

# TOWARD A MODEL OF CUSTOMER EXPERIENCE

## *An Action Research Study within a Mobile Telecommunications Company*

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**Abstract:** Retaining profitable and high-value customers is a major strategic objective for many companies. In mature mobile markets where growth has slowed, the defection of customers from one network to another has intensified and is strongly fuelled by poor customer experience. In this light, this research-in-progress paper describes a strategic approach to the use of Information Technology as a means of improving customer experience. Using action research in a mobile telecommunications operator, a model is developed that evaluates disparate customer data, residing across many systems, and suggests appropriate contextual actions where experience is poor. The model provides value in identifying issues, understanding them in the context of the overall customer experience (over time) and dealing with them appropriately. The novelty of the approach is the synthesis of data analysis with an enhanced understanding of customer experience which is developed implicitly and in real-time.

## 1 INTRODUCTION

Organisations competing for the same customers and broadly offering the same products and services have differing levels of success in the market. Published statistics indicate that 85% of business leaders propose that differentiation by price, product and services is no longer a sustainable business strategy (Shaw and Ivens 2002). A significant percentage of those leaders (71%) stated a belief that customer experience is the new battleground in achieving differentiation.

Customer experience comes from a customer's interaction with an organisation and its products and services – it is not a passive concept. As a consequence, this has led some to see experience as a distinct economic offering (Pine and Gilmore 1998). In practice, however, the majority of initiatives oriented at understanding customer experience are reactive and based on gathering explicit data related to experience (most commonly gathered through customer surveys). One issue that remains, however, is that of translating a strategy of addressing customer experience to pro-active operation that enhances the reactive approach of asking customers about their experience. This paper addresses that issue by developing a flexible and

maintainable model for analysing individual customer experiences. The model is developed from an analysis of data residing across a number of technology-based information systems that, when combined, allows for surrogate measures of customer experience to be applied and appropriate actions for improving customer experience to be suggested.

The development of this model is presented in the context of an in-progress action research study with a major mobile telecommunications provider (referred to as Telco hereafter). In developing the model the paper is structured as follows. Section 2 presents an overview of the importance of customer experience in relation to other concepts such as loyalty and customer retention and describes the important facets used in developing the model. It also highlights the action research approach and provides an overview of the Telco. Section 3 validates the customer experience concepts. Section 4 presents the model of customer experience, sheds light on its application within Telco and discusses the real-time marketing strategies. Section 5 notes the current limitations of the work and describes the next steps to be taken. Then the conclusion in Section 6 follows.

## 2 KEY FACETS OF CUSTOMER EXPERIENCE

Mobile penetration has reached a saturation point in many markets, which has led providers to realize that retaining existing customers is of increasing importance. The typical focus points of retention have been those of increasing both customer loyalty and customer value (Kim et al., 2004; Reinartz and Kumar 2002). The business case for this realization is compelling, with evidence indicating that the net present value in profit that results from a 5% increase in customer retention varies between 25 and 95% (Reichheld 1996), the top 10% of customers are often worth 5 to 10 times as much in potential life time profits as the bottom 10% (Reichheld 1996), and it can cost a business up to five times more to recruit new customers than to retain current customers (Hart et al. 1990).

Though much work has been done on satisfaction and loyalty, more recent, work has demonstrated the impact that improving the customer experience has on customer loyalty (see Johnston and Michel 2008, Crosby and Johnson 2007).

To date the information systems literature has tended to focus on flow theory and studies of human-computer interaction as a framework for modelling enjoyment, user satisfaction, engagement and other related states of involvement with computer software (Novak et al, 2000; Pace, 2003; Finneran & Zhang, 2003; Khalifa & Liu, 2007). This paper, however, focuses on the basic satisfiers or hygiene factors for mobile communication. The paper contends that the mobile industry faces far more elementary challenges in comparison to ensuring customer experience flow in their interaction with products and services.

Poor experience is generally conceptualised as an 'expectation gap' – the difference between what the customer thinks they should be getting (built up by marketing promises and prior experiences with the existing company or other companies) and the experience that they receive (as a result of operational design for efficiency) (see Millard 2006).

