



Customer Intelligence

Converting customer interactions into predictive analysis

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Sean Kelly & Associates (SKA) is a specialist boutique consultancy that specializes in the provision of data warehouse and CRM solutions and professional services to the telecommunications and retailing industries. Founded in 1992, and based in Ireland, the company employs 14 field consultants who each have, on average, 15 years experience of working in the business intelligence industry. Because the company has both business and technical expertise it has been possible to develop sophisticated solutions to real-world problems and to develop close and durable relations with leading companies in the telecommunications sector. The following list of clients includes only those where an SKA consultant provided the lead design capability to develop a full enterprise data warehouse. In addition to these clients there are many more in the telecommunications industry who have engaged the services of SKA to provide professional services on smaller-scale projects.

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1. Foreword

Customer intelligence is an elusive goal and the holy grail of CRM for decades has been to achieve the fabled 360 degree view of the customer. Customer intelligence is another version of that quest but it is one that is more tightly and succinctly defined as ‘the organizational capability to systematically anticipate and respond to customer behaviors’.

The following passage is contained in the book *Customer Intelligence* (Wiley 2006) by Sean Kelly and offers a useful starting point in understanding what intelligent commerce is and how we might measure how intelligent is a given commercial relationship.

“Intelligence is defined as being ‘endowed with the faculty of reason’ and it is this sense of what is rational and derived from knowledge, as opposed to what is random, superstitious or derived from chance, that differentiates the intelligent from the less intelligent. So, by this yardstick, is commerce in the early 21st century an intelligent endeavour? To answer this question requires us to determine if the relationship between consumer and supplier in the market-place is a fully, or largely, rational and predictable relationship. Rationality is not a substitute for excellence and, therefore, we are not concerned here with the inherent ‘goodness’ of the product or service but rather with its ‘sanity’. The simple test of sanity is whether the subject [the business] behaves and adapts in a manner that best suits its survival and whether the communications that it transmits concerning its intentions are consistent with its actions. This is the starting point in making our assessment.”

The critical issue identified here is the one of perspective. The intelligence, or lack of it, is determined by the *customer’s* experience of the relationship. Traditionally, it was the supplier’s view of its own capabilities, or a comparative analysis of the capabilities of many competing suppliers, that was used for determining the degree of intelligence of an enterprise. Of course, the customer will still frame his or her assessment of the intelligence of a supplier with reference to their experience and expectations generally and these are constantly changing. Therefore, there can be no absolute or enduring measure of

intelligence. Intelligence or lack of intelligence is what the consumer determines it to be. Therefore, the conventional product-centred measures of the business (such as provided by basket analysis, yield analysis, margin analysis, and so on) are giving way to customer centred measures (such as loyalty analysis, value analysis, and lifecycle analysis).

The choices for customers have broadened in terms of products, channels and appeals to an ever more fragmented consumer ‘lifestyle’ and ‘life stage’ environment. Some of the customers that were originally attracted to the enterprise brand have now matured and may be seeking new attributes from their brand choice which will to the fragmentation of channel and product as well as brand.

The future challenge, however, is in understanding who is buying what via which preferred primary and secondary shopping channel. Even more of a challenge is to avoid the ‘rear view mirror’ perspective of transaction sales analysis and market research and to start to anticipate consumer developments and respond more directly to consumer individual demands.

2. From Product to Customer

What we have witnessed during the course of the past decade is the change in the commercial centre of gravity from product to customer. This is proving to be a painful transition for many businesses because many management actions, which are directed at the conventional goals of increasing market share and reducing costs, are often irrational when viewed from the perspective of consumers seeking long-term relationships.

Despite massive investments during the past decade in operational business systems, business intelligence systems, e-commerce systems, and customer-centred business processes, there has been no commensurate improvement in consumer satisfaction. The experience of most consumers is one that prompts consternation as they grapple with more and more junk mail, unsolicited calls, invasions of privacy, and failure to maintain an accurate profile. They are targeted more frequently certainly. But they are targeted with less accuracy than ever before. In short, the business of doing business has not become intelligent. And the principal reason why this is the case is because

the customer is excluded from the communication and feedback process.

Of course there are exceptions to the general rule and a number of prominent businesses have earned the right to be classified 'intelligent'. But they are a minority and there is no sign that they are trailblazing a new paradigm that will inevitably be followed by the majority of businesses. This is particularly perplexing since many business leaders have declared themselves to be committed to the deepening of customer relationships. Indeed, having invested heavily in data warehousing, process re-engineering, e-commerce, CRM, call centres, contact management systems and a plethora of other corporate initiatives, many of today's business leaders are themselves perplexed at the failure to achieve significant culture and process change.

Some of the key measures that need to be addressed in order to achieve intelligent commerce are:

- *Category trends*: monitoring the size and growth of different categories by product, region, and market.
- *Consumer trends*: identifying consumer needs, purchase characteristics, personal characteristics, and product affinity characteristics.
- *Causal factors*: assessing the impact of advertisements, promotions, and events on customer behaviour and the relationship of these triggers to sales and profit.
- *Strategy*: targeting markets, positioning products, identifying options, pricing, and establishing benchmarks for performance.
- *Opportunity gaps*: identifying sales opportunities, up-selling, cross-selling, regional variations, market share levels.

