DS 780

Data Science and Strategic Decision-Making

Marketing Part 4

Data Science and Marketing

Welcome back for part four of our little marketing series. This last session is on data science and marketing, and it consists of three slides, including the title slide, so it'll be a little bit shorter than some of the other sessions. But it designed to tie together marketing and data science.

Marketing and Data

- Marketing decisions are crucial for firms
- Good data make for good decisions
- Sources of marketing data
  - Marketing and advertising research
  - Customer shopping behavior
  - Customer buying behavior
  - Loyalty programs
  - Competitive intelligence
  - Secondary sources (research firms, census and other government data)

If we want to take a look at this whole scheme of things, there's a few points we should probably focus on. So if we talk about marketing and data, we need to recognize that marketing decisions are absolutely crucial for firms. Marketing decisions are actually, in many cases, some of the most strategic decisions made by companies. Marketing does not include the financing side of things, it does not include the production and the operation of the factories and things like that, but almost everything else touches on marketing. If you go back to what the four P's are, that kind of tells the whole story.

So there are pretty important decisions, and at the end of the day, good data often makes for good or at least better decisions. So the question then becomes, well, what are the sources of marketing data? Where do we get this? And one source is in marketing or advertising research.

So marketing research is generally focused on customers or potential customers. What do they want? Why do they buy what you sell? Why do they not buy what you sell? What would they like to buy? How do they go through their decision-making process? All that sort of stuff is marketing research. Advertising research has to do more with who watches what kind of show or reads what newspaper, how they react to a certain creative in an advertisement. It's probably not quite as germane as the marketing research data, but it still has a lot of rich information that can be taken out of it, and it might give us some clues or some insights into what our customers or our hoped for customers, how they think, how they live their lives, things like that.

We are also interested in customer shopping behavior. Where do they shop? How many times a week do they shop? How many times a year to they shop? What kind of route do they take within their preferred store? All of that can be useful, depending on your product and where you are in the distribution channel. Customer buying behavior, which is a little different than shopping behavior because this is when they actually pull the trigger and buy something, what actually causes them to buy something versus put it back on the shelf and walk away? How are they making that decision? That can be pretty valuable to both retailers and manufacturers of products.

Loyalty programs are a great way to gather a lot of data on customers and what their activities are. It makes it fairly simple and straightforward because the customer wants each transaction captured for the loyalty program so they get their points or whatever it is they're accumulating to get some kind of reward. So if you already have a loyalty program and you're not extracting a lot of marketing data from it, then that doesn't make a whole lot of sense. That program needs to be redesigned or connection needs to be made so you can pull that kind of information out.

If you don't have a loyalty program, maybe that's the route to go so that you can not only enjoy the benefits of a loyalty program in terms of marketing, but also the data aspect of it. Or you may come to the conclusion that loyalty program just doesn't make sense for your company and your situation. That's OK. There's still other ways to get the information, it's just easier if you could go ahead with the loyalty program.

Then there's competitive intelligence. It's really important to know what your competitors are thinking and doing. So you need to take a look. How full is their parking lot at the peak times of day when business should be booming? What are they advertising? What kinds of specials are they running? Do they seem to have some kind of special deal with a particular manufacturer that's allowing them to run lower prices? You know that kind of information, you can counterprogram, maybe with a competitor of that manufacturer, or maybe you go to that manufacturer and you ask for the same deal.

There's all kinds of things you could pull out of competitive intelligence, and it might just be a matter of you or somebody you hire going in and walking through competitive stores and actually going through the shopping experience and seeing what's better and what's worse at the competition. So that's data that can-- some of it's qualitative, some of it's quantitative, but it's important information that can give you a lot of insights and help you run a business better.

And then there are some secondary sources. The Census Bureau or the Bureau of Labor Statistics in the US, companies like Nielsen, market research companies. And in the Nielsen's case, of course, they've got Prism, which is that lifestyle segmentation system that I think we've talked about. So those kinds of sources can be very useful.

A lot of times, what you're doing is you're taking that information, and you're basically matching it up with maybe a customer profile. You know that this is customer 123, and you know that they come into your store twice a week, and they, on average, spend $45. But you don't know much else about them. But if you know their address-- if you know the address, if you've picked that up through maybe through credit card or through some other way of getting it, then you can tie it to all these secondary sources. And now you've got a more robust profile of that customer. So that's an important thing to keep in mind.

Role for Data Science

- Collecting and organizing data
  - Primary
  - Secondary
- Understand what managers and staff need to make decisions and do their jobs
  - Dashboards
  - Reports
  - Queries
  - Integration into systems

The role for data science in marketing is the closing discussion here. So really, the role for data science, it's about collecting and organizing data, both primary data, data that's collected by the company, and secondary data, data that you might get from the Census Bureau or The Bureau of Labor Statistics and different research organizations. So certainly, somebody working in a data science role would probably get involved in that sort of thing. But just as important, they need to be involved in understanding what the managers and the staff need to make decisions and do their jobs.

So if they're working for that company, or if that company is a client of theirs with some kind of data science project, understanding what managers and staff need, what kind of information they need to be able to make good decisions, and therefore, do their jobs well, that's really, really important. So there's four things listed up here. There's plenty of other things as well, but these are four fairly common things that might be of use to managers and staff.

So first of all, dashboards. So a lot of important information that's in a nice easy to read, often graphical format, updated in as close to real time as you can. It's like the dashboard on your car, it's like the instrument panel in the cockpit of an airplane, it's telling you what's going on. Is there a system that's performing poorly? Is everything going well? How fast are you going, or how much sales do you have? All those sorts of things.

And of course, there's different dashboards for different managers. The CEO is interested in different information than a sales manager, for instance. But each has some information needs, and that's really an important role for data science, to be able to work together with the users in each of those areas.

Reports. It's another way of delivering information, really, but maybe there's, at certain time periods, every day, every week, every month, every quarter, whatever it might be, or maybe all of the above, delivery of kind of a standardized report that's standardized for a particular job category or job area. So much like the dashboard are different, the reports might be different as well. That has the advantage of being done automatically at certain time periods. It can be delivered electronically, and then it can be used as an archive. So you go back and pull data out.

Queries, allowing people to go in and query the database that's there. In marketing-- there's lots of examples, but we'll use this one-- maybe you're in the real estate area of a restaurant chain, and you've gotten a call from a real estate developer that says, hey, a competitor of yours just pulled out of a deal on this particular location, I think it would be a good fit for you, is it something you're interested in? One of the things that you would want to do, to understand whether this is going to be a good location or not, is to understand how many customers and what kind of customers live nearby.

So you might want to go in and query the system about how many of our best customers in whatever categories you're using for best customers live within five miles or 10 miles of that location. That might give you an instant read on whether that could be a location that could catch fire for you pretty much from day one of the restaurant opening, if you were to go forward with it. And you get that from this same trove of data, just be able to query on do one-offs on it.

The last thing is integration into systems. You might have some internal systems in your company, legacy sorts of accounting systems, things like that. You may be using some newer systems, or maybe even essentially renting systems through cloud computing, and you want to be able to move some of your data and display it within those other systems. Take salesforce.com, for instance. They've spent a lot of time and money trying to allow this sort of thing to happen, have these different data interfaces so that it can display, as needed, within the sales force system for the users within your company.

Somebody involved in data science would want to be involved in that sort of thing, as well as the users in that department. They both need to be involved because they bring different types of expertise to the table. So that really concludes our section on marketing. Hope it's been helpful for everybody. And we'll sign off here and hope that you have a great day.