Managing customer experience consequently means "orchestrating all the customer experience 'clues' that are given off by products and services that customers detect in the buying process" (Berry, Carbone and Haeckel 2002, p.85). These clues are easily discerned – in essence, a clue is anything that can be perceived or sensed or recognised by its absence. The composite of all clues comprise the

customer's total experience and they can be subdivided into categories as noted below (Carbone and Haeckel 1994): Functional – Rational / objective clues that relate to the operation of the good or service; Emotional (Mechanics) – Clues emitted by things; Emotional – (Humanics) – Clues emitted by people.

Emotional clues are just as important to the customer experience and work synergistically with functional clues (Berry et al. 2002), a view supported by Shaw (2005) who suggests that sensory experience is vital when looking at the entire customer experience. Very importantly, the customer experience should be viewed as a process of interaction and can be mapped out as a journey (Reichheld 1996) – a 'customer corridor' that captures the essence of a series of interactions. Understandably, the preference for the development of this sequence is for the interactions to be positive and both the average interaction and the deviations from the average (peaks) are important in shaping a customer's overall experience (see Verhoef et al. 2004 in relation to services). Other research notes the importance of the last interaction over and above prior interactions (Ariely and Carmon 2000; Hansen and Danaher 1999).

From an industrial perspective, clues are classified in instruments such as the J. D. Power Survey (J. D. Power & Associates 2008), which is an industrial standard in the UK. The categories cover seven key factors and their relative weightings (in brackets): Image (23%); Offerings & promotions (14%); Call quality / coverage (18%); Cost (14%); Handset (7%); Customer Service (14%); Billing (10%).

### 2.1 Action Research and the Organisational Setting

The practical work herein is action research based, adopting a two pronged approach which are the distinctive characteristics of action research (see Avison et al. 1999, Baskerville and Wood-Harper 1996, Davison et al. 2004). Though various forms of action research have been identified (Baskerville and Wood-Harper 1998), the research here is canonical in its approach, comprising the five phases of (1) diagnosing; (2) action planning; (3) action taking; (4) evaluating and (5) specifying learning (Davison et al. 2004, Susman and Evered 1978).

The research organisation, Telco, is a mobile telecommunications company with network operations in several countries servicing millions of

customers. The research was conducted in the context of the UK business.

## 2.2 Explicit vs. Implicit Assessment of Customer Experience

When faced with measuring customer experience a significant challenge is whether to explicitly ask customers about their experiences or try to infer experiences implicitly. For the UK mobile industry, explicit measurement is problematic for the following reasons: a) the logistics and cost to continually survey an appropriate proportion of the customer base; b) dealing with the fact that explicit methods rely on the recollection of events by customers which are often overly positive (in a “rose tinted” manner) or they can be remembered more negatively than the reality at the time; c) the concern that many consumers are suffering from survey fatigue where continued requests from operators for information can be counter productive; d) the wrong customers respond – often it is customers that are bored, lonely or compulsive that answer. Reichheld (1996) agrees with the above problems and suggests that as tools for predicting whether customers will purchase more of the company’s products or services (which he suggests is a good surrogate for determining whether a company is providing a good experience or not) explicit satisfaction surveys are grossly imperfect.

These challenges directed the research and the development of an implicit and more proactive approach, where experience data stored or accessible by the company can be harnessed with the creation of systems solution to improving customer experience.

## 2.3 Scoring the Customer Experience

Following a review of alternatives, Reichheld’s Net Promoter Scoring system was adopted as a measurement scale. This scale divides every company’s customers into three categories: Promoters, Passives, and Detractors. By asking how likely is it that you would recommend an organisation to a friend or colleague, customers respond on a 0-to-10 point rating scale and are categorized as follows: Promoters (score 9-10) are loyal enthusiasts who will keep buying and refer others, fuelling growth; Passives (score 7-8) are satisfied but unenthusiastic customers who are vulnerable to competitive offerings; Detractors (score 0-6) are unhappy customers who can damage

your brand and impede growth through negative word-of-mouth.

