Examining the Customer-Employee Satisfaction Feedback Loop

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The most exciting phrase to hear in science, the one that heralds new discoveries, is not "Eureka!" ("I found it!") but rather "hmm…that's funny…"'
– Isaac Asimov

Linking Customer and Employee Satisfaction

Question: Does employee satisfaction affect customer satisfaction? Most market researchers would say "yes, definitely." In fact, it is generally accepted that employee attitudes are powerful predictors of consumer outcomes such as satisfaction and loyalty.

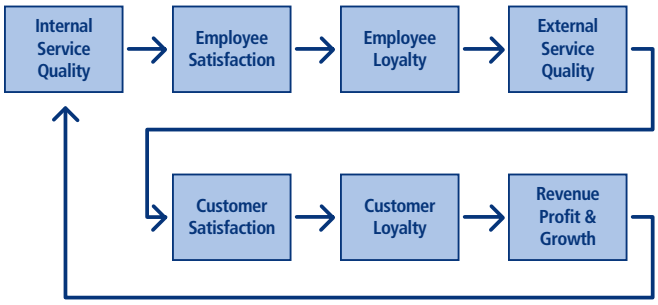
What about an effect in the opposite direction, i.e. does customer satisfaction impact employee satisfaction? For client facing employees in particular, this is likely to be true. For example, an employee dealing with happy customers is liable to have greater job satisfaction and in turn, increased employee loyalty.

Surprisingly, little empirical support exists for either of these two hypotheses. This article examines the linkages between customers, employees and ultimately, firm revenue. In doing so it finds the observed lack of evidence noted above is most likely due to how researchers have represented these linkages rather than actual fact.

The Service-Profit Chain

Various models aimed at illustrating and / or identifying the link between employee and customer satisfaction can be found in marketing textbooks, research literature and practitioner studies. These works generally fall under the heading of "Linkage Modeling". Perhaps one of the best known examples of this type of modeling is illustrated by Heskett et. al. 1994 and is referred to as the "Service Profit Chain" or SPC. The SPC model may be depicted graphically as:

The Service Profit Chain



In examining the model, a circular causal chain becomes evident. Specifically, if we start with employee satisfaction, the model suggests that this has a direct impact on employee loyalty. Employee loyalty in turn manifests itself in what is referred to as "external service quality." Note that external service quality represents the service concept or, put another way, the results for the consumer. It is reflected in outcomes such as: employee professional knowledge, techniques, efficiency and attitude (e.g. courtesy, friendliness).

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External service quality directly impacts customer satisfaction as services are designed and delivered to meet targeted customers needs. Customer satisfaction levels are then assumed to impact customer loyalty. Note that customer loyalty may be directly observable or measured attitudinally. It manifests itself in things like customer retention, repeat business and referral.

As customer loyalty increases, so in turn should revenue and profitability. The model next suggests that revenue growth and profitability "loop back" to something called "internal service quality". Internal service quality embodies actions and attitudes on the part of management which in turn impact employee satisfaction and the loop begins again. Specific components that fall under the heading of "internal service quality" include:

- Management style
- Workplace design / work environment
- Job design
- Employee selection, development / career path
- Employee training
- Employee rewards and recognition
- Tools that enable employees to service customers
- Perceptions of company practices and procedures
- Opportunities for advancement
- Degree of empowerment

The SPC Model and the Empirical Evidence

It is important to note that a number of the links in the SPC model have strong empirical support. For example, numerous studies provide evidence that customer satisfaction and loyalty drive firm performance. In addition, many employee satisfaction studies suggest that internal service quality impacts employee satisfaction.

An apparent empirical contradiction to one of the SPC links also exists however. Specifically, the critical and intuitively appealing link from employee to customer satisfaction has surprisingly little empirical support.

It's also interesting to note that while the SPC model suggests that employee satisfaction impacts customer satisfaction, as moderated through employee loyalty and external service quality, the link from customer satisfaction to employee satisfaction is much more circuitous.

While the last two observations:

- "weak relationship from employee to customer satisfaction" and
- "no direct link from customer to employee satisfaction",

appear unrelated on the surface, a closer examination may suggest otherwise. Consider that whenever a hypothesized model inadequately portrays the underlying reality, results may be distorted or biased in unpredictable ways. In terms the relationship between customer and employee satisfaction, this would imply that if we fail to correctly specify the simultaneous influence of employee satisfaction on customer satisfaction and vice versa, our estimates likely will not be correct.[1]

The task therefore is to model the hypothesized relationship appropriately and re-estimate the effects. This means we need to specify a simultaneous effects model that allows for the kind of relationships we've decided have intuitive appeal.

Building the Model

As we have seen, a direct link from customer to employee satisfaction is notably absent from the SPC model. Rather, as described previously, SPC depicts this relationship in an indirect fashion, i.e.:

- Customer Satisfaction → profit → internal service quality, and, ultimately → employee satisfaction.

