Practitioner Article

Customer segmentation in the telecommunications industry

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ABSTRACT This article is based on experience and recent research in the Telecommunications sector. It looks at the ways in which segmentation has now become generally accepted within the industry – and thus how the central question has moved on from whether segmentation should be done at all, to what is the right sort of segmentation for a particular business, business issue and target audience. Four segmentation schemes are considered: Customer Value Segmentation, Customer Behaviour Segmentation, Customer Life cycle Segmentation and Customer Migration Segmentation. Looking at examples of how each of the above tends to be used, the article concludes that advanced use of segmentation allows each customer to be part of a micro-segment, which allows for precise targeting, with knowledge of what the retention and value drivers are for each customer. The end result is higher retention and growth, with the parallel benefit of enhanced business planning, where specific growth and retention targets may be assigned to each segment.

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WHAT'S HAPPENING IN SEGMENTATION

The principle theme of this article is how segmentation is shifting away from being something monolithic and turning toward a state where many different types of segmentation are able to coexist simultaneously. In this scenario, the key question becomes not 'which segmentation is right for this business?', but 'what are the right ways to segment customers to help solve a variety of specific business problems?'

The difference lies not so much in the question – which is merely re-focussed one level down from where businesses had been asking it before – as in the fact that there is now not one single right answer, but many.

Data and case studies for this article are taken primarily from work with telcos. This allows for a homogeneity of approach, although the same lessons and same factors are important in all sectors.

Key observations about what is happening in the telco area include:

- More and better strategic segmentation:
  - Tier 1 telcos need many types of segmentation: perhaps 10 or more different types. Some of these are enterprise-wide segmentation schemes; others are specific to functional areas.
- Integration of strategic and tactical segmentation.
- The creation of multiple micro-segments to help target customers:
  - 10+ types of strategic and tactical segments mean that customers can be allocated to thousands of different segments.
  - Leads are matched more accurately to customers with resulting improved customer loyalty.
- Event-based marketing is becoming very important and is being integrated with segmentation.

This article looks at some of the main types of segmentation available to and commonly used by telcos. It then demonstrates how each type of segmentation has a different focus and should be applied for different purposes – and further, how companies can combine different segmentations to enhance their overall marketing and communications activity.

The four segmentation schemes considered in this article are:

- Customer Value Segmentation
- Customer Behaviour Segmentation
- Customer Life cycle Segmentation
- Customer Migration Segmentation

It should be noted that these are far from being the only, or even the main, segmentations available.

CUSTOMER VALUE SEGMENTATION

When it comes to segmenting customers by value, the standard approach used is the 'decile analysis'. This calculates a value measure for each customer, sorts the customer base into descending order by value and then splits the base into 10 equal segments. The first or top decile is the top 10 per cent of the base. The second decile is the next 10 per cent, and so on. For large companies, with millions of customers, there may be many more than 10 value segments.

Debate on this approach hinges on a number of issues. One key question is precisely what measure of value should be used. The answer, as always, depends in part on the strategic question that the segmentation is going to be used to answer, in part on the availability and quality of data.

Current Value Segmentation focuses on identifying the contribution that a customer makes to overall organisational profitability based on current relationships with the organisation.

Lifetime Value Segmentation identifies the expected (predicted) contribution to overall organisational profitability based on expected 'lifetime' relationships with the organisation.

In implementing these solutions, organisations need to be clear about their definitions of profit, contribution, revenue and so on. The closer a segmentation scheme moves toward measuring the precise contribution made by a customer, the more useful it may be, from a bottom-line perspective, when it comes to managing the customer base.

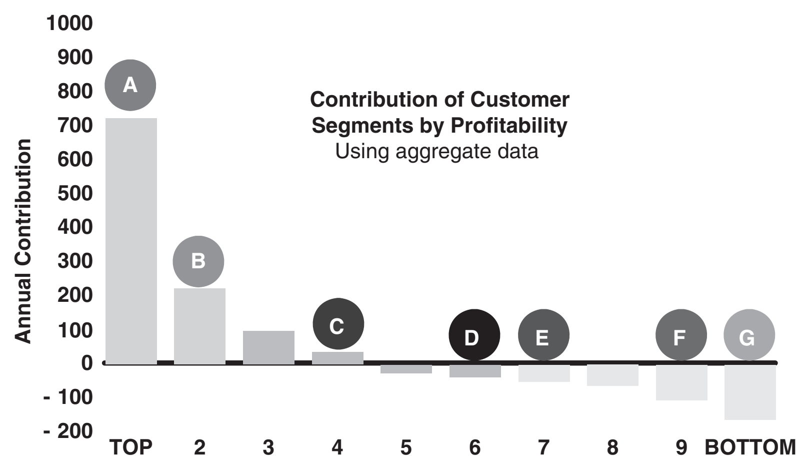

Figure 1: Example of Value (profitability) segmentation (using aggregated cost data).

