Block 3: Internal secondary data and analytics

(Activity solutions can be found at the end of the document.)

Firms want accurate, up-to-date 'pictures' of consumers using information. Here we consider the development of **internal secondary data** and databases and the impact this has had on decision-making. For example, advances in *database technology* have allowed the collection of loyalty card data. We also consider **geodemographic data** and **data mining**. Collectively, such data are useful in targeted advertising and promotions.

Learning Objectives

- Appreciate how different types of company databases have developed into powerful means to understand customer behaviour
- Understand how geodemographic information systems can help in integrating and displaying customer data
- Appreciate how different sources of customer data and market research can build up behavioural and attitudinal profiles of target markets.

Reading List

Malhotra, N.K., D. Nunan and D.F. Birks. Marketing Research: An Applied Approach. (Pearson, 2017) 5th edition [ISBN 9781292103129] Chapter 5.

3.1 Internal secondary data and analytics

For each section of *Internal secondary data and analytics*, use the LSE ELearning resources to test your knowledge with the Key terms and concepts flip cards.

Primary vs. secondary data

Primary data are originated by a researcher for the specific purpose of addressing the problem at hand.

Secondary data are data which have already been collected for purposes other than the problem at hand. These data can be located quickly and inexpensively.

A wealth of secondary data can be obtained from inside a company, so-called internal secondary data. Such **operational data** are the result of day-to-day trading and business transactions.

Internal secondary data facilitate **customer relationship management** (CRM).

- Direct marketing.
- Rise of e-business and e-communication.

It is important to have a **customer database** containing:

- Contact details
- Geodemographic data
- Buying behaviour data.

Internal secondary data

Examples of data generated from invoices which could help firms to *understand consumer behaviour* are:

- Which products customers buy
- Which customers buy the most products
- Which customers repeat purchases
- Which customers appear only when there are special offers
- Where these customers are located
- How these customers pay - by cash or credit
- Which customers are the most profitable
- Seasonal patterns of purchasing behaviour by product types and customer types.

The above can be used to target marketing at more *lucrative segments*.

Scanning devices and loyalty cards

The invention of the barcode **scanning device** has revolutionised checkout queues. Customers are happy - quicker processing times; companies are happy - a quick form of electronic observation.

Unfortunately, sales data are anonymous - the shopping basket was bought by which type of consumer? For effective decision-making, it is necessary to *classify customers* (market segmentation). Enter the **loyalty card**!

Customer loyalty cards link customer characteristics to actual product purchases. Characteristics include *demographic and household details* obtained during the application stage. Combined with product scanning systems, benefits include the following.

- Profiles of customers can be built up.
- Products used and not used →→ cross-selling.
- Communications which have worked and not worked (for example, discount coupons).
- Distribution methods can be tailored, such as in-store, online etc.
- Additional benefits to market researchers include:
- One big laboratory (can establish *causal inferences*)
- Refining the marketing process (employ *statistical modelling*)
- Developing a clear understanding of 'gaps' in a firm's knowledge of its consumers (*attitudinal data*)
- Linkages between behavioural and attitudinal data.

Geodemographic information systems

At a base level, a **geodemographic information system** matches geographic information with demographic information. This allows subsequent data analyses to be presented on thematic maps.

Examples include:

- **ACORN** (**A C**lassification **O**f **R**esidential **N**eighbourhoods)
- **MOSAIC**.

Geodemographic classification groups consumers together based on the types of neighbourhood in which they live. If a set of neighbourhoods is similar across a wide range of demographic measures, the set will also offer similar potential across most products, brands, services and media. This is implemented with **cluster analysis** (which is covered later in the course).

Building profiles of consumers

We can use different data to build 'pictures' of consumers. Figure 5.3 of the textbook shows methods of segmenting markets.

In order to *support decision-makers*, combining survey data and databases allows us to:

- Describe the nature and scope of customer groups
- Understand the nature of forces which shape the *needs of customer groups* and the marketer's ability to satisfy those groups
- *Test* individual and interactive controllable marketing variables
- *Monitor and reflect* upon past successes and failures in marketing decisions.

The stages to **build profiles of consumers** and model marketing decisions can be summarised as:

Stage 1:
Existing customer database

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Stage 2:
Geodemographic profiles

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Stage 3:
Combine customer data with geodemographic profiles

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Stage 4:
Add survey data

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Stage 5:
Create 'own' consumer profiles

⇓⇓

Stage 6:
Use of the datawarehouse

Stages of development in using databases and survey data to build profiles of consumers and model marketing decisions

It is as much a process of gathering disparate data, converting it into a consistent format which can aid business decision-making, as it is a configuration of software and hardware. A datawarehouse empowers users by providing them with access to a whole array of information in an organisation, making it available for use in other applications.

