

- Is there any association between market share and the size of the sales force?
- What bearing does customer support have on customer loyalty?

Product moment correlation looks to determine covariance—a systematic relationship where a change in one variable implies a corresponding change in another. It’s the “ah-ha” moment where you discover what factors are the real key players in attracting and retaining customers.

Building a Deeper Understanding of the Customer through Regression Analysis

Regression Analysis refines the insights established by product moment correlation by **digging further into the associative relationship** of different business variables and their effect on the customer’s attitudes and opinions. It’s concerned with the nature of variables and answers questions such as:

- Can a **variation** in sales be explained by a **variation** in advertising expenditures? If so, what is the structure and form of this relationship?
- Can a specific **variation** in market share be accounted for by the size of the sales force?

Deriving Importance Successfully: Eurail

Eurail is one of the most popular forms of travel throughout Europe, with the Eurail Group operating in 30 European countries. When the organization came to Infosurv with the goal of learning more about their customers’ mindset, Infosurv custom tailored a “blind” online market research survey to yield both reliable and valid data.

Infosurv used product moment correlation to transform the data obtained into new insights into Eurail’s customers that included:

- An Insights Report summarizing the most significant findings and suggesting areas of improvement for Eurail
- The **exact product offerings** Eurail’s customers were most interested in
- The **strategic alliances** that would **most benefit Eurail** and add to the flexibility of its product offerings
- Recommendations to improve Eurail customer satisfaction and loyalty

- Are consumers' perceptions of quality **determined** by their perceptions of price (as opposed to just discovering if a relationship exists)?

Bivariate vs. Multiple regression

There are two standard types of regression analysis, **bivariate** and **multiple** regression.

- Bivariate regression mines the relationship between one dependant variable (such as sales) and one independent variable (such as advertising expenditures). This analysis plots survey data graphically, prompting **clear discoveries** into any resulting patterns. (Does an increase in "X" result in an increase in "Y"?)
- Multiple regression is a statistical technique to simultaneously discover a relationship between one dependent variable (sales) and two or more independent variables (advertising expenditures, combined with the size of the sales force). Through complex equations, this method attempts to determine the strength of association of the variables and how they interrelate to affect the business issue at hand.

Data Analysis Success: Merck

Merck is a global research-driven pharmaceutical company with over 160 suppliers and over \$22 billion in annual revenue. They needed to determine supplier satisfaction levels from their network of over 160 global suppliers.

After executing an online vendor satisfaction survey, Infosurv executed a custom regression analysis that yielded several actionable conclusions:

- Demographic breakdowns including size of vendor and number of contracts negotiated with Merck per year
- **Key areas of improvement** for Merck, such as communication, pricing policies and contract terms
- **Six recommendations** to increase **vendor satisfaction** for Merck

We recommend product moment correlation or bivariate regression over multiple regression in the majority of business survey research cases. A multiple regression model is extremely complicated, yielding results that are difficult to understand and interpret by the average business decision maker.

Rather than developing a confusing web of interlocking relationships, find the individual business drivers that are most important to the business issue you need to address. Then, rank these drivers in order of importance to determine where your primary focus should be.

This will deliver **clear, concise information to act on**. And it's this type of derived importance that product moment correlation and bivariate regression provide most effectively.

Data Analysis Techniques: Pros Vs. Cons

Type of Analysis	Pro	Con
Product Moment Correlation	Clear identification of variables that are influencing customer – empowers clear decisions	Does not identify degree of influence as precisely as regression analysis
Bivariate Regression	Identifies degree of association between variables – learn how much a customer is being influenced	More difficult for decision-maker to understand due to complexity of analysis
Multiple Regression	Identifies how different variables interact in combination to affect the customer	Very complex analysis with conclusions that are very hard to comprehend by anyone who is not a market researcher

Data Analysis Success: HMO Case Study

A large health maintenance organization (HMO) regularly conducts studies to support its ongoing patient satisfaction measurement program. A recent study examined 4,517 patients who subscribed to 501 primary care physicians (PCPs) affiliated with the HMO. Data for two main variables was collected:

- Patient satisfaction was the dependent variable
- Quality of PCP interaction was the independent variable

Three separate regression analyses on this data were run:

- One for satisfied patients
- One for dissatisfied patients
- One for all patients

Surprisingly, it was discovered that dissatisfied patients were the most sensitive to the quality of PCP interaction. This discovery meant that health care providers should pay more attention to the aspects of PCP interaction that lead to dissatisfaction, rather than the factors that lead to satisfaction.

This valuable intelligence enabled the HMO to take **targeted steps to boost the satisfaction level of their patients**⁴.