However, accuracy always involves a trade-off: in this case, the proportion of information derived from factors that marketing can directly influence (spend, retention, price of calls and so on) becomes increasingly diluted by other factors that marketing cannot influence, such as credit-worthiness, competitor prices, and internal cost allocation.

The typical outcome from a decile analysis will be presented as in Figure 1.

Here it can be seen that the annual contribution from the top decile is nearly four times the contribution from the next decile and, in line with Pareto principles, 80 per cent or more of the company's overall profit.

However, this result was produced using aggregate data: that is, average contact and service costs were applied to each decile. The same analysis is shown below, only with costs allocated precisely to each individual customer (Figure 2).

The letters represent individual customers, whose segment membership was studied for the purpose of this exercise.

The same pattern of value by decile can still be observed. However, it is immediately clear that individuals switch drastically between decile according to the data used. Depending on industry, over the entire base, over 50 per cent of customers may switch by two or more deciles when precise costing is substituted for average costing.

In one sense, there is nothing new in this: detailed value calculation is more potent than averaging, and marketers need to be aware of the measures included in any segmentation. It is never enough to look at the end result and take it at face value.

Someone within the organisation – marketer or analyst – needs to know what goes into the calculation.

Two further issues tend to arise with value segmentation. There is an ever-present danger that any scheme looking at customer value now will focus on present value and fail to deal with past or potential value. The first of these is picked up below in the section on migration segments.

The second is resolved by focussing not on current value, but on Lifetime Value, or potential. Neither of these is the optimum answer. Use of Lifetime Value brings its own problems, as data from telcos suggest that it is unwise to attempt to predict this too far into the future.

The telco business is very dynamic. For some operators in largely pre-paid markets, the average 'lifetime' of a customer

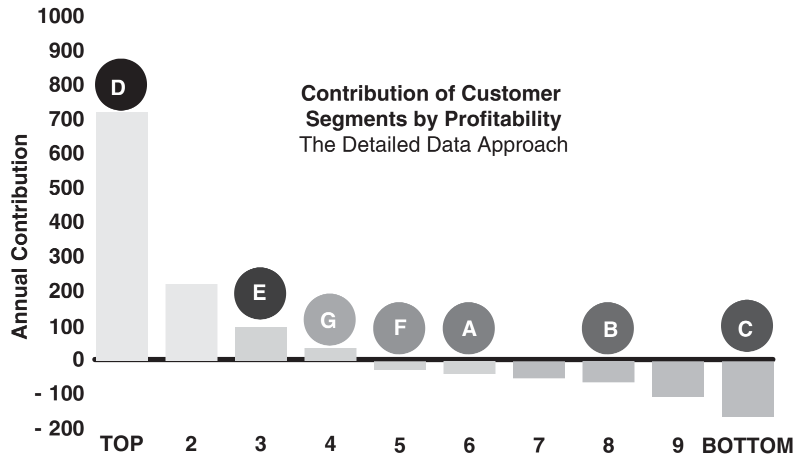

Figure 2: Example of Value (profitability) segmentation (using customer-specific cost data).

Likelihood to Churn

Customer Profitability: Segment	Low	Medium	High
High Revenue/ High Margin	No Action Required	High Cost Incentive	High Cost Incentive
High Revenue/ Low Margin	High Margin Incentive	High Margin Incentive	High Margin Incentive
Low Revenue/ High Margin	No Action Required	Low Cost Incentive	Low or High Cost Incentive
Low Revenue/ Low Margin	Re-Pricing	Re-Pricing	Re-Pricing

Figure 3: Offer optimisation matrix.

is often less than 9 months. In addition, markets are often so dynamic that products that have no influence on predicted value in 1 month may be the key to high value just 6 months later.

