

## ***Case Study: HBAT Industries<sup>1</sup>***

### ***Background***

HBAT industries (HBAT), is a premium manufacturer of paper products in U.S. Its paper products are used widely in the newsprint industry and the magazine industry both inside and outside of North America. It is a well established company with a fully developed Marketing unit. The company either uses its distribution channels or brokers channel to supply the paper products to the customer. But due to the changing customer perceptions and relationships, the company is facing challenges by newer companies. HBAT management is concerned and wants to change their marketing strategy for the next year to regain its market share. HBAT wants to identify and position itself accordingly to the characteristics of its customers and the relationships between their perceptions of HBAT, and their actions towards HBAT (e.g., satisfaction and likelihood to recommend).

To help HBAT marketing unit, the management has hired Crimson Consulting Co. (Crimson). Crimson Consulting Co., is an established marketing research company. It has one of the well established lead-user groups. Crimson collected part of the data set through online surveys of HBAT customers completed on a secure website. Crimson contacts purchasing managers and encourages them to participate. To do so, managers log to the web and finish the survey. The survey data are supplemented by other information compiled and stored in HBAT's data warehouse and accessible through its decision support system.

### ***Database***

The database, consisting of 100 observations on 18 separate variables, is based on a market segmentation study of HBAT customers. As you already know, HBAT sells paper products to two market segments: the newsprint industry and the magazine industry. The paper products are sold to these market segments either directly to the customer, or indirectly through broker.

Two types of information were collected in the surveys. The first type of information was perceptions of HBAT's performance on 13 attributes. These attributes, developed through focus groups, a pretest, and variables used in previous studies, are considered to be the most influential in the selection of suppliers in the paper industry. Respondents included purchasing managers of firms buying from HBAT, and they rated HBAT on each of the 13 attributes using a 0-10 scale, with 10 being "Excellent" and 0 being "Poor". The second type of information relates to purchase outcomes and business relationships (e.g., satisfaction with HBAT and whether the firm would consider a strategic alliance / partnership with HBAT).

A third type of information is available from HBAT's data warehouse and includes information such as size of customer and length of purchase relationship.

### ***Data information and description***

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<sup>1</sup> Adapted from J. F. Hair Jr. et al., *Multivariate Data Analysis*, 6<sup>th</sup> ed., Pearson, New Jersey (2006).

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Brief descriptions of the database variables are provided in Table 1-1, in which the variables are classified as either independent or dependent, and either metric or non-metric. A definition of each variable and an explanation of its coding are provided in the following sections.

<i>TABLE 1-1 Description of Database variables</i>		
<b>Variable Description</b>		<b>Variable Type</b>
<b><i>Data Warehouse Classification Variables</i></b>		
X1	Customer Type	Non-metric
X2	Industry Type	Non-metric
X3	Firm Size	Non-metric
X4	Region	Non-metric
X5	Distribution System	Non-metric
<b><i>Performance Perceptions Variables</i></b>		
X6	Product Quality	metric
X7	E-Commerce Activities/Website	metric
X8	Technical Support	metric
X9	Complaint Resolution	metric
X10	Advertising	metric
X11	Product Line	metric
X12	Sales Force Image	metric
X13	Competitive Pricing	metric
X14	Warranty and Claims	metric
X15	New Products	metric
X16	Ordering and Billing	metric
X17	Price Flexibility	metric
X18	Delivery Speed	metric
<b><i>Outcome/ Relationship Measures</i></b>		
X19	Satisfaction	metric
X20	Likelihood of Recommendation	metric
X21	Likelihood of Future Purchase	metric
X22	Current Purchase/ Usage Level	metric
X23	Consider Strategic Alliance/ Partnership in Future	Non-metric

## ***Data Classification***

### ***Data Warehouse Classification Variables***

As respondents were selected for the sample to be used by the marketing research firm, five variables were extracted from HBAAT's data warehouse to reflect the basic firm characteristics and their business relationship with HBAAT. The five variables are as follows:

