

# **Business Case Studies in Operations Management**

edited by  
**Tom Batley**



an imprint of Pearson Education

## **SprintPrint**

This SprintPrint edition has been published directly from the manuscript received from the author in order to produce the book in the fastest possible time. It has not gone through the rigorous editorial and production processes normally afforded to Pearson Education titles. While every effort has been made by the author to ensure the accuracy of the text, Pearson Education NZ Ltd does not take responsibility for the editorial quality of this SprintPrint version.

**[www.pearsoned.co.nz](http://www.pearsoned.co.nz)**

Your comments on this book are welcome at  
**[feedback@pearsoned.co.nz](mailto:feedback@pearsoned.co.nz)**

Pearson Education New Zealand Limited  
46 Hillside Road, Auckland 10  
New Zealand

Associated companies throughout the world

© Pearson Education New Zealand Limited, 2002

ISBN 1 877258 32 6

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of the publisher.

Produced by Pearson Education New Zealand Limited  
Printed in Australia



We use paper from sustainable forestry

## Table of Contents

Preface	v
Acknowledgements	vi
Case Studies in Operations Management	1
The Authors	3
Students Guide to Using Cases	4

### Operations Strategy Cases

Case 1: Wood Veneer Products	9
Case 2: Oxygen Business Solutions: A "Shared Services" Case	15
Case 3: Hubbard's Foods Ltd.	22
Case 4: Express Data: Adding Value as a Middleman	34

### Production Management Cases

Case 5: Champion Foundry Company Ltd.	41
Case 6: Mechanical Handling Engineers: Engineering Management with Style	50
Case 7: WJK Yarn Ltd.	61
Case 8: Clearline Instrumentation	69
Case 9: Unilever Australasia Petone	78
Case 10: Kiwi Packaging: Another Tight Schedule to Meet	88
Case 11: Firth Industries Ltd. Wellington Division	94

### Service Industries Cases

Case 12: Continental Coach Tours: Quality and Service in a Service Industry	106
Case 13: Peggydale Leathercraft: A Lifestyle Business	113
Case 14: Kelly Tarlton's Antarctic Encounter and Underwater World	120
Case 15: Credit Union Otago	131

### Project Management Cases

Case 16: The Rise and Demise of an Excellent Team: Introduction of New Technology in Architecture	143
Case 17: Management Failure in Software Development Projects: Two New Zealand Cases	152

### Small Business Cases

Case 18: Jan McLean Originals	162
Case 19: The Lavender Growers: A Lifestyle Business	171
Case 20: Cowell's Pavlova Kitchen	177
Case 21: Chard Farm: Valuing Quality in the Wine Industry	183
Case 22: The Cheltenham House, Hanmer Springs	194
Case 23: Bath Bloomers by Mix it Smooth, LLC	201
Case 24: Wishbone Greeting Cards	209

## **Quality Management Cases**

Case 25: Tecpak Industries	218
Case 26: Service Quality: The New Kitchen	229
Case 27: United Milk Products	236

## **Supply Chain Management Cases**

Case 28: CLEAR Communications Ltd.	242
------------------------------------	-----

## **International Management Cases**

Case 29: Nordica and Danaudio in China	253
--	-----

**Credit Union Otago: Prospering in a  
Competitive Environment**

**Alexander Sibbald  
School of Business  
University of Otago  
New Zealand**

This case study presents an opportunity to identify and discuss operational management strategies pursued by Credit Union Otago in particular, and the credit union industry in general, in their bid to survive and grow, whilst aiming to achieve both their economic and social objectives.

## Credit Unions<sup>1</sup>

Credit Unions are financial services co-operatives, and are its purest form, as they deal exclusively with their members. They are the real 'people's bank', and have their roots in Germany in the mid nineteenth century. Two types of movement evolved from this period. The secular Schulze-Delitzsch type espoused self-help, and concentrated on urban areas with a large economic base, whilst Raiffeisen focused more on Christian ethics as the basis for forming a loan society, and restricted membership to rural workers. Nevertheless common principles held for both models.