A perhaps more reasonable model is one that allows for a direct simultaneous relationship to exist between these measures. In order to accomplish this, a model is constructed based on two hypotheses. First, we assume

- Positive employee attitudes should have a strong positive effect on customer satisfaction.

This will be referred to as the "employee drives customer" hypothesis.

Next we include customers as a key component of service climate, which leads to the second hypothesis

- A strong positive relationship should exist from customer to employee attitudes.

This will be referred to as the "customer drives employee" hypothesis. It is interesting to note that customer satisfaction could reasonably be included in the SPC "internal service quality" attributes as well. Customer satisfaction would be unique in this group however since it would be the only attribute beyond the control of the manager. Taken together, the "employee drives customer" and "customer drives employee" hypotheses suggest a simultaneous relationship between customer and employee satisfaction.

The introduction of relationship simultaneity significantly complicates the empirical analysis. A traditional statistical tool designed to provide a "complete" picture of the simultaneous model, is a technique known as "full information maximum likelihood (FIML)[2]." While FIML is an interesting and useful theoretical depiction of our model, it is often problematic in its application due to sample size constraints, distributional characteristics, etc. In fact, in this particular case, FIML is not feasible. Rather than turn to alternative "limited information" approaches, a Bayesian Simultaneous Systems model, such as that suggested in "Bayesian Statistics and Marketing" (Rossi, Allenby and McCulloch 2005), is applied to the data.

The Bayesian approach is preferable for a number of reasons not the least of which is its superior intuitive reasonableness. Even more compelling in this particular application is that it offers a "full information" alternative to FIML that may be implemented straightforwardly using Monte Carlo Markov Chain (MCMC) analysis.[3]

An Illustration

The data used to illustrate the simultaneous relationship between customer and employee satisfaction is taken from corresponding survey data collected on customers and employees of a large US based financial institution. Both overall satisfaction measures are modeled as functions of one another along with measures specific to each. For example, customer satisfaction is modeled as a function of employee satisfaction as well as drivers such as "satisfaction with bank image", "satisfaction with service" etc.

Next, a system of equations is specified depicting the simultaneous relationship between customer satisfaction (CustSat) and employee satisfaction (EmpSat). As noted, these equations also contain additional attributes assumed to specifically drive each particular variable. To illustrate we could write the relationships as follows:

CustSat = a function of (EmpSat, drivers unique to CustSat)
EmpSat = a fuction of (CustSat, drivers unique to EmpSat)

The simultaneous equations relationship hypothesized is estimated using Bayesian MCMC simulation. Graphical depiction of the simulations suggests the model converges and the estimates are reliable.

Results

While a simultaneous relationship between customer and employee satisfaction is found to exist in both directions, a key finding of the study is that *customer satisfaction* is a *powerful predictor of employee satisfaction.* This link exists in a more direct way than what is often hypothesized in the literature, e.g. the SPC model.

As a follow up to the Bayesian Simultaneous Systems analysis, standard (non-simultaneous) methods were also applied and the results investigated. As was evidenced

in previous research, our hypothesized relationships between customer and employee satisfaction were not in evidence. This confirms the inappropriateness of the standard, non-simultaneous, modeling of these relationships.

Taking Advantage of the "Customer Drives Employee" Relationship

When a firm identifies an employee behavior that drives customer satisfaction, an obvious course of action is to train employees to deliver on this behavior. For example, if employee courtesy is discovered as an important driver of customer satisfaction, employees may be asked to focus on behaviors positively influencing the customers' perception of courteous treatment.

On the other hand, clearly no such instruction may be given to customers in an effort to positively impact employee satisfaction. Another alternative exists however. Specifically, given the strength of the feedback relationship, it is vitally important to ensure that employees are aware of the impact of their efforts. One way to accomplish this is to disseminate results from customer satisfaction surveys to all employees in general and frontline employees in particular. While this sounds fairly simple and straightforward, it may be surprising to learn that it is often not done. As evidence, consider a recent study pertaining to Customer Satisfaction Information Usage (CSIU) by Morgan, Anderson, & Mittal (2005) in which the authors note that approximately *"40% of firms that collect customer satisfaction data do not routinely report it to their front line employees."*

Dissemination of this information therefore represents a significant opportunity to begin to help employees recognize and take credit (or responsibility) for the results of their actions.

(Data analysis and development of this article was performed in cooperation with Greg Allenby and Jeff Dotson, both from The Ohio State University.)

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[1] Note that, generally speaking, the existence of simultaneous relationships in marketing data often becomes more likely as data sets are "linked" as is the case in this example.

[2] See Kmenta 1986.

[3] This highlights yet another example where the Bayesian approach may be applied directly to a model that would be impossible to estimate in a frequentist framework.

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