The end result of value-based segmentation should first be the use of Detail-based Profitability Measurement to drive CRM. Clearly, there are, or should be, differences in approach for segments categorised as High Revenue/Low Margin versus those categorised as Low Revenue/ High Margin.

However, it should be possible to take this process a stage further. Figure 3 illustrates how it is possible to develop a fairly complex set of strategies by analysing the customer base by value AND churn likelihood.

This now splits the customer base into 12 different segments, with strategies for each that range from 'no action' to 're-pricing' to 'incentivisation'.

CUSTOMER BEHAVIOUR SEGMENTATION

The second form of segmentation that most marketers will be familiar with is segmentation according to customer behaviour. Below is an example of one such segmentation developed for a Western European telco.

Segment	*Percentage high value*
Quick talkers	9
SMS but will talk	43
Valuable roamers	4
SMS but high top-ups	19
Outbound voice sociables	25

Readers should note that the percentages expressed here represent the proportion of the High Value Customer band that falls into each segment. Across the entire base, the proportions in each behavioural segment will differ markedly from these figures.

The differences between segments are very marked. For instance, in Table 1 the first and second segments are compared.

These differences clearly lead to very different strategies according to segment. When dealing with Quick Talkers:

- Don't take away their favorite recharge method.
- Communicate with them through direct mail and the call centre – not through SMS.
- Keep marketing message short.
- Encourage them to make longer phone calls.
- Friends and Family programme may be attractive to this group.

When it comes to the 'SMS but will talk' segment, both the messages sent and the method of communication should be different:

- Move them to Credit Card top-ups, but push higher value top-ups at a time.
- Send them a text message.
- Encourage them to make more calls.
- They may be good MMS candidates.

This should all be first nature to most direct marketers. Tailor message and medium to the needs and preferences of the customer segment. However, what is less often practiced is a combining of segmentation approaches.

Figure 4 illustrates what happens when marketers combine value segmentation with behavioural segmentation:

The segmentation scheme used here is different from the one illustrated in Table 1. However, the principles are much the same: the telco has sub-divided their customer base into 25 segments, defined by five levels of value and five behavioural clusters.

Each of these sub-segments may further be characterised by attributes such as their retention likelihood, their 'stickiness' (use of different Value Added Services), their

Table 1: Comparison of calling behaviour by segment

Factor	*Quick talkers*	*SMS but will talk*
Average 3-months value per subscription	2nd highest € value. OK registration	Average 3-months value per subscription: fifth highest € value
Recharges	Many averaging < €15 per recharge	Fewer recharges averaging < €13 per recharge
Preference for scratch card recharges	Very strong	Yes: also electronic
Credit card penetration	Almost none	Average
Voice use	Highest overall; many calls, but they are short calls (average < 1 min each)	Voice accounts for a large proportion of the customer value (> 50 per cent of total value)
Inbound/Outbound	NA	Makes *many* more voice calls than they receive (almost twice as many)
Call targets	High preference for calling within the company network. Almost 6:1 ratio of in-network to out-of-network calls	NA
Duration	Less than 1 min calls	3 min calls
Calling circle	Large	Small
SMS usage	Relatively low	Very high

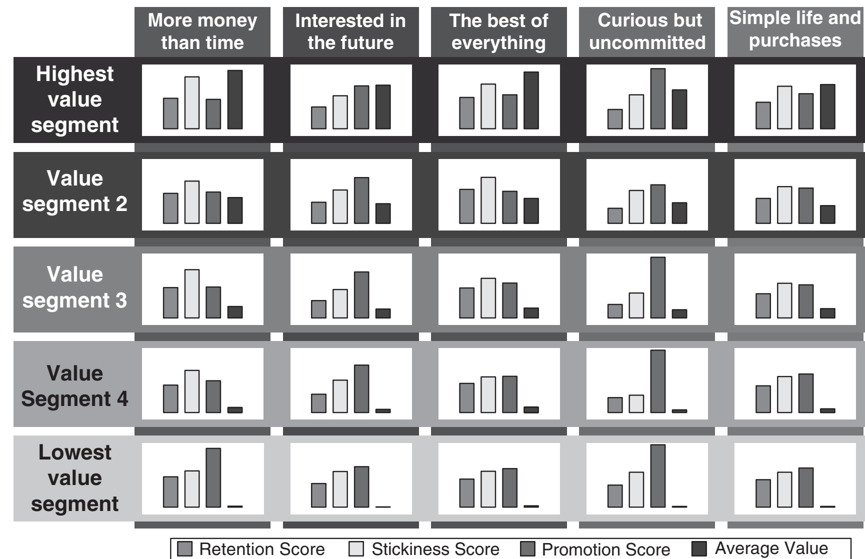

Figure 4: Example of combining behavioural and value-based segmentations.

promotion score (response to marketing offers) and their average value.