At the basic level members save money on a regular basis, and can borrow from this resulting loan pool. Credit unions cannot do business with the general public due to legal requirements of serving the membership, as defined by a common bond. This key characteristic takes three forms. People can join on the basis of their employment (industrial), or place of residence (residential), or as a member of an association (associational), such as a church, trade union or profession e.g. Fisher and Paykel, Southland, and Media Credit Unions respectively. Membership is voluntary in all three types, and discrimination of any kind, whether social, racial, sexual, religious, ageist, or political is against fundamental co-operative principles. They are democratic organisations, in which each member has one vote, irrespective of their savings or level of business conducted, and can participate equally in decision making.

Deemed non-profit making, they exist to attain the economic and social goals of their members. Although credit unions are not charity organisations, they nevertheless seek to help the less fortunate members of society save and access loans at reasonable interest rates. In order to fulfil their dual economic and social role, credit unions place emphasis on education. The democratic and self-help principles are actively promoted through educational programmes for members, staff, and the public in general.

The distribution of any surplus arising from business activities can be allocated in proportion to their transactions, common services to all members, or the development of the credit union. In essence any surplus distributed should avoid one member gaining at another's expense, with the distribution system operating under the democratic control of the membership at large.

Credit unions are now a worldwide phenomenon. The world trade association representing the majority of credit unions, The World Council of Credit Unions (WOCCU) had in 2000, a membership of 36,512 credit unions, comprising 108.3m members, savings of US\$466b, and total assets of US\$ 536b (WOCCU, 2001).

The New Zealand movement is usually stated to have begun in the late 1950s with a credit union based on an associational common bond, i.e. St Marys catholic parish

<sup>1</sup> The author thanks Gary Dalton, Leah McBey, and Bevan Moreton of CUO, and John Keenan of NZACU. He also thanks Gary Dalton for his assistance in compiling the CUO data. Their help was most appreciated. Nevertheless any errors remain my responsibility. The author also thanks CUO for approving the publication of the case study.

(Hamilton) in 1955. However, the old post office claims the formation of an industrial credit union (POIS) in October 1938, but not registered as one until 1989.

## **Credit Union Otago: Phase One (1973-86)**

Credit Union Otago has its roots in the formation of two industrial based credit unions in 1973, viz. Otago Waterfront, and Fletcher Employees (Otago). No offices existed in which to do business, and the Treasurers walked up and down the wharves and construction sites, collecting member's savings, and keeping loan repayments in a canvas bag.

Over the next ten year period, a further five industrial organisations formed credit unions; viz. Southern Fire-fighters, New Zealand Railways, Speights Brewery, Otago Hospital Board, and Cadburys. They limited membership to employees and their families in each case.

In 1986, due to growth, the (renamed) Fletcher Challenge Employees (Otago) and the Southern Fire-fighters Credit Unions co-operated in the sharing of office facilities. They purchased a site on a main thoroughfare in Dunedin, just down from the central business district, and erected a modern single story office with street frontage, and provided service to members on a full time basis. Methods for financial transactions varied from manual to different types of computer operated systems.

The mid to late 1980s saw great change in the New Zealand economy and society, with the introduction of (new right) 'Rogernomics' policies. The Labour Government deregulated the financial services sector, resulting in the entrance and proliferation of foreign owned banks, and other types of financial service providers, and conversion of building societies to banks, many of them seeking a share of the basic business of credit union, viz personal loans, with a consequential significant increase in competition.

However, the banks introduction of sophisticated technological services, in the shape of ATM, and Eftpos, made rural banking relatively expensive, resulting in branch closures. In addition the then Labour Government sold the old Postbank to the ANZ bank. Unemployment increased significantly in the country, and compounded the rural problem, as organisations downsized in a massive way, particularly in the public sector.

### **Questions for Discussion**

1. Suggest a possible strategy(s) for the survival of the credit unions in Otago.

## **Phase Two: (1987-95)**

The New Zealand Association of Credit Unions (NZACU) is the bigger of two trade associations in the country, representing about 80% of credit unions. CUO is a member of NZACU. About ten per cent of the other credit unions are unaffiliated to a trade association.