A datawarehouse has three components:

- **Acquisition** - existing databases
- **Storage** - data from various sources
- **Access** - perform individual analyses.

Data mining is the process of discovering meaningful correlations, patterns and trends by sifting through large amounts of data stored in repositories using pattern recognition, as well as statistical and mathematical techniques.

- Examples of what data mining aims to do include the following.
- *Classify customers* into specific categories which are meaningful to decision-makers.
- Identify potential *target markets* which possess the characteristics which decision-makers seek.
- *Forecast* sales or the use of services.
- Discover which types of products or services are *purchased together*.
- Discover *patterns and trends over time*, such as 'after graduation, students take a holiday', and be able to show the probabilities associated with different holiday types.

Questions, solutions and case study

To access the solutions to these questions and case study, click here to access the printable Word document or click here to go to LSE's Elearning resources.

Questions on the block's topics

1. How may 'operational data' held in organisations help to build up an understanding of customer behaviour?
2. Describe the benefits to the *marketing decision-maker* of being able to capture data which identify characteristics of consumers and their shopping behaviour in a store.
3. Describe the benefits to the *market researcher* of being able to capture data which identify characteristics of consumers and their shopping behaviour in a store.
4. What is a geodemographic classification of consumers?
5. How does the compilation of different types of data help to build a strong 'picture' of consumer characteristics?

Case study: Subaru

Subaru wishes to profile and target female drivers. It may help to browse the Subaru website to explore the brand.

How could Subaru's survey analyses and internal and external secondary data collection help them to profile and target female drivers?

Learning outcomes checklist

Use this to assess your own understanding of the chapter. You can always go back and amend the checklist when it comes to revision!

- Appreciate how different types of company databases have developed into powerful means to understand customer behaviour

- Understand how geodemographic information systems can help in integrating and displaying customer data
- Appreciate how different sources of customer data and market research can build up behavioural and attitudinal profiles of target markets.

Block 3: Internal secondary data and analytics

Solutions to Questions on the block's topics

1. Operational data are data which represent the daily activities and transactions of a business. Transactions may be held in different departments such as sales, accounts or human resources and stored in different ways. The use of operational data has presented opportunities to researchers for as long as businesses have been recording their daily transactions. Even in the days of transactions being recorded manually, it was the task of market researchers to track down different sources of data and analyse them. Locating and analysing internal sources of secondary data can be the starting point in many market research projects. The main reasons are that, as these data have already been collected, there are no additional data collection costs, there should be no access problems (although individual managers may make access difficult for personal or political reasons) and the quality of the data should be easier to establish (in comparison to externally-generated data).
   Most organisations have a wealth of in-house information even if they are not marketing- or customer-focused, so some data may be readily available. In building up an understanding of customer behaviour, operational data from invoices, for example, could answer the following questions.
   - Which products do customers buy?
   - Which types of customers buy the most products?
   - Which types of customers repeat purchases?
   - Which types of customers appear only when there are special offers?
   - Where are these customers located?
   - How do these customers pay - by cash or credit?
   - Which types of customers are the most profitable?
   - Are there seasonal patterns of purchasing behaviour by product types and customer types?
2. The benefits are the following.
   - Profiles of customers can be built up. The types of individuals who are being attracted to a store can be monitored. The returns and contributions made by particular types of customers can be measured. Profiles of the 'ideal' customer type can be built up, and plans developed to attract this type of customer.

   - Products used and not used. The types of products which are being bought or not bought can be monitored. From the customer profile, other types of products can be added to the range offered. Cross-selling of related products can be undertaken. Linked to the customer profile, actual customer behaviour can be understood more fully.

   - Communications which have worked and not worked. Merchandising displays, money-off coupons, 'three for the price of two' or a clip-out coupon from a local newspaper, for example, can be linked to individuals and products. The effectiveness of particular types of communication for particular types of consumer can be developed. Reassurance that the customer has made the right decision can be given where the size of purchase warrants it.

- Distribution methods can be tailored. Certain customer types may prefer the convenience of a small store which they visit more than once per week for small purchases of 'staple' goods. Other customer types may shop once per month for the whole household. Retailers can have different shop formats for different customers, may develop home delivery programmes, or even develop online shopping platforms.