The Net Promoter Score (NPS) is calculated by taking the percentage of customers who are Promoters and subtract the percentage who are Detractors. Following a review of options, this scoring system was employed as it had credibility within Telco and therefore provided no challenges to adoption.

## 3 VALIDATION OF CUSTOMER EXPERIENCE CONCEPTS

Customer experience concepts were derived via a process of data triangulation. This process synthesised data from the customer experience literature, the JD Power Survey (both areas previously discussed) and the thoughts from real customers (described below), with the aim of further validating the customer experience items and their relative importance. The survey of real customers involved a 5 minute semi-structured interview with Telco customers as they were entering or leaving Telco retail stores which were conducted simultaneously across 4 different geographical locations. A sample of 94 customers was surveyed with Telco advising that the demographic split was representative of their total customer base.

When asked how rated their experience with Telco at the moment, using Reichheld’s 0 – 10 scale, 34% were classified as promoters, 34% were passives and 32% were identified as detractors, indicating there is an opportunity for Telco to make improvements to their customer experiences. When the customers were asked about the key reasons for their rating, the results showed that customer services has by far the biggest impact on the experience rating, with nearly half the customers sampled (47%) seeing this as the primary issue. However upon analysis, promoters place an even greater emphasis on customer services (56%), whereas detractors suggest that both coverage and customer services are key reasons for their rating with (30% and 27% respectively).

When asked what Telco could do to improve the experience, the top 3 answers (excluding null answers) were: Improve customer service – (47%); Improve costs – (19%); Improve Coverage (16%).

Table 1: Outline of Customer Experience Model.

Experience Category	Weighting	Experience Item	Item Description	Weighting
Cost	0.1818	Cost competitiveness	Telco customers' cost per minute voice/text bundle versus the cost per minute bundle for the cheapest competitor	0.66
		Bundle efficiency	Percentage of bundle allocation used per month	0.34
Handset	0.0909	Repairs	Number of times handset has been in for repair in a 12 month period	0.75
		Known issues	Known issues with existing handset	0.25
Coverage	0.2338	Dropped calls	Percentage of dropped calls, based on totals number of calls made in that month	0.40
		Call Set-up failures	Percentage of call set up failures, based on number of calls made	0.30
		Home coverage	Coverage rating at home post code	0.30
Customer Services	0.1818	Complaint repetition	Percentage of customer complaints with the same reason code in a 12 month period	0.60
		Complaint volume	Number of customer complaints in a 12 month period	0.40
Offerings & Promotions	0.1818	Decrease in voice usage	Percentage decrease in voice usage vs. previous month	0.45
		Decrease in data usage	Percentage decrease in data usage vs. previous month	0.45
		Decrease promotion usage	Percentage decrease in usage of latest promotional offer taken up	0.10
Billing	0.1299	Billing complaints	Number of customer complaints regarding billing in a 12 month period	1.00

## 4 CUSTOMER EXPERIENCE MODEL AND REAL TIME MARKETING

### 4.1 Customer Experience Model Development

In developing a systems model, the J.D. Power categories were broken down into experience items, with weighting validated by the exit interview customer survey and based on the experience and knowledge of the joint team. The items were selected as those that would give a great implicit experience indication for each category. Meyer and Schwager (2007) in particular argue that companies must deconstruct their overall experience into component experiences and proposes that organisations may choose to review past, present or potential patterns of customer experience data, with each pattern yielding different types of insight.

Table 1 provides a summary of the customer experience model. Drawing the earlier parts of the paper together, for each customer, the model allows for computational profiles to be developed (accounting for individual customer journeys). From an abstract perspective profiles are enabled by categorising and measuring experiences over time.

The customer experience items are the indicators derived from data in the organisations source systems (Customer Care; Billing; Sales; Network performance; Competitor intelligence). Using data warehousing technology this base data can be cleansed and aggregated into the relevant time period and provided for each individual customer. A customer experience score can therefore be arrived at by aggregating the score for each category. The theoretical maximum would be 1.0, however, any issues at the experience item level will reduce the maximum value of that category and thus the overall experience score.