In 1987, the New Zealand League of Credit Unions (later renamed the New Zealand Association of Credit Unions, NZACU) held a regional seminar in Dunedin on change in the industry, and the presenter argued the need for one community credit union in

Otago, in order to take advantage of economies of scale, and thus compete more favourably in the market place. The industrial credit unions had flourished over the period, but the directors realised that their individual sites once saturated, provided little potential for membership growth, particularly in the face of major downsizing. At this point the Railways and Speights credit unions had merged with Fletcher Challenge Employees

Each credit union received sufficient support from their respective memberships for amalgamation. The regulator for the credit union industry, the Registrar for Friendly Societies and Credit Unions (Registrar), approved the merger, such that the newly named Credit Union Otago (CUO) opened for business in November 1987 at its Dunedin premises, and functioned with four full time professional staff working a five-day week. Becoming a community based credit union meant opening up membership to anyone resident in Otago, which has a population of about one hundred and forty thousand. As the first region in New Zealand to undergo this process, Otago provided the model for others to follow.

At amalgamation Credit Union Otago's 2,500 members owned \$3.0m in total assets, \$2.8m in savings and \$2.6m in loans. The range of member services offered extended to mortgages soon after merger. Credit Union operated a no-fees policy for financial transactions, but charged entrance and annual membership fees of \$5 each. The generation of surplus relied almost entirely on the gross margin, i.e. the difference between dividends paid on deposits and interest collected from loans.

In its first five years of operation, CUO experienced further rapid growth, putting pressure on the Dunedin premises, such that the directors decided to expand on the site, adding a second story to the building, which increased the floor area by 87%. Environmental resource constraints prevented further major building work in terms of both area and height. However, within three years, continued growth again caused queuing problems. Furthermore the number of staff had increased to twelve full-time equivalents, which caused crushed working conditions.

Another highlight occurred in February 1990, when the small rural community of Lawrence suffered from the loss of firstly the BNZ, and secondly the Postbank branches. The community failed to attract any of the other major banks, and the lack of a local financial institution only added to the woes created at the time by the rural downturn. In response to a request for help, CUO opened a branch in the BNZ building, having acquired it at favourable terms, and functioned for three days per week with two part-time staff. The operation proved to be successful, benefited the community greatly, and was instrumental in returning vitality to the town. By the end of the 1999/2000 financial year, the Lawrence members (570), a large proportion being retirees, had savings of \$1.2m, and loans of \$0.5m. The figures for the Dunedin Service Centre, i.e. excluding Lawrence members, were, 7236, \$15.2m, and \$15.3m respectively.

From an operational standpoint, the merging of financial and member records created a challenge with one manual and two different computer systems needing interfacing. Management successfully solved this problem by merging the combined records onto the NZACU's on-line computer bureau (FACTS system) before the beginning of November 1987. Due to operational problems with this network, such as unreliability,

plus unacceptably high communication costs, Credit Union Otago withdrew from it three years later, and operated its own desk based PC system.

Driven by member credit union requests, and management initiatives, NZACU had in the early 1990s considered introducing ATM and Eftpos services. Development and operational costs proved to be a major constraint. The smaller credit unions in the NZACU, balked at a compulsory requirement for all members to fund the development of new technological services, because of the substantial sums involved, and also because, in their view, their small size didn't merit them. Vested interests rather than co-operative ideals prevailed at the macro level. For a number of years they had successfully blocked NZACU introducing new technological services, as they held a majority of the total votes. Each member credit union in the trade association held one voting right, irrespective of size, which, as at the level of the individual credit union, reflected credit union philosophy. Importantly, the annual general meeting decided the composition of the NZACU board, and its level of funding.

### Questions for Discussion

2. Comment on the above statistics for Lawrence and Dunedin Service Centres.
3. How could the NZACU provide advanced technological services?
4. Suggest possible operational problems associated with their introduction.