Faster and More Affordable—Online Research

When performing a regression or correlation analysis, the latest online tools are a great aid for one simple reason:

- Online tools can perform regression and correlation analyses **automatically**.

When you execute a survey online, you are saving a great amount of time and cost because the creation, distribution, validation and tabulation tasks are all handled automatically. The same value applies to using online technologies for data analysis. The best systems can perform the analysis and present the information through intuitive charts and graphs— reducing

researcher workload and enabling them to **make the most informed judgments possible.**

Data Analysis Outsourcing: Using Survey Vendors to Derive the Right Importance

It's true that common technologies such as SPSS® and Microsoft Excel® can perform basic correlation and regression analyses, but there is a key reason why trusting these simple software platforms can be a mistake⁷:

- By not using an online survey vendor, you are missing out on the **years of expertise** and knowledge that can make the data truly valuable.

Just as using a scalpel does not make one a surgeon, using automated tools alone is not enough to ensure that the right conclusions are drawn based on a set of survey data. Deriving importance out of survey is a skill that must be delivered by experienced market research professionals to avoid misinterpretations and **potentially false assumptions.**

Derived Importance—the Looking Glass into Customer Behavior

Derived importance can be your crystal ball to viewing what makes customers want to buy—and what will make your product or service what they can't live without.

If you select the right method of analysis, and if you chose the right partner to help you make your data sing, you'll be amazed at how **targeted and precise** your strategic business decisions will become. Derived importance is

Outsourcing Advantage: Marconi

Telecommunications heavyweight Marconi needed to strengthen their customer relationships by identifying their own responsiveness to customer demands. They contacted Infosurv to help them tap into Marconi's own customer resources to learn consumer perceptions and what's really important to their overall level of satisfaction.

Infosurv responded with an **Importance vs. Satisfaction Analysis** that brought to light the relationship between perceived importance and the customer satisfaction issues assessed by the survey.

Infosurv divided this analysis by business departments such as Engineering, IT and Marketing to empower Marconi to **target key areas for improvement**—reinforcing customer service in the areas that matter most.



the diving rod you need to balance the customer equation with the right programs and offers to **keep them coming back for more.**

Infosurv is ready to be your partner as you learn what the science of derived importance can accomplish for your company. Contact an Infosurv research consultant today and be sure to read our other informative papers in the Infosurv Insider series for more information.

Reading Customer's Minds: The New York Times

The New York Times needed to fortify their competitive position. The organization surveyed 2,500 households to determine what mattered most in the reading of their daily newspaper. An analysis of the data derived the importance of factors such as:

- insight into the world
- intelligence
- quality
- trustworthiness

The effect of these variables on interest in reading a daily newspaper was the essential component to learning how the paper could reinvent its image.

The newspaper discovered that "sensitive insight into the world" was one of the most important factors influencing interest in reading a newspaper. The New York Times built a \$20 million national image campaign around this discovery using the tagline "Expect the World". This campaign **substantially boosted circulation** for the newspaper **in its very first years**.

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Contributing Editor

Jared Heyman

Jared Heyman is the founder and president of Infosurv, a full-service market research firm specializing in design, administration, and analysis of online and telephone employee, customer, and other market research studies. He leverages years of marketing research expertise to build for his clients the high-value, actionable intelligence they are searching for to facilitate the success of their strategic-level decisions.

Jared Heyman is the one companies listen to when they are planning their own marketing initiatives. He is quoted as a marketing research industry expert in everything from trade publications such as Quirks and Marketing News, to marketing research blogs such as Web Analytics World, to major media outlets such as the Chicago Tribune. Marketing professionals often rely on Jared Heyman's keen insights into the marketing research industry.

Jared Heyman is a fourth-generation entrepreneur, with a lineage of successful start-up companies contained within the family scrapbook. Heyman administered his first market research survey while at Collective Technologies in 1998. It was this experience that made him realize that there was definitely room for improvement in the marketing research arena. Jared Heyman left Collective to launch Infosurv just months later.

With an initial startup cost of less than \$3K, Infosurv has since experienced exponential growth over the past nine years. Infosurv currently has a client base of over 200, including dozens of Fortune 500 and major government agencies, and continues to specialize in market research, customer surveys, employee surveys, and online surveys.

Jared Heyman graduated from the University of Texas at Austin with a BBA, double majoring in Business and Marketing Research. He also has an extensive international profile, with cultural experience in Greece, Turkey, Spain and Southeast Asia.

Mr. Heyman can be contacted at surveys@infosurv.com.

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888-262-3186

980 Hammond Drive, Suite 720
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