When it comes to strategic development of the customer base, experience shows that it is easier to move individuals along the value dimension within their behavioural type, rather than change their behavioural type. The first is an expression of what an individual does; the second, at the risk of being philosophical, is an expression of who they are.

CUSTOMER LIFE CYCLE SEGMENTATION

A third approach to segmentation, and one that does sometimes cause some confusion in marketing departments, is segmentation by customer life cycle. This documents where customers are in terms of their relationship with a company, as opposed to where they have got to within their own lives.

The latter is more properly referred to as Life Stage marketing, and is often used almost interchangeably with life cycle by financial organisations. The reason for this is not hard to see. For a telco, key Life cycle events include the point at which an individual becomes a new customer, a growth stage at which they opt for an upgrade, a maturity stage during which phone usage is stable, and, possibly, another growth stage when they obtain a second phone. Finally, there is a decline stage.

These events are mostly determined by use of the phone, and may not impact more broadly on an individual's life.

For financial services providers, there is a much closer alignment between Life Stages and customer Life cycle. Life stages may include getting married, having children or retiring: and each of these stages may well match directly to products offered and events in the way in which an individual handles their finances.

We should not be too focused on definitions here. Rather, we should recognise that there are different means of tracking and targeting customers through their relationship with an organisation:

- Event-driven marketing (new activation of value added services, such as ringtones, new phone purchase, change in usage).
- Life cycle marketing (relates to usage of the augmented product).

- Life stage marketing (relates to individual personal development).

Again, no single one of these approaches is the only right way to deal with a customer.

Life cycle segmentation is understanding and predicting what a customer is likely to do at each stage in the life cycle: its purpose is to move the customer profitably to the next stage.

The Customer Life cycle model used in respect of telco services is very similar to models used for other services, and has four main stages: New, Growth, Maturity and Decline (see Figure 5).

Customers can be (re-)stimulated at maturity into growth through new services or appropriate offers.

At each stage in the Customer Life cycle, there will be differences in the information available about customers, the drivers of future value and retention, the owners of the relationship with the customer and the influencers on the relationship with the customer. Each of these, singly and in combination, will significantly impact on the marketing that you should be doing with the customer.

As before, however, the key message is: don't apply one segmentation on its own. Life cycle segmentation essentially sub-divides your customer base into just four segments. To think that the millions of individuals who make up the typical telco customer base can be reduced to just four significant groups is optimistic in the extreme. Figure 6 shows how different segmentations can be overlaid on top of one another.

Combining the Life cycle and Value Models will give a total of 16 segments (four value segments by four Life cycle Segments). In the example illustrated above, the focus is on those customers identified as mature who have a low current value, but a high potential for the future.

These can be sub-divided according to churn likelihood. Further segmentation can then be driven out from behavioural factors: the entertainment choices that individuals make; how they use voice versus SMS on the phone; how they seek information.

At this point, balance and common sense are key. With a large enough customer base, marketers should not be afraid of layering segmentation systems, one on top of