### Phase Three: (1996-2000)

Whilst meeting social objectives, branch banking proved a relatively expensive process. As the above figures show, Lawrence residents are net depositors, and although they provide capital for loans in Dunedin and elsewhere, it doesn't generate income, and each over the counter transaction costs \$3.20 approximately. Much later in the 1990s, CUO received requests from other Otago rural communities (Port Chalmers, Waikioiuti, Palmerston and Ranfurly), for Lawrence style set ups, but ironically resisted them all, as too expensive an operation, given the high proportion of retirees in these communities, and considering the availability of new technologically based services. The credit union didn't regard itself as a charity, as it needed to make a surplus to the satisfaction of its members, but still considered it had social objectives in keeping with the mutual spirit.

Clearly, CUO, and the other credit unions, couldn't provide these sophisticated technologically based programmes through their own efforts. It required collaboration. The previously successful blocking tactics of the smaller groups against the introduction of ATM and Eftpos, had been removed at the 1994 NZACU Annual General Meeting (agm), by the meeting accepting a compromise proposal to structure business services, such as ATM and Eftpos, as a separate entity from the traditional member services, e.g. legal advice, and training. Member credit unions could opt into business services at a price. A user pays ideology had permeated CUO.

The Association set up two separate boards of directors to achieve this aim, although some commonality of directors existed. Those credit unions interested in using debit card business services, branded as Accesscard, received them on a user pays basis, in order to meet the cost of development, annual running costs, and maintenance, and

accordingly only they got a return from any surpluses, in proportion to their investment. Operationally, the Accesscard programme allowed members to access their funds via ATM and Eftpos.

Launched by NZACU as an off-line system in mid 1996, and initially funded by ten of the largest credit unions, its staff administered Accesscard from its Hamilton, and later Auckland office. As the largest investor, CUO nevertheless had only one vote in common with the other nine founder credit unions. Although the Association owned the upgraded FACTS software and computer network, it elected to make use of the retail banks ATM and Eftpos machines system, at a price, due to the high cost of installing and operating its own hardware. This allowed the credit union movement to interface and connect with the banks systems. On a user pays basis credit unions pay higher fees due to the agency arrangements in conjunction with these suppliers. However, there is one independent ATM and two Eftpos systems in New Zealand. The latter are operated by (a) the ANZ Postbank, and (b) a consortium of BNZ, Westpac and National banks. This complicated the negotiations, and resulted in an easing in of Accesscard over time, such that by 1999 it provided users with a 24 hours per day, seven days per week, on an all-year round 'real time' operation from anywhere in New Zealand, giving one hundred per cent cover on all systems. The introduction of the Accesscard programme necessitated CUO returning to the NZACU bureau system (Appendix 1), which due to upgrades produced significant reliability and communications.

The lack of real time operations for ATM in the early days caused another operational problem, as it presented an opportunity for fraud. A few quick witted members drew money from the machine, and then rushed over to the offices to take out more before this transaction had processed. This problem disappeared with the introduction of real time operations.

After much anguish, CUO decided that the transaction costs charged by the Accesscard programme service providers, necessitated a cost recovery schedule, in the form of user fees to members. Over the counter transactions continued to be free. Essentially, the directors formulated a policy to operate Accesscard as a non-profit operation.

Progressively over the next five years, CUO extended its fee base, and included counter withdrawals although telephone, and later Internet, banking remained free (Appendix 2). Such charges, and any rule changes, are subject to the acceptance by the members at a properly convened meeting, and approved by the Registrar.

At the end of 2000, twenty-five credit unions participated in the NZACU Accesscard programme, plus a building society. Three thousand two hundred CUO members, out of a total membership of nearly eight thousand, possessed Accesscards processing over \$1.9m in transactions per month.

Near disaster struck the credit union movement in mid 1998, with the liquidation of the Canterbury Port and Province Credit Union, one of the top five in New Zealand, due to poor management and fraud. The liquidator reported that members would most likely lose their savings, as they were unsecured deposits. CUO, at the instigation of NZACU, requested the Registrar to extend its common bond to include the territory formerly administered by Canterbury Port and Province, viz. Canterbury, and

Marlborough. The Registrar acceded to this request, but a change of Registrar the following year overturned the decision, on the basis that the new Registrar saw little or no commonality between Otago and Canterbury. He rather frivolously suggested the dislike of each other's rugby supporters supported this view.