<b>X1</b>	<b>Customer Type</b>	Length of time a particular customer has been buying from HBAT:
		1= Less than one year
		2= Between 1 and 5 years
		3= Longer than 5 years
<b>X2</b>	<b>Industry Type</b>	Type of industry that purchases HBAT's paper products:
		0= Magazine industry
		1= Newsprint industry
<b>X3</b>	<b>Firm Size</b>	Employee size:
		0= Small firm, fewer than 500 employees
		1= Large firm, 500 or more employees
<b>X4</b>	<b>Region</b>	Customer Location:
		0= USA / North America
		1= Outside North America
<b>X5</b>	<b>Distribution System</b>	How paper products are sold to customers:
		0= Sold indirectly through a broker
		1= Sold directly

### ***Performance Perceptions Variables***

Each respondent's perceptions of HBAT on a set of business functions were measures on a graphic rating scale, where a 10-centimeter line was drawn between the endpoints, labeled "Poor" and "excellent", shown here.



As part of the survey, respondents indicated their perceptions by making a mark anywhere on the line. The location of the mark was electronically observed and the distance from 0 (in centimeters) was recorded in the database for that particular survey. The results were a scale ranging from 0 to 10, rounded to a single decimal place. The 13 HBAT attributes rated by each respondent were as follows:

<b>X6</b>	<b>Product Quality</b>	Perceived level of quality of HBAT's paper products
<b>X7</b>	<b>E-Commerce Activities / Web Site</b>	Overall image of HBAT's Web site, especially user-friendliness
<b>X8</b>	<b>Technical Support</b>	Extent to which technical support is offered to help solve product/service issues
<b>X9</b>	<b>Complaint Resolution</b>	Extent to which any complaints are resolved in a timely and complete manner
<b>X10</b>	<b>Advertising</b>	Perceptions of HBAT's advertising campaigns in all types of media
<b>X11</b>	<b>Product Line</b>	Depth and breath of HBAT's product line to meet

		customer needs
<b>X12</b>	<b><i>Sales Force Image</i></b>	Overall image of HBAT's sales force
<b>X13</b>	<b><i>Competitive Pricing</i></b>	Extent to which HBAT offers competitive prices
<b>X14</b>	<b><i>Warranty and Claims</i></b>	Extent to which HBAT stands behind its product/ service warranties and claims
<b>X15</b>	<b><i>New Products</i></b>	Extent to which HBAT develops and sells new products
<b>X16</b>	<b><i>Ordering and Billing</i></b>	Perceptions that ordering and billing is handled efficiently and correctly
<b>X17</b>	<b><i>Price Flexibility</i></b>	Perceived willingness of HBAT sales reps to negotiate price on purchases of paper products
<b>X18</b>	<b><i>Delivery Speed</i></b>	Amount of time it takes to deliver the paper products once an order has been confirmed

### ***Outcome/ Relationship Measures***

Five specific measures were obtained that reflects the outcomes of the respondent's purchase relationships with HBAT. These measures include the following:

<b>X19</b>	<b><i>Customer Satisfaction</i></b>	Customer satisfaction with past purchases from HABT, measured on a 10-point graphic rating scale
<b>X20</b>	<b><i>Likelihood of Recommending HBAT</i></b>	Likelihood of recommending HBAT to other firms as a supplier of paper products, measured on a 10-point graphic rating scale
<b>X21</b>	<b><i>Likelihood of Future Purchases from HBAT</i></b>	Likelihood of purchasing paper products from HBAT in the future, measured on a 10-point graphic rating scale
<b>X22</b>	<b><i>Percentage of Purchases from HBAT</i></b>	Percentage of the responding firm's paper needs purchased from HBAT, measured on a 100-point percentage scale
<b>X23</b>	<b><i>Perception of Future Relationship with HBAT</i></b>	Extent to which the customer/ respondent perceives his or her firm would engage in strategic alliance / partnership with HBAT: 0= Would not consider 1= Yes, would consider strategic alliance or partnership

The data set is given in JMP file: **HBAT\_200.jmp**.