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# HUMAN INTERACTION IN SERVICE DELIVERY AND ITS RELATIONSHIP TO DISENCHANTMENT DISCONTINUANCE IN THE DIFFUSION OF SELF-SERVICE TECHNOLOGIES :

## A CASE STUDY IN RETAIL BANKING

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1992

# Human Interaction in Service Delivery and its Relationship to Disenchantment Discontinuance in the Diffusion of Self-Service Technologies:

## A Case Study in Retail Banking

A Thesis presented in partial fulfilment
of the requirements

for the degree

of Doctor of Philosophy in
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# NOTE TO THE READER

This thesis has been divided into two volumes. Volume I contains the table of contents, glossary of terms, statement of the research problem, and a review of the literature of relevance to this study. Volume II relates strictly to the field work. The volume begins with a description of the methodology used, and then discusses the results of the study and its conclusions. To simplify the reading of this thesis, a set of references is contained at the end of both volumes.

# ABSTRACT

The concept of self-service in the consumer goods industry is not new. For instance, consider the food vending machines found in most countries.

When applied to the services industry, however, the concept of self-service is more innovative. The traditional concept of channels of distribution as described in consumer goods marketing is of very little value when deciding how to distribute services, since services have unique characteristics. One such characteristic is inseparability. Services are typically produced and consumed at the same time. Since the client is also present as the service is produced, provider-client interaction is a special feature of services marketing.

In the 1990s this provider-client interaction is being challenged due to self-service technology. Not all consumers, however, are satisfied with receiving a service through a machine, and prefer human interaction. Some consumers, after adopting self-service technologies, have abandoned them and reverted back to obtaining the service from a human. In other words, there appears to be a form of diffusion regression.

According to Rogers (1962) when an innovation has been rejected after it has been adopted, it is called a 'discontinuance'. *Supersedence* discontinuance occurs when consumers cease using an idea in order to adopt a better idea which supersedes it. This has been found in many studies.

*Disenchantment* discontinuance is a decision to cease an idea as a result of growing dissatisfaction with its performance. A literature search found that no study had set out with the objective of measuring the existence, or non-existence, of this phenomenon.

This thesis used a case study approach by examining the retail banking industry. From a theoretical point of view, the main hypothesis of this thesis was that the trend towards the increased use of self-service technology in retail banking is reversing, and will continue to reverse, due to a growing consumer preference for dealing with people in banking. In other words, disenchantment discontinuance is occurring. To test this hypothesis, a survey was conducted of consumers, in conjunction with a three round Delphi study of New Zealand's leading banking technology experts.

The consumer survey indicated that there were less than significant levels of disenchantment discontinuance for the three technologies under examination: Automated telling machines (ATMs), Electronic Funds Transfer at the Point of Sale (EFTPOS), and automated telephone banking. The Delphi study indicated that the experts did not believe disenchantment discontinuance is occurring, or will occur. This is not to say that human bank staff do not have a future. With more and more transaction type work moving to self-service technology, staff time will be freed up so that they will be in a position to become sales representatives and cross-sellers. In this context, the bank branch of the future can be expected to reflect more of a retail image.

From a methodological point of view, the Delphi technique has long suffered high rates of attrition. Typically, large numbers of the chosen respondents fail to return the first questionnaire, and succeedingly smaller numbers of respondents return questionnaires at each iteration. No reported study has considered the problem of attrition by analysing the character of individuals who do and do not respond, or even by eliciting reasons for non response. Therefore, during the course of this research, systematic sampling effects and response patterns were identified and recorded. The results indicated that Delphi responses tend to be returned quicker in the second and third rounds than the first round, suggesting the presence of the experience effect. The main reason for withdrawing from the research before completing the requirements was that the expert had other priorities. The main reason for completing the requirements of the research was that the experts felt obliged to since they agreed to do so initially when sent the letter inviting them to take part in the research.

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## GLOSSARY OF TERMS

### ADOPTION

Adoption of an innovation has occurred when the consumer has used the innovation at least twice.

### ATM (Automated Telling Machine)

This is a machine for distributing cash and providing information services to customers on presentation of computer-readable card, and keying of PIN (personal identification number).

### AVERAGE COMPETENCE

For each question in the Delphi study, the experts were asked to estimate their competence or the amount of confidence they placed in their response, on a scale of nought to five. Nought meant that the expert considered him or herself to have very little competence in answering that particular question, and five meant the expert considered him or herself to have much competence in answering that particular question. The average was then calculated for each panel on each question.

### BANK

Refers specifically to retail banks ie those who service private customers and small businesses.