Credit Unions were always exempt from the Securities Act 1977 requirement for deposit insurance to protect member's funds in the event of liquidation. Previous governments had reasoned credit unions were small fry, had an associational or industrial common bond, and thus their funds were relatively safe. But by 1999, the limit of savings had increased to \$40,000 per member, and many credit unions had thousands of members, and were sophisticated operations. Indeed the credit union movement had lobbied the government for years for a revision of the Friendly Societies and Credit Union (FSCU) Act 1982. The legislators had developed it for a credit union model no longer existing. According to the NZACU, the Act trapped credit unions in the constraints of an entirely different commercial and economic environment, whilst imposing on the movement other legislation, such as the Companies Act 1993. The credit union movement saw it as a 19th century model, as it has never been modified to suit modern operations. The industry deplored such mandatory requirements as the rigidity of the common bond, and the restriction of membership to individuals, and thus discrimination against small business sole traders.

Although CUO had extended its premises in 1992, similar problems surfaced again within three years due to continued growth. Many members complained about unacceptably long queuing times. After much discussion and disagreement about the need for more service floor area, given the introduction of Accesscard, the board authorised management in 1997 to investigate either expanding the present office, (albeit local authority constraints severely limited this option), or finding an alternative site. The directors decided to stay put, due to management and the majority of the board arguing that the introduction of Accesscard, and uncertainty about member growth, obviated the need for new premises.

Over time, the board and management became convinced that credit unions were not just a destination service, but that passing foot trade was important. Two years later, faced with cost ineffectiveness of the present site, the board elected to prepare to move to the Dunedin central business district. Increased membership, and experience of operating ATM, Eftpos and Telebanking, showed that although technology meant more people banked from home, or workplace, the increase in members attracted to the credit union as a result of improved services, sowed the seeds for queuing delays. The board became aware of possibly over-capitalising the present site, and thus failing to recover the costs in any eventual sale. Furthermore, the inability of most welfare dependent members, (about 15% of the total membership), to afford sophisticated technological products, accentuated the queuing problem, and swung the decision in favour of moving premises. However, a topic of debate concerned buying or leasing the new premises.

Another potential problem reared its head towards the close of the century. In common with users the world over, the credit union movement prepared in 1998\99 for the possibility of computer crash down due to the millennium bug. Designers of the early computer systems in the middle of last century had only used two digits for the year.

Experts feared that the advent of the new century would confuse computers and collapse the system.

### Questions for Discussion

5. How can CUO and the NZACU, minimise operational problems arising as a result of the millennium bug?
6. What social issues does the introduction of a fee regime have for CUO?
7. What do the figures in the Appendices tell you about its fees policy?
8. Should they lease or buy new premises in the central business district and why?

### Phase Four: (2001+)

To eliminate or minimise, potential major problems arising from the effects of the millennium computer bug, the board's executive committee prepared an action plan for the Dunedin office only. This included booking a diesel generator for early January as a precaution against failure of the electrical supply. Management arranged for storing back-up files elsewhere. Given the possibility of lack of water supplies, they arranged for bottled water and rented portable toilets for installation in the office. Ordering mobile telephones covered the possibility of failure of the telephone lines. Key staff would come into the office during the holidays on the first and second of January to thoroughly test the processes, and be on hand to deal with any major problems before the opening of business on the third day. The NZACU made similar plans for disaster recovery facilities, plus access to a computer at another site out of the Auckland business district. As it turned out, computer malfunction did not eventuate in CUO, nor apparently anywhere else in the world. All credit unions in New Zealand opened for business on the third of January without disruption whatsoever to date.

Likewise, minimal disruption occurred slightly over one year later, when CUO moved to refurbished leased premises in the Dunedin central business district. The move took three days, only one of which was a business day. After careful consideration the board decided on a nine-year lease, and sold their former premises for \$23,000 over book value. The board decided to lease after concluding that financial services were their business rather than property acquisition. Floor area increased three fold. The move also saw the introduction of a drive through teller service, the first for any financial services organisation in the South Island, and only one of two in New Zealand.