### 4.2 Application of the Model in a Real Time Marketing Setting

Real-time attempts to ensure goods and services are not only customisable to the individual customer, but also inherently capable of adapting themselves over time (Oliver et al., 1998). Telco see real-time marketing as an opportunity to turn interactions triggered by either the customer or the organisation into more profitable customer relationships. They also believe that insight driven customer service can optimise interactions and generate incremental revenue and greater loyalty. Importantly, Telco also believe that real-time marketing initiatives provide

Table 2: Loyalty Action Strategies.

<i>Experience</i>	<i>Value</i>	High (>£27)	Medium (> £13, but <£27)	Low (<£9)
High (Promoters)		Cross-sell	Cross-sell	Up-sell
Medium (Passives)		Implement loyalty action	Implement loyalty action	Up-sell
Low (Detractors)		Implement loyalty action	Implement loyalty action	Do nothing

an opportunity to further assess the customer experience model and implement actions to address poor customer experience. Table 2 provides a high level strategic view of how different customer interaction would proceed, based on a customer experience score and knowledge of customer value. From a customer experience and retention perspective most interest lies in the scenarios where high or medium value customers (depicted in the table by monthly margin figures) are having a medium or low experience. Actionable customer feedback needs to relate specific problems to specific groups of customers, in particular customers with enough economic value to merit investing in solutions to their concerns (Reichheld, 2006).

### 4.3 Customer Experience Improvement (Service Recovery) and Loyalty Actions

In their framework of the service recovery process, Miller et al. (2000) categorise the critical elements of the recovery process as either psychological or tangible. Common tangible elements of a service recovery system include completing the primary service, re-performing the service, exchange the product or refunding the cost (Lewis and McCann, 2004).

The importance of action is highlighted in the case of service recovery. Service recovery where possible attempts to solve problems at the service encounter before customers complain or before they leave the service encounter dissatisfied (Michel 2001). The pre-emptive nature of the model allows Telco to intervene to improve the experience, before the situation becomes un-recoverable.

Examples of loyalty actions formulated by the team for high value customers include:

- “More economic tariffs” – forgoing short term margin for more medium term profits due to less churn.
- “Immediate replacement of problem handsets” – reducing the aggravation period and ensure

the customer is able to use billable services sooner.

## 5 NEXT STEPS AND IMPLICATIONS

The customer experience model, as developed here, is currently being tested and validated for its efficacy and impact on identifying customer experience issues and improving business performance. Testing and validation is being conducted on data for 20,000 customers, covering the experience items articulated in the model. The sample intentionally includes 10,000 customers who defected at the end of their contract period and 10,000 customers who upgraded their contracts or continued on their existing contracts. Statistical analysis will be therefore be used to examine correlation between experience items and between experience items and defection. That analysis will also be used to calibrate the model, testing and refining item weightings and the thresholds for triggering loyalty actions. Following implementation, further research is currently being undertaken to:

- Assess the impact of loyalty actions in resolving issues and developing a closer relationship with the customer.
- Examine the wider organisational implications, reviewing the impact on process improvement and employee satisfaction. Even at this stage, it is clear that corporate measures and incentives will need to be reviewed to support the new customer experience approach.

Understandably, there are limitations in relation to the research and the customer experience model in general. First, the research is based on the activities and information of one mobile operator, which places limits on generalisation of the outcomes. Second, there are limitations in relation to both what can be measured and the metrics employed, those in the model to date flow from the

data available in existing systems and decisions taken in concert with Telco. Third, it is acknowledged that the indicators employed are functional in their nature and do not explicitly address emotional clues in the main. This point was acknowledged at the outset and the model is intended (a) to provide an implicit 'foil' for explicit initiatives such as customer surveys and (b) the delivery of loyalty actions is via human-to-human interaction (in a contrite and empathetic manner).