### DIFFERENTIAL PRICING

May be used when a bank has two alternative product delivery modes eg ATMs and human tellers. The bank can encourage the use of one mode and discourage the use of the other mode by charging higher fees for one of the modes of delivery.

### DISCONTINUANCE

Rejection of an innovation can occur after adoption as well as before adoption (ie at the awareness or trial stage). When the innovation is rejected after adoption, this behaviour is called a "discontinuance". A discontinuance is a decision to cease use of an innovation after previously adopting it.

There are two types of discontinuance: disenchantment and supercedence. A *disenchantment* discontinuance is a decision to cease an idea as a result of dissatisfaction with its performance. The dissatisfaction may come about because the innovation is inappropriate for the individual and does not result in a perceived relative advantage over alternative practice. Or the dissatisfaction may result from misuse of an innovation that could have functioned advantageously for the individual.

A supercedence or replacement discontinuance is a decision to cease using an idea in order to adopt a better idea ('better' in the sense that the individual perceives it as better) which supersedes it. In a rapidly changing culture there are constant waves of innovations. Each new idea replaces an existing one which in its day was an innovation too.

### EFTPOS (Electronic Funds Transfer at Point of Sale)

This involves making payments electronic at the point of sale by entering a computer readable card into an EFTPOS terminal.

### HOME BANKING

Is a service which enables customers to perform banking transactions from their own home. This may be achieved via a home computer or television.

### INTERQUARTILE RANGE (IQR)

This refers to the range of the middle 50% of responses, when all the responses are ranked from smallest to largest. For example, suppose there were eight experts in a panel and their response to the question 'in what year will the cashless society occur?' was: 1999, 2003, 2006, 2007, 2007, 2008, 2008, and 2009. The interquartile range, therefore, is 2006-2008.

### MAIN CITY CENTRES

Refers to those cities with a population of 60,000 or more. There are approximately 10 such cities in New Zealand.

**PANEL A**

Involved experts from the departments of marketing and strategic planning in large banks ('large' in this case refers to a bank which is represented by 150 or more branches in New Zealand).

To qualify for this research, the experts had to have:

- been in a senior management position or above

- been in the industry for at least five years

- at some stage in their careers been directly involved in the research and development of banking technology, or the marketing of such applications to final customers.

**PANEL B**

Involved experts from the department of information technology in large banks.

To qualify for this research, the experts had to have:

- been in a management position or above

- been in the industry for at least five years

- at some stage in their careers been directly involved in the research and development of banking technology, or the marketing of such applications to final customers.

**PANEL C**

Involved experts from the marketing, strategic planning, and information technology departments in medium to small (ie less than 150 branches in New Zealand) financial institutions. 'Financial institutions' refers not only to banks, but also experts from finance companies, and building societies.

To qualify for this research, the experts had to have:

- been in a management position or above

- been in the industry for at least five years

- at some stage in their careers been directly involved in the research and development of banking technology, or the marketing of such applications to final customers.

**PANEL D**

Involved experts from technology supplying companies who:

- were in a management position or above

- had been in the industry for at least five years

- at some stage in their careers been directly involved in the research and development of banking technology, or the marketing of such applications to financial institutions.

**PANEL E**

This involved a constituent group of experts. This panel involved those people who were not directly involved in the marketing of technology to customers, but had an influence.

These experts did not have to meet any special criteria. Rather, they were deemed appropriate after discussion with bankers and the individuals themselves.

**PIN**

Represents 'personal identification number. This identifies the user (the customer) to the machine.

### PLATFORM AUTOMATION

Refers to automation at the teller's cubicle. Typically it involves screen access to product profiles, which assists tellers in cross-selling.

### PRODUCT PROFILE MACHINES

These machines, which are currently being piloted in some branches, allow customers to obtain profiles of the various bank products available.

### REJECTION

An innovation may be rejected at any stage in the adoption process. Rejection is the decision by an individual not to adopt an innovation. This rejection may occur at any stage of the adoption process. For instance, the individual may decide at the evaluation stage that the innovation will not comply to his or her situation and mentally reject the idea. Or the innovation may be rejected at the trial stage.

### SMALL BUSINESSES

Refers to organisations which employ fewer than 20 people and/or have an annual turnover of less than $1 million before tax.

### SMARTCARD

This is a card with on-board processing power. Supersmart cards are an advancement of the Smartcard, and have enhanced memory and processing power, and a miniature keyboard and display.

### TELEPHONE BANKING

Is an automated telephone service (which involves the telephone being answered by a computer of some description, rather than a human bank officer) which enables customers to perform banking transactions.

### WHEEL OF RETAILING HYPOTHESIS

This hypothesis suggests that new retailing institutions start on a price appeal basis and evolve as high cost, high service operations vulnerable to new types.