NZACU introduced Internet banking for its services member credit unions, just after CUO moved to its new premises. In the following August (2001), the latter made the service available free to its members.

Another storm cloud appeared on the horizon in mid 2000, with New Zealand Post intimating the start-up of a supposedly low fee banking operation, a return to the old Postbank pre Rogernomics days in New Zealand, i.e. the People's Bank, or Jim's Bank, after Alliance Leader and Deputy Prime Minister Jim Anderton, the driving force behind the concept. Given the political need of the Labour Party for Alliance support, the coalition Government provided New Zealand Post with \$80m to get the bank up and running. Political opponents of this new bank, leaked documents that showed it

would specifically compete with credit unions for their business. The new bank's early public announcements targeted working class and beneficiary groups as potential customers. Operationally, particular post office branches throughout New Zealand will provide banking services. The bank is scheduled to come on stream in early 2002, and apparently requires over 100,000 customers to be viable. Jim Bolger, an ex Prime Minister of New Zealand, took over as Chairman of New Zealand Post and The People's Bank in August 2001.

The unfortunate failure of the Canterbury credit union, galvanised the Securities Commission into action, and it declared credit union securities inherently unsafe. Consequently, the Ministry of Commerce, (now the Ministry for Economic Development), decided to remove credit unions from the exemption of not requiring deposit insurance, as from 30 April, later extended to 31 October, 2001. This meant each credit union required (Ministry approved) deposit insurance, termed a Trust Deed, a very expensive operation. Such an expensive operation had its upsides. Member's deposits are First Ranking Securities, and they are the first paid after the expenses of the Liquidator have been met, a far cry from the unsecured deposits situation pertaining previously.

#### Questions for Discussion

9. How should CUO make arrangements for deposit insurance?

10. What are the implications for the credit union movement of such a scheme?

Essentially CUO needed collaboration with other credit unions, and an arrangement with a third party to pick up the tabs should it fail. Given the expense of deposit insurance, NZACU concluded in early 2000, one Trust Deed document with Tower Trust Ltd., (a large private insurer), on behalf of its members, rather than each credit union producing one of its own. Effectively this means that in return for bankrolling the credit union if it collapses, this company assumes the mantle of another regulator, with draconian monitoring powers, which comes at a steep price both in setting up and administering the Trust Deed. Each assignee has to meet Tower Trust's very stringent financial requirements, e.g. the need for a minimum capital adequacy of 10% of total assets, rather than the 5% for General Reserve needed under the FSCU Act 1982. Capital adequacy measures the true equity of a credit union, and are the reserves needed 'for a rainy day'.

CUO finally registered its Trust Deed with the Companies Office in February 2001, after equally protracted communications with the Registrar, Securities Commission and Tower Trust, working through three sets of lawyers. The Trust Deed proved a bonanza for the legal profession. Disagreement occurred over the format of CUO's Prospectus, as each body had a different interpretation of what it should be.

Given the arduous requirements of preparation and monitoring, and the considerable expenses of such an exercise, it is hardly surprising that massive transfers of engagement (mergers) took place in the industry, such that only 53 member credit unions are currently (October 2001) affiliated to the NZACU, down from just over 100 in 1996, although the total number of members is 1666,000 up 50,000 from the early 1990s.

However, as a sop to credit unions for accepting the Trust Deed, and failing to review the FSCU Act 1982, the Minister of Finance increased the minimum member deposit to \$250,000, or 10% of total assets, whichever was the smaller. He also deferred possible taxation legislation for credit unions. Currently they are untaxed, although their members pay tax on interest received on their deposits.

A major operational weakness of credit unions is their inability to gain direct access to the bank payment clearing system, which is operated by Interchange Settlements Ltd (ISL), a company owned by the shareholder banks. Access to the clearing house would allow credit unions to accept direct debits from their members, and provide chequering facilities.