## 6 CONCLUSION

Retaining profitable and high-value customers is a major strategic objective for many companies – a statement particularly true for firms in mature mobile markets where growth has slowed and the defection of customers from one network to another has intensified. From a business perspective the case for addressing loyalty has been shown as compelling and this paper has argued that understanding and improving customer experience is a cornerstone in improving loyalty. Though customer experience has been shown to be difficult to tie-down, from a management perspective, it has been argued that it is important to understand and model on a longitudinal basis to understand the 'journey' that a customer is on and how particular interactions impact upon the overall experience.

In seeking to make the management of experience operational, a model has been developed that infers (primarily) functional clues that can be used as surrogates for customer experience, drawing on customer data (both static and from interaction) to highlight issues and suggest appropriate actions to improve the experience. The model itself comprises of a number of experience items developed as a synthesis of empirical research, prior literature and an industry-standard model. Experience items are monitored and assessed in relation to agreed thresholds. The value of this model is in identifying issues, understanding them in the context of the overall customer experience (over time) and dealing with them appropriately. The novelty of the approach is the synthesis of data analysis with an enhanced understanding of customer experience which is developed implicitly and in real-time. The work is presented as research-in-progress and is currently being tested and validated for its efficacy and impact on Telco data for 20,000 customers.

## REFERENCES

- Avison, D.E., Lau, F., Myers, M.D. and Nielsen, P.A. 1999. Action Research, *Communications of the ACM* 42 (1), January, pp. 94-97.
- Baskerville, R., and Wood-Harper, A.T. 1998. Diversity in Information Systems Action Research Methods, *European Journal of Information Systems* 7 (2), pp. 90-107.
- Berry, L; Carbone, L., and Haeckel, S. 2002. Managing the total customer experience, *MIT Sloan Management Review* 43 (3), Spring.
- Carbone, L.P. and Haeckel, S.H. 1994. Engineering Customer Experiences, *Marketing Management* 3 (3), Winter, p8-19.
- Crosby, L.A. and Johnson, S.L. 2007. Experience required. *Marketing Management*, July/August.
- Davison, R.M., Martinsons, M.G. and Kock, N. 2004. Principles of canonical action research, *Information Systems Journal*, 14 (1), pp. 65-85.
- J.D. Power & Associates. 2008. *UK Mobile Telephone Customer Satisfaction Study*. [www.jdpower.com/corporate/news/releases](http://www.jdpower.com/corporate/news/releases).
- Johnston, R. and Michel, S. 2008. Three outcomes of service recovery: Customer recovery; process recovery and employee recovery, *International Journal of Operations and Production Management* 28 (1), pp. 79-99.
- Meyer, C; and Schwager, A. 2007. Understanding the customer experience, *Harvard Business Review* 85 (2), February, pp. 116 – 126.
- Pace, S. 2003. A grounded theory of the flow experiences of web users, *International Journal of Human-Computer Studies*, 60, pp. 327 – 363.
- Pine, B.J. and Gilmore, J.H. 1998. Welcome to the experience economy, *Harvard Business Review*. July-August, pp 97 -105.
- Prahalad, C.K., and Ramaswamy, V. 2004. The future of competition: Co-creating unique value with customers. *Harvard Business School Press*.
- Reichheld, F.F. 1996 *The loyalty effect*. Harvard Business School Press.
- Reichheld, F.F. 2006. *The Ultimate Question: Driving good profits and true growth*. Harvard Business School Press.
- Reinartz, W., Kumar, V. 2002. This mismanagement of customer loyalty. *Harvard Business Review*, 80 (7), pp. 84-96.
- Shaw, C. and Ivens, J. 2002 *Building Great Customer Experiences*, Palgrave Macmillan.
- Susman, G.I. and Evered, R.D. 1978. An Assessment of the scientific merits of action research, *Administrative Science Quarterly* 23 (4), pp. 582-603.
- Verhoef, P.C., Antonides, G. and de Hoog, A.N. 2004 Service encounters as a sequence of events: The importance of peak experiences, *Journal of Service Research* 7 (1), pp. 53 -64.