2	1
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185	3	4	2	1	400	1	400	870	5	4	9	2	7	6	1	7	3	4	0	2	4	3	4	1	4	5
186	2	3	1	2	N/A	N/A	N/A	380	4	2	8	5	2	6	1	7	3	6	0	2	4	3	3	2	4	3
187	1	2	2	2	N/A	N/A	N/A	380	6	4	7	8	9	3	1	2	5	6	0	3	1	4	5	3	2	1
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193	1	4	2	2	N/A	N/A	N/A	480	5	4	8	2	7	9	1	6	3	6	0	3	1	5	5	3	2	1
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328	1	5	2	2	N/A	N/A	380	5	2	8	4	9	6	1	7	3	6	0	3	1	4	5	3	1	1	4	2	
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404	3	2	1	2	N/A	N/A	N/A	N/A	N/A	380	5	9	7	3	8	6	1	2	4	6	1	3	1	4	4	4	1	1	2	1	
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408	3	4	2	2	N/A	N/A	N/A	N/A	N/A	480	5	4	9	2	8	6	1	7	3	6	0	3	1	4	5	4	1	1	2	1	
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457	2	3	2	1	60	1	60	640	3	9	8	1	5	6	7	2	4	1	1	5	3	1	2	1	2	3	1	
458	2	5	1	2	N/A	N/A	N/A	380	5	4	8	9	2	7	1	6	3	6	0	3	1	4	3	2	1	1	2	1
459	1	4	1	1	20	1	20	790	5	4	7	9	2	6	1	8	3	5	0	2	3	3	2	2	3	4	2	3
460	3	4	1	1	500	1	500	750	5	4	6	8	2	9	1	7	3	4	0	2	4	3	5	4	3	5	3	3
461	1	3	1	1	30	1	30	640	9	1	5	7	2	6	9	4	3	1	2	5	4	4	4	1	1	3	2	3
462	1	3	2	2	N/A	N/A	N/A	380	5	4	8	1	9	6	2	7	3	6	2	3	1	3	4	1	1	4	1	1
463	1	2	2	2	N/A	N/A	N/A	420	5	3	7	9	8	6	1	2	4	6	0	2	1	4	4	3	1	1	3	1
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479	2	4	1	2	N/A	N/A	N/A	660	5	4	8	9	2	6	1	7	3	6	0	1	1	4	4	3	1	1	2	1
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487	2	1	2	2	N/A	N/A	N/A	400	7	4	5	8	9	6	1	2	3	6	3	3	1	5	5	3	1	1	1	1
488	1	5	2	2	N/A	N/A	N/A	380	6	5	7	2	8	9	1	4	3	6	3	1	1	4	5	3	1	1	2	2
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548	1	3	2	2	N/A	N/A	N/A	380	6	3	9	2	8	5	1	7	4	6	0	3	1	4	3	3	1	3	2		
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