Membership of ISL is currently only available to registered banks. Whilst the Reserve Bank wants to open up the clearing system to other parties, it cannot influence access to the interchange switch. Effectively access is controlled by the New Zealand Bankers Association, which allocates bank and branch numbers only to registered banks. The bankers are operating a cartel. Application to the Reserve Bank for a banking licence is a very expensive exercise, and requires at least \$15m of capital. Clearly CUO could not apply for a banking licence on its own. It requires credit unions collaborating at the industry level, in order to make a credible case to the Reserve Bank. Alternatively, credit unions could gain access through a third party, but Westpac Trust was the only bank willing to provide such a costly service at this time.

After the 2001 CUO agm, held at the end of June, the directors and management held a seminar to update their five-year strategic plan, and reflect on the credit union's performance to date (Appendix 3). In so doing they contemplated the extent to which their credit union had met its objectives, and considered how best to respond to future problems, challenges and opportunities.

### Questions for Discussion

11. Suggest a possible strategy(s) by which CUO can compete with the Peoples Bank.
12. What are the implications for NZACU of using Westpac Trust as access to the New Zealand payment clearing system?
13. What are the likely strengths and weaknesses of the credit union industry's case should it apply for a banking licence?
14. What are the implications for CUO of the present arrangement with the retail banks for operating the Accesscard Programme?
15. What are the key issues in the case study?

## Appendix 1: The NZACU Computer Bureau System

The NZACU operates a SUN E 450 Microsystems computer in Auckland. Disaster recovery backup facilities are available at another site located out of the central business district.

CUO's bureau data enters via its Compaq server on a Local Area Network (LAN). It connects to the bureau via dedicated Telecom data circuits.

The CUO server also facilitates the LAN for word processing spread sheets, departmental files, standard forms\letters, procedures, and for intranet, Internet and email facilities.

CUO has 20 Pentium 700 megahertz PCs connected to the Compaq server.

The number of CUO transactions is approximately 200,000 per month, i.e. 2.4m per annum. CUO is the largest user in New Zealand.

Source: G Dalton, CUO

## Appendix 2: CUO Revised Schedule of Cost Recoveries

Transaction	Conditions	Amount \$
ACCESSCARD - ATM - Eftpos  (thru loss\ damage) - Issue - Replacement - monthly charge	Per transaction (inc. non-value)	2.00
	5 free transactions per month, 50c. (thereafter amended charge 30c)	0.50
	per card	5.00
	per card\ pin	10.00
	per card per month	1.00
AUTOMATIC PAYMENT		
- Set up	per payment	2.00
- alteration	per alteration	1.00
- rejection	per rejection	10.00
COUNTER CHEQUES (ex savings accounts)	per cheque (exempt if paid through member services system on Wednesdays)	1.00
COUNTER CASH WITHDRAWAL	per cash withdrawal	0.50
DISHONoured PAYMENTS cheque deposit or bank automatic payments	per dishonour (third party cheques exempt)	10.00
STOP CHEQUE	per stopped cheque	15.00
SPECIAL ANSWER on cheque clearance	per special answer	25.00
LOAN APPLICATION (savings secured loans exempt)	per interviewed application per non-interviewed application	25.00 10.00
MORTGAGE APPLICATION	per application	150.00
MORTGAGE DISCHARGE	per discharge	40.00
OVERDRAFT APPLICATION	per application	10.00
DELINQUENT LOAN LETTER (first letter no charge)	per letter	10.00
DEBT RECOVERY VISIT	per visit	20.00
REPOSSESSION ADMINISTRATION	per repossession	50.00
INTER CREDIT UNION TRANSACTIONS (members from other credit unions withdrawing funds from CUO)	per transaction	10.00
MEMBERS JOINING FEE (Term share only depositors exempt)	per member (18 years and over)	5.00
MEMBERS ANNUAL SUBSCRIPTION (Term share only depositors exempt)	per member (18 years and over)	5.00

Source: G Dalton, Credit Union Otago (June 2001)