Customer loyalty is about far more than simply observed behaviour. Customers may return to a particular organisation for a multitude of reasons, ranging from lack of available alternatives to inertia, from convenience to price or incentivisation schemes. Misreading this behaviour as true loyalty can be a grave error as, unlike the genuine article, such "spurious" loyalty is often purely circumstantial and therefore highly vulnerable to change, particularly when confronted with an upsurge in competitor activity.

It cannot be emphasized too strongly that, regardless of which

segmentation technique is employed, the starting point in any project to define segments is the collection of customer data (i.e. to measure what happened). In this regard it must also be emphasised that it will be necessary to consider how to track and identify negative trends (i.e. to measure what didn't happen).

3. Using customer data to create customer segments

Many segmentation approaches have been devised and each of these has merit. Experience suggests that most enterprises use a combination of approaches to deliver maximum benefit. The ability to provide sophisticated segmentation techniques to the business enhances the ability of the enterprise to do the following:

- ❖ Develop more tailored marketing programs.
- ❖ Identify segments that are more important to the business.
- ❖ Identify segments that have been neglected.
- ❖ Become more attentive to previously unrecognized consumer needs.

The segmentation system that has to be developed to facilitate sophisticated segmentation must enable the enterprise to achieve the following:

- ❖ Identify which segments are of greatest importance to the business.
- ❖ Identify new segments of high potential value.
- ❖ Identify valuable segments that have previously been neglected.
- ❖ Become more attentive to previously unrecognized consumer needs.
- ❖ Deliver marketing programs that are better tailored to consumer needs.
- ❖ Obtain better responses to marketing campaigns.

Increasingly companies realize that individual consumers differ from each other in terms of needs and preferences. The transition from mass marketing to target marketing that is currently in progress creates demand for more sophisticated customer segmentation techniques.

The key enabler of any segmentation strategy is customer data. Customer data is the raw material that must be captured, integrated and effectively analysed in order to achieve the goal of finding customers. Once this data is integrated, it can be interrogated to discover groups of customers sharing common characteristics and needs.

Market segmentation is the process of partitioning the heterogeneous market into separate and distinct homogenous segments. A segment consists of a group of consumers that react in a similar way to a given set of marketing stimuli. Usually the enterprise defines a segmentation matrix and then, based on the data, would allocate customers to segments. This *a priori* approach to segmentation defines, in advance, a framework or system that describes characteristics of customers or prospects based on information that is known about those individuals.

In addition to *a priori* segmentation, data mining techniques make possible is another approach, known as cluster segmentation. The cluster segmentation approach, in direct contrast to the *a priori* method, seeks to discover naturally occurring clusters of customers that share common characteristics or behave in the same way. An example of naturally occurring Customer segmentation is an urgent challenge for businesses that are attempting to offer a more sophisticated, personalized, and intelligent response to customers and prospects.

The segmentation project is made more complex because customers may belong to multiple segments. For example, the same customer may be allocated to different segments of interest to the business, such as 'rural', 'moderately stable', 'risk averse', 'middle-aged', 'late adopter'. As well as belonging to multiple segments a customer may, during the course of their relationship with the business, move from one segment to another. In addition, the segments themselves will be subject to revision and re-definition as they will, in all probability, be in a constant state of splitting, spawning, and merging as the behaviour of customers and the external environment change over time. It is this complexity that overwhelms the conventional *a priori* approach to segmentation and presents an opportunity to utilize specialized data mining techniques such as clustering.

4. Data Mining

Data mining is the term that is now applied to the use of artificial intelligence (AI) in the discovery of valuable data patterns that provide insights into the behaviour of the subject of the mining activity. Usually the subject of data mining is the entity 'customer', which reflects the early use of this software in marketing/sales and customer care applications.

Data mining is about finding hidden information — the golden nuggets of information that are disguised in the mass of data and are unlikely to be uncovered by knowledge workers with query tools, regardless of their degree of knowledge, creativity or intuition. Such patterns, particularly ones that are counter-intuitive, are not always capable of being uncovered using standard query tools. Businesses have become increasingly sophisticated in their efforts to capture consumer information, but the process of exploiting consumer information remains relatively immature. Data mining is a process that applies the techniques of artificial intelligence to the task of discovering useful patterns in data, and is proving particularly powerful in the identification of customers sharing the same characteristics. This segmentation of customers into affinity clusters presents new possibilities for customer segmentation.

Data mining is a term that describes the automatic, or semi-automatic, analysis of large datasets in order to discover meaningful patterns and rules. Data mining differs from conventional data analysis techniques in so far as it is the software, rather than an individual knowledge worker, which seeks to discover patterns. The human business expert is not made redundant by data-mining tools, as there will always be a place for conventional query tools in the hands of business experts following a definite line of enquiry. In circumstances where you know exactly what you are looking for, the conventional query and reporting tools will be perfectly satisfactory. But in some cases we do not know exactly what we are looking for, and it is in such cases that data mining offers a solution.