3. The benefits are the following.
    - One big laboratory. Experiments can be conducted. The monitoring of customers, markets and interrelated marketing mix activities allows many causal inferences to be established. For example, what is the effect, and on whom, of raising the price of Häagen-Dazs ice cream by 10%? What is the effect of inserting a cut-out coupon to give a discount on sun lotion, placed in Cosmopolitan magazine?
    - Refining the marketing process. With time series of responses to planned marketing activities, statistical models of consumer responses can be built with associated probabilities of a particular outcome. Likewise, models of consumers over their lifetimes can be built. Again, statistical models can be built with associated probabilities of particular types of product being bought at different stages of a consumer's life.
    - Developing a clear understanding of 'gaps' in a firm's knowledge of its consumers. The barcode scanner and loyalty card electronically observe behaviour but do not encapsulate attitudinal data. The nature and levels of satisfaction, what is perceived as good quality service, and what brand image is associated with a particular brand of vodka, are examples of attitudinal data. The use of the database helps to identify target populations to measure and the attitudinal data which needs to be collected. In all, there can be much greater clarity in the nature of primary market research which tackles attitudinal issues.
    - Linkages between behavioural and attitudinal data. If attitudinal data are elicited from consumers, the data gathered can be analysed in their own right. It is possible, however, to link the gathered data back to the behavioural data in the database. The term 'fusing' the data from different sources is used. The key to the fusing lies in identifying individual participants so that one large dataset is built up. The notion of fusing together databases and survey data from different sources is at the heart of building a strong understanding of consumers.

4. At a base level, a geodemographic information system matches geographical information with demographic information. This match allows subsequent data analyses to be presented on thematic maps. Other information may be included, depending on what is available in a particular country and the data protection laws of that country. With the variables chosen for a particular country, i.e. the types of data which are available to build a geodemographic information system, cluster analyses are performed. These analyses help create consumer classifications, based on the types of property they live in and the propensity of consumers to have certain lifestyles and behave in particular ways. The analyses ensure that each of the descriptions used is reasonably homogeneous in terms of demographic measurements and consumer behaviour. As well as being able to discriminate and describe distinctive groups of consumers, the analyses have to produce 'pictures' of consumers which are meaningful to marketing decision-makers.

5. Using the example of 'psychographics' or lifestyle measurements, data may be generated from electronic point of sale (EPOS) systems or surveys. In the case of EPOS collection, the purchasing of particular types of products can indicate characteristics of a lifestyle. In a more

direct manner, questions in a survey can help build a profile of lifestyle behaviour. In its own right, 'lifestyle' can be a valid means to segment a market, perhaps positioning products and services to consumers who aspire to a particular lifestyle. However, being able to combine demographic measurements, broader behavioural characteristics and knowledge of where these consumers live, helps to build a 'picture' of consumers which facilitates strong marketing decision-making support.

To say that a market is primarily female, aged 25-40 and living in a detached property with a mortgage, starts to build a 'picture' of target consumers. To add details of their media behaviour, the array of products and services they buy, characteristics of their lifestyle and their expectations, helps to build up a rich and, for decision-makers, very useful 'picture' of target consumers.

Examining the variety of data sources which can be used in the interrelated variables which build market profiles, it is clear to see a role for traditional survey work, scanned data, customer data, externally-generated secondary data and the use of loyalty cards. There is a clear interdependence among the different data sources with the increased sophistication of decision support systems which allow the 'fusing' of data to be conducted.

Solution to Case study: Subaru

Market research can play an important role in helping Subaru understand the devotion of consumers to its brand. It can help Subaru understand the motivations, perceptions and preferences of different types of consumers in its market. It can also provide Subaru with a profile of different types of customers. Census data could be a valuable source of secondary data for Subaru. It could help to realise the size and demographics of its market and realise if Subaru is underperforming in terms of reaching out to female drivers. Internal secondary data, i.e. sales data, should show the gender of buyers and where different dealerships are performing well or not in reaching out to this group. Secondary data would not give specific information which would relate to the motivations, perceptions and preferences of female drivers. This could be overcome through other available secondary data or market intelligence which may address an industry-wide problem with attitudes to connecting with the specific demands of female drivers. Research questions in primary data research designs could include the following.

- What criteria do female drivers use to evaluate cars? And car dealerships (in terms of selling the car and looking after their needs beyond the sale)?
- How do female drivers evaluate the Subaru brand and competing brands on criteria identified as important to female drivers?
- What is the geodemographic, demographic, psychographic and behaviour profile of female drivers loyal to Subaru?
- Is there a profitable potential market of untapped female drivers which matches the psychological criteria and profile of loyal female Subaru drivers?
- Which characteristics differentiate Subaru female drivers from those loyal to other brands?

One of the main problems in the approach discussed above is the distinction between ‘buyers’ and ‘users’ in the definition of drivers and how this definition is tackled in internal and external secondary data sources.