### Appendix 3: CUO Performance Data, 1995 - 2001

	1995	1996	1997 a	1998	1999	2000	2001
Members	6405	6382	6671	6787	7306	7806	8673
Staff (Full & Part time)	16	16	17	17	22	21	21
Fees Income (\$ 000)		.					
Accesscard	nil	5.0	31.6	131.2	231.2	286.6	353.5
Cost recoveries	11.9	27.1	22.5	40.2	114.0	175.7	200.0
Entrance fees	4.6	3.6	2.4	5.5	5.1	6.4	6.7
Membership fees	24.7	23.9	11.8	26.0	27.2	28.8	Nil b
Expenses (\$ 000)							
Data Processing	49.7	88.5	48.9	118.6	124.9	128.0	137.1
Accesscard	nil	17.4	57.6	208.2	259.7	236.6	282.6
Telephone	10.6	12.9	6.8	17.8	25.3	32.3	39.5
Loans (\$ m)	10.2	11.7	12.4	13.5	13.9	15.8	18.2
Savings (\$ m)	11.4	12.3	13.4	13.4	16.0	16.4	18.2
Total Assets (\$ m)	12.7	13.8	15.0	14.8	18.0	18.8	21.6
Surplus (\$ 000)	101.6	52.1	94.8	246.2 d	331.4	574.0	954.9 e
Capital Adequacy (%) c	9.1	8.8	8.7	7.2	7.8	10.5	13.5

Notes:

- a) 1997 was a six-month period. The financial year changed to end of March, from the end of September.
- b) Membership fees were not collected in 2001, as: 'Your Directors decided to reward members for this exceptional result by foregoing the annual membership subscription normally charged during March'. (2001 Annual Report).
- c) Capital Adequacy = Total Reserves calculated as a percentage of Total Assets.
- d) Surplus in 1998 before making a one-off Provision for Doubtful Loans of \$482,310
- e) Surplus in 2001 includes a one-off gain of \$226,667, from distribution of profits from NZACU Business Services Division, plus a \$23,000 profit over book value from the sale of the original Dunedin premises.

Source: CUO Annual Reports



Ο λογότυπος που εικονίζεται δίπλα χρειάζεται μία εξήγηση. Σκοπός του είναι να συναγείρει τον αναγνώστη πάνω στον κίνδυνο που παρουσιάζεται για το μέλλον της συγγραφής, ειδικότερα στο περιβάλλον των Τεχνικών και Επιστημονικών Εκδόσεων από τη μαζική ανάπτυξη της φωτοαντιγραφής.

Ο Κώδικας των πνευματικών δικαιωμάτων (νόμοι 2121/93 και 2557/97) απαγορεύει την φωτοαντιγράψή χωρίς την άδεια των εκδόσεων τα δικαιώματα του βιβλίου.

Άρα αυτή η πρακτική, η οποία είναι γενικευμένη σε Εκπαιδευτικά Ιδρύματα, προκαλεί μια απότομη πτώση της αγοράς των βιβλίων και των περιοδικών σε σημείο που και για τους συγγραφείς η δυνατότητα δημιουργίας νέων έργων και εκδόσεών τους βρίσκεται σήμερα σε κίνδυνο.

Υπενθυμίζουμε ότι κάθε αναπαραγωγή της παρούσης έκδοσης μερική ή ολική απαγορεύεται χωρίς την άδεια των δημιουργών της.

*Επεξεργασία Κειμένων και Σχεδίων:  
Ατελιέ Γραφικών Εκδοτικού Ομίλου ΙΩΝ*

© 2004: - Εκδόσεις "ΕΛΛΗΝ" - Γ. ΠΑΡΙΚΟΣ & ΣΙΑ Ε.Ε.

ISBN 960-286-820-1

Ο εκδοτικός οίκος έχει όλα τα δικαιώματα του βιβλίου. Απαγορεύεται η αναπαραγωγή του οποιουδήποτε τμήματος αυτής της εργασίας, που καλύπτεται από τα δικαιώματα (copyright) ή τη χρήση της σε οποιαδήποτε μορφή ή με οποιοδήποτε τρόπο - γραφικό, ηλεκτρονικό ή μηχανικό, συμπεριλαμβανομένων των φωτοτυπιών, της μαγνητοφώνησης και των συστημάτων αποθήκευσης και αναπαραγωγής - χωρίς τη γραπτή άδεια του εκδότη.