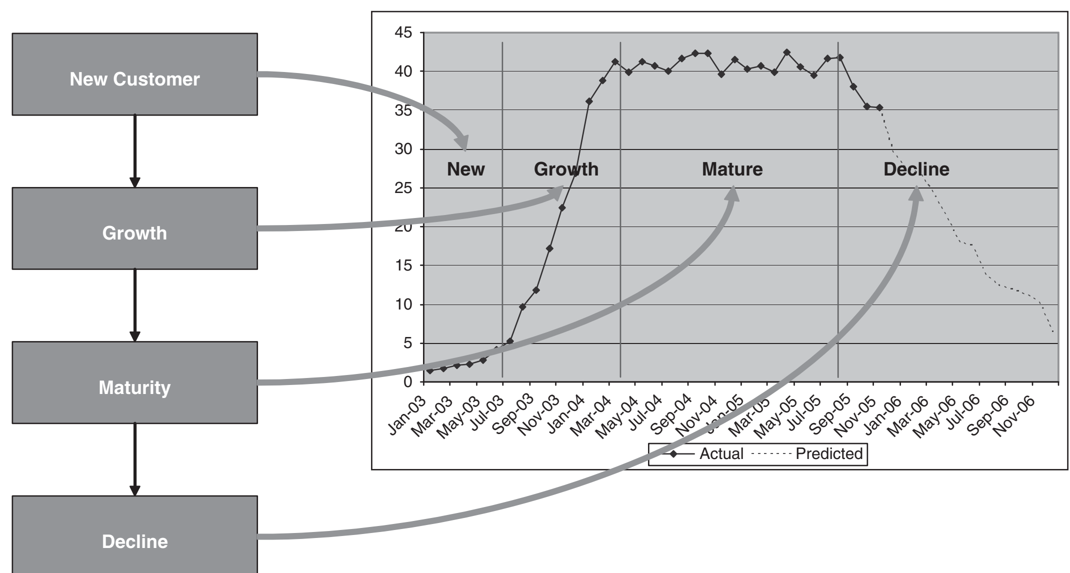

Figure 5: Customer value example over life cycle – Classic value curve.

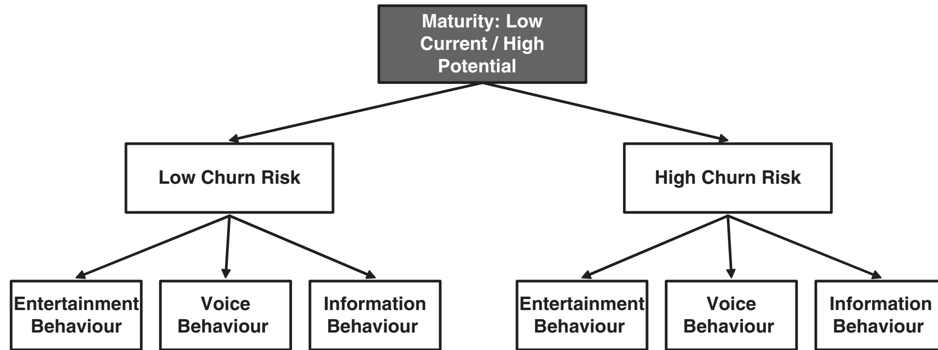

Figure 6: Driving down to specific segment action plans.

another, to create a highly segmented customer universe. The more segments there are to deal with, the harder it becomes to devise strategically sound approaches for each. Either a great deal of time will need to be expended on coming up with unique approaches for each segment – or the marketer can return to the underlying factors, as illustrated in Figure 4.

In other words, use the segments to structure the customer base: but use the underlying analysis of each segment to determine the marketing delivered by segment.

The other issue with any approach that multiplies segments is that the possibility of ending up with a 'segment of 2 individuals' increases with every layer added. This is just a fact of life that reflects the composition of the customer base. It would be unusual if the base sub-divided in exact proportion between the sub-segments, and marketers should not expect that to happen. Where this does occur, the simplest solution is to merge low population segments with segments that are most similar to them.

CUSTOMER MIGRATION SEGMENTATION

This is yet another form of customer segmentation, although by comparison with the other types dealt with above, that is probably the one least considered by many marketers. However, it can provide great value.

The starting point for this segmentation is customer value. If one considers where customers site at different points in time, they may move up or down the value deciles.

The technique illustrated in Figure 7 allows marketers to distinguish clearly between those customer segments that are increasing in value and those that are headed downwards. Care should be taken with the time interval used. Too short a time interval, and natural fluctuations will dominate; too long, and much of the actionability is lost.

Note that seasonal factors do not influence the migration analysis, as customers' value ranks are used, not their absolute value.

A direct focus on migration is important because significantly more value may be lost over time through downward migration than is lost through churn. Despite this, many organisations have strong anti-churn programmes, but nothing in place to manage downward migration.

There is a natural tendency for customers to become less 'loyal' (lose value to the organisation) over time. This corresponds to the loyalty erosion part of the customer life cycle.

In some industries, customer downward migration (demotion) is a much bigger

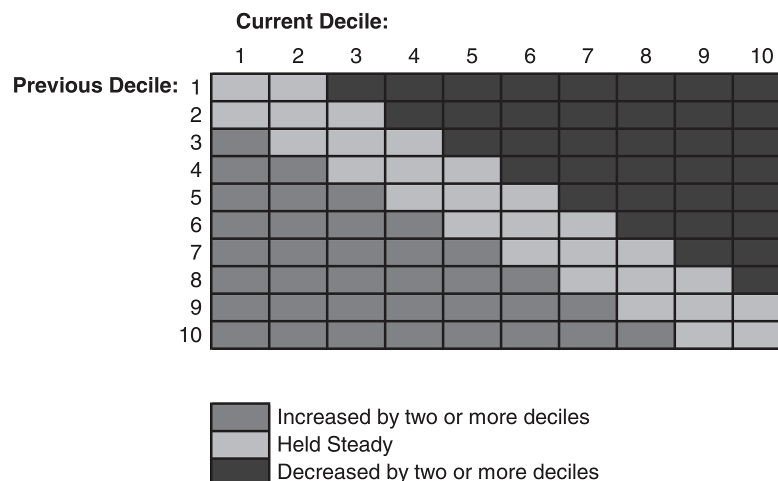

Figure 7: Segmentation by migration behaviour.

Table 2: Downward migration over time

Value segment time 1	*High (%)*	*Value segment time 2*		*Gone (%)*
		Medium (%)	*Low (%)*	
High	50	28	14	8
Medium	5	46	19	30
Low	1	23	20	57

problem than is churn (defection). For instance, figures based on working with a range of clients in different sectors suggest the ratio of demotion to defection may be:

- Communications: up to 5x
- Transportation: 2–2.5x
- Retail: 2–10x

Over time, there is a continued tendency to drift downwards, and downward migration is a 'slippery slope': customers tend not to return to their former loyalty group. Worse, churn tends to happen more from the lower value segments: the corollary of this is that usually, the least churn occurs with the highest value customer segments.

This is highlighted in Table 2.

What this shows is the destination of customers relative to where they started out in a subsequent time period. Fifty per cent of high value customers are still high value in the subsequent time period: a mere 8 per cent have gone (churned).

However, if we look at the low value group, some 57 per cent of them have departed in the same interval.

On the face of it, this is not a problem: after all, one of the targets that marketers are often set is to maintain high value customers. The danger of this approach is that it ignores customer origins. Before they became low value, some customers were high value.

If the focus is on maintaining and retaining those customers currently identified as high value, marketers will end up abandoning without a fight those customers who once were very valuable – and who could be valuable again. They also ignore root causes of downward migration that can reduce this effect.

This effect can be seen in the prepaid mobile segment. High value customers

make up only a small percentage of all prepaid customers – between 5–6 per cent (according to definition).

Most who will be high value – about 80 per cent of them – start off that way. There is a much greater tendency for customers to 'migrate down' in terms of their value segment than there is for them to 'migrate up' in value segment. However, once they lose value, that value tends to be lost forever.

The important lesson for telcos has been: don't ignore the low churn segment that is at risk of migrating downward in value.

Those telco operators who have picked up on this challenge tend to focus on both observed and predicted downward migration. They have tended to find it most useful to segment on downward migration for high value consumers and SME segments.

In focusing on downward migrating segments, telcos have also had to analyse the reasons why this process occurs. These include:

- changing life circumstances;
- competition/competitor activity;
- customer dissatisfaction;
- variety seeking (manufacturing, retail and catalogue);
- multi-loyal becoming more loyal to competitor.

The key lesson, learned through working with dozens of telcos is that if you don't know why your customer is headed downward, then you don't know the risk, you don't know whether it is mere statistical artefact and, crucially, you cannot know what to do about it.

But if marketers don't think about segmenting customers this way, the likelihood is that they are losing a great deal of value.

SUMMARY AND CONCLUSIONS

Telco operators have gone way beyond traditional segmentation based only on standard market criteria, such as prepaid versus postpaid, and consumer versus business. Advanced use of segmentation allows each customer to be part of a micro-segment. This allows precise targeting, with knowledge of what the retention and value drivers are for each customer. Appropriate use of a richly segmented customer base results in higher retention and growth. In addition, it allows enhanced business planning, where specific growth and retention targets can be assigned to each segment.

Advanced segmentation. It's good for your business. But, it's also good for your customers. Customers receive the right communications and offers, at the right time. Who